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SAR EVALUATION REPORT

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

Date of Testing:
08/14/2021 – 09/19/2021
Test Site/Location:
PCTEST Lab, Columbia, MD, USA
Document Serial No.:
1M2108160097-01.A3L (Rev 1)

FCC ID: **A3LSMF711B1**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model: SM-F711B

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	0.17	0.28	0.57	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	< 0.1	0.27	0.76	1.96
PCE	UMTS 850	826.40 - 846.60 MHz	0.24	0.40	0.81	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	< 0.1	0.57	0.68	2.49
PCE	UMTS 1900	1852.4 - 1907.6 MHz	< 0.1	0.54	0.51	2.82
PCE	LTE Band 12	699.7 - 715.3 MHz	0.20	0.26	0.80	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	0.12	0.20	0.49	N/A
PCE	LTE Band 26 (Cell)	814.7 - 848.3 MHz	0.17	0.34	0.72	N/A
PCE	LTE Band 5 (Cell)	824.7 - 848.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 66 (AWS)	1710.7 - 1779.3 MHz	0.10	0.67	0.66	2.43
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	< 0.1	0.58	0.66	2.23
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	0.14	0.19	0.62	1.23
PCE	NR Band n5 (Cell)	826.5 - 846.5 MHz	0.24	0.38	0.68	N/A
PCE	NR Band n66 (AWS)	1712.5 - 1777.5 MHz	0.10	0.73	0.60	2.59
DTS	2.4 GHz WLAN	2412 - 2472 MHz	0.31	< 0.1	0.49	N/A
NII	U-NII-1	5180 - 5240 MHz	N/A	N/A	N/A	N/A
NII	U-NII-2A	5260 - 5320 MHz	< 0.1	< 0.1	N/A	0.43
NII	U-NII-2C	5500 - 5720 MHz	< 0.1	< 0.1	N/A	0.57
NII	U-NII-3	5745 - 5825 MHz	< 0.1	< 0.1	0.33	N/A
DSS/DTS	Bluetooth	2402 - 2480 MHz	0.33	< 0.1	0.26	N/A
Simultaneous SAR per KDB 690783 D01v01r03:			1.01	1.27	1.59	3.91

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

1.3 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	33.0	33.0	32.0	30.0	27.5	27.5	26.0	24.0	23.0
	Nominal	32.0	32.0	31.0	29.0	26.5	26.5	25.0	23.0	22.0
Hotspot Mode Active	Max allowed power	N/A	31.5	30.5	28.5	26.0	27.5	26.0	24.0	23.0
	Nominal	N/A	30.5	29.5	27.5	25.0	26.5	25.0	23.0	22.0
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	30.5	30.5	29.5	27.5	25.5	26.5	25.5	23.5	22.5
	Nominal	29.5	29.5	28.5	26.5	24.5	25.5	24.5	22.5	21.5
Hotspot Mode Active	Max allowed power	N/A	24.5	24.0	22.5	21.0	24.0	23.5	22.0	20.5
	Nominal	N/A	23.5	23.0	21.5	20.0	23.0	22.5	21.0	19.5
Proximity Sensor and/or Earjack Mode Active	Max allowed power	28.5	28.5	27.5	25.5	23.5	26.5	25.5	23.5	22.5
	Nominal	27.5	27.5	26.5	24.5	22.5	25.5	24.5	22.5	21.5

UMTS Band 5 (850 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max	Max allowed power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
Hotspot Mode Active	Max allowed power	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
UMTS Band 4 (1750 MHz)					
Power Level		Modulated Average Output Power (in dBm)			
		3GPP WCDMA Rel 99	3GPP HSDPA Rel 5	3GPP HSUPA Rel 6	3GPP DC-HSDPA Rel 8
Max	Max allowed power	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
Hotspot Mode Active	Max allowed power	17.5	16.5	16.5	16.5
	Nominal	16.5	15.5	15.5	15.5
Proximity Sensor and/or Earjack Mode Active	Max allowed power	21.0	20.0	20.0	20.0
	Nominal	20.0	19.0	19.0	19.0
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	24.0	23.0	23.0	23.0
	Nominal	23.0	22.0	22.0	22.0
Hotspot Mode Active	Max allowed power	16.5	15.5	15.5	15.5
	Nominal	15.5	14.5	14.5	14.5
Proximity Sensor and/or Earjack Mode Active	Max allowed power	22.0	21.0	21.0	21.0
	Nominal	21.0	20.0	20.0	20.0

Mode / Band		Modulated Average Output Power (in dBm)		
		Max	Hotspot Mode Active	Proximity Sensor and/or Earjack Mode Active
LTE FDD Band 12	Max allowed power	25.0	23.5	25.0
	Nominal	24.0	22.5	24.0
LTE FDD Band 17	Max allowed power	25.0	23.5	25.0
	Nominal	24.0	22.5	24.0
LTE FDD Band 13	Max allowed power	25.0	23.5	25.0
	Nominal	24.0	22.5	24.0
LTE FDD Band 5	Max allowed power	25.0	23.5	25.0
	Nominal	24.0	22.5	24.0
LTE FDD Band 26	Max allowed power	25.0	23.5	25.0
	Nominal	24.0	22.5	24.0
LTE FDD Band 4	Max allowed power	24.0	17.0	21.0
	Nominal	23.0	16.0	20.0
LTE FDD Band 66	Max allowed power	24.0	17.0	21.0
	Nominal	23.0	16.0	20.0
LTE FDD Band 2	Max allowed power	24.0	17.0	21.0
	Nominal	23.0	16.0	20.0
LTE FDD Band 25	Max allowed power	24.0	17.0	21.0
	Nominal	23.0	16.0	20.0
LTE TDD Band 41 (PC3)	Max allowed power	25.0	19.5	23.5
	Nominal	24.0	18.5	22.5
LTE TDD Band 41 (PC2)	Max allowed power	27.5	19.5	23.5
	Nominal	26.5	18.5	22.5

Mode / Band		Modulated Average Output Power (in dBm)		
		Max	Hotspot Mode Active	Proximity Sensor and/or Earjack Mode Active
NR FDD Band n5	Max allowed power	25.0	23.5	25.0
	Nominal	24.0	22.5	24.0
NR FDD Band n66	Max allowed power	24.0	16.5	21.0
	Nominal	23.0	15.5	20.0

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 I

Mode	Band	IEEE 802.11 (in dBm)															
		SISO								MIMO							
		Antenna 1/2															
		b		g		n		ax (SU)		b (CDD + STBC)		g (CDD + STBC)		n (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WIFI	2.45 GHz	19.0	18.0	18.0	17.0	18.0	17.0	18.0	17.0	22.0	21.0	21.0	20.0	21.0	20.0	21.0	20.0
		ch. 12: 6.0 ch. 13: 0.0	5.0 -1.0	ch. 12: 6.0 ch. 13: 0.0	5.0 -1.0	ch. 12: 6.0 ch. 13: 0.0	5.0 -1.0	ch. 12: 6.0 ch. 13: 0.0	5.0 -1.0	ch. 12: 9.0 ch. 13: 3.0	8.0 2.0	ch. 12: 9.0 ch. 13: 3.0	8.0 2.0	ch. 12: 9.0 ch. 13: 3.0	8.0 2.0	ch. 12: 9.0 ch. 13: 3.0	8.0 2.0

(Upper tolerance: Target + 1.0 dB)

Mode		Single Antenna	
		Antenna 1	Antenna 2
Bluetooth (in dBm)	Maximum	16.0	17.0
	Nominal	15.0	16.0
Bluetooth EDR (in dBm)	Maximum	13.5	14.5
	Nominal	12.5	13.5
Bluetooth LE 2Mbps (in dBm)	Maximum	6.0	
	Nominal	5.0	
Bluetooth LE 1Mbps, 125/500 kbps (in dBm)	Maximum	6.0	
	Nominal	5.0	

(Upper tolerance: Target + 1.0 dB)

1.3.3 2.4 GHz Reduced Bluetooth and WLAN Output Power

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

The below table is applicable in the following conditions:

- Simultaneous conditions with 5 GHz WLAN
- Simultaneous conditions with 5G NR

Mode	Band	IEEE 802.11 (in dBm)															
		SISO								MIMO							
		Antenna 1/2															
		b		g		n		ax (SU)		b (CDD + STBC)		g (CDD + STBC)		n (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WIFI	2.45 GHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0
		ch. 12: 6.0	5.0	ch. 12: 6.0	5.0	ch. 12: 6.0	5.0	ch. 12: 6.0	5.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0
		ch. 13: 0.0	-1.0	ch. 13: 0.0	-1.0	ch. 13: 0.0	-1.0	ch. 13: 0.0	-1.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0

(Upper tolerance: Target + 1.0 dB)

The below table is applicable in the following conditions:

- RCV Active
- RCV active during simultaneous conditions with 5G NR and/or 5 GHz WLAN

Mode	Band	IEEE 802.11 (in dBm)															
		SISO								MIMO							
		Antenna 1/2															
		b		g		n		ax (SU)		b (CDD + STBC)		g (CDD + STBC)		n (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WIFI	2.45 GHz	13.0	12.0	13.0	12.0	13.0	12.0	13.0	12.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0
		ch. 12: 6.0	5.0	ch. 12: 6.0	5.0	ch. 12: 6.0	5.0	ch. 12: 6.0	5.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0	ch. 12: 9.0	8.0
		ch. 13: 0.0	-1.0	ch. 13: 0.0	-1.0	ch. 13: 0.0	-1.0	ch. 13: 0.0	-1.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0	ch. 13: 3.0	2.0

(Upper tolerance: Target + 1.0 dB)

The below table is applicable to the following conditions:

- Simultaneous conditions with 5G NR

Mode		Single Antenna	
		Antenna 1	Antenna 2
Bluetooth (in dBm)	Maximum	14	
	Nominal	13.0	
Bluetooth EDR (in dBm)	Maximum	13.5	14.0
	Nominal	12.5	13.0
Bluetooth LE 2Mbps (in dBm)	Maximum	6.0	
	Nominal	5.0	
Bluetooth LE 1Mbps, 125/500 kbps (in dBm)	Maximum	6.0	
	Nominal	5.0	

(Upper tolerance: Target + 1.0 dB)

The below table is applicable I the following conditions:

- RCV Active

Mode		Single Antenna	
		Antenna 1	Antenna 2
Bluetooth (in dBm)	Maximum	10.0	
	Nominal	9.0	
Bluetooth EDR (in dBm)	Maximum	10.0	
	Nominal	9.0	
Bluetooth LE 2Mbps (in dBm)	Maximum	6.0	
	Nominal	5.0	
Bluetooth LE 1Mbps, 125/500 kbps (in dBm)	Maximum	6.0	
	Nominal	5.0	

(Upper tolerance: Target + 1.0 dB)

1.3.4 5 GHz Maximum SISO/MIMO WLAN Output Power

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

Mode	Band	IEEE 802.11 (in dBm)															
		SISO								MIMO							
		Antenna 1/2															
		a		n		ac		ax (SU)		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	5200 MHz	18.0 ch. 36: 16.5	17.0 15.5	18.0 ch. 36: 15.5	17.0 14.5	18.0 ch. 36: 15.5	17.0 14.5	18.0 ch. 36: 15.5	17.0 14.5	21.0 ch. 36: 19.5	20.0 18.5	21.0 ch. 36: 18.5	20.0 17.5	21.0 ch. 36: 18.5	20.0 17.5	21.0 ch. 36: 18.5	20.0 17.5
	5300 MHz	18.0	17.0	18.0 ch. 64: 17.0	17.0 16.0	18.0 ch. 64: 17.0	17.0 16.0	18.0 ch. 64: 17.0	17.0 16.0	21.0	20.0	21.0 ch. 64: 20.0	20.0 19.0	21.0 ch. 64: 20.0	20.0 19.0	21.0 ch. 64: 20.0	20.0 19.0
	5500 MHz	18.0	17.0	18.0 ch. 100: 17.0	17.0 16.0	18.0 ch. 100: 17.0	17.0 16.0	18.0 ch. 100: 17.0	17.0 16.0	21.0	20.0	21.0 ch. 100: 20.0	20.0 19.0	21.0 ch. 100: 20.0	20.0 19.0	21.0 ch. 100: 20.0	20.0 19.0
	5800 MHz	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0	21.0	20.0	21.0	20.0	21.0	20.0	21.0	20.0
5 GHz WIFI (40MHz BW)	5200 MHz			17.0 ch. 38: 14.0	16.0 13.0	17.0 ch. 38: 14.0	16.0 13.0	17.0 ch. 38: 14.0	16.0 13.0			20.0 ch. 38: 17.0	19.0 16.0	20.0 ch. 38: 17.0	19.0 16.0	20.0 ch. 38: 17.0	19.0 16.0
	5300 MHz			17.0 ch. 62: 15.0	16.0 14.0	17.0 ch. 62: 15.0	16.0 14.0	17.0 ch. 62: 15.0	16.0 14.0			20.0 ch. 62: 18.0	19.0 17.0	20.0 ch. 62: 18.0	19.0 17.0	20.0 ch. 62: 18.0	19.0 17.0
	5500 MHz			17.0 ch. 102: 15.5	16.0 14.5	17.0 ch. 102: 15.5	16.0 14.5	17.0 ch. 102: 15.5	16.0 14.5			20.0 ch. 102: 18.5	19.0 17.5	20.0 ch. 102: 18.5	19.0 17.5	20.0 ch. 102: 18.5	19.0 17.5
	5800 MHz			17.0	16.0	17.0	16.0	17.0	16.0			20.0	19.0	20.0	19.0	20.0	19.0
5 GHz WIFI (80MHz BW)	5200 MHz					12.5	11.5	12.5	11.5					15.5	14.5	15.5	14.5
	5300 MHz					13.0	12.0	13.0	12.0					16.0	15.0	16.0	15.0
	5500 MHz					16.0 ch. 106: 15.0	15.0 14.0	16.0 ch. 106: 15.0	15.0 14.0					19.0 ch. 106: 18.0	18.0 17.0	19.0 ch. 106: 18.0	18.0 17.0
	5800 MHz					16.0	15.0	16.0	15.0					19.0	18.0	19.0	18.0

(Upper tolerance: Target + 1.0 dB)

1.3.5 5 GHz Reduced SISO/MIMO WLAN Output Power

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

The below table is applicable in the following conditions:

- Simultaneous conditions with 2.4 GHz WLAN
- Simultaneous conditions with 5G NR

Mode	Band	IEEE 802.11 (in dBm)															
		SISO								MIMO							
		Antenna 1/2															
		a		n		ac		ax (SU)		a (CDD + STBC)		n (CDD+STBC, SDM)		ac (CDD+STBC, SDM)		ax (SU) (CDD+STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	5200 MHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0
	5300 MHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0
	5500 MHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0
	5800 MHz	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	18.0	17.0	18.0	17.0	18.0	17.0	18.0	17.0
5 GHz WIFI (40MHz BW)	5200 MHz			15.0 ch. 38: 14.0	13.0	15.0 ch. 38: 14.0	13.0	15.0 ch. 38: 14.0	13.0			18.0 ch. 38: 17.0	16.0	18.0 ch. 38: 17.0	16.0	18.0 ch. 38: 17.0	16.0
	5300 MHz			15.0	14.0	15.0	14.0	15.0	14.0			18.0	17.0	18.0	17.0	18.0	17.0
	5500 MHz			15.0	14.0	15.0	14.0	15.0	14.0			18.0	17.0	18.0	17.0	18.0	17.0
	5800 MHz			15.0	14.0	15.0	14.0	15.0	14.0			18.0	17.0	18.0	17.0	18.0	17.0
5 GHz WIFI (80MHz BW)	5200 MHz					12.5	11.5	12.5	11.5					15.5	14.5	15.5	14.5
	5300 MHz					13.0	12.0	13.0	12.0					16.0	15.0	16.0	15.0
	5500 MHz					15.0	14.0	15.0	14.0					18.0	17.0	18.0	17.0
	5800 MHz					15.0	14.0	15.0	14.0					18.0	17.0	18.0	17.0

(Upper tolerance: Target + 1.0 dB)

The below table is applicable in the following conditions:

- RCV Active
- RCV active during simultaneous conditions with 2.4 GHz WLAN
- RCV active during simultaneous conditions with 5G NR

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

(Upper tolerance: Target + 1.0 dB)

1.4 DUT Antenna Locations

A diagram showing the location of the device antennas for both open and closed configurations can be found in Appendix E. When the device is open, the overall dimensions of this device are > 9 x 5 cm. Since the diagonal dimension of this device when open is > 160 mm and <200 mm, it is considered a “phablet.” and operates similar to a traditional portable handset. In the closed configuration, only a simple display/interaction of notifications occurs and overall dimensions are < 9 x5 cm. Therefore, when the device is closed, the only testing considered is for body-worn and hotspot.

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

Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
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 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 2	Yes	Yes	Yes	No	No	Yes
2.4 GHz WLAN MIMO	Yes	Yes	Yes	No	Yes	Yes
5 GHz WLAN Ant 1	Yes	Yes	Yes	No	Yes	No
5 GHz WLAN MIMO	Yes	Yes	Yes	No	Yes	Yes
Bluetooth Ant 1	Yes	Yes	Yes	No	Yes	No
Bluetooth Ant 2	Yes	Yes	Yes	No	No	Yes

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

Mode	Back	Front	Top	Bottom	Right	Left
GPRS 850	Yes	Yes	No	Yes	Yes	Yes
GPRS 1900	Yes	Yes	No	Yes	Yes	Yes
UMTS 850	Yes	Yes	No	Yes	Yes	Yes
UMTS 1750	Yes	Yes	No	Yes	Yes	Yes
UMTS 1900	Yes	Yes	No	Yes	Yes	Yes
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 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 2	Yes	Yes	No	Yes	No	Yes
2.4 GHz WLAN MIMO	Yes	Yes	No	Yes	Yes	Yes
5 GHz WLAN Ant 1	Yes	Yes	No	Yes	Yes	No
5 GHz WLAN MIMO	Yes	Yes	No	Yes	Yes	Yes
Bluetooth Ant 1	Yes	Yes	No	Yes	Yes	No
Bluetooth Ant 2	Yes	Yes	No	Yes	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 1-3
Simultaneous Transmission Scenarios

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

1. 2.4 GHz WLAN and 2.4 GHz Bluetooth share the same antenna path and cannot transmit simultaneously.
2. All licensed modes share the same antenna path and cannot transmit simultaneously.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII2A, and U-NII2C were not evaluated for wireless router conditions.
6. This device supports 2x2 MIMO Tx for WLAN 802.11a/g/n/ac/ax. 802.11a/g/n/ac/ax supports CDD and STBC and 802.11n/ac/ax additionally supports SDM. 2.4 GHz WLAN antenna can transmit independently or together when operating with MIMO.
7. This device supports VoWIFI.
8. This device supports Bluetooth Tethering.
9. This device supports VoLTE.
10. LTE + 5G NR FR1 Scenarios are limited to EN-DC combinations with anchor bands as shown in the NR FR1 checklist.

1.7 Miscellaneous SAR Test Considerations

When on the device dimensions when closed, hotspot SAR in the closed configuration was performed at 5mm per KDB Publication 941225 D06v02r01.

(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 WLAN, 2.4 GHz Bluetooth and U-NII-3 WIFI Hotspot SAR tests and combinations are considered for SAR with respect to Wireless Router configurations according to FCC KDB 941225 D06v02r01.

This device supports IEEE 802.11ax with the following features:

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

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

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

This device supports channel 1-13 for 2.4 GHZ WLAN. However, because channel 12/13 targets are not higher than that of channels 1-11, default channels for SAR testing are determined 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 H.

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

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

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, Dynamic Antenna Tuning)

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.

2 LTE 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 and downlink MIMO features as shown in Appendix H. All uplink communications are identical to the Release 8 Specifications. 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: π/2 BPSK, 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 5/12		

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:

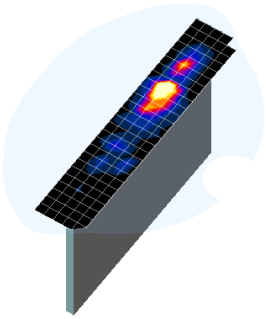


Figure 4-1
Sample SAR Area Scan

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].

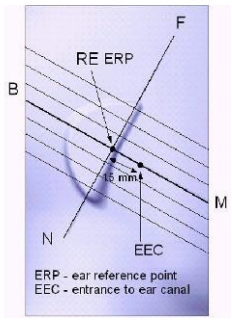


Figure 5-1
Close-Up Side view of ERP

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

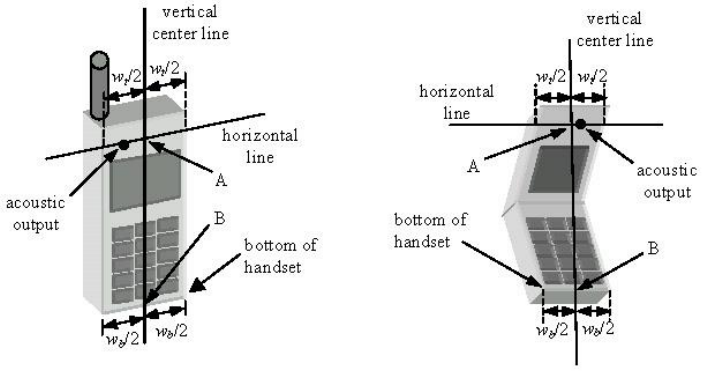


Figure 5-3
Handset Vertical Center & Horizontal Line Reference Points

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.

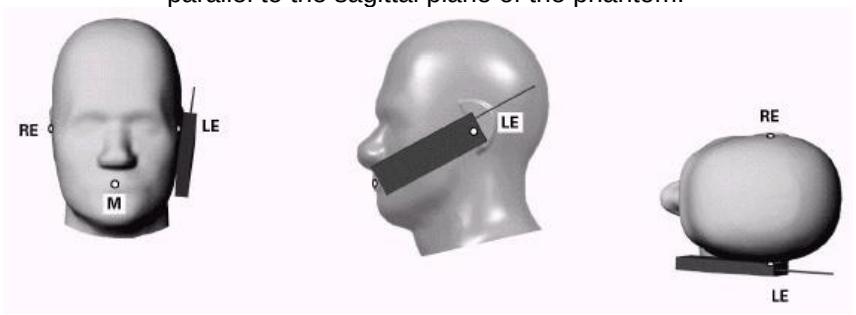


Figure 6-1 Front, Side and Top View of Cheek Position

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).

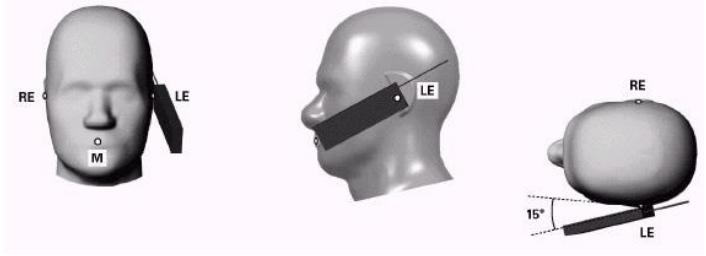


Figure 6-2 Front, Side and Top View of Ear/15º Tilt Position

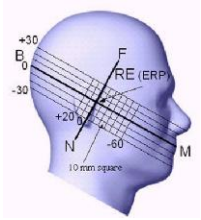


Figure 6-3
Side view w/ relevant markings

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.

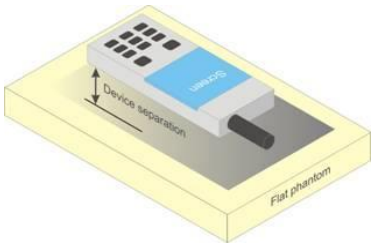


Figure 6-4
Sample Body-Worn Diagram

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

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

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	32.29	32.70	31.49	**29.38**	27.32	26.63	25.02	23.01	22.20
	190	32.23	31.96	31.53	**29.49**	27.38	26.53	25.27	23.31	22.32
	251	32.22	32.20	30.91	**29.07**	27.18	26.80	24.92	22.91	21.85
GSM 1900	512	29.89	29.57	28.77	**26.63**	25.19	25.85	24.39	22.21	21.14
	661	29.62	29.39	28.93	**26.95**	25.20	25.83	24.47	22.71	21.58
	810	29.55	29.54	28.27	**26.78**	24.76	25.88	24.33	22.34	21.33

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	23.09	23.50	25.30	**24.95**	24.14	17.43	18.83	18.58	19.02
	190	23.03	22.76	25.34	**25.06**	24.20	17.33	19.08	18.88	19.14
	251	23.02	23.00	24.72	**24.64**	24.00	17.60	18.73	18.48	18.67
GSM 1900	512	20.69	20.37	22.58	**22.20**	22.01	16.65	18.20	17.78	17.96
	661	20.42	20.19	22.74	**22.52**	22.02	16.63	18.28	18.28	18.40
	810	20.35	20.34	22.08	**22.35**	21.58	16.68	18.14	17.91	18.15

GSM 850	**Frame Avg.Targets:**	22.80	22.80	24.81	**24.57**	23.32	17.30	18.81	18.57	18.82
GSM 1900		20.30	20.30	22.31	**22.07**	21.32	16.30	18.31	18.07	18.32

Table 9-2
Reduced Conducted Powers- Hotspot Mode Active

Maximum Burst-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				*EDGE Data (8-PSK)*			
Band	**Channel**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	30.22	29.54	**27.35**	25.56	26.63	25.02	23.01	22.20
	190	30.30	29.69	**27.55**	25.71	26.53	25.27	23.31	22.32
	251	29.71	29.01	**27.38**	25.25	26.80	24.92	22.91	21.85
GSM 1900	512	23.06	22.55	**21.85**	20.14	22.71	22.02	20.90	19.32
	661	22.90	22.59	**21.84**	20.12	22.53	21.92	20.70	19.08
	810	23.33	22.63	**21.90**	20.36	22.92	22.25	21.03	19.44

Calculated Maximum Frame-Averaged Output Power									
		GPRS/EDGE Data (GMSK)				*EDGE Data (8-PSK)*			
Band	**Channel**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	21.02	23.35	**22.92**	22.38	17.43	18.83	18.58	19.02
	190	21.10	23.50	**23.12**	22.53	17.33	19.08	18.88	19.14
	251	20.51	22.82	**22.95**	22.07	17.60	18.73	18.48	18.67
GSM 1900	512	13.86	16.36	**17.42**	16.96	13.51	15.83	16.47	16.14
	661	13.70	16.40	**17.41**	16.94	13.33	15.73	16.27	15.90
	810	14.13	16.44	**17.47**	17.18	13.72	16.06	16.60	16.26

GSM 850	**Frame Avg.Targets:**	21.30	23.31	**23.07**	21.82	17.30	18.81	18.57	18.82
GSM 1900		14.30	16.81	**17.07**	16.82	13.80	16.31	16.57	16.32

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

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	27.64	27.96	25.61	**24.81**	22.41	25.85	24.39	22.21	21.14
	661	28.17	27.32	26.12	**24.91**	22.80	25.83	24.47	22.71	21.58
	810	27.48	27.39	26.05	**24.85**	22.38	25.88	24.33	22.34	21.33

Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	18.44	18.76	19.42	**20.38**	19.23	16.65	18.20	17.78	17.96
	661	18.97	18.12	19.93	**20.48**	19.62	16.63	18.28	18.28	18.40
	810	18.28	18.19	19.86	**20.42**	19.20	16.68	18.14	17.91	18.15
GSM 1900	**Frame Avg.Targets:**	18.30	18.30	20.31	**20.07**	19.32	16.30	18.31	18.07	18.32

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

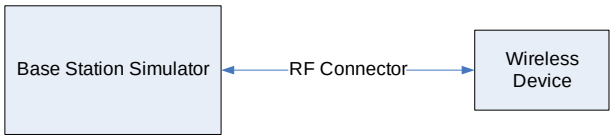


Figure 9-1
Power Measurement Setup

9.2 UMTS Conducted Powers

Table 9-4
Maximum Conducted Power

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			AWS Band [dBm]			PCS Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	1312	1412	1513	9262	9400	9538	
99	WCDMA	12.2 kbps RMC	24.71	24.81	24.71	23.42	23.16	23.25	23.90	23.75	23.64	-
99		12.2 kbps AMR	24.78	24.89	24.75	23.40	23.15	23.21	23.96	23.81	23.68	-
6	HSDPA	Subtest 1	23.44	23.55	23.52	22.14	21.87	21.84	22.55	22.37	22.32	0
6		Subtest 2	23.46	23.51	23.53	22.11	21.91	21.86	22.34	22.48	22.35	0
6		Subtest 3	22.96	23.03	23.07	21.67	21.38	21.30	22.04	21.94	21.82	0.5
6		Subtest 4	22.96	23.03	23.05	21.66	21.32	21.30	22.06	21.90	21.84	0.5
6	HSUPA	Subtest 1	23.12	23.20	23.10	21.82	21.58	21.51	22.23	22.12	22.00	0
6		Subtest 2	21.11	21.24	21.06	19.75	19.50	19.44	20.14	20.02	19.99	2
6		Subtest 3	22.11	22.22	22.06	20.77	20.52	20.45	21.19	21.05	20.93	1
6		Subtest 4	21.12	21.21	21.07	19.74	19.52	19.47	20.19	20.08	19.94	2
6		Subtest 5	23.15	23.26	23.12	21.83	21.59	21.51	22.21	22.09	22.00	0
8	DC-HSDPA	Subtest 1	23.26	23.25	23.09	21.67	21.59	21.59	22.28	22.12	22.01	0
8		Subtest 2	23.25	23.20	23.05	21.81	21.57	21.55	22.25	22.06	22.06	0
8		Subtest 3	22.77	22.72	22.64	21.30	21.15	21.02	21.83	21.60	21.62	0.5
8		Subtest 4	22.74	22.73	22.61	21.32	21.06	21.04	21.75	21.63	21.53	0.5

Table 9-5
Reduced Conducted Powers- Hotspot Mode Active

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	
WCDMA	12.2 kbps RMC	22.69	22.71	22.81	16.39	16.22	16.05	15.70	15.65	15.68	-
	12.2 kbps AMR	22.70	22.75	22.71	16.35	16.21	16.00	15.65	15.64	15.65	-
HSDPA	Subtest 1	21.65	21.75	21.65	15.66	15.37	15.31	14.80	14.59	15.00	0
	Subtest 2	21.68	21.86	21.69	15.65	15.33	15.32	14.77	14.54	14.99	0
	Subtest 3	21.18	21.33	21.18	15.15	14.84	14.80	14.27	14.00	14.48	0.5
	Subtest 4	21.22	21.32	21.15	15.16	14.84	14.77	14.35	14.06	14.53	0.5
HSUPA	Subtest 1	21.65	21.71	21.61	15.64	15.30	15.27	14.81	14.55	14.97	0
	Subtest 2	19.61	19.73	19.57	13.64	13.31	13.25	12.83	12.48	12.84	2
	Subtest 3	20.65	20.70	20.58	14.61	14.31	14.27	13.82	13.48	13.88	1
	Subtest 4	19.66	19.72	19.60	13.63	13.31	13.27	12.83	12.43	12.92	2
	Subtest 5	21.83	21.89	21.75	15.64	15.30	15.26	14.82	14.41	14.97	0
DC-HSDPA	Subtest 1	21.63	21.66	21.62	15.65	15.30	15.28	14.90	14.50	15.06	0
	Subtest 2	21.64	21.78	21.59	15.64	15.32	15.26	14.89	14.44	15.01	0
	Subtest 3	21.18	21.29	21.10	15.14	14.82	14.75	14.36	14.00	14.58	0.5
	Subtest 4	21.16	21.31	21.13	15.13	14.81	14.76	14.36	14.01	14.58	0.5

Table 9-6
Reduced Conducted Powers- Grip Sensor 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	20.39	20.26	20.17	21.92	21.78	21.64	-
99		12.2 kbps AMR	20.37	20.16	20.13	21.94	21.81	21.69	-
6	HSDPA	Subtest 1	18.83	18.61	18.52	20.27	20.14	19.94	0
6		Subtest 2	18.88	18.59	18.54	20.24	20.24	20.05	0
6		Subtest 3	18.34	18.06	17.97	19.72	19.62	19.52	0.5
6		Subtest 4	18.27	18.04	18.02	19.70	19.54	19.43	0.5
6	HSUPA	Subtest 1	18.78	18.50	18.47	20.22	20.07	20.01	0
6		Subtest 2	16.75	16.53	16.46	18.15	18.05	17.95	2
6		Subtest 3	17.78	17.52	17.47	19.17	19.05	18.97	1
6		Subtest 4	16.73	16.52	16.45	18.20	18.04	17.99	2
6		Subtest 5	19.18	18.88	18.67	20.41	20.20	20.07	0
8	DC-HSDPA	Subtest 1	18.86	18.60	18.54	20.26	20.13	20.03	0
8		Subtest 2	18.87	18.86	18.53	20.25	20.13	20.08	0
8		Subtest 3	18.41	18.10	18.06	19.77	19.63	19.57	0.5
8		Subtest 4	18.33	18.07	18.00	19.67	19.56	19.45	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.

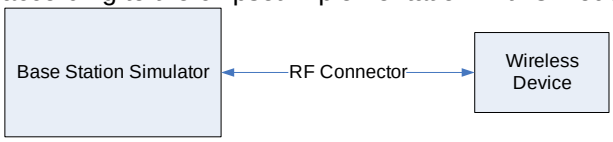


Figure 9-2
Power Measurement Setup

9.3 LTE Conducted Powers

Note: Per FCC KDB Publication 941225 D05v02r05, LTE SAR for the lower bandwidths was not required for testing 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. Lower bandwidth conducted powers for all LTE bands can be found in Appendix F.

9.3.1 LTE Band 12

Table 9-7
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	**24.55**	0	0
	1	25	24.45		0
	1	49	24.42		0
	25	0	23.63	0-1	1
	25	12	23.67		1
	25	25	**23.70**		1
	50	0	23.62		1
16QAM	1	0	23.69	0-1	1
	1	25	23.64		1
	1	49	23.57		1
	25	0	22.70	0-2	2
	25	12	22.72		2
	25	25	22.74		2
	50	0	22.70		2
64QAM	1	0	22.86	0-2	2
	1	25	23.00		2
	1	49	22.80		2
	25	0	21.73	0-3	3
	25	12	21.77		3
	25	25	21.78		3
	50	0	21.69		3
256QAM	1	0	19.27	0-5	5
	1	25	19.60		5
	1	49	19.38		5
	25	0	19.67		5
	25	12	19.73		5
	25	25	19.75		5
	50	0	19.61		5

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

Table 9-8
LTE Band 12 Reduced Conducted Powers - Hotspot Mode Active - 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	22.25	0	0
	1	25	**22.31**		0
	1	49	22.20		0
	25	0	22.24	0-1	0
	25	12	**22.37**		0
	25	25	22.26		0
	50	0	22.23		0
16QAM	1	0	22.73	0-1	0
	1	25	22.69		0
	1	49	22.64		0
	25	0	21.75	0-2	0.5
	25	12	21.80		0.5
	25	25	21.77		0.5
	50	0	21.71		0.5
64QAM	1	0	22.00	0-2	0.5
	1	25	21.95		0.5
	1	49	21.82		0.5
	25	0	20.83	0-3	1.5
	25	12	20.82		1.5
	25	25	20.94		1.5
	50	0	20.80		1.5
256QAM	1	0	18.70	0-5	3.5
	1	25	18.92		3.5
	1	49	18.76		3.5
	25	0	18.77		3.5
	25	12	18.72		3.5
	25	25	18.88		3.5
	50	0	18.81		3.5

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

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	24.44	0	0
	1	25	**24.64**		0
	1	49	24.48		0
	25	0	23.52	0-1	1
	25	12	23.56		1
	25	25	**23.62**		1
	50	0	23.55		1
16QAM	1	0	23.69	0-1	1
	1	25	23.95		1
	1	49	23.95		1
	25	0	22.55	0-2	2
	25	12	22.62		2
	25	25	22.69		2
	50	0	22.56		2
64QAM	1	0	21.98	0-2	2
	1	25	22.35		2
	1	49	22.40		2
	25	0	20.95	0-3	3
	25	12	21.17		3
	25	25	21.50		3
	50	0	21.04		3
256QAM	1	0	19.37	0-5	5
	1	25	19.77		5
	1	49	19.52		5
	25	0	19.49		5
	25	12	19.56		5
	25	25	19.49		5
	50	0	19.56		5

Table 9-10
LTE Band 13 Reduced Conducted Powers - Hotspot Mode Active - 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	22.52	0	0
	1	25	22.57		0
	1	49	**22.60**		0
	25	0	22.61	0-1	0
	25	12	**22.64**		0
	25	25	22.61		0
	50	0	22.59		0
16QAM	1	0	23.04	0-1	0
	1	25	23.09		0
	1	49	23.18		0
	25	0	22.12	0-2	0.5
	25	12	22.19		0.5
	25	25	22.20		0.5
	50	0	22.09		0.5
64QAM	1	0	22.21	0-2	0.5
	1	25	22.25		0.5
	1	49	22.44		0.5
	25	0	21.19	0-3	1.5
	25	12	21.12		1.5
	25	25	21.11		1.5
	50	0	21.09		1.5
256QAM	1	0	18.90	0-5	3.5
	1	25	19.19		3.5
	1	49	19.10		3.5
	25	0	18.97		3.5
	25	12	19.03		3.5
	25	25	19.09		3.5
	50	0	19.03		3.5

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	24.21	0	0
	1	36	**24.26**		0
	1	74	24.11		0
	36	0	23.21	0-1	1
	36	18	23.30		1
	36	37	**23.32**		1
	75	0	23.24		1
16QAM	1	0	23.82	0-1	1
	1	36	23.89		1
	1	74	23.61		1
	36	0	22.16	0-2	2
	36	18	22.30		2
	36	37	22.30		2
	75	0	22.26		2
64QAM	1	0	22.50	0-2	2
	1	36	22.50		2
	1	74	22.51		2
	36	0	21.30	0-3	3
	36	18	21.35		3
	36	37	21.34		3
	75	0	21.25		3
256QAM	1	0	19.62	0-5	5
	1	36	19.45		5
	1	74	19.27		5
	36	0	19.24		5
	36	18	19.33		5
	36	37	19.32		5
	75	0	19.30		5

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) Reduced Conducted Powers - Hotspot Mode Active - 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	22.28	0	0
	1	36	22.23		0
	1	74	**22.29**		0
	36	0	22.20	0-1	0
	36	18	**22.31**		0
	36	37	22.24		0
	75	0	22.25		0
16QAM	1	0	22.72	0-1	0
	1	36	22.66		0
	1	74	22.68		0
	36	0	21.80	0-2	0.5
	36	18	21.83		0.5
	36	37	21.85		0.5
	75	0	21.70		0.5
64QAM	1	0	22.01	0-2	0.5
	1	36	21.90		0.5
	1	74	21.95		0.5
	36	0	20.80	0-3	1.5
	36	18	20.93		1.5
	36	37	20.90		1.5
	75	0	20.81		1.5
256QAM	1	0	18.66	0-5	3.5
	1	36	18.89		3.5
	1	74	18.82		3.5
	36	0	18.73		3.5
	36	18	18.82		3.5
	36	37	18.74		3.5
	75	0	18.76		3.5

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.

9.3.4 LTE Band 66

Table 9-13
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	22.57	22.40	22.76	0	0
	1	50	22.68	22.49	22.67		0
	1	99	22.46	22.52	**22.77**		0
	50	0	21.87	21.64	21.87	0-1	1
	50	25	21.83	21.71	21.90		1
	50	50	21.66	21.61	**21.91**		1
	100	0	21.76	21.67	21.86		1
16QAM	1	0	22.30	21.96	22.44	0-1	1
	1	50	22.46	22.15	22.51		1
	1	99	22.18	22.05	22.54		1
	50	0	21.01	20.79	20.85	0-2	2
	50	25	20.97	20.82	20.98		2
	50	50	20.87	20.75	21.00		2
	100	0	20.90	20.75	20.87		2
64QAM	1	0	21.06	21.13	21.04	0-2	2
	1	50	21.27	21.33	21.15		2
	1	99	20.96	21.20	21.20		2
	50	0	20.06	19.79	19.94	0-3	3
	50	25	19.99	19.83	20.04		3
	50	50	19.91	19.73	20.02		3
	100	0	19.90	19.73	19.92		3
256QAM	1	0	17.95	17.64	17.58	0-5	5
	1	50	18.04	17.82	17.99		5
	1	99	17.78	17.72	17.78		5
	50	0	17.88	17.78	17.92		5
	50	25	17.96	17.83	18.01		5
	50	50	17.84	17.74	18.01		5
	100	0	17.87	17.75	17.93		5

Table 9-14
LTE Band 66 (AWS) Reduced Conducted Powers - Hotspot 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	15.23	15.15	15.38	0	0
	1	50	**15.61**	15.28	15.53		0
	1	99	15.24	15.14	15.59		0
	50	0	15.72	15.35	15.53	0-1	0
	50	25	**15.82**	15.40	15.74		0
	50	50	15.62	15.36	15.68		0
	100	0	15.60	15.33	15.50		0
16QAM	1	0	15.58	15.20	15.65	0-1	0
	1	50	15.51	15.41	15.46		0
	1	99	15.55	15.39	15.44		0
	50	0	15.61	15.37	15.55	0-2	0
	50	25	15.84	15.47	15.73		0
	50	50	15.57	15.36	15.65		0
	100	0	15.53	15.39	15.56		0
64QAM	1	0	15.66	15.33	15.60	0-2	0
	1	50	16.00	15.15	15.87		0
	1	99	15.59	15.31	15.94		0
	50	0	15.77	15.39	15.60	0-3	0
	50	25	15.71	15.41	15.71		0
	50	50	15.57	15.51	15.71		0
	100	0	15.55	15.46	15.50		0
256QAM	1	0	15.49	15.19	15.30	0-5	0
	1	50	15.32	15.35	15.66		0
	1	99	15.16	15.27	15.53		0
	50	0	15.73	15.38	15.55		0
	50	25	15.81	15.50	15.66		0
	50	50	15.54	15.36	15.62		0
	100	0	15.62	15.40	15.57		0

Table 9-15
LTE Band 66 (AWS) Reduced Conducted Powers - 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	19.85	19.66	**20.27**	0	0
	1	50	20.13	19.95	20.24		0
	1	99	19.88	19.96	20.26		0
	50	0	20.24	20.06	20.27	0-1	0
	50	25	20.22	20.09	**20.41**		0
	50	50	20.14	20.12	20.38		0
	100	0	20.12	20.05	20.25		0
16QAM	1	0	20.12	20.28	20.55	0-1	0
	1	50	20.23	20.50	20.71		0
	1	99	20.10	20.33	20.77		0
	50	0	20.27	20.15	20.27	0-2	0
	50	25	20.22	20.25	20.50		0
	50	50	20.10	20.18	20.35		0
	100	0	20.17	20.10	20.33		0
64QAM	1	0	20.17	20.08	20.44	0-2	0
	1	50	20.40	20.28	20.55		0
	1	99	20.20	20.24	20.53		0
	50	0	20.27	20.12	20.34	0-3	0
	50	25	20.25	20.19	20.48		0
	50	50	20.13	20.13	20.43		0
	100	0	20.23	20.14	20.32		0
256QAM	1	0	18.10	17.93	18.11	0-5	2
	1	50	18.25	18.09	18.44		2
	1	99	18.35	18.14	18.27		2
	50	0	18.23	18.10	18.33		2
	50	25	18.14	18.11	18.40		2
	50	50	18.11	18.20	18.42		2
	100	0	18.18	18.15	18.27		2

9.3.5 LTE Band 25

Table 9-16
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	**23.74**	23.55	23.48	0	0
	1	50	23.73	23.57	23.45		0
	1	99	23.70	23.48	23.47		0
	50	0	**22.81**	22.60	22.51	0-1	1
	50	25	22.71	22.48	22.48		1
	50	50	22.69	22.61	22.50		1
	100	0	22.64	22.55	22.45		1
16QAM	1	0	23.00	22.89	22.84	0-1	1
	1	50	22.96	22.95	22.85		1
	1	99	22.98	22.94	22.85		1
	50	0	21.82	21.65	21.44	0-2	2
	50	25	21.83	21.68	21.46		2
	50	50	21.77	21.63	21.50		2
	100	0	21.71	21.58	21.42		2
64QAM	1	0	22.00	21.85	21.61	0-2	2
	1	50	21.82	21.86	21.71		2
	1	99	21.88	21.88	21.70		2
	50	0	20.86	20.70	20.50	0-3	3
	50	25	20.84	20.67	20.51		3
	50	50	20.78	20.68	20.56		3
	100	0	20.74	20.62	20.53		3
256QAM	1	0	18.78	18.35	18.15	0-5	5
	1	50	18.62	18.64	18.50		5
	1	99	18.65	18.60	18.44		5
	50	0	18.69	18.57	18.49		5
	50	25	18.70	18.66	18.42		5
	50	50	18.69	18.63	18.54		5
	100	0	18.75	18.56	18.44		5

Table 9-17
LTE Band 25 (PCS) Reduced Conducted Powers - Hotspot 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	16.51	16.20	16.45	0	0
	1	50	16.30	16.22	16.63		0
	1	99	16.30	16.50	**16.65**		0
	50	0	16.54	16.32	16.65	0-1	0
	50	25	16.56	16.35	16.85		0
	50	50	16.46	16.45	**16.90**		0
	100	0	16.30	16.30	16.62		0
16QAM	1	0	16.67	16.38	16.95	0-1	0
	1	50	16.53	16.46	16.67		0
	1	99	16.76	16.62	16.62		0
	50	0	16.56	16.37	16.68	0-2	0
	50	25	16.58	16.43	16.91		0
	50	50	16.49	16.48	16.91		0
	100	0	16.36	16.27	16.54		0
64QAM	1	0	16.87	16.41	16.71	0-2	0
	1	50	16.43	16.57	16.92		0
	1	99	16.58	16.73	16.96		0
	50	0	16.51	16.39	16.74	0-3	0
	50	25	16.55	16.41	16.70		0
	50	50	16.52	16.55	16.88		0
	100	0	16.37	16.37	16.61		0
256QAM	1	0	16.13	15.98	16.15	0-5	0
	1	50	16.56	16.39	16.56		0
	1	99	16.12	16.37	16.65		0
	50	0	16.40	16.15	16.44		0
	50	25	16.61	16.38	16.71		0
	50	50	16.29	16.41	16.75		0
	100	0	16.29	16.32	16.77		0

Table 9-18
LTE Band 25 (PCS) Reduced Conducted Powers - 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	**20.23**	20.22	20.07	0	0
	1	50	20.14	20.15	20.06		0
	1	99	20.13	20.17	20.09		0
	50	0	20.40	20.26	20.06	0-1	0
	50	25	**20.42**	20.28	20.07		0
	50	50	20.35	20.23	20.10		0
	100	0	20.22	20.20	20.02		0
16QAM	1	0	20.70	20.51	20.60	0-1	0
	1	50	20.72	20.49	20.58		0
	1	99	20.71	20.49	20.57		0
	50	0	20.50	20.13	20.03	0-2	0
	50	25	20.47	20.19	20.06		0
	50	50	20.40	20.15	20.12		0
	100	0	20.35	20.15	20.01		0
64QAM	1	0	20.70	20.40	20.38	0-2	0
	1	50	20.73	20.45	20.39		0
	1	99	20.69	20.33	20.38		0
	50	0	20.55	20.25	20.15	0-3	0
	50	25	20.44	20.25	20.13		0
	50	50	20.33	20.24	20.18		0
	100	0	20.21	20.16	20.17		0
256QAM	1	0	18.20	18.22	18.00	0-5	2
	1	50	18.45	18.25	17.88		2
	1	99	18.16	18.19	17.92		2
	50	0	18.30	18.22	18.04		2
	50	25	18.31	18.23	18.01		2
	50	50	18.30	18.22	18.08		2
	100	0	18.30	18.20	18.11		2

9.3.6 LTE Band 41

Table 9-19
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	23.80	23.87	23.55	23.76	23.60	0	0
	1	50	23.78	23.83	24.02	24.01	**24.06**		0
	1	99	23.77	23.87	23.75	23.64	24.04		0
	50	0	22.75	22.83	22.87	22.93	22.92	0-1	1
	50	25	22.96	22.98	22.93	22.99	23.10		1
	50	50	22.89	22.85	23.00	22.95	**23.17**		1
	100	0	22.86	22.87	22.90	22.92	23.03		1
16QAM	1	0	23.33	22.98	22.89	23.08	22.70	0-1	1
	1	50	23.28	23.00	23.23	23.33	23.16		1
	1	99	23.29	22.99	23.05	22.89	23.12		1
	50	0	21.79	21.85	21.85	21.91	21.96	0-2	2
	50	25	21.97	22.01	21.95	21.96	22.11		2
	50	50	21.91	21.86	21.99	21.92	22.20		2
	100	0	21.88	21.88	21.87	21.89	22.00		2
64QAM	1	0	21.45	21.88	21.80	21.93	21.60	0-2	2
	1	50	21.45	21.90	22.19	22.25	22.11		2
	1	99	21.48	21.88	21.93	21.85	22.05		2
	50	0	20.78	20.91	20.89	20.95	20.98	0-3	3
	50	25	20.97	21.05	21.00	21.02	21.18		3
	50	50	20.91	20.93	21.00	20.96	21.22		3
	100	0	20.89	20.92	20.91	20.90	21.09		3
256QAM	1	0	18.43	19.09	18.79	18.90	19.16	0-5	5
	1	50	18.83	19.37	19.14	19.20	19.51		5
	1	99	18.55	19.04	18.88	18.74	19.55		5
	50	0	18.78	18.84	18.87	18.96	18.99		5
	50	25	18.97	19.01	18.99	19.02	19.16		5
	50	50	18.94	18.89	18.98	18.96	19.22		5
	100	0	18.90	18.88	18.88	18.93	19.04		5

Table 9-20
LTE Band 41 PC3 Reduced Conducted Powers - Hotspot 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	**18.70**	18.47	17.88	18.23	18.01	0	0
	1	50	18.55	18.37	18.14	18.29	18.38		0
	1	99	18.53	18.32	17.85	17.83	18.34		0
	50	0	18.60	18.36	18.12	18.36	18.26	0-1	0
	50	25	**18.69**	18.46	18.36	18.39	18.39		0
	50	50	18.53	18.25	18.22	18.31	18.48		0
	100	0	18.64	18.33	18.20	18.28	18.36		0
16QAM	1	0	18.48	18.40	17.86	18.24	18.02	0-1	0
	1	50	18.33	18.31	18.50	18.31	18.35		0
	1	99	18.25	18.24	17.88	17.81	18.32		0
	50	0	18.38	18.29	18.16	18.40	18.28	0-2	0
	50	25	18.49	18.49	18.37	18.39	18.45		0
	50	50	18.30	18.30	18.24	18.27	18.53		0
	100	0	18.39	18.40	18.24	18.31	18.34		0
64QAM	1	0	18.45	18.19	17.62	17.94	17.73	0-2	0
	1	50	18.32	18.19	17.99	18.11	18.15		0
	1	99	18.23	18.07	17.63	17.61	18.14		0
	50	0	18.37	18.41	18.16	18.41	18.32	0-3	0
	50	25	18.48	18.47	18.44	18.40	18.51		0
	50	50	18.31	18.33	18.28	18.29	18.58		0
	100	0	18.41	18.37	18.21	18.28	18.36		0
256QAM	1	0	18.25	18.00	17.80	18.09	17.90	0-5	0
	1	50	18.56	18.28	18.11	18.23	18.34		0
	1	99	18.08	17.80	17.85	17.77	18.25		0
	50	0	18.42	18.43	18.24	18.51	18.36		0
	50	25	18.53	18.58	18.39	18.47	18.55		0
	50	50	18.33	18.38	18.38	18.35	18.61		0
	100	0	18.39	18.36	18.24	18.31	18.41		0

Table 9-21
LTE Band 41 PC3 Reduced Conducted Powers - 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	22.37	22.35	22.12	22.25	22.07	0	0
	1	50	22.37	22.34	22.47	22.56	**22.57**		0
	1	99	22.35	22.35	22.20	22.18	22.48		0
	50	0	22.28	22.34	22.42	22.51	22.47	0-1	0
	50	25	22.44	22.49	22.54	22.57	22.63		0
	50	50	22.42	22.36	22.55	22.51	**22.69**		0
	100	0	22.40	22.40	22.45	22.50	22.53		0
16QAM	1	0	22.72	22.88	22.28	22.05	22.56	0-1	0
	1	50	22.72	22.86	22.61	22.28	22.97		0
	1	99	22.74	22.87	22.35	22.00	22.94		0
	50	0	21.77	21.83	21.96	21.89	21.92	0-2	0.5
	50	25	21.95	22.00	22.09	21.94	22.06		0.5
	50	50	21.90	21.87	22.09	21.87	22.18		0.5
	100	0	21.89	21.90	21.96	21.88	22.02		0.5
64QAM	1	0	22.10	21.48	21.65	21.94	21.47	0-2	0.5
	1	50	22.14	21.54	22.06	22.22	21.73		0.5
	1	99	22.11	21.53	21.79	21.81	21.64		0.5
	50	0	20.83	20.85	21.04	20.94	20.97	0-3	1.5
	50	25	20.98	21.00	21.15	20.99	21.14		1.5
	50	50	20.95	20.89	21.16	20.92	21.23		1.5
	100	0	20.89	20.92	21.05	20.88	21.10		1.5
256QAM	1	0	18.67	18.47	19.21	18.84	19.06	0-5	3.5
	1	50	19.06	18.88	19.58	19.16	19.05		3.5
	1	99	18.78	18.46	19.35	18.71	18.95		3.5
	50	0	18.77	18.84	18.98	18.94	18.96		3.5
	50	25	18.99	19.00	19.09	18.99	19.11		3.5
	50	50	18.90	18.91	19.10	18.91	19.18		3.5
	100	0	18.89	18.93	18.98	18.90	19.03		3.5

Table 9-22
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	26.32	26.33	26.16	26.09	26.06	0	0
	1	50	26.35	26.31	26.40	26.39	26.42		0
	1	99	26.33	26.33	26.18	25.98	26.38		0
	50	0	25.24	25.28	25.42	25.45	25.42	0-1	1
	50	25	25.43	25.45	25.51	25.49	25.59		1
	50	50	25.36	25.33	25.50	25.44	25.67		1
	100	0	25.35	25.36	25.41	25.40	25.51		1

Table 9-23
LTE Band 41 PC2 Reduced Conducted Powers - Hotspot 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	18.81	18.35	17.87	17.90	17.95	0	0
	1	50	18.72	18.39	18.17	18.17	18.35		0
	1	99	18.65	18.37	17.76	17.72	18.28		0
	50	0	18.70	18.37	18.13	18.21	18.18	0-1	0
	50	25	18.81	18.55	18.28	18.25	18.42		0
	50	50	18.65	18.37	18.22	18.21	18.47		0
	100	0	18.68	18.42	18.19	18.20	18.32		0

Table 9-24
LTE Band 41 PC2 Reduced Conducted Powers - 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	22.35	22.27	22.15	22.23	21.93	0	0
	1	50	22.32	22.25	22.47	22.44	22.49		0
	1	99	22.31	22.28	22.18	22.05	22.37		0
	50	0	22.26	22.31	22.38	22.42	22.41	0-1	0
	50	25	22.45	22.47	22.48	22.49	22.56		0
	50	50	22.38	22.34	22.49	22.42	22.63		0
	100	0	22.37	22.39	22.42	22.38	22.49		0

Figure 9-3
Power Measurement Setup

9.4 NR Conducted Powers

Per October 2020 TCB Workshop Guidance, NR FR1 SAR evaluations are being generally based on adapting the existing LTE SAR procedures (FCC KDB Publication 941225 D05v02r05). Therefore, NR SAR for the lower bandwidths was not required for testing based on the measured output power and the reported NR SAR for the highest bandwidth. Lower bandwidth conducted powers for all NR bands can be found in appendix F.

9.4.1 NR Band n5

Table 9-25
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 π/2 BPSK	1	1	23.59	0	0.0
	1	53	23.72		0.0
	1	104	23.66		0.0
	50	0	23.67	0-0.5	0.5
	50	28	23.65	0	0.0
	50	56	23.60	0-0.5	0.5
	100	0	23.63		0.5
DFT-s-OFDM QPSK	1	1	23.59	0	0.0
	1	53	**23.69**		0.0
	1	104	23.64		0.0
	50	0	23.10	0-1	1.0
	50	28	**23.61**	0	0.0
	50	56	23.08	0-1	1.0
	100	0	23.09		1.0
DFT-s-OFDM 16QAM	1	1	23.39	0-1	1.0
CP-OFDM QPSK	1	1	22.95	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 9-26
NR Band n5 Reduced Conducted Powers - Hotspot Mode Active - 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 π/2 BPSK	1	1	22.61	0	0.0
	1	53	22.66		0.0
	1	104	22.65		0.0
	50	0	22.66	0-0.5	0.0
	50	28	22.69	0	0.0
	50	56	22.68	0-0.5	0.0
	100	0	22.73		0.0
DFT-s-OFDM QPSK	1	1	22.61	0	0.0
	1	53	**22.94**		0.0
	1	104	22.62		0.0
	50	0	22.74	0-1	0.0
	50	28	**22.92**	0	0.0
	50	56	22.60	0-1	0.0
	100	0	22.73		0.0
DFT-s-OFDM 16QAM	1	1	23.04	0-1	0.0
CP-OFDM QPSK	1	1	22.56	0-1.5	0.0

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.

9.4.1 NR Band n66

Table 9-27
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 π/2 BPSK	1	1	23.25	23.23	23.28	0	0.0
	1	53	23.35	23.05	23.16		0.0
	1	104	23.41	23.08	23.31		0.0
	50	0	22.67	22.62	22.79	0-0.5	0.5
	50	28	23.21	23.13	23.23	0	0.0
	50	56	22.74	22.60	22.84	0-0.5	0.5
	100	0	22.80	22.58	22.78		0.5
DFT-s-OFDM QPSK	1	1	22.74	23.30	22.96	0	0.0
	1	53	23.20	23.20	23.32		0.0
	1	104	**23.39**	23.05	22.57		0.0
	50	0	22.00	22.20	22.15	0-1	1.0
	50	28	**23.28**	23.16	23.27	0	0.0
	50	56	22.00	22.19	21.90	0-1	1.0
	100	0	22.28	22.15	22.11		1.0
DFT-s-OFDM 16QAM	1	1	21.61	22.26	21.90	0-1	1.0
CP-OFDM QPSK	1	1	21.20	21.95	21.26	0-1.5	1.5

Table 9-28
NR Band n66 Reduced Conducted Powers - Hotspot 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 π/2 BPSK	1	1	16.03	15.84	15.85	0	0.0
	1	53	15.82	15.60	16.05		0.0
	1	104	15.76	15.80	15.77		0.0
	50	0	15.95	15.74	15.88	0-0.5	0.0
	50	28	15.93	15.68	15.96	0	0.0
	50	56	15.82	15.67	15.94	0-0.5	0.0
	100	0	15.79	15.67	15.81		0.0
DFT-s-OFDM QPSK	1	1	15.88	15.76	15.99	0	0.0
	1	53	15.84	15.61	15.95		0.0
	1	104	15.77	15.72	**16.00**		0.0
	50	0	15.92	15.72	15.83	0-1	0.0
	50	28	15.91	15.64	**15.98**	0	0.0
	50	56	15.83	15.66	15.97	0-1	0.0
	100	0	15.84	15.69	15.82		0.0
DFT-s-OFDM 16QAM	1	1	16.08	15.77	15.90	0-1	0.0
CP-OFDM QPSK	1	1	15.86	15.72	15.61	0-1.5	0.0

Table 9-29
NR Band n66 Reduced Conducted Powers - 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 $\pi/2$ BPSK	1	1	20.75	20.49	20.71	0	0.0
	1	53	20.60	20.37	20.66		0.0
	1	104	20.66	20.45	20.80		0.0
	50	0	20.67	20.45	20.79	0-0.5	0.0
	50	28	20.62	20.40	20.67	0	0.0
	50	56	20.70	20.34	20.77	0-0.5	0.0
	100	0	20.68	20.44	20.74		0.0
DFT-s-OFDM QPSK	1	1	20.77	20.54	20.78	0	0.0
	1	53	20.64	20.38	20.69		0.0
	1	104	20.63	20.41	**20.81**		0.0
	50	0	20.67	20.42	20.72	0-1	0.0
	50	28	20.67	20.36	**20.73**	0	0.0
	50	56	20.66	20.34	20.71	0-1	0.0
	100	0	20.67	20.38	20.69		0.0
DFT-s-OFDM 16QAM	1	1	20.68	20.52	20.57	0-1	0.0
CP-OFDM QPSK	1	1	20.54	20.38	20.41	0-1.5	0.0

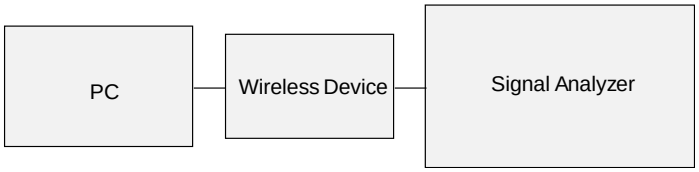


Figure 9-4
Power Measurement Setup

9.5 WLAN Conducted Powers

Table 9-30
2.4 GHz WLAN Maximum Average RF Power – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	18.84	17.60	17.41	17.50
2437	6	18.69	17.40	17.21	17.33
2462	11	18.74	17.44	17.30	17.34

Table 9-31
2.4 GHz WLAN Maximum Average RF Power – MIMO

2.4GHz 802.11b Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	18.60	18.55	21.59
2437	6	18.89	18.86	21.89
2462	11	18.56	18.82	21.70

Table 9-32
5 GHz WLAN Maximum Average RF Power – Ant 1

5GHz (20MHz) Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11a	802.11n	802.11ac	802.11ax
		Average	Average	Average	Average
5180	36	15.56	14.93	14.91	14.88
5200	40	17.72	17.17	17.13	17.25
5220	44	17.98	17.32	17.29	17.36
5240	48	17.70	17.42	17.37	17.51
5260	52	17.98	17.30	17.26	17.32
5280	56	17.82	17.23	17.20	17.23
5300	60	17.74	17.08	17.05	17.12
5320	64	17.91	16.49	16.49	16.13
5500	100	17.71	16.44	16.41	16.42
5600	120	17.85	17.43	17.42	17.47
5620	124	17.84	17.53	17.49	17.54
5720	144	17.86	17.91	17.89	17.95
5745	149	17.71	17.92	17.89	17.94
5785	157	17.58	17.69	17.68	17.73
5825	165	17.80	17.37	17.36	17.40

Table 9-33
5 GHz WLAN Maximum Average RF Power – MIMO

5GHz (20MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5180	36	14.46	14.33	17.41
5200	40	17.65	17.70	20.69
5220	44	17.93	17.99	20.97
5240	48	17.98	17.88	20.94
5260	52	17.91	17.89	20.91
5280	56	17.71	17.68	20.71
5300	60	17.63	17.82	20.74
5320	64	16.10	15.90	19.01
5500	100	16.50	16.78	19.65
5520	104	17.21	17.81	20.53
5600	120	17.77	17.99	20.89
5620	124	17.77	17.83	20.81
5720	144	17.79	17.67	20.74
5745	149	17.64	17.59	20.63
5785	157	17.90	17.99	20.96
5825	165	17.69	17.93	20.82

Table 9-34
2.4 GHz WLAN Reduced Average RF Power for conditions with RCV active or RCV active During Conditions with 5 GHz WLAN and/or with 5G NR – Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	12.76	12.47	12.26	12.34
2437	6	12.72	12.50	12.32	12.37
2462	11	12.73	12.41	12.24	12.36

Table 9-35
2.4 GHz WLAN Reduced Average RF Power for conditions with RCV active or RCV active During Conditions with 5 GHz WLAN and/or with 5G NR (FR1) – MIMO

2.4GHz 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	12.69	12.61	15.66
2437	6	12.65	12.55	15.61
2462	11	12.82	12.89	15.87

Table 9-36
5 GHz WLAN Reduced Average RF Power for Conditions with RCV active or RCV active During Conditions with 2.4 GHz WLAN and/or 5G NR – Ant 1

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax
		Average	Average
5210	42	10.55	10.43
5290	58	10.75	10.71
5530	106	10.73	10.11
5610	122	10.82	10.40
5690	138	10.66	10.69
5775	155	10.81	10.79

Table 9-37
5 GHz WLAN Reduced Average RF Power for Conditions with RCV active or RCV active During Conditions with 2.4 GHz WLAN and/or 5G NR – MIMO

5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
5210	42	10.69	10.60	13.66
5290	58	10.88	10.98	13.94
5530	106	10.80	10.97	13.90
5610	122	10.89	10.98	13.95
5690	138	10.73	10.77	13.76
5775	155	10.85	10.78	13.83

Table 9-38
2.4 GHz WLAN Reduced Average RF Power during Conditions with 5GHz WLAN and/or with 5G NR - Ant 2

2.4GHz Conducted Power [dBm]					
Freq [MHz]	Channel	IEEE Transmission Mode			
		802.11b	802.11g	802.11n	802.11ax
		Average	Average	Average	Average
2412	1	14.74	14.68	14.53	14.62
2437	6	14.55	14.47	14.28	14.27
2462	11	14.65	14.50	14.28	14.39

Table 9-39
2.4 GHz WLAN Reduced Average RF Power during Conditions with 5GHz WLAN and/or with 5G NR – MIMO

2.4GHz 802.11n Conducted Power [dBm]				
Freq [MHz]	Channel	ANT1	ANT2	MIMO
2412	1	14.86	14.07	17.49
2437	6	14.73	13.92	17.35
2462	11	14.98	13.84	17.46

Table 9-40
5 GHz WLAN Reduced Average RF Power during Conditions with 2.4 GHz WLAN and/or with 5G NR – Ant 1

5GHz (40MHz) Conducted Power [dBm]				
Freq [MHz]	Channel	IEEE Transmission Mode		
		802.11n	802.11ac	802.11ax
		Average	Average	Average
5190	38	13.82	13.82	13.88
5230	46	14.67	14.49	14.62
5270	54	14.65	14.98	14.62
5310	62	14.60	14.95	14.57

5GHz (80MHz) Conducted Power [dBm]			
Freq [MHz]	Channel	IEEE Transmission Mode	
		802.11ac	802.11ax
		Average	Average
5530	106	14.68	14.62
5610	122	14.50	14.48
5690	138	14.31	14.30
5775	155	14.28	14.25

Table 9-41
5 GHz WLAN Reduced Average RF Power during Conditions with 2.4 GHz WLAN and/or with 5G NR – MIMO

5GHz (40MHz) 802.11n Conducted Power [dBm]				
Freq [MHz]	**Channel**	**ANT1**	**ANT2**	**MIMO**
5190	38	13.90	13.47	16.70
5230	46	14.57	14.66	17.63
5270	54	14.52	14.68	17.61
5310	62	14.98	14.65	17.83
5GHz (80MHz) 802.11ac Conducted Power [dBm]				
Freq [MHz]	**Channel**	**ANT1**	**ANT2**	**MIMO**
5530	106	14.47	14.17	17.33
5610	122	14.32	14.11	17.23
5690	138	14.51	14.18	17.36
5775	155	14.44	14.52	17.49

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.

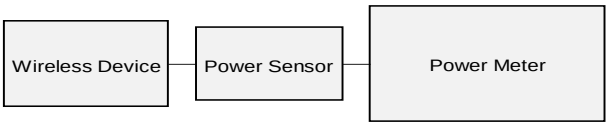


Figure 9-5
Power Measurement Setup

9.6 Bluetooth Conducted Powers

Table 9-42
Bluetooth Antenna 1 Maximum Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	14.92	31.046
2441	1.0	GFSK	ePA	39	15.55	35.892
2480	1.0	GFSK	ePA	78	14.75	29.854
2402	2.0	π/4-DQPSK	ePA	0	12.73	18.750
2441	2.0	π/4-DQPSK	ePA	39	13.38	21.777
2480	2.0	π/4-DQPSK	ePA	78	12.56	18.030
2402	3.0	8DPSK	ePA	0	12.75	18.836
2441	3.0	8DPSK	ePA	39	13.36	21.677
2480	3.0	8DPSK	ePA	78	12.73	18.750

Table 9-43
Bluetooth Antenna 2 Maximum Average RF Power

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	15.26	33.574
2441	1.0	GFSK	ePA	39	16.55	45.186
2480	1.0	GFSK	ePA	78	16.60	45.709
2402	2.0	π/4-DQPSK	ePA	0	13.13	20.559
2441	2.0	π/4-DQPSK	ePA	39	14.15	26.002
2480	2.0	π/4-DQPSK	ePA	78	13.28	21.281
2402	3.0	8DPSK	ePA	0	13.06	20.230
2441	3.0	8DPSK	ePA	39	13.48	22.284
2480	3.0	8DPSK	ePA	78	14.48	28.054

Table 9-44
Bluetooth Antenna 1 BT Reduced 5G NR Active

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	12.41	17.398
2441	1.0	GFSK	ePA	39	13.11	20.446
2480	1.0	GFSK	ePA	78	12.33	17.104

Table 9-45
Bluetooth Antenna 2 BT Reduced 5G NR Active

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	12.96	19.751
2441	1.0	GFSK	ePA	39	13.25	21.120
2480	1.0	GFSK	ePA	78	13.67	23.259

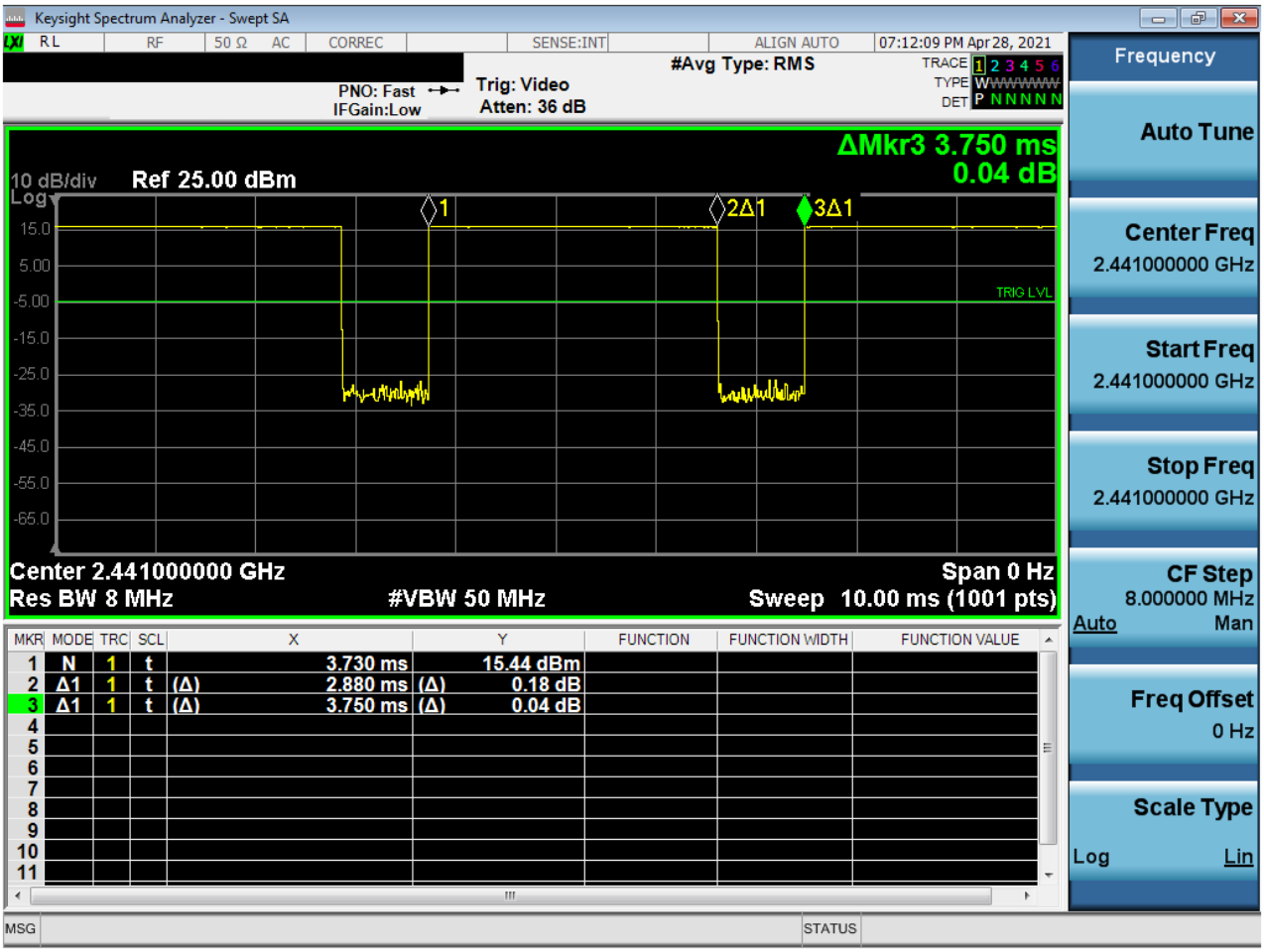
Table 9-46
Bluetooth Antenna 1 BT Reduced RCV Active Conducted Power

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	7.50	5.628
2441	1.0	GFSK	ePA	39	8.43	6.966
2480	1.0	GFSK	ePA	78	7.62	5.778

Table 9-47
Bluetooth Antenna 2 BT Reduced RCV Active Conducted Power

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	7.85	6.098
2441	1.0	GFSK	ePA	39	8.99	7.931
2480	1.0	GFSK	ePA	78	9.44	8.785

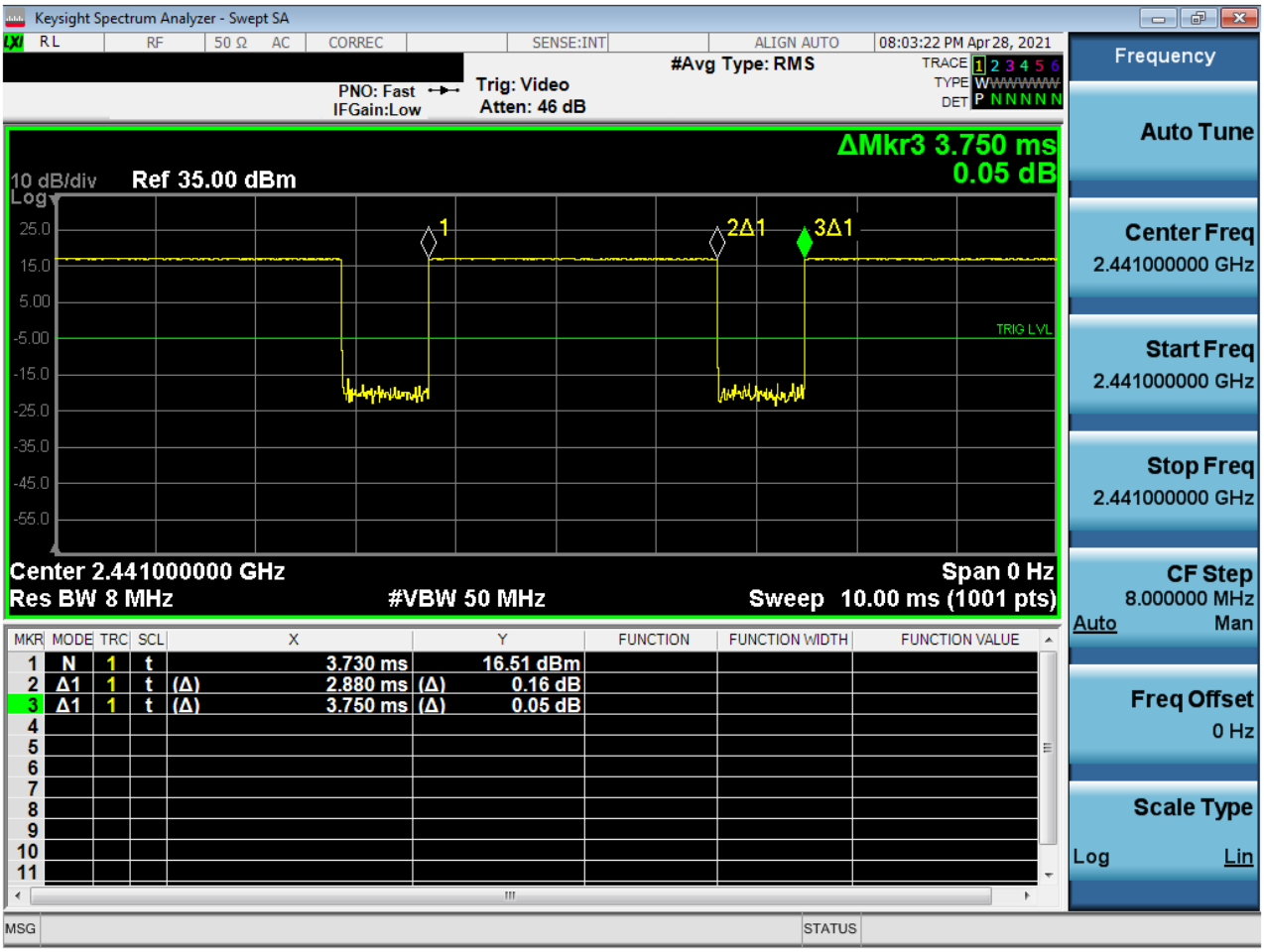
Figure 9-6
Bluetooth Antenna 1 Transmission Plot



Equation 9-1
Bluetooth Antenna 1 Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.88ms}{3.75ms} * 100\% = 76.8\%$$

Figure 9-7
Bluetooth Antenna 2 Transmission Plot



Equation 9-2
Bluetooth Antenna 2 Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.88ms}{3.75ms} * 100\% = 76.8\%$$

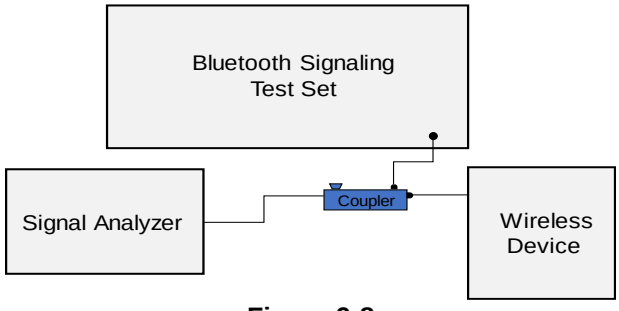


Figure 9-8
Power Measurement Setup

10 SYSTEM VERIFICATION

10.1 Tissue Verification

Table 10-1
Measured Head 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
09/07/2021	750 Head	21.2	680	0.870	40.375	0.888	42.305	-2.03%	-4.56%
			695	0.875	40.325	0.889	42.227	-1.57%	-4.50%
			700	0.876	40.310	0.889	42.201	-1.46%	-4.48%
			710	0.880	40.282	0.890	42.149	-1.12%	-4.43%
			725	0.885	40.247	0.891	42.071	-0.67%	-4.34%
			750	0.894	40.187	0.894	41.942	0.00%	-4.18%
			770	0.901	40.125	0.895	41.838	0.67%	-4.09%
			785	0.906	40.074	0.896	41.760	1.12%	-4.04%
			800	0.911	40.026	0.897	41.682	1.56%	-3.97%
09/01/2021	835 Head	22.7	815	0.875	41.370	0.898	41.594	-2.56%	-0.54%
			820	0.880	41.309	0.899	41.578	-2.11%	-0.65%
			835	0.896	41.128	0.900	41.500	-0.44%	-0.90%
			850	0.911	40.945	0.916	41.500	-0.55%	-1.34%
09/04/2021	835 Head	21.0	815	0.932	40.087	0.898	41.594	3.79%	-3.62%
			820	0.934	40.067	0.899	41.578	3.89%	-3.63%
			835	0.939	40.012	0.900	41.500	4.33%	-3.59%
			850	0.945	39.958	0.916	41.500	3.17%	-3.72%
08/31/2021	1750 Head	19.0	1710	1.337	39.088	1.348	40.142	-0.82%	-2.63%
			1720	1.344	39.072	1.354	40.126	-0.74%	-2.63%
			1745	1.361	39.037	1.368	40.087	-0.51%	-2.62%
			1750	1.363	39.029	1.371	40.079	-0.58%	-2.62%
			1770	1.375	38.993	1.383	40.047	-0.58%	-2.63%
			1790	1.387	38.956	1.394	40.016	-0.50%	-2.65%
08/22/2021	1900 Head	22.1	1850	1.393	39.500	1.400	40.000	-0.50%	-1.25%
			1860	1.404	39.453	1.400	40.000	0.29%	-1.37%
			1880	1.425	39.367	1.400	40.000	1.79%	-1.58%
			1900	1.446	39.284	1.400	40.000	3.29%	-1.79%
			1905	1.452	39.263	1.400	40.000	3.71%	-1.84%
			1910	1.457	39.240	1.400	40.000	4.07%	-1.90%
09/19/2021	1900 Head	22.7	1850	1.386	39.131	1.400	40.000	-1.00%	-2.17%
			1860	1.397	39.087	1.400	40.000	-0.21%	-2.28%
			1880	1.418	39.005	1.400	40.000	1.29%	-2.49%
			1900	1.440	38.927	1.400	40.000	2.86%	-2.68%
			1905	1.445	38.906	1.400	40.000	3.21%	-2.74%
			1910	1.450	38.885	1.400	40.000	3.57%	-2.79%

Table 10-2
Measured Head 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
08/16/2021	2450 Head	23.9	2400	1.827	38.690	1.756	39.289	4.04%	-1.52%
			2450	1.865	38.616	1.800	39.200	3.61%	-1.49%
			2480	1.886	38.578	1.833	39.162	2.89%	-1.49%
08/26/2021	2450 Head	21.9	2400	1.804	38.140	1.756	39.289	2.73%	-2.92%
			2450	1.842	38.026	1.800	39.200	2.33%	-2.99%
			2480	1.867	38.020	1.833	39.162	1.85%	-2.92%
			2500	1.881	37.996	1.855	39.136	1.40%	-2.91%
			2510	1.887	37.972	1.866	39.123	1.13%	-2.94%
			2535	1.904	37.897	1.893	39.092	0.58%	-3.06%
			2550	1.917	37.864	1.909	39.073	0.42%	-3.09%
			2560	1.927	37.847	1.920	39.060	0.36%	-3.11%
			2600	1.961	37.824	1.964	39.009	-0.15%	-3.04%
			2650	1.993	37.694	2.018	38.945	-1.24%	-3.21%
			2680	2.021	37.642	2.051	38.907	-1.46%	-3.25%
			2700	2.037	37.636	2.073	38.882	-1.74%	-3.20%
08/24/2021	5200-5800 Head	21.4	5180	4.478	34.731	4.635	36.009	-3.39%	-3.55%
			5190	4.489	34.718	4.645	35.998	-3.36%	-3.56%
			5200	4.497	34.699	4.655	35.986	-3.39%	-3.58%
			5210	4.505	34.680	4.666	35.975	-3.45%	-3.60%
			5220	4.515	34.664	4.676	35.963	-3.44%	-3.61%
			5240	4.539	34.619	4.696	35.940	-3.34%	-3.68%
			5250	4.550	34.589	4.706	35.929	-3.31%	-3.73%
			5260	4.561	34.564	4.717	35.917	-3.31%	-3.77%
			5270	4.574	34.552	4.727	35.906	-3.24%	-3.77%
			5280	4.586	34.545	4.737	35.894	-3.19%	-3.76%
			5290	4.597	34.535	4.748	35.883	-3.18%	-3.76%
			5300	4.607	34.533	4.758	35.871	-3.17%	-3.73%
			5310	4.618	34.523	4.768	35.860	-3.15%	-3.73%
			5320	4.630	34.510	4.778	35.849	-3.10%	-3.74%
			5500	4.832	34.229	4.963	35.643	-2.64%	-3.97%
			5510	4.845	34.216	4.973	35.632	-2.57%	-3.97%
			5520	4.859	34.206	4.983	35.620	-2.49%	-3.97%
			5530	4.874	34.192	4.994	35.609	-2.40%	-3.98%
			5540	4.886	34.177	5.004	35.597	-2.36%	-3.99%
			5550	4.897	34.158	5.014	35.586	-2.33%	-4.01%
			5560	4.908	34.148	5.024	35.574	-2.31%	-4.01%
			5580	4.931	34.117	5.045	35.551	-2.26%	-4.03%
			5600	4.952	34.075	5.065	35.529	-2.23%	-4.09%
			5610	4.964	34.058	5.076	35.518	-2.21%	-4.11%
			5620	4.975	34.043	5.086	35.506	-2.18%	-4.12%
			5640	4.995	34.017	5.106	35.483	-2.17%	-4.13%
			5660	5.018	33.991	5.127	35.460	-2.13%	-4.14%
			5670	5.030	33.978	5.137	35.449	-2.08%	-4.15%
			5680	5.040	33.969	5.147	35.437	-2.08%	-4.14%
			5690	5.050	33.952	5.158	35.426	-2.09%	-4.16%
			5700	5.061	33.929	5.168	35.414	-2.07%	-4.19%
			5710	5.072	33.907	5.178	35.403	-2.05%	-4.23%
			5720	5.083	33.889	5.188	35.391	-2.02%	-4.24%
			5745	5.110	33.854	5.214	35.363	-1.99%	-4.27%
			5750	5.115	33.847	5.219	35.357	-1.99%	-4.27%
			5755	5.121	33.840	5.224	35.351	-1.97%	-4.27%
			5765	5.130	33.824	5.234	35.340	-1.99%	-4.29%
			5775	5.138	33.806	5.245	35.329	-2.04%	-4.31%
			5785	5.146	33.788	5.255	35.317	-2.07%	-4.33%
			5795	5.156	33.766	5.265	35.305	-2.07%	-4.36%
			5805	5.165	33.751	5.275	35.294	-2.09%	-4.37%
			5825	5.186	33.700	5.296	35.271	-2.08%	-4.45%

Table 10-3
Measured Body Tissue Properties (1 of 3)

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
08/20/2021	750 Body	21.7	680	0.953	53.187	0.958	55.804	-0.52%	-4.69%
			695	0.958	53.137	0.959	55.745	-0.10%	-4.68%
			700	0.960	53.124	0.959	55.726	0.10%	-4.67%
			710	0.963	53.100	0.960	55.687	0.31%	-4.65%
			725	0.968	53.071	0.961	55.629	0.73%	-4.60%
			750	0.978	53.026	0.964	55.531	1.45%	-4.51%
			770	0.985	52.980	0.965	55.453	2.07%	-4.46%
			785	0.991	52.935	0.966	55.395	2.59%	-4.44%
			800	0.996	52.894	0.967	55.336	3.00%	-4.41%
08/23/2021	750 Body	21.8	680	0.945	53.885	0.958	55.804	-1.36%	-3.44%
			695	0.950	53.846	0.959	55.745	-0.94%	-3.41%
			700	0.952	53.833	0.959	55.726	-0.73%	-3.40%
			710	0.956	53.807	0.960	55.687	-0.42%	-3.38%
			725	0.962	53.769	0.961	55.629	0.10%	-3.34%
			750	0.971	53.715	0.964	55.531	0.73%	-3.27%
			770	0.978	53.664	0.965	55.453	1.35%	-3.23%
			785	0.984	53.620	0.966	55.395	1.86%	-3.20%
			800	0.989	53.582	0.967	55.336	2.28%	-3.17%
08/30/2021	750 Body	21.7	680	0.937	53.847	0.958	55.804	-2.19%	-3.51%
			695	0.940	53.848	0.959	55.745	-1.98%	-3.40%
			700	0.941	53.843	0.959	55.726	-1.88%	-3.38%
			710	0.944	53.821	0.960	55.687	-1.67%	-3.35%
			725	0.950	53.753	0.961	55.629	-1.14%	-3.37%
			750	0.963	53.623	0.964	55.531	-0.10%	-3.44%
			770	0.971	53.577	0.965	55.453	0.62%	-3.38%
			785	0.976	53.572	0.966	55.395	1.04%	-3.29%
			800	0.979	53.579	0.967	55.336	1.24%	-3.18%
08/23/2021	835 Body	22.4	815	0.922	53.136	0.968	55.271	-4.75%	-3.86%
			820	0.927	53.093	0.969	55.258	-4.33%	-3.92%
			835	0.943	52.956	0.970	55.200	-2.78%	-4.07%
			850	0.959	52.805	0.988	55.154	-2.94%	-4.26%
08/25/2021	835 Body	22.6	815	0.922	53.430	0.968	55.271	-4.75%	-3.33%
			820	0.927	53.386	0.969	55.258	-4.33%	-3.39%
			835	0.943	53.258	0.970	55.200	-2.78%	-3.52%
			850	0.959	53.119	0.988	55.154	-2.94%	-3.69%
08/27/2021	835 Body	21.9	815	0.922	53.745	0.968	55.271	-4.75%	-2.76%
			820	0.927	53.700	0.969	55.258	-4.33%	-2.82%
			835	0.943	53.569	0.970	55.200	-2.78%	-2.95%
			850	0.959	53.432	0.988	55.154	-2.94%	-3.12%
08/31/2021	835 Body	22.8	815	0.923	53.438	0.968	55.271	-4.65%	-3.32%
			820	0.928	53.394	0.969	55.258	-4.23%	-3.37%
			835	0.943	53.266	0.970	55.200	-2.78%	-3.50%
			850	0.959	53.134	0.988	55.154	-2.94%	-3.66%

Table 10-4
Measured Body Tissue Properties (2 of 3)

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
08/19/2021	1750 Body	23.6	1710	1.414	51.246	1.463	53.537	-3.35%	-4.28%
			1720	1.425	51.218	1.469	53.511	-3.00%	-4.29%
			1745	1.453	51.139	1.485	53.445	-2.15%	-4.31%
			1750	1.458	51.121	1.488	53.432	-2.02%	-4.33%
			1770	1.480	51.044	1.501	53.379	-1.40%	-4.37%
			1790	1.502	50.963	1.514	53.326	-0.79%	-4.43%
08/27/2021	1750 Body	22.4	1710	1.444	51.462	1.463	53.537	-1.30%	-3.88%
			1720	1.455	51.428	1.469	53.511	-0.95%	-3.89%
			1745	1.482	51.343	1.485	53.445	-0.20%	-3.93%
			1750	1.488	51.324	1.488	53.432	0.00%	-3.95%
			1770	1.510	51.250	1.501	53.379	0.60%	-3.99%
			1790	1.531	51.178	1.514	53.326	1.12%	-4.03%
08/29/2021	1750 Body	20.9	1710	1.481	51.268	1.463	53.537	1.23%	-4.24%
			1720	1.492	51.233	1.469	53.511	1.57%	-4.26%
			1745	1.520	51.143	1.485	53.445	2.36%	-4.31%
			1750	1.526	51.124	1.488	53.432	2.55%	-4.32%
			1770	1.548	51.046	1.501	53.379	3.13%	-4.37%
			1790	1.570	50.969	1.514	53.326	3.70%	-4.42%
09/05/2021	1750 Body	21.4	1710	1.483	52.160	1.463	53.537	1.37%	-2.57%
			1720	1.494	52.122	1.469	53.511	1.70%	-2.60%
			1745	1.523	52.025	1.485	53.445	2.56%	-2.66%
			1750	1.528	52.005	1.488	53.432	2.69%	-2.67%
			1770	1.549	51.919	1.501	53.379	3.20%	-2.74%
			1790	1.571	51.838	1.514	53.326	3.76%	-2.79%
09/07/2021	1750 Body	21.4	1710	1.498	51.624	1.463	53.537	2.39%	-3.57%
			1720	1.510	51.584	1.469	53.511	2.79%	-3.60%
			1745	1.538	51.489	1.485	53.445	3.57%	-3.66%
			1750	1.544	51.470	1.488	53.432	3.76%	-3.67%
			1770	1.567	51.391	1.501	53.379	4.40%	-3.72%
			1790	1.589	51.312	1.514	53.326	4.95%	-3.78%
08/25/2021	1900 Body	23.2	1850	1.526	51.451	1.520	53.300	0.39%	-3.47%
			1860	1.537	51.411	1.520	53.300	1.12%	-3.54%
			1880	1.560	51.338	1.520	53.300	2.63%	-3.68%
			1900	1.583	51.276	1.520	53.300	4.14%	-3.80%
			1905	1.588	51.264	1.520	53.300	4.47%	-3.82%
			1910	1.594	51.250	1.520	53.300	4.87%	-3.85%
08/27/2021	1900 Body	23.3	1850	1.525	51.222	1.520	53.300	0.33%	-3.90%
			1860	1.536	51.185	1.520	53.300	1.05%	-3.97%
			1880	1.559	51.107	1.520	53.300	2.57%	-4.11%
			1900	1.581	51.040	1.520	53.300	4.01%	-4.24%
			1905	1.587	51.026	1.520	53.300	4.41%	-4.27%
			1910	1.593	51.010	1.520	53.300	4.80%	-4.30%
08/30/2021	1900 Body	23.2	1850	1.520	50.836	1.520	53.300	0.00%	-4.62%
			1860	1.530	50.811	1.520	53.300	0.66%	-4.67%
			1880	1.551	50.767	1.520	53.300	2.04%	-4.75%
			1900	1.572	50.717	1.520	53.300	3.42%	-4.85%
			1905	1.577	50.702	1.520	53.300	3.75%	-4.87%
			1910	1.583	50.685	1.520	53.300	4.14%	-4.91%
09/03/2021	1900 Body	24.7	1850	1.464	51.836	1.520	53.300	-3.68%	-2.75%
			1860	1.475	51.800	1.520	53.300	-2.96%	-2.81%
			1880	1.496	51.736	1.520	53.300	-1.58%	-2.93%
			1900	1.517	51.674	1.520	53.300	-0.20%	-3.05%
			1905	1.522	51.659	1.520	53.300	0.13%	-3.08%
			1910	1.528	51.644	1.520	53.300	0.53%	-3.11%
09/08/2021	1900 Body	23.0	1850	1.466	52.216	1.520	53.300	-3.55%	-2.03%
			1860	1.477	52.185	1.520	53.300	-2.83%	-2.09%
			1880	1.498	52.123	1.520	53.300	-1.45%	-2.21%
			1900	1.520	52.069	1.520	53.300	0.00%	-2.31%
			1905	1.525	52.054	1.520	53.300	0.33%	-2.34%
			1910	1.530	52.040	1.520	53.300	0.66%	-2.36%
09/13/2021	1900 Body	23.2	1850	1.514	52.112	1.520	53.300	-0.39%	-2.23%
			1860	1.524	52.072	1.520	53.300	0.26%	-2.30%
			1880	1.546	52.000	1.520	53.300	1.71%	-2.44%
			1900	1.569	51.951	1.520	53.300	3.22%	-2.53%
			1905	1.575	51.941	1.520	53.300	3.62%	-2.55%
			1910	1.580	51.932	1.520	53.300	3.95%	-2.57%

Table 10-5
Measured Body Tissue Properties (3 of 3)

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
08/19/2021	2450 Body	24.9	2400	1.980	51.398	1.902	52.767	4.10%	-2.59%
			2450	2.023	51.334	1.950	52.700	3.74%	-2.59%
			2480	2.048	51.300	1.993	52.662	2.76%	-2.59%
08/22/2021	2450 Body	21.8	2400	1.958	51.056	1.902	52.767	2.94%	-3.24%
			2450	2.004	50.990	1.950	52.700	2.77%	-3.24%
			2480	2.031	50.958	1.993	52.662	1.91%	-3.24%
08/23/2021	2450 Body	21.8	2400	1.920	51.959	1.902	52.767	0.95%	-1.53%
			2450	1.989	51.779	1.950	52.700	2.00%	-1.75%
			2480	2.030	51.675	1.993	52.662	1.86%	-1.87%
			2500	2.058	51.600	2.021	52.636	1.83%	-1.97%
			2510	2.072	51.561	2.035	52.623	1.82%	-2.02%
			2535	2.109	51.461	2.071	52.592	1.83%	-2.15%
			2550	2.131	51.404	2.092	52.573	1.86%	-2.22%
			2560	2.146	51.370	2.106	52.560	1.90%	-2.26%
			2600	2.202	51.224	2.163	52.509	1.80%	-2.45%
			2650	2.273	51.025	2.234	52.445	1.75%	-2.71%
			2680	2.316	50.915	2.277	52.407	1.71%	-2.85%
			2700	2.344	50.838	2.305	52.382	1.69%	-2.95%
08/27/2021	2450 Body	24.5	2400	1.877	54.931	1.902	52.767	-1.31%	4.10%
			2450	1.946	54.757	1.950	52.700	-0.21%	3.90%
			2480	1.987	54.651	1.993	52.662	-0.30%	3.78%
			2500	2.014	54.586	2.021	52.636	-0.35%	3.70%
			2510	2.028	54.551	2.035	52.623	-0.34%	3.66%
			2535	2.063	54.456	2.071	52.592	-0.39%	3.54%
			2550	2.084	54.399	2.092	52.573	-0.38%	3.47%
			2560	2.099	54.363	2.106	52.560	-0.33%	3.43%
			2600	2.152	54.238	2.163	52.509	-0.51%	3.29%
			2650	2.221	54.041	2.234	52.445	-0.58%	3.04%
			2680	2.266	53.934	2.277	52.407	-0.48%	2.91%
			2700	2.293	53.875	2.305	52.382	-0.52%	2.85%
08/14/2021	5200-5800 Body	24.5	5180	5.271	47.995	5.276	49.041	-0.09%	-2.13%
			5190	5.284	47.985	5.288	49.028	-0.08%	-2.13%
			5200	5.297	47.962	5.299	49.014	-0.04%	-2.15%
			5210	5.307	47.928	5.311	49.001	-0.08%	-2.19%
			5220	5.322	47.891	5.323	48.987	-0.02%	-2.24%
			5240	5.357	47.846	5.346	48.960	0.21%	-2.28%
			5250	5.372	47.831	5.358	48.947	0.26%	-2.28%
			5260	5.382	47.812	5.369	48.933	0.24%	-2.29%
			5270	5.397	47.797	5.381	48.919	0.30%	-2.29%
			5280	5.414	47.786	5.393	48.906	0.39%	-2.29%
			5290	5.429	47.788	5.404	48.892	0.46%	-2.26%
			5300	5.444	47.787	5.416	48.879	0.52%	-2.23%
			5310	5.461	47.781	5.428	48.865	0.61%	-2.22%
			5320	5.476	47.769	5.439	48.851	0.68%	-2.21%
			5500	5.738	47.472	5.650	48.607	1.56%	-2.34%
			5510	5.756	47.465	5.661	48.594	1.68%	-2.32%
			5520	5.775	47.458	5.673	48.580	1.80%	-2.31%
			5530	5.790	47.448	5.685	48.566	1.85%	-2.30%
			5540	5.804	47.434	5.696	48.553	1.90%	-2.30%
			5550	5.816	47.420	5.708	48.539	1.89%	-2.31%
			5560	5.828	47.408	5.720	48.526	1.89%	-2.30%
			5580	5.855	47.363	5.743	48.499	1.95%	-2.34%
			5600	5.883	47.315	5.766	48.471	2.03%	-2.38%
			5610	5.898	47.300	5.778	48.458	2.08%	-2.39%
			5620	5.915	47.283	5.790	48.444	2.16%	-2.40%
			5640	5.945	47.253	5.813	48.417	2.27%	-2.40%
			5660	5.970	47.233	5.837	48.390	2.28%	-2.39%
			5670	5.980	47.224	5.848	48.376	2.26%	-2.38%
			5680	5.991	47.203	5.860	48.363	2.24%	-2.40%
			5690	6.004	47.175	5.872	48.349	2.25%	-2.43%
			5700	6.015	47.143	5.883	48.336	2.24%	-2.47%
			5710	6.029	47.117	5.895	48.322	2.27%	-2.49%
			5720	6.044	47.095	5.907	48.309	2.32%	-2.51%
			5745	6.082	47.033	5.936	48.275	2.46%	-2.57%
			5750	6.089	47.025	5.942	48.268	2.47%	-2.58%
			5755	6.096	47.019	5.947	48.261	2.51%	-2.57%
			5765	6.110	47.010	5.959	48.248	2.53%	-2.57%
			5775	6.120	47.000	5.971	48.234	2.50%	-2.56%
			5785	6.129	46.989	5.982	48.220	2.46%	-2.55%
			5795	6.139	46.970	5.994	48.207	2.42%	-2.57%
			5800	6.144	46.957	6.000	48.200	2.40%	-2.58%
			5805	6.149	46.945	6.006	48.193	2.38%	-2.59%
			5825	6.170	46.857	6.029	48.166	2.34%	-2.72%

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 D.

Table 10-6
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 SAR1g (W/kg)	1W Target SAR1g (W/kg)	1W Normalized SAR 1g (W/kg)	Deviation1g (%)
A	750	HEAD	09/07/2021	22.6	21.6	0.20	1161	7406	1.70	8.03	8.500	5.85%
E	835	HEAD	09/01/2021	23.0	22.7	0.20	4d132	7571	2.07	9.66	10.350	7.14%
E	835	HEAD	09/04/2021	22.5	21.0	0.20	4d132	7571	2.07	9.66	10.350	7.14%
A	1750	HEAD	08/31/2021	24.3	20.9	0.10	1150	7406	3.80	36.50	38.000	4.11%
B	1900	HEAD	08/22/2021	24.3	22.1	0.10	5d080	7660	4.11	39.80	41.100	3.27%
A	1900	HEAD	09/19/2021	22.9	22.7	0.10	5d080	7406	4.27	39.80	42.700	7.29%
B	2450	HEAD	08/16/2021	24.0	22.5	0.10	981	7660	5.11	52.30	51.100	-2.29%
B	2450	HEAD	08/26/2021	24.0	21.9	0.10	797	7660	5.06	52.40	50.600	-3.44%
B	2600	HEAD	08/26/2021	24.0	21.9	0.10	1064	7660	5.71	58.10	57.100	-1.72%
K	5250	HEAD	08/24/2021	22.4	21.4	0.05	1057	7538	3.92	79.70	78.400	-1.63%
K	5600	HEAD	08/24/2021	22.4	21.4	0.05	1057	7538	4.09	83.80	81.800	-2.39%
K	5750	HEAD	08/24/2021	22.4	21.4	0.05	1057	7538	4.19	80.10	83.800	4.62%
G	750	BODY	08/20/2021	23.4	21.7	0.20	1003	7357	1.80	8.61	9.000	4.53%
E	750	BODY	08/23/2021	20.5	21.8	0.20	1161	7571	1.81	8.43	9.050	7.35%
E	750	BODY	08/30/2021	23.5	21.7	0.20	1161	7571	1.78	8.43	8.900	5.58%
H	835	BODY	08/23/2021	22.5	21.7	0.20	4d133	7409	1.99	9.75	9.950	2.05%
H	835	BODY	08/25/2021	23.4	22.5	0.20	4d133	7409	2.00	9.75	10.000	2.56%
H	835	BODY	08/27/2021	23.5	22.2	0.20	4d133	7409	1.95	9.75	9.750	0.00%
H	835	BODY	08/31/2021	23.2	22.6	0.20	4d133	7409	1.90	9.75	9.500	-2.56%
D	1750	BODY	08/19/2021	23.0	23.7	0.10	1148	3589	3.56	36.30	35.600	-1.93%
G	1750	BODY	08/27/2021	22.0	22.4	0.10	1148	7357	3.86	36.30	38.600	6.34%
G	1750	BODY	09/05/2021	21.7	21.4	0.10	1150	7357	3.90	36.60	39.000	6.56%
G	1750	BODY	09/07/2021	23.3	21.4	0.10	1150	7357	4.02	36.60	40.200	9.84%
P	1900	BODY	08/25/2021	21.6	21.3	0.10	5d149	7410	4.25	39.40	42.500	7.87%
P	1900	BODY	08/27/2021	21.6	21.5	0.10	5d148	7410	4.17	39.10	41.700	6.65%
P	1900	BODY	09/08/2021	24.3	23.0	0.10	5d148	7410	4.02	39.10	40.200	2.81%
P	1900	BODY	09/13/2021	21.3	21.4	0.10	5d148	7410	4.17	39.10	41.700	6.65%
J	2450	BODY	08/19/2021	21.5	22.9	0.10	981	7526	5.02	50.10	50.200	0.20%
J	2450	BODY	08/22/2021	21.5	21.8	0.10	981	7526	4.91	50.10	49.100	-2.00%
J	2450	BODY	08/23/2021	21.5	21.8	0.10	981	7526	4.99	50.10	49.900	-0.40%
L	2450	BODY	08/27/2021	23.1	23.6	0.10	981	7539	5.07	50.10	50.700	1.20%
J	2600	BODY	08/23/2021	21.5	21.8	0.10	1004	7526	5.47	55.40	54.700	-1.26%
L	2600	BODY	08/27/2021	23.1	23.6	0.10	1004	7539	5.28	55.40	52.800	-4.69%
J	5250	BODY	08/14/2021	21.1	22.5	0.05	1191	7526	3.45	74.60	69.000	-7.51%
J	5600	BODY	08/14/2021	21.1	22.5	0.05	1191	7526	3.76	78.10	75.200	-3.71%
J	5750	BODY	08/14/2021	21.1	22.5	0.05	1191	7526	3.48	74.90	69.600	-7.08%

Table 10-7
System Verification Results – 10g

System Verification TARGET & MEASURED												
SAR System	Tissue Frequency (MHz)	Tissue Type	Date	Amb. Temp. (C)	Liquid Temp. (C)	Input Power (W)	Source SN	Probe SN	Measured SAR10g (W/kg)	1W Target SAR10g (W/kg)	1W Normalized SAR10g (W/kg)	Deviation10g (%)
G	1750	BODY	08/29/2021	22.6	20.9	0.10	1150	7357	2.010	19.40	20.100	3.61%
G	1750	BODY	09/05/2021	21.7	21.4	0.10	1150	7357	2.060	19.40	20.600	6.19%
P	1900	BODY	08/25/2021	21.6	21.3	0.10	5d149	7410	2.170	20.70	21.700	4.83%
P	1900	BODY	08/30/2021	21.2	21.3	0.10	5d148	7410	2.020	20.50	20.200	-1.46%
H	1900	BODY	09/03/2021	24.0	23.5	0.10	5d149	7409	2.190	20.70	21.900	5.80%
J	2450	BODY	08/23/2021	21.5	21.8	0.10	981	7526	2.280	23.70	22.800	-3.80%
J	2600	BODY	08/23/2021	21.5	21.8	0.10	1004	7526	2.390	24.80	23.900	-3.63%
J	5250	BODY	08/14/2021	21.1	22.5	0.05	1191	7526	0.986	21.00	19.720	-6.10%
J	5600	BODY	08/14/2021	21.1	22.5	0.05	1191	7526	1.060	21.70	21.200	-2.30%
J	5750	BODY	08/14/2021	21.1	22.5	0.05	1191	7526	0.992	20.80	19.840	-4.62%

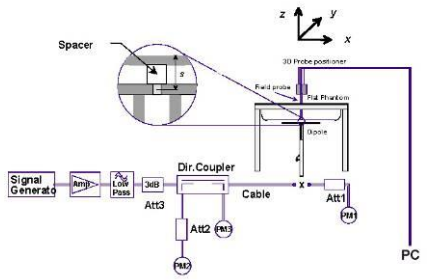


Figure 10-1
System Verification Setup Diagram

Figure 10-2
System Verification Setup Photo

11 SAR DATA SUMMARY

11.1 Standalone Head SAR Data

Table 11-1
GSM 850 Head SAR - Open

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
824.20	128	GSM 850	GSM	33.0	32.29	-0.03	Right	Cheek	2634M	1	1:8.3	0.141	1.178	0.166	A1
824.20	128	GSM 850	GSM	33.0	32.29	-0.08	Right	Tilt	2634M	1	1:8.3	0.081	1.178	0.095	
824.20	128	GSM 850	GSM	33.0	32.29	0.04	Left	Cheek	2634M	1	1:8.3	0.126	1.178	0.148	
824.20	128	GSM 850	GSM	33.0	32.29	-0.05	Left	Tilt	2634M	1	1:8.3	0.079	1.178	0.093	
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
GMS 1900 Head SAR - Open

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Device Serial Number	# of Time Slots	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1850.20	512	GSM 1900	GSM	30.5	29.89	0.14	Right	Cheek	1629M	1	1:8.3	0.022	1.151	0.025	
1850.20	512	GSM 1900	GSM	30.5	29.89	-0.07	Right	Tilt	1629M	1	1:8.3	0.014	1.151	0.016	
1850.20	512	GSM 1900	GSM	30.5	29.89	0.11	Left	Cheek	1629M	1	1:8.3	0.045	1.151	0.052	A2
1850.20	512	GSM 1900	GSM	30.5	29.89	-0.16	Left	Tilt	1629M	1	1:8.3	0.012	1.151	0.014	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-3
UMTS 850 Head SAR - Open

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
836.60	4183	UMTS 850	RMC	25.5	24.81	5	0.00	Right	Cheek	1272M	1:1	0.202	1.172	**0.237**	A3
836.60	4183	UMTS 850	RMC	25.5	24.81	5	-0.01	Right	Tilt	1272M	1:1	0.116	1.172	0.136	
836.60	4183	UMTS 850	RMC	25.5	24.81	5	-0.05	Left	Cheek	1272M	1:1	0.171	1.172	0.200	
836.60	4183	UMTS 850	RMC	25.5	24.81	5	-0.02	Left	Tilt	1272M	1:1	0.111	1.172	0.130	
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 - Open

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	-0.01	Right	Cheek	1272M	1:1	0.062	1.143	0.071	
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	-0.05	Right	Tilt	1272M	1:1	0.036	1.143	0.041	
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	-0.09	Left	Cheek	1272M	1:1	0.074	1.143	0.085	A4
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	0.18	Left	Tilt	1272M	1:1	0.033	1.143	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 11-5
UMTS 1900 Head SAR - Open

MEASUREMENT RESULTS															
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	Side	Test Position	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.											(W/kg)		(W/kg)	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	0.19	Right	Cheek	1629M	1:1	0.051	1.023	0.052	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	0.19	Right	Tilt	1629M	1:1	0.034	1.023	0.035	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	0.01	Left	Cheek	1629M	1:1	0.088	1.023	0.090	A5
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	0.12	Left	Tilt	1629M	1:1	0.037	1.023	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 - Open

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	25.0	24.55	0	-0.15	0	Right	Cheek	QPSK	1	0	1271M	1:1	0.166	1.109	0.184	
707.50	23095	Mid	LTE Band 12	10	24.0	23.70	0	0.07	1	Right	Cheek	QPSK	25	25	1271M	1:1	0.133	1.072	0.143	
707.50	23095	Mid	LTE Band 12	10	25.0	24.55	0	0.06	0	Right	Tilt	QPSK	1	0	1271M	1:1	0.082	1.109	0.091	
707.50	23095	Mid	LTE Band 12	10	24.0	23.70	0	0.09	1	Right	Tilt	QPSK	25	25	1271M	1:1	0.067	1.072	0.072	
707.50	23095	Mid	LTE Band 12	10	25.0	24.55	0	-0.01	0	Left	Cheek	QPSK	1	0	1271M	1:1	0.183	1.109	0.203	A6
707.50	23095	Mid	LTE Band 12	10	24.0	23.70	0	-0.05	1	Left	Cheek	QPSK	25	25	1271M	1:1	0.134	1.072	0.144	
707.50	23095	Mid	LTE Band 12	10	25.0	24.55	0	-0.15	0	Left	Tilt	QPSK	1	0	1271M	1:1	0.088	1.109	0.098	
707.50	23095	Mid	LTE Band 12	10	24.0	23.70	0	-0.03	1	Left	Tilt	QPSK	25	25	1271M	1:1	0.067	1.072	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 11-7
LTE Band 13 Head SAR - Open

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	25.0	24.64	27	0.03	0	Right	Cheek	QPSK	1	25	1262M	1:1	0.111	1.086	0.121	A7
782.00	23230	Mid	LTE Band 13	10	24.0	23.62	27	-0.09	1	Right	Cheek	QPSK	25	25	1262M	1:1	0.092	1.091	0.100	
782.00	23230	Mid	LTE Band 13	10	25.0	24.64	27	-0.10	0	Right	Tilt	QPSK	1	25	1262M	1:1	0.050	1.086	0.054	
782.00	23230	Mid	LTE Band 13	10	24.0	23.62	27	-0.05	1	Right	Tilt	QPSK	25	25	1262M	1:1	0.040	1.091	0.044	
782.00	23230	Mid	LTE Band 13	10	25.0	24.64	27	0.04	0	Left	Cheek	QPSK	1	25	1262M	1:1	0.104	1.086	0.113	
782.00	23230	Mid	LTE Band 13	10	24.0	23.62	27	0.01	1	Left	Cheek	QPSK	25	25	1262M	1:1	0.067	1.091	0.073	
782.00	23230	Mid	LTE Band 13	10	25.0	24.64	27	0.06	0	Left	Tilt	QPSK	1	25	1262M	1:1	0.046	1.086	0.050	
782.00	23230	Mid	LTE Band 13	10	24.0	23.62	27	0.13	1	Left	Tilt	QPSK	25	25	1262M	1:1	0.038	1.091	0.041	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram							

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

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.0	24.26	5	-0.03	0	Right	Cheek	QPSK	1	36	1629M	1:1	0.147	1.186	0.174	A8
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.0	23.32	5	0.03	1	Right	Cheek	QPSK	36	37	1629M	1:1	0.116	1.169	0.136	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.0	24.26	0	0.00	0	Right	Tilt	QPSK	1	36	1629M	1:1	0.086	1.186	0.102	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.0	23.32	0	0.00	1	Right	Tilt	QPSK	36	37	1629M	1:1	0.042	1.169	0.049	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.0	24.26	27	-0.01	0	Left	Cheek	QPSK	1	36	1629M	1:1	0.138	1.186	0.164	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.0	23.32	27	-0.02	1	Left	Cheek	QPSK	36	37	1629M	1:1	0.100	1.169	0.117	
831.50	26865	Mid	LTE Band 26 (Cell)	15	25.0	24.26	0	-0.06	0	Left	Tilt	QPSK	1	36	1629M	1:1	0.088	1.186	0.104	
831.50	26865	Mid	LTE Band 26 (Cell)	15	24.0	23.32	0	-0.09	1	Left	Tilt	QPSK	36	37	1629M	1:1	0.064	1.169	0.075	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram							

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

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	13	-0.08	0	Right	Cheek	QPSK	1	99	1271M	1:1	0.077	1.327	0.102	A9
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	13	-0.06	1	Right	Cheek	QPSK	50	50	1271M	1:1	0.063	1.285	0.081	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	13	0.20	0	Right	Tilt	QPSK	1	99	1271M	1:1	0.028	1.327	0.037	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	13	-0.02	1	Right	Tilt	QPSK	50	50	1271M	1:1	0.025	1.285	0.032	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	13	0.14	0	Left	Cheek	QPSK	1	99	1271M	1:1	0.052	1.327	0.069	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	13	0.07	1	Left	Cheek	QPSK	50	50	1271M	1:1	0.044	1.285	0.057	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	13	-0.01	0	Left	Tilt	QPSK	1	99	1271M	1:1	0.022	1.327	0.029	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	13	0.12	1	Left	Tilt	QPSK	50	50	1271M	1:1	0.020	1.285	0.026	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram							

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

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	13	0.20	0	Right	Cheek	QPSK	1	0	1629M	1:1	0.059	1.062	0.063	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	13	-0.03	1	Right	Cheek	QPSK	50	0	1629M	1:1	0.051	1.045	0.053	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	13	0.06	0	Right	Tilt	QPSK	1	0	1629M	1:1	0.025	1.062	0.027	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	13	0.00	1	Right	Tilt	QPSK	50	0	1629M	1:1	0.024	1.045	0.025	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	13	-0.18	0	Left	Cheek	QPSK	1	0	1629M	1:1	0.062	1.062	0.066	A10
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	13	0.03	1	Left	Cheek	QPSK	50	0	1629M	1:1	0.055	1.045	0.057	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	13	0.18	0	Left	Tilt	QPSK	1	0	1629M	1:1	0.026	1.062	0.028	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	13	0.00	1	Left	Tilt	QPSK	50	0	1629M	1:1	0.023	1.045	0.024	
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 - Open

MEASUREMENT RESULTS																				
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Modulation	RB Size	RB Offset	Device Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
	MHz	Ch.															(W/kg)		(W/kg)	
Power Class 3	2680.00	41490	High	LTE Band 41	20	25.0	24.06	0.19	0	Right	Cheek	QPSK	1	50	1255M	1:1.58	0.040	1.242	0.050	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	23.17	0.10	1	Right	Cheek	QPSK	50	50	1255M	1:1.58	0.032	1.211	0.039	
Power Class 3	2680.00	41490	High	LTE Band 41	20	25.0	24.06	0.18	0	Right	Tilt	QPSK	1	50	1255M	1:1.58	0.028	1.242	0.035	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	23.17	0.15	1	Right	Tilt	QPSK	50	50	1255M	1:1.58	0.027	1.211	0.033	
Power Class 3	2680.00	41490	High	LTE Band 41	20	25.0	24.06	-0.12	0	Left	Cheek	QPSK	1	50	1255M	1:1.58	0.088	1.242	0.109	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	23.17	0.05	1	Left	Cheek	QPSK	50	50	1255M	1:1.58	0.071	1.211	0.086	
Power Class 2	2680.00	41490	High	LTE Band 41	20	27.5	26.42	0.00	0	Left	Cheek	QPSK	1	50	1255M	1:2.31	0.107	1.282	0.137	A11
Power Class 3	2680.00	41490	High	LTE Band 41	20	25.0	24.06	0.16	0	Left	Tilt	QPSK	1	50	1255M	1:1.58	0.023	1.242	0.029	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	23.17	0.17	1	Left	Tilt	QPSK	50	50	1255M	1:1.58	0.019	1.211	0.023	
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 Head SAR - Open

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna State	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	25.0	23.69	-0.03	0	Right	Cheek	5	DFT-S-OFDM	QPSK	1	53	1629M	1:1	0.175	1.352	**0.237**	A12
836.50	167300	Mid	NR Band n5 (Cell)	20	25.0	23.61	-0.02	0	Right	Cheek	5	DFT-S-OFDM	QPSK	50	28	1629M	1:1	0.169	1.377	0.233	
836.50	167300	Mid	NR Band n5 (Cell)	20	23.5	22.95	0.01	1.5	Right	Cheek	5	CP-OFDM	QPSK	1	1	1629M	1:1	0.127	1.135	0.144	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.0	23.69	-0.02	0	Right	Tilt	0	DFT-S-OFDM	QPSK	1	53	1629M	1:1	0.100	1.352	0.135	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.0	23.61	-0.07	0	Right	Tilt	0	DFT-S-OFDM	QPSK	50	28	1629M	1:1	0.091	1.377	0.125	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.0	23.69	-0.04	0	Left	Cheek	27	DFT-S-OFDM	QPSK	1	53	1629M	1:1	0.140	1.352	0.189	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.0	23.61	0.01	0	Left	Cheek	27	DFT-S-OFDM	QPSK	50	28	1629M	1:1	0.127	1.377	0.175	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.0	23.69	-0.11	0	Left	Tilt	0	DFT-S-OFDM	QPSK	1	53	1629M	1:1	0.087	1.352	0.118	
836.50	167300	Mid	NR Band n5 (Cell)	20	25.0	23.61	-0.03	0	Left	Tilt	0	DFT-S-OFDM	QPSK	50	28	1629M	1:1	0.082	1.377	0.113	
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 Head SAR - Open

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Side	Test Position	Antenna State	Waveform	Modulation	RB Size	RB Offset	Serial Number	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																	(W/kg)		(W/kg)	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	-0.11	0	Right	Cheek	13	DFT-S-OFDM	QPSK	1	104	1271M	1:1	0.076	1.151	0.087	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	-0.04	0	Right	Cheek	13	DFT-S-OFDM	QPSK	50	28	1271M	1:1	0.081	1.180	0.096	A13
1745.00	349000	Mid	NR Band n66 (AWS)	20	22.5	21.95	-0.13	1.5	Right	Cheek	13	CP-OFDM	QPSK	1	1	1271M	1:1	0.056	1.135	0.064	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	0.08	0	Right	Tilt	13	DFT-S-OFDM	QPSK	1	104	1271M	1:1	0.042	1.151	0.048	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	-0.06	0	Right	Tilt	13	DFT-S-OFDM	QPSK	50	28	1271M	1:1	0.046	1.180	0.054	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	0.04	0	Left	Cheek	13	DFT-S-OFDM	QPSK	1	104	1271M	1:1	0.074	1.151	0.085	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	-0.02	0	Left	Cheek	13	DFT-S-OFDM	QPSK	50	28	1271M	1:1	0.070	1.180	0.083	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	0.12	0	Left	Tilt	13	DFT-S-OFDM	QPSK	1	104	1271M	1:1	0.049	1.151	0.056	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	0.04	0	Left	Tilt	13	DFT-S-OFDM	QPSK	50	28	1271M	1:1	0.042	1.180	0.050	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Head 1.6 W/kg (mW/g) averaged over 1 gram								

Table 11-14
DTS Head SAR - Open

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	13.0	12.76	-0.03	Right	Cheek	2	1271M	1	99.9	0.327	0.288	1.057	1.001	**0.305**	
2412	1	802.11b	DSSS	22	13.0	12.76	-0.03	Right	Tilt	2	1271M	1	99.9	0.251	-	1.057	1.001	-	
2412	1	802.11b	DSSS	22	13.0	12.76	0.00	Left	Cheek	2	1271M	1	99.9	0.069	-	1.057	1.001	-	
2412	1	802.11b	DSSS	22	13.0	12.76	0.00	Left	Tilt	2	1271M	1	99.9	0.066	-	1.057	1.001	-	
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
DTS MIMO Head SAR - Open

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)	
2462	11	802.11n	OFDM	20	13.0	12.82	13.0	12.89	0.10	Right	Cheek	MIMO	1271M	13	99.7	0.354	-	1.042	1.003	-	
2462	11	802.11n	OFDM	20	13.0	12.82	13.0	12.89	0.00	Right	Tilt	MIMO	1271M	13	99.7	0.404	0.298	1.042	1.003	0.311	A14
2462	11	802.11n	OFDM	20	13.0	12.82	13.0	12.89	-0.11	Left	Cheek	MIMO	1271M	13	99.7	0.209	-	1.042	1.003	-	
2462	11	802.11n	OFDM	20	13.0	12.82	13.0	12.89	-0.12	Left	Tilt	MIMO	1271M	13	99.7	0.183	-	1.042	1.003	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Head 1.6 W/kg (mW/g) averaged over 1 gram					

Note: To achieve the 16.0 dBm maximum allowed MIMO power shown in the documentation each antenna transmits at a maximum allowed power of 13.0 dBm.

Table 11-16
NII SISO Head SAR - Open

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Side	Test Position	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5290	58	802.11ac	OFDM	80	11.0	10.75	0.05	Right	Cheek	1	1271M	29.3	99.7	0.068	-	1.059	1.003	-	
5290	58	802.11ac	OFDM	80	11.0	10.75	-0.13	Right	Tilt	1	1271M	29.3	99.7	0.057	-	1.059	1.003	-	
5290	58	802.11ac	OFDM	80	11.0	10.75	0.10	Left	Cheek	1	1271M	29.3	99.7	0.085	0.057	1.059	1.003	0.061	
5290	58	802.11ac	OFDM	80	11.0	10.75	0.03	Left	Tilt	1	1271M	29.3	99.7	0.084	-	1.059	1.003	-	
5610	122	802.11ac	OFDM	80	11.0	10.82	0.05	Right	Cheek	1	1271M	29.3	99.7	0.068	-	1.042	1.003	-	
5610	122	802.11ac	OFDM	80	11.0	10.82	0.01	Right	Tilt	1	1271M	29.3	99.7	0.066	-	1.042	1.003	-	
5610	122	802.11ac	OFDM	80	11.0	10.82	-0.09	Left	Cheek	1	1271M	29.3	99.7	0.110	-	1.042	1.003	-	
5610	122	802.11ac	OFDM	80	11.0	10.82	-0.12	Left	Tilt	1	1271M	29.3	99.7	0.123	0.073	1.042	1.003	**0.076**	
5775	155	802.11ac	OFDM	80	11.0	10.81	-0.18	Right	Cheek	1	1271M	29.3	99.7	0.051	-	1.045	1.003	-	
5775	155	802.11ac	OFDM	80	11.0	10.81	0.14	Right	Tilt	1	1271M	29.3	99.7	0.037	-	1.045	1.003	-	
5775	155	802.11ac	OFDM	80	11.0	10.81	0.19	Left	Cheek	1	1271M	29.3	99.7	0.055	0.038	1.045	1.003	0.040	
5775	155	802.11ac	OFDM	80	11.0	10.81	0.13	Left	Tilt	1	1271M	29.3	99.7	0.047	-	1.045	1.003	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Head 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-17
NII MIMO Head SAR - Open

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)	
5290	58	802.11ac	OFDM	80	11.0	10.88	11.0	10.98	0.04	Right	Cheek	MIMO	1255M	58.5	99.7	0.143	0.116	1.028	1.003	0.120	
5290	58	802.11ac	OFDM	80	11.0	10.88	11.0	10.98	-0.05	Right	Tilt	MIMO	1255M	58.5	99.7	0.076	-	1.028	1.003	-	
5290	58	802.11ac	OFDM	80	11.0	10.88	11.0	10.98	-0.17	Left	Cheek	MIMO	1255M	58.5	99.7	0.070	-	1.028	1.003	-	
5290	58	802.11ac	OFDM	80	11.0	10.88	11.0	10.98	0.00	Left	Tilt	MIMO	1255M	58.5	99.7	0.069	-	1.028	1.003	-	
5610	122	802.11ac	OFDM	80	11.0	10.89	11.0	10.98	-0.12	Right	Cheek	MIMO	1255M	58.5	99.7	0.226	0.186	1.026	1.003	0.191	A15
5610	122	802.11ac	OFDM	80	11.0	10.89	11.0	10.98	0.10	Right	Tilt	MIMO	1255M	58.5	99.7	0.137	-	1.026	1.003	-	
5610	122	802.11ac	OFDM	80	11.0	10.89	11.0	10.98	0.14	Left	Cheek	MIMO	1255M	58.5	99.7	0.084	-	1.026	1.003	-	
5610	122	802.11ac	OFDM	80	11.0	10.89	11.0	10.98	-0.11	Left	Tilt	MIMO	1255M	58.5	99.7	0.088	-	1.026	1.003	-	
5775	155	802.11ac	OFDM	80	11.0	10.85	11.0	10.78	0.09	Right	Cheek	MIMO	1255M	58.5	99.7	0.201	0.168	1.052	1.003	0.177	
5775	155	802.11ac	OFDM	80	11.0	10.85	11.0	10.78	0.06	Right	Tilt	MIMO	1255M	58.5	99.7	0.133	-	1.052	1.003	-	
5775	155	802.11ac	OFDM	80	11.0	10.85	11.0	10.78	-0.14	Left	Cheek	MIMO	1255M	58.5	99.7	0.064	-	1.052	1.003	-	
5775	155	802.11ac	OFDM	80	11.0	10.85	11.0	10.78	-0.20	Left	Tilt	MIMO	1255M	58.5	99.7	0.057	-	1.052	1.003	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Head 1.6 W/kg (mW/g) averaged over 1 gram											

Note: To achieve the 14.0 dBm maximum allowed MIMO power shown in the documentation each antenna transmits at a maximum allowed power of 11.0 dBm.

Table 11-18
DSS Head SAR - Open

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)	
2441.00	39	Bluetooth	FHSS	10.0	8.43	0.03	Right	Cheek	1	2634M	1	76.80	0.060	1.435	1.302	0.112	
2441.00	39	Bluetooth	FHSS	10.0	8.43	-0.03	Right	Tilt	1	2634M	1	76.80	0.045	1.435	1.302	0.084	
2441.00	39	Bluetooth	FHSS	10.0	8.43	0.05	Left	Cheek	1	2634M	1	76.80	0.091	1.435	1.302	0.170	
2441.00	39	Bluetooth	FHSS	10.0	8.43	0.08	Left	Tilt	1	2634M	1	76.80	0.077	1.435	1.302	0.144	
2480.00	78	Bluetooth	FHSS	10.0	9.44	-0.01	Right	Cheek	2	2634M	1	76.80	0.223	1.138	1.302	**0.330**	A16
2480.00	78	Bluetooth	FHSS	10.0	9.44	-0.15	Right	Tilt	2	2634M	1	76.80	0.135	1.138	1.302	0.200	
2480.00	78	Bluetooth	FHSS	10.0	9.44	-0.11	Left	Cheek	2	2634M	1	76.80	0.030	1.138	1.302	0.044	
2480.00	78	Bluetooth	FHSS	10.0	9.44	0.07	Left	Tilt	2	2634M	1	76.80	0.033	1.138	1.302	0.049	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population									Head 1.6 W/kg (mW/g) averaged over 1 gram								

11.2 Standalone Open Body-Worn SAR Data

Table 11-19
GSM/UMTS Body-Worn SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	Spacing	Cover Type	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.													(W/kg)		(W/kg)	
824.20	128	GSM 850	GSM	33.0	32.29	N/A	-0.04	15 mm	Open	1272M	1	1:8.3	back	0.121	1.178	0.143	
824.20	128	GSM 850	GSM	33.0	32.29	N/A	0.04	15 mm	Closed	1629M	1	1:8.3	back	0.236	1.178	0.278	A17
1850.20	512	GSM 1900	GSM	30.5	29.89	N/A	-0.06	15 mm	Open	1262M	1	1:8.3	back	0.235	1.151	0.270	A19
1850.20	512	GSM 1900	GSM	30.5	29.89	N/A	-0.07	15 mm	Closed	1262M	1	1:8.3	back	0.103	1.151	0.119	
836.60	4183	UMTS 850	RMC	25.5	24.81	80	0.00	15 mm	Open	1255M	N/A	1:1	back	0.191	1.172	0.224	
836.60	4183	UMTS 850	RMC	25.5	24.81	80	0.02	15 mm	Closed	1274M	N/A	1:1	back	0.345	1.172	0.404	A21
1712.40	1312	UMTS 1750	RMC	24.0	23.42	2	0.07	15 mm	Open	2635M	N/A	1:1	back	0.494	1.143	0.565	A23
1712.40	1312	UMTS 1750	RMC	24.0	23.42	2	-0.13	15 mm	Closed	2635M	N/A	1:1	back	0.212	1.143	0.242	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	0.02	15 mm	Open	1262M	N/A	1:1	back	0.528	1.023	0.540	A25
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	0.02	15 mm	Closed	1629M	N/A	1:1	back	0.230	1.023	0.235	
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
LTE Body-Worn SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																	(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	Open	25.0	24.55	0	0.00	0	1271M	QPSK	1	0	15 mm	back	1:1	0.191	1.109	0.212	
707.50	23095	Mid	LTE Band 12	10	Open	24.0	23.70	0	0.01	1	1271M	QPSK	25	25	15 mm	back	1:1	0.134	1.072	0.144	
707.50	23095	Mid	LTE Band 12	10	Closed	25.0	24.55	0	0.02	0	1271M	QPSK	1	0	15 mm	back	1:1	0.234	1.109	0.260	A27
707.50	23095	Mid	LTE Band 12	10	Closed	24.0	23.70	0	-0.01	1	1271M	QPSK	25	25	15 mm	back	1:1	0.185	1.072	0.198	
782.00	23230	Mid	LTE Band 13	10	Open	25.0	24.64	27	-0.05	0	1271M	QPSK	1	25	15 mm	back	1:1	0.184	1.086	0.200	A29
782.00	23230	Mid	LTE Band 13	10	Open	24.0	23.62	27	0.03	1	1271M	QPSK	25	25	15 mm	back	1:1	0.165	1.091	0.180	
782.00	23230	Mid	LTE Band 13	10	Closed	25.0	24.64	27	-0.11	0	1271M	QPSK	1	25	15 mm	back	1:1	0.178	1.086	0.193	
782.00	23230	Mid	LTE Band 13	10	Closed	24.0	23.62	27	0.03	1	1271M	QPSK	25	25	15 mm	back	1:1	0.157	1.091	0.171	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	25.0	24.26	0	-0.05	0	1272M	QPSK	1	36	15 mm	back	1:1	0.185	1.186	0.219	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	24.0	23.32	0	-0.06	1	1272M	QPSK	36	37	15 mm	back	1:1	0.149	1.169	0.174	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	25.0	24.26	2	-0.01	0	1629M	QPSK	1	36	15 mm	back	1:1	0.283	1.186	0.336	A31
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	24.0	23.32	2	-0.02	1	1629M	QPSK	36	37	15 mm	back	1:1	0.216	1.169	0.253	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	24.0	22.68	18	-0.05	0	1271M	QPSK	1	50	15 mm	back	1:1	0.479	1.355	0.649	
1745.00	132322	Mid	LTE Band 66 (AWS)	20	Open	24.0	22.52	18	-0.01	0	1271M	QPSK	1	99	15 mm	back	1:1	0.474	1.406	0.666	
1770.00	132572	High	LTE Band 66 (AWS)	20	Open	24.0	22.77	59	-0.01	0	1271M	QPSK	1	99	15 mm	back	1:1	0.492	1.327	0.653	A33
1770.00	132572	High	LTE Band 66 (AWS)	20	Open	23.0	21.91	59	-0.03	1	1271M	QPSK	50	50	15 mm	back	1:1	0.402	1.285	0.517	
1770.00	132572	High	LTE Band 66 (AWS)	20	Closed	24.0	22.77	60	0.06	0	1271M	QPSK	1	99	15 mm	back	1:1	0.266	1.327	0.353	
1770.00	132572	High	LTE Band 66 (AWS)	20	Closed	23.0	21.91	60	0.07	1	1271M	QPSK	50	50	15 mm	back	1:1	0.214	1.285	0.275	
1860.00	26140	Low	LTE Band 25 (PCS)	20	Open	24.0	23.74	61	-0.05	0	1262M	QPSK	1	0	15 mm	back	1:1	0.542	1.062	0.576	A35
1860.00	26140	Low	LTE Band 25 (PCS)	20	Open	23.0	22.81	61	-0.01	1	1262M	QPSK	50	0	15 mm	back	1:1	0.445	1.045	0.465	
1860.00	26140	Low	LTE Band 25 (PCS)	20	Closed	24.0	23.74	61	-0.05	0	1262M	QPSK	1	0	15 mm	back	1:1	0.224	1.062	0.238	
1860.00	26140	Low	LTE Band 25 (PCS)	20	Closed	23.0	22.81	61	0.02	1	1262M	QPSK	50	0	15 mm	back	1:1	0.173	1.045	0.181	
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
LTE Band 41 Body-Worn SAR

MEASUREMENT RESULTS																						
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	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	2680.00	41490	High	LTE Band 41	20	Open	25.0	24.06	-0.02	0	2634M	QPSK	1	50	15 mm	back	1:1.58	0.137	1.242	0.170	
Power Class 3	2680.00	41490	High	LTE Band 41	20	Open	24.0	23.17	0.04	1	2634M	QPSK	50	50	15 mm	back	1:1.58	0.109	1.211	0.132	
Power Class 2	2680.00	41490	High	LTE Band 41	20	Open	27.5	26.42	0.19	0	2634M	QPSK	1	50	15 mm	back	1:2.31	0.148	1.282	0.190	A37
Power Class 3	2680.00	41490	High	LTE Band 41	20	Closed	25.0	24.06	-0.10	0	2634M	QPSK	1	50	15 mm	back	1:1.58	0.099	1.242	0.123	
Power Class 3	2680.00	41490	High	LTE Band 41	20	Closed	24.0	23.17	0.01	1	2634M	QPSK	50	50	15 mm	back	1:1.58	0.078	1.211	0.094	
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
NR Body-Worn SAR

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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	Open	25.0	23.69	0.04	0	0	1272M	DFT-S-OFDM	QPSK	1	53	15 mm	back	1:1	0.206	1.352	0.279	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	25.0	23.61	-0.12	0	0	1272M	DFT-S-OFDM	QPSK	50	28	15 mm	back	1:1	0.192	1.377	0.264	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.95	-0.03	1.5	0	1272M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.128	1.135	0.145	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	25.0	23.69	0.08	0	2	1272M	DFT-S-OFDM	QPSK	1	53	15 mm	back	1:1	0.284	1.352	0.384	A39
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	25.0	23.61	0.03	0	2	1272M	DFT-S-OFDM	QPSK	50	28	15 mm	back	1:1	0.277	1.377	0.381	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.95	0.01	1.5	2	1272M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.223	1.135	0.253	
1720.00	344000	Low	NR Band n66 (AWS)	20	Open	24.0	23.39	0.04	0	18	2635M	DFT-S-OFDM	QPSK	1	104	15 mm	back	1:1	0.615	1.151	0.708	
1745.00	349000	Mid	NR Band n66 (AWS)	20	Open	24.0	23.30	0.02	0	18	2635M	DFT-S-OFDM	QPSK	1	1	15 mm	back	1:1	0.624	1.175	**0.733**	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	24.0	23.32	0.04	0	59	2635M	DFT-S-OFDM	QPSK	1	53	15 mm	back	1:1	0.625	1.169	**0.731**	A41
1720.00	344000	Low	NR Band n66 (AWS)	20	Open	24.0	23.28	-0.04	0	59	2635M	DFT-S-OFDM	QPSK	50	28	15 mm	back	1:1	0.586	1.180	0.691	
1745.00	349000	Mid	NR Band n66 (AWS)	20	Open	22.5	21.95	0.07	1.5	59	2635M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.426	1.135	0.484	
1720.00	344000	Low	NR Band n66 (AWS)	20	Closed	24.0	23.39	0.16	0	60	2635M	DFT-S-OFDM	QPSK	1	104	15 mm	back	1:1	0.124	1.151	0.143	
1720.00	344000	Low	NR Band n66 (AWS)	20	Closed	24.0	23.28	0.05	0	60	2635M	DFT-S-OFDM	QPSK	50	28	15 mm	back	1:1	0.133	1.180	0.157	
1745.00	349000	Mid	NR Band n66 (AWS)	20	Closed	22.5	21.95	0.11	1.5	60	2635M	CP-OFDM	QPSK	1	1	15 mm	back	1:1	0.121	1.135	0.137	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-23
DTS Body-Worn SISO SAR - Open

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Cover Type	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.														W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	19.0	18.84	-0.07	15 mm	2	Open	1262M	1	back	99.9	0.072	0.057	1.038	1.001	**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 11-24
DTS Body-Worn SISO SAR - Closed

MEASUREMENT RESULTS																				
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Cover Type	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.														W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	19.0	18.84	-0.12	15 mm	2	Closed	1274M	1	back	99.9	0.020	0.015	1.038	1.001	0.016	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-25
DTS MIMO Body-Worn SAR - Open

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	802.11b	DSSS	22	19.0	18.89	19.0	18.86	0.11	15 mm	MIMO	1262M	1	back	99.9	0.271	0.223	1.033	1.001	0.231	A43
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: To achieve the 22 dBm maximum allowed MIMO power shown in the documentation each antenna transmits at a maximum allowed power of 19.0 dBm.

Table 11-26
DTS MIMO Body-Worn SAR - Closed

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	802.11b	DSSS	22	19.0	18.89	19.0	18.86	-0.15	15 mm	MIMO	1274M	1	back	99.9	0.128	0.100	1.033	1.001	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											

Note: To achieve the 22 dBm maximum allowed MIMO power shown in the documentation each antenna transmits at a maximum allowed power of 19.0 dBm.

Table 11-27
NII SISO Body-Worn SAR - Open

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5260	52	802.11a	OFDM	20	18.0	17.98	-0.21	15 mm	1	1274M	6	back	98.9	0.028	0.016	1.005	1.011	0.016	
5720	144	802.11a	OFDM	20	18.0	17.86	-0.18	15 mm	1	1274M	6	back	98.9	0.065	0.047	1.033	1.011	0.049	
5825	165	802.11a	OFDM	20	18.0	17.80	-0.15	15 mm	1	1274M	6	back	98.9	0.063	0.042	1.047	1.011	0.044	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-28
NII SISO Body-Worn SAR - Closed

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5260	52	802.11a	OFDM	20	18.0	17.98	-0.12	15 mm	1	1274M	6	back	98.9	0.000	0.000	1.005	1.011	0.000	
5720	144	802.11a	OFDM	20	18.0	17.86	-0.13	15 mm	1	1274M	6	back	98.9	0.004	0.000	1.033	1.011	0.000	
5825	165	802.11a	OFDM	20	18.0	17.80	-0.12	15 mm	1	1274M	6	back	98.9	0.000	0.000	1.047	1.011	0.000	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram									

Table 11-29
NII MIMO Body-Worn SAR - Open

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5260	52	802.11n	OFDM	20	18.0	17.91	18.0	17.89	-0.13	15 mm	MIMO	1274M	13	back	99.7	0.113	0.072	1.026	1.003	0.074	
5600	120	802.11n	OFDM	20	18.0	17.77	18.0	17.99	0.07	15 mm	MIMO	1274M	13	back	99.7	0.113	0.077	1.054	1.003	0.081	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	-0.14	15 mm	MIMO	1274M	13	back	99.7	0.117	0.080	1.023	1.003	0.082	A45
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: 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 11-30
NII MIMO Body-Worn SAR – Closed

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5260	52	802.11n	OFDM	20	18.0	17.91	18.0	17.89	0.06	15 mm	MIMO	1262M	13	back	99.7	0.017	0.008	1.026	1.003	0.008	
5600	120	802.11n	OFDM	20	18.0	17.77	18.0	17.99	0.16	15 mm	MIMO	1262M	13	back	99.7	0.004	0.002	1.054	1.003	0.002	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	0.19	15 mm	MIMO	1262M	13	back	99.7	0.017	0.000	1.023	1.003	0.000	
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: 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 11-31
DSS Body-Worn SAR - Open

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)	
2441	39	Bluetooth	FHSS	16.0	15.55	-0.14	15 mm	1	1262M	1	back	76.8	0.036	1.109	1.302	**0.052**	A47
2480	78	Bluetooth	FHSS	17.0	16.60	0.21	15 mm	2	1262M	1	back	76.80	0.030	1.096	1.302	0.043	
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
DSS Body-Worn SAR - Closed

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)	
2441	39	Bluetooth	FHSS	16.0	15.55	0.16	15 mm	1	1262M	1	back	76.8	0.010	1.109	1.302	**0.014**	
2480	78	Bluetooth	FHSS	17.0	16.60	-0.12	15 mm	2	1262M	1	back	76.80	0.003	1.096	1.302	0.004	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram					

11.3 Standalone Open Hotspot SAR Data

Table 11-33
GPRS/UMTS Hotspot SAR Data

MEASUREMENT RESULTS																	
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	Spacing	Cover Type	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	28.5	27.55	N/A	-0.14	10 mm	Open	1272M	3	1:2.76	back	0.258	1.245	0.321	
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	-0.09	10 mm	Open	1272M	3	1:2.76	front	0.167	1.245	0.208	
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	-0.13	10 mm	Open	1272M	3	1:2.76	bottom	0.100	1.245	0.125	
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	0.00	10 mm	Open	1272M	3	1:2.76	right	0.163	1.245	0.203	
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	-0.10	10 mm	Open	1272M	3	1:2.76	left	0.034	1.245	0.042	
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	-0.12	5 mm	Closed	1629M	3	1:2.76	back	0.455	1.245	0.566	A18
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	-0.21	5 mm	Closed	1629M	3	1:2.76	front	0.124	1.245	0.154	
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	-0.01	5 mm	Closed	1629M	3	1:2.76	bottom	0.141	1.245	0.176	
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	-0.04	5 mm	Closed	1629M	3	1:2.76	right	0.075	1.245	0.093	
836.60	190	GSM 850	GPRS	28.5	27.55	N/A	-0.16	5 mm	Closed	1629M	3	1:2.76	left	0.084	1.245	0.105	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	-0.11	10 mm	Open	2635M	3	1:2.76	back	0.378	1.148	0.434	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	0.00	10 mm	Open	2635M	3	1:2.76	front	0.289	1.148	0.332	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	-0.21	10 mm	Open	2635M	3	1:2.76	bottom	0.481	1.148	0.552	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	-0.12	10 mm	Open	2635M	3	1:2.76	right	0.030	1.148	0.034	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	-0.13	10 mm	Open	2635M	3	1:2.76	left	0.036	1.148	0.041	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	0.16	5 mm	Closed	2635M	3	1:2.76	back	0.332	1.148	0.381	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	-0.15	5 mm	Closed	2635M	3	1:2.76	front	0.148	1.148	0.170	
1850.20	512	GSM 1900	GPRS	22.5	21.85	N/A	-0.13	5 mm	Closed	2635M	3	1:2.76	bottom	0.620	1.161	0.720	
1880.00	661	GSM 1900	GPRS	22.5	21.84	N/A	-0.13	5 mm	Closed	2635M	3	1:2.76	bottom	0.615	1.164	0.716	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	-0.14	5 mm	Closed	2635M	3	1:2.76	bottom	0.664	1.148	0.762	A20
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	-0.13	5 mm	Closed	2635M	3	1:2.76	right	0.087	1.148	0.100	
1909.80	810	GSM 1900	GPRS	22.5	21.90	N/A	-0.12	5 mm	Closed	2635M	3	1:2.76	left	0.041	1.148	0.047	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	-0.02	10 mm	Open	1255M	N/A	1:1	back	0.271	1.315	0.356	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	0.02	10 mm	Open	1255M	N/A	1:1	front	0.165	1.315	0.217	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	-0.03	10 mm	Open	1255M	N/A	1:1	bottom	0.077	1.315	0.101	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	-0.03	10 mm	Open	1255M	N/A	1:1	right	0.144	1.315	0.189	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	-0.05	10 mm	Open	1255M	N/A	1:1	left	0.044	1.315	0.058	
826.40	4132	UMTS 850	RMC	24.0	22.69	80	-0.12	5 mm	Closed	1274M	N/A	1:1	back	0.598	1.352	**0.808**	A22
836.60	4183	UMTS 850	RMC	24.0	22.71	80	-0.13	5 mm	Closed	1274M	N/A	1:1	back	0.527	1.346	0.709	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	-0.08	5 mm	Closed	1274M	N/A	1:1	back	0.553	1.315	0.727	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	0.12	5 mm	Closed	1274M	N/A	1:1	front	0.178	1.315	0.234	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	0.01	5 mm	Closed	1274M	N/A	1:1	bottom	0.163	1.315	0.214	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	0.06	5 mm	Closed	1274M	N/A	1:1	right	0.110	1.315	0.145	
846.60	4233	UMTS 850	RMC	24.0	22.81	80	0.01	5 mm	Closed	1274M	N/A	1:1	left	0.128	1.315	0.168	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.07	10 mm	Open	2635M	N/A	1:1	back	0.256	1.291	0.330	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.05	10 mm	Open	2635M	N/A	1:1	front	0.186	1.291	0.240	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.03	10 mm	Open	2635M	N/A	1:1	bottom	0.371	1.291	0.479	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.09	10 mm	Open	2635M	N/A	1:1	right	0.025	1.291	0.032	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.05	10 mm	Open	2635M	N/A	1:1	left	0.080	1.291	0.103	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.00	5 mm	Closed	2635M	N/A	1:1	back	0.429	1.291	0.554	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.12	5 mm	Closed	2635M	N/A	1:1	front	0.078	1.291	0.101	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.00	5 mm	Closed	2635M	N/A	1:1	bottom	0.495	1.291	0.639	A24
1732.40	1412	UMTS 1750	RMC	17.5	16.22	2	-0.06	5 mm	Closed	2635M	N/A	1:1	bottom	0.399	1.343	0.536	
1752.60	1513	UMTS 1750	RMC	17.5	16.05	2	-0.01	5 mm	Closed	2635M	N/A	1:1	bottom	0.485	1.396	0.677	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.18	5 mm	Closed	2635M	N/A	1:1	right	0.009	1.291	0.012	
1712.40	1312	UMTS 1750	RMC	17.5	16.39	2	0.01	5 mm	Closed	2635M	N/A	1:1	left	0.069	1.291	0.089	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	-0.02	10 mm	Open	2635M	N/A	1:1	back	0.201	1.202	0.242	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	-0.13	10 mm	Open	2635M	N/A	1:1	front	0.172	1.202	0.207	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	-0.06	10 mm	Open	2635M	N/A	1:1	bottom	0.341	1.202	0.410	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	0.00	10 mm	Open	2635M	N/A	1:1	right	0.021	1.202	0.025	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	0.07	10 mm	Open	2635M	N/A	1:1	left	0.029	1.202	0.035	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	-0.09	5 mm	Closed	2635M	N/A	1:1	back	0.275	1.202	0.331	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	0.01	5 mm	Closed	2635M	N/A	1:1	front	0.100	1.202	0.120	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	-0.14	5 mm	Closed	2635M	N/A	1:1	bottom	0.424	1.202	0.510	A26
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	0.07	5 mm	Closed	2635M	N/A	1:1	right	0.042	1.202	0.050	
1852.40	9262	UMTS 1900	RMC	16.5	15.70	13	0.18	5 mm	Closed	2635M	N/A	1:1	left	0.035	1.202	0.042	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram				

Table 11-34
LTE Band 12 Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																	(W/kg)		(W/kg)	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.31	0	0.07	0	1271M	QPSK	1	25	10 mm	back	1:1	0.188	1.315	0.247	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.37	0	0.02	0	1271M	QPSK	25	12	10 mm	back	1:1	0.196	1.297	0.254	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.31	0	-0.08	0	1271M	QPSK	1	25	10 mm	front	1:1	0.124	1.315	0.163	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.37	0	-0.01	0	1271M	QPSK	25	12	10 mm	front	1:1	0.128	1.297	0.166	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.31	0	0.13	0	1271M	QPSK	1	25	10 mm	bottom	1:1	0.035	1.315	0.046	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.37	0	0.01	0	1271M	QPSK	25	12	10 mm	bottom	1:1	0.036	1.297	0.047	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.31	0	-0.07	0	1271M	QPSK	1	25	10 mm	right	1:1	0.122	1.315	0.160	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.37	0	-0.10	0	1271M	QPSK	25	12	10 mm	right	1:1	0.127	1.297	0.165	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.31	0	0.12	0	1271M	QPSK	1	25	10 mm	left	1:1	0.079	1.315	0.104	
707.50	23095	Mid	LTE Band 12	10	Open	23.5	22.37	0	-0.02	0	1271M	QPSK	25	12	10 mm	left	1:1	0.083	1.297	0.108	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.31	0	-0.04	0	1271M	QPSK	1	25	5 mm	back	1:1	0.609	1.315	0.801	A28
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.37	0	-0.03	0	1271M	QPSK	25	12	5 mm	back	1:1	0.606	1.297	0.786	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.23	0	-0.04	0	1271M	QPSK	50	0	5 mm	back	1:1	0.587	1.340	0.787	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.31	0	0.08	0	1271M	QPSK	1	25	5 mm	front	1:1	0.201	1.315	0.264	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.37	0	-0.03	0	1271M	QPSK	25	12	5 mm	front	1:1	0.208	1.297	0.270	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.31	0	0.06	0	1271M	QPSK	1	25	5 mm	bottom	1:1	0.079	1.315	0.104	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.37	0	-0.02	0	1271M	QPSK	25	12	5 mm	bottom	1:1	0.080	1.297	0.104	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.31	0	-0.08	0	1271M	QPSK	1	25	5 mm	right	1:1	0.058	1.315	0.076	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.37	0	-0.04	0	1271M	QPSK	25	12	5 mm	right	1:1	0.059	1.297	0.077	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.31	0	-0.03	0	1271M	QPSK	1	25	5 mm	left	1:1	0.121	1.315	0.159	
707.50	23095	Mid	LTE Band 12	10	Closed	23.5	22.37	0	-0.02	0	1271M	QPSK	25	12	5 mm	left	1:1	0.126	1.297	0.163	
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 13 Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																	(W/kg)		(W/kg)	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.60	27	0.02	0	1271M	QPSK	1	49	10 mm	back	1:1	0.209	1.230	0.257	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.64	27	-0.01	0	1271M	QPSK	25	12	10 mm	back	1:1	0.216	1.219	0.263	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.60	27	-0.02	0	1271M	QPSK	1	49	10 mm	front	1:1	0.148	1.230	0.182	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.64	27	0.00	0	1271M	QPSK	25	12	10 mm	front	1:1	0.152	1.219	0.185	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.60	27	0.09	0	1271M	QPSK	1	49	10 mm	bottom	1:1	0.076	1.230	0.093	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.64	27	0.01	0	1271M	QPSK	25	12	10 mm	bottom	1:1	0.078	1.219	0.095	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.60	27	-0.03	0	1271M	QPSK	1	49	10 mm	right	1:1	0.159	1.230	0.196	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.64	27	-0.08	0	1271M	QPSK	25	12	10 mm	right	1:1	0.144	1.219	0.176	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.60	27	-0.03	0	1271M	QPSK	1	49	10 mm	left	1:1	0.076	1.230	0.093	
782.00	23230	Mid	LTE Band 13	10	Open	23.5	22.64	27	0.16	0	1271M	QPSK	25	12	10 mm	left	1:1	0.077	1.219	0.094	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.60	27	0.00	0	1271M	QPSK	1	49	5 mm	back	1:1	0.373	1.230	0.459	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.64	27	-0.01	0	1271M	QPSK	25	12	5 mm	back	1:1	0.402	1.219	0.490	A30
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.60	27	0.13	0	1271M	QPSK	1	49	5 mm	front	1:1	0.055	1.230	0.068	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.64	27	0.00	0	1271M	QPSK	25	12	5 mm	front	1:1	0.071	1.219	0.087	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.60	27	-0.01	0	1271M	QPSK	1	49	5 mm	bottom	1:1	0.166	1.230	0.204	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.64	27	-0.02	0	1271M	QPSK	25	12	5 mm	bottom	1:1	0.179	1.219	0.218	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.60	27	0.05	0	1271M	QPSK	1	49	5 mm	right	1:1	0.073	1.230	0.090	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.64	27	-0.03	0	1271M	QPSK	25	12	5 mm	right	1:1	0.074	1.219	0.090	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.60	27	-0.01	0	1271M	QPSK	1	49	5 mm	left	1:1	0.071	1.230	0.087	
782.00	23230	Mid	LTE Band 13	10	Closed	23.5	22.64	27	-0.07	0	1271M	QPSK	25	12	5 mm	left	1:1	0.074	1.219	0.090	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-36
LTE Band 26 (Cell) Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																	(W/kg)		(W/kg)	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.29	0	-0.02	0	1272M	QPSK	1	74	10 mm	back	1:1	0.248	1.321	0.328	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.31	0	-0.02	0	1272M	QPSK	36	18	10 mm	back	1:1	0.264	1.315	0.347	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.29	0	0.01	0	1272M	QPSK	1	74	10 mm	front	1:1	0.167	1.321	0.221	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.31	0	0.03	0	1272M	QPSK	36	18	10 mm	front	1:1	0.176	1.315	0.231	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.29	0	0.01	0	1272M	QPSK	1	74	10 mm	bottom	1:1	0.093	1.321	0.123	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.31	0	-0.02	0	1272M	QPSK	36	18	10 mm	bottom	1:1	0.095	1.315	0.125	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.29	0	0.01	0	1272M	QPSK	1	74	10 mm	right	1:1	0.123	1.321	0.162	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.31	0	-0.02	0	1272M	QPSK	36	18	10 mm	right	1:1	0.128	1.315	0.168	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.29	0	-0.03	0	1272M	QPSK	1	74	10 mm	left	1:1	0.033	1.321	0.044	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Open	23.5	22.31	0	-0.01	0	1272M	QPSK	36	18	10 mm	left	1:1	0.037	1.315	0.049	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.29	109	-0.09	0	1629M	QPSK	1	74	5 mm	back	1:1	0.547	1.321	0.723	A32
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.31	109	0.11	0	1629M	QPSK	36	18	5 mm	back	1:1	0.500	1.315	0.658	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.29	80	0.03	0	1629M	QPSK	1	74	5 mm	front	1:1	0.092	1.321	0.122	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.31	80	-0.11	0	1629M	QPSK	36	18	5 mm	front	1:1	0.123	1.315	0.162	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.29	81	0.02	0	1629M	QPSK	1	74	5 mm	bottom	1:1	0.146	1.321	0.193	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.31	27	0.06	0	1629M	QPSK	36	18	5 mm	bottom	1:1	0.153	1.315	0.201	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.29	109	0.10	0	1629M	QPSK	1	74	5 mm	right	1:1	0.072	1.321	0.095	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.31	109	0.08	0	1629M	QPSK	36	18	5 mm	right	1:1	0.073	1.315	0.096	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.29	2	0.09	0	1629M	QPSK	1	74	5 mm	left	1:1	0.057	1.321	0.075	
831.50	26865	Mid	LTE Band 26 (Cell)	15	Closed	23.5	22.31	2	0.09	0	1629M	QPSK	36	18	5 mm	left	1:1	0.070	1.315	0.092	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 11-37
LTE Band 66 (AWS) Hotspot SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																	(W/kg)		(W/kg)	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.61	3	-0.02	0	1271M	QPSK	1	50	10 mm	back	1:1	0.223	1.377	0.307	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.82	3	0.06	0	1271M	QPSK	50	25	10 mm	back	1:1	0.231	1.312	0.303	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.61	0	0.00	0	1271M	QPSK	1	50	10 mm	front	1:1	0.175	1.377	0.241	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.82	0	0.01	0	1271M	QPSK	50	25	10 mm	front	1:1	0.180	1.312	0.236	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.61	2	-0.02	0	1271M	QPSK	1	50	10 mm	bottom	1:1	0.305	1.377	0.420	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.82	2	-0.04	0	1271M	QPSK	50	25	10 mm	bottom	1:1	0.330	1.312	0.433	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.61	0	-0.04	0	1271M	QPSK	1	50	10 mm	right	1:1	0.023	1.377	0.032	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.82	0	0.07	0	1271M	QPSK	50	25	10 mm	right	1:1	0.023	1.312	0.030	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.61	0	0.11	0	1271M	QPSK	1	50	10 mm	left	1:1	0.053	1.377	0.073	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Open	17.0	15.82	0	-0.02	0	1271M	QPSK	50	25	10 mm	left	1:1	0.055	1.312	0.072	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.61	2	-0.07	0	1271M	QPSK	1	50	5 mm	back	1:1	0.452	1.377	0.622	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.82	2	-0.11	0	1271M	QPSK	50	25	5 mm	back	1:1	0.469	1.312	0.615	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.61	2	0.18	0	1271M	QPSK	1	50	5 mm	front	1:1	0.069	1.377	0.095	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.82	2	0.11	0	1271M	QPSK	50	25	5 mm	front	1:1	0.071	1.312	0.093	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.61	2	0.02	0	1271M	QPSK	1	50	5 mm	bottom	1:1	0.470	1.377	0.647	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.82	2	-0.03	0	1271M	QPSK	50	25	5 mm	bottom	1:1	0.493	1.312	0.647	A34
1745.00	132322	Mid	LTE Band 66 (AWS)	20	Closed	17.0	15.40	2	-0.01	0	1271M	QPSK	50	25	5 mm	bottom	1:1	0.456	1.445	0.659	
1770.00	132572	High	LTE Band 66 (AWS)	20	Closed	17.0	15.74	2	0.02	0	1271M	QPSK	50	25	5 mm	bottom	1:1	0.463	1.337	0.619	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.61	0	0.12	0	1271M	QPSK	1	50	5 mm	right	1:1	0.013	1.377	0.018	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.82	0	0.11	0	1271M	QPSK	50	25	5 mm	right	1:1	0.014	1.312	0.018	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.61	2	0.05	0	1271M	QPSK	1	50	5 mm	left	1:1	0.087	1.377	0.120	
1720.00	132072	Low	LTE Band 66 (AWS)	20	Closed	17.0	15.82	0	0.12	0	1271M	QPSK	50	25	5 mm	left	1:1	0.094	1.312	0.123	
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 11-38
LTE Band 25 (PCS) Hotspot SAR

MEASUREMENT RESULTS																					
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Device Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (1g)	Scaling Factor	Reported SAR (1g)	Plot #
MHz	Ch.																	(W/kg)		(W/kg)	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.65	61	0.05	0	2635M	QPSK	1	99	10 mm	back	1:1	0.210	1.084	0.228	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.90	61	0.05	0	2635M	QPSK	50	50	10 mm	back	1:1	0.221	1.023	0.226	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.65	61	0.07	0	2635M	QPSK	1	99	10 mm	front	1:1	0.163	1.084	0.177	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.90	61	0.05	0	2635M	QPSK	50	50	10 mm	front	1:1	0.170	1.023	0.174	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.65	61	0.00	0	2635M	QPSK	1	99	10 mm	bottom	1:1	0.426	1.084	0.462	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.90	61	-0.01	0	2635M	QPSK	50	50	10 mm	bottom	1:1	0.445	1.023	0.455	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.65	61	-0.14	0	2635M	QPSK	1	99	10 mm	right	1:1	0.018	1.084	0.020	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.90	61	-0.13	0	2635M	QPSK	50	50	10 mm	right	1:1	0.019	1.023	0.019	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.65	61	-0.03	0	2635M	QPSK	1	99	10 mm	left	1:1	0.017	1.084	0.018	
1905.00	26590	High	LTE Band 25 (PCS)	20	Open	17.0	16.90	61	0.04	0	2635M	QPSK	50	50	10 mm	left	1:1	0.019	1.023	0.019	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.65	61	-0.08	0	2635M	QPSK	1	99	5 mm	back	1:1	0.288	1.084	0.312	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.90	61	0.06	0	2635M	QPSK	50	50	5 mm	back	1:1	0.292	1.023	0.299	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.65	61	-0.07	0	2635M	QPSK	1	99	5 mm	front	1:1	0.129	1.084	0.140	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.90	61	-0.02	0	2635M	QPSK	50	50	5 mm	front	1:1	0.138	1.023	0.141	
1860.00	26140	Low	LTE Band 25 (PCS)	20	Closed	17.0	16.51	61	-0.02	0	2635M	QPSK	1	0	5 mm	bottom	1:1	0.535	1.119	0.599	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	Closed	17.0	16.50	61	0.03	0	2635M	QPSK	1	99	5 mm	bottom	1:1	0.509	1.122	0.571	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.65	61	0.02	0	2635M	QPSK	1	99	5 mm	bottom	1:1	0.607	1.084	0.658	A36
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.90	61	0.01	0	2635M	QPSK	50	50	5 mm	bottom	1:1	0.602	1.023	0.616	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.65	61	0.00	0	2635M	QPSK	1	99	5 mm	right	1:1	0.036	1.084	0.039	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.90	61	-0.12	0	2635M	QPSK	50	50	5 mm	right	1:1	0.036	1.023	0.037	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.65	61	-0.12	0	2635M	QPSK	1	99	5 mm	left	1:1	0.023	1.084	0.025	
1905.00	26590	High	LTE Band 25 (PCS)	20	Closed	17.0	16.90	61	0.01	0	2635M	QPSK	50	50	5 mm	left	1:1	0.024	1.023	0.025	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-39
LTE Band 41 Hotspot SAR

MEASUREMENT RESULTS																						
Power Class	FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	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	2506.00	39750	Low	LTE Band 41	20	Open	19.5	18.70	0.05	0	2634M	QPSK	1	0	10 mm	back	1:1.58	0.111	1.202	0.133	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Open	19.5	18.69	0.01	0	2634M	QPSK	50	25	10 mm	back	1:1.58	0.111	1.205	0.134	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Open	19.5	18.70	0.16	0	2634M	QPSK	1	0	10 mm	front	1:1.58	0.082	1.202	0.099	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Open	19.5	18.69	0.08	0	2634M	QPSK	50	25	10 mm	front	1:1.58	0.082	1.205	0.099	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Open	19.5	18.70	-0.01	0	2634M	QPSK	1	0	10 mm	bottom	1:1.58	0.294	1.202	0.353	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Open	19.5	18.69	0.04	0	2634M	QPSK	50	25	10 mm	bottom	1:1.58	0.259	1.205	0.312	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Open	19.5	18.70	-0.07	0	2634M	QPSK	1	0	10 mm	left	1:1.58	0.022	1.202	0.026	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Open	19.5	18.69	0.15	0	2634M	QPSK	50	25	10 mm	left	1:1.58	0.017	1.205	0.020	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.70	-0.06	0	2616M	QPSK	1	0	5 mm	back	1:1.58	0.144	1.202	0.173	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.69	0.03	0	2616M	QPSK	50	25	5 mm	back	1:1.58	0.168	1.205	0.202	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.70	-0.09	0	2616M	QPSK	1	0	5 mm	front	1:1.58	0.022	1.202	0.026	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.69	0.09	0	2616M	QPSK	50	25	5 mm	front	1:1.58	0.021	1.205	0.025	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.70	-0.04	0	2616M	QPSK	1	0	5 mm	bottom	1:1.58	0.507	1.202	0.609	
Power Class 3	2549.50	40185	Low-Mid	LTE Band 41	20	Closed	19.5	18.47	0.00	0	2616M	QPSK	1	0	5 mm	bottom	1:1.58	0.460	1.268	0.583	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	Closed	19.5	18.14	0.01	0	2616M	QPSK	1	50	5 mm	bottom	1:1.58	0.125	1.368	0.171	
Power Class 3	2636.50	41055	Mid-High	LTE Band 41	20	Closed	19.5	18.29	0.01	0	2616M	QPSK	1	50	5 mm	bottom	1:1.58	0.381	1.321	0.503	
Power Class 3	2680.00	41490	High	LTE Band 41	20	Closed	19.5	18.38	0.00	0	2616M	QPSK	1	50	5 mm	bottom	1:1.58	0.372	1.294	0.481	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.69	-0.15	0	2616M	QPSK	50	25	5 mm	bottom	1:1.58	0.509	1.205	0.613	A38
Power Class 3	2549.50	40185	Low-Mid	LTE Band 41	20	Closed	19.5	18.46	-0.03	0	2616M	QPSK	50	25	5 mm	bottom	1:1.58	0.436	1.271	0.554	
Power Class 3	2593.00	40620	Mid	LTE Band 41	20	Closed	19.5	18.36	-0.11	0	2616M	QPSK	50	25	5 mm	bottom	1:1.58	0.128	1.300	0.166	
Power Class 3	2636.50	41055	Mid-High	LTE Band 41	20	Closed	19.5	18.39	-0.02	0	2616M	QPSK	50	25	5 mm	bottom	1:1.58	0.399	1.291	0.515	
Power Class 3	2680.00	41490	High	LTE Band 41	20	Closed	19.5	18.48	-0.05	0	2616M	QPSK	50	50	5 mm	bottom	1:1.58	0.374	1.265	0.473	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.64	0.02	0	2616M	QPSK	100	0	5 mm	bottom	1:1.58	0.505	1.219	0.616	
Power Class 2	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.68	-0.02	0	2616M	QPSK	100	0	5 mm	bottom	1:2.31	0.355	1.208	0.429	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.70	0.12	0	2616M	QPSK	1	0	5 mm	left	1:1.58	0.056	1.202	0.067	
Power Class 3	2506.00	39750	Low	LTE Band 41	20	Closed	19.5	18.69	-0.10	0	2616M	QPSK	50	25	5 mm	left	1:1.58	0.057	1.205	0.069	

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

Table 11-40
NR Band n5 Hotspot SAR

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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	Open	23.5	22.94	-0.02	0	0	1272M	DFT-S-OFDM	QPSK	1	53	10 mm	back	1:1	0.278	1.138	0.316	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.92	-0.05	0	0	1272M	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.280	1.143	0.320	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.56	-0.06	0	0	1272M	CP-OFDM	QPSK	1	1	10 mm	back	1:1	0.255	1.242	0.317	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.94	-0.04	0	0	1272M	DFT-S-OFDM	QPSK	1	53	10 mm	front	1:1	0.184	1.138	0.209	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.92	-0.05	0	0	1272M	DFT-S-OFDM	QPSK	50	28	10 mm	front	1:1	0.185	1.143	0.211	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.94	0.16	0	0	1272M	DFT-S-OFDM	QPSK	1	53	10 mm	bottom	1:1	0.123	1.138	0.140	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.92	-0.04	0	0	1272M	DFT-S-OFDM	QPSK	50	28	10 mm	bottom	1:1	0.119	1.143	0.136	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.94	0.15	0	0	1272M	DFT-S-OFDM	QPSK	1	53	10 mm	right	1:1	0.155	1.138	0.176	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.92	-0.02	0	0	1272M	DFT-S-OFDM	QPSK	50	28	10 mm	right	1:1	0.152	1.143	0.174	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.94	0.14	0	0	1272M	DFT-S-OFDM	QPSK	1	53	10 mm	left	1:1	0.045	1.138	0.051	
836.50	167300	Mid	NR Band n5 (Cell)	20	Open	23.5	22.92	-0.08	0	0	1272M	DFT-S-OFDM	QPSK	50	28	10 mm	left	1:1	0.045	1.143	0.051	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.94	-0.09	0	109	1272M	DFT-S-OFDM	QPSK	1	53	5 mm	back	1:1	0.541	1.138	0.616	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.92	-0.11	0	109	1272M	DFT-S-OFDM	QPSK	50	28	5 mm	back	1:1	0.548	1.143	0.626	A40
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.56	-0.07	0	109	1272M	CP-OFDM	QPSK	1	1	5 mm	back	1:1	0.545	1.242	0.677	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.94	-0.02	0	80	1272M	DFT-S-OFDM	QPSK	1	53	5 mm	front	1:1	0.116	1.138	0.132	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.92	0.05	0	80	1272M	DFT-S-OFDM	QPSK	50	28	5 mm	front	1:1	0.114	1.143	0.130	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.94	0.06	0	81	1272M	DFT-S-OFDM	QPSK	1	53	5 mm	bottom	1:1	0.164	1.138	0.187	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.92	-0.01	0	27	1272M	DFT-S-OFDM	QPSK	50	28	5 mm	bottom	1:1	0.170	1.143	0.194	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.94	0.14	0	109	1272M	DFT-S-OFDM	QPSK	1	53	5 mm	right	1:1	0.083	1.138	0.094	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.92	0.03	0	109	1272M	DFT-S-OFDM	QPSK	50	28	5 mm	right	1:1	0.081	1.143	0.093	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.94	0.17	0	2	1272M	DFT-S-OFDM	QPSK	1	53	5 mm	left	1:1	0.098	1.138	0.112	
836.50	167300	Mid	NR Band n5 (Cell)	20	Closed	23.5	22.92	0.04	0	2	1272M	DFT-S-OFDM	QPSK	50	28	5 mm	left	1:1	0.099	1.143	0.113	

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

Table 11-41
NR Band n66 Hotspot SAR

MEASUREMENT RESULTS																							
FREQUENCY			Mode	Bandwidth [MHz]	Cover Type	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	16.00	0.12	0	3	2635M	DFT-S-OFDM	QPSK	1	104	10 mm	back	1:1	0.178	1.122	0.200	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	15.98	-0.04	0	3	2635M	DFT-S-OFDM	QPSK	50	28	10 mm	back	1:1	0.179	1.127	0.202	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	16.00	0.12	0	0	2635M	DFT-S-OFDM	QPSK	1	104	10 mm	front	1:1	0.126	1.122	0.141	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	15.98	0.01	0	0	2635M	DFT-S-OFDM	QPSK	50	28	10 mm	front	1:1	0.125	1.127	0.141	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	16.00	-0.03	0	2	2635M	DFT-S-OFDM	QPSK	1	104	10 mm	bottom	1:1	0.271	1.122	0.304	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	15.98	-0.04	0	2	2635M	DFT-S-OFDM	QPSK	50	28	10 mm	bottom	1:1	0.276	1.127	0.311	
1720.00	344000	Low	NR Band n66 (AWS)	20	Open	16.5	15.86	0.02	0	2	2635M	CP-OFDM	QPSK	1	1	10 mm	bottom	1:1	0.379	1.159	0.439	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	16.00	0.14	0	0	2635M	DFT-S-OFDM	QPSK	1	104	10 mm	right	1:1	0.017	1.122	0.019	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	15.98	-0.05	0	0	2635M	DFT-S-OFDM	QPSK	50	28	10 mm	right	1:1	0.018	1.127	0.020	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	16.00	0.12	0	0	2635M	DFT-S-OFDM	QPSK	1	104	10 mm	left	1:1	0.032	1.122	0.036	
1770.00	354000	High	NR Band n66 (AWS)	20	Open	16.5	15.98	-0.05	0	0	2635M	DFT-S-OFDM	QPSK	50	28	10 mm	left	1:1	0.035	1.127	0.039	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	16.00	0.03	0	2	2635M	DFT-S-OFDM	QPSK	1	104	5 mm	back	1:1	0.248	1.122	0.278	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	15.98	0.01	0	2	2635M	DFT-S-OFDM	QPSK	50	28	5 mm	back	1:1	0.264	1.127	0.298	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	16.00	0.14	0	2	2635M	DFT-S-OFDM	QPSK	1	104	5 mm	front	1:1	0.040	1.122	0.045	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	15.98	0.12	0	2	2635M	DFT-S-OFDM	QPSK	50	28	5 mm	front	1:1	0.081	1.127	0.091	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	16.00	-0.02	0	2	2635M	DFT-S-OFDM	QPSK	1	104	5 mm	bottom	1:1	0.372	1.122	0.417	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	15.98	0.00	0	2	2635M	DFT-S-OFDM	QPSK	50	28	5 mm	bottom	1:1	0.389	1.127	0.438	
1720.00	344000	Low	NR Band n66 (AWS)	20	Closed	16.5	15.86	-0.13	0	2	2635M	CP-OFDM	QPSK	1	1	5 mm	bottom	1:1	0.515	1.159	0.597	A42
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	16.00	0.13	0	0	2635M	DFT-S-OFDM	QPSK	1	104	5 mm	right	1:1	0.016	1.122	0.018	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	15.98	0.14	0	0	2635M	DFT-S-OFDM	QPSK	50	28	5 mm	right	1:1	0.019	1.127	0.021	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	16.00	0.12	0	2	2635M	DFT-S-OFDM	QPSK	1	104	5 mm	left	1:1	0.042	1.122	0.047	
1770.00	354000	High	NR Band n66 (AWS)	20	Closed	16.5	15.98	0.04	0	0	2635M	DFT-S-OFDM	QPSK	50	28	5 mm	left	1:1	0.049	1.127	0.055	

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

Table 11-42
DTS SISO Hotspot SAR – Open

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	19.0	18.84	-0.12	10 mm	2	1262M	1	back	99.9	0.166	-	1.038	1.001	-	
2412	1	802.11b	DSSS	22	19.0	18.84	-0.10	10 mm	2	1262M	1	front	99.9	0.163	-	1.038	1.001	-	
2412	1	802.11b	DSSS	22	19.0	18.84	0.04	10 mm	2	1262M	1	top	99.9	0.128	-	1.038	1.001	-	
2412	1	802.11b	DSSS	22	19.0	18.84	-0.02	10 mm	2	1262M	1	left	99.9	0.216	0.167	1.038	1.001	0.174	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-43
DTS SISO Hotspot SAR – Closed

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	19.0	18.84	0.01	5 mm	2	1274M	1	back	99.9	0.084	0.074	1.038	1.001	0.077	
2412	1	802.11b	DSSS	22	19.0	18.84	-0.02	5 mm	2	1274M	1	front	99.9	0.529	0.382	1.038	1.001	0.397	
2412	1	802.11b	DSSS	22	19.0	18.84	0.10	5 mm	2	1274M	1	bottom	99.9	0.261	0.197	1.038	1.001	0.205	
2412	1	802.11b	DSSS	22	19.0	18.84	0.02	5 mm	2	1274M	1	left	99.9	0.631	0.474	1.038	1.001	0.493	
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
DTS SISO Hotspot SAR for Conditions with 5 GHz WLAN SAR and/or with 5G NR - Closed

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
2412	1	802.11b	DSSS	22	15.0	14.74	-0.10	5 mm	2	1274M	1	back	99.9	0.027	-	1.062	1.001	-	
2412	1	802.11b	DSSS	22	15.0	14.74	-0.20	5 mm	2	1274M	1	front	99.9	0.125	-	1.062	1.001	-	
2412	1	802.11b	DSSS	22	15.0	14.74	-0.13	5 mm	2	1274M	1	bottom	99.9	0.115	-	1.062	1.001	-	
2412	1	802.11b	DSSS	22	15.0	14.74	-0.19	5 mm	2	1274M	1	left	99.9	0.182	0.125	1.062	1.001	0.133	
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: 2.4 GHZ WLAN was additionally evaluated at the maximum allowed output power during operations with Simultaneous 5 GHz WLAN and/or 5G NR active. 5GHz WLAN and/or 5G NR were not transmitting during the above evaluations.

Table 11-45
DTS MIMO Hotspot SAR – Open

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	802.11b	DSSS	22	19.0	18.89	19.0	18.86	0.10	10 mm	MIMO	1262M	1	back	99.9	0.626	0.527	1.033	1.001	0.545	
2437	6	802.11b	DSSS	22	19.0	18.89	19.0	18.86	-0.10	10 mm	MIMO	1262M	1	front	99.9	0.491	-	1.033	1.001	-	
2437	6	802.11b	DSSS	22	19.0	18.89	19.0	18.86	-0.04	10 mm	MIMO	1262M	1	top	99.9	0.352	-	1.033	1.001	-	
2437	6	802.11b	DSSS	22	19.0	18.89	19.0	18.86	-0.16	10 mm	MIMO	1262M	1	right	99.9	0.188	-	1.033	1.001	-	
2437	6	802.11b	DSSS	22	19.0	18.89	19.0	18.86	0.04	10 mm	MIMO	1262M	1	left	99.9	0.554	0.401	1.033	1.001	0.415	
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: To achieve the 22 dBm maximum allowed MIMO power shown in the documentation each antenna transmits at a maximum allowed power of 19.0 dBm.

Table 11-46
DTS MIMO Hotspot SAR – Closed

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	802.11b	DSSS	22	19.0	18.89	19.0	18.86	-0.06	5 mm	MIMO	1274M	1	back	99.9	0.452	0.406	1.033	1.001	0.420	
2412	1	802.11b	DSSS	22	19.0	18.60	19.0	18.55	0.04	5 mm	MIMO	1274M	1	front	99.9	0.798	0.886	1.109	1.001	0.984	
2437	6	802.11b	DSSS	22	19.0	18.89	19.0	18.86	0.00	5 mm	MIMO	1274M	1	front	99.9	1.090	0.905	1.033	1.001	0.936	
2462	11	802.11b	DSSS	22	19.0	18.56	19.0	18.82	-0.21	5 mm	MIMO	1274M	1	front	99.9	1.120	0.913	1.107	1.001	1.012	
2437	6	802.11b	DSSS	22	19.0	18.89	19.0	18.86	0.00	5 mm	MIMO	1274M	1	bottom	99.9	0.896	0.700	1.033	1.001	0.724	
2437	6	802.11b	DSSS	22	19.0	18.89	19.0	18.86	0.03	5 mm	MIMO	1274M	1	right	99.9	0.262	-	1.033	1.001	-	
2412	1	802.11b	DSSS	22	19.0	18.60	19.0	18.55	0.00	5 mm	MIMO	1274M	1	left	99.9	0.912	0.728	1.109	1.001	0.808	
2437	6	802.11b	DSSS	22	19.0	18.89	19.0	18.86	-0.01	5 mm	MIMO	1274M	1	left	99.9	1.350	1.070	1.033	1.001	1.106	
2462	11	802.11b	DSSS	22	19.0	18.56	19.0	18.82	-0.06	5 mm	MIMO	1274M	1	left	99.9	1.630	1.080	1.107	1.001	1.197	A44
2462	11	802.11b	DSSS	22	19.0	18.56	19.0	18.82	-0.07	5 mm	MIMO	1274M	1	left	99.9	1.520	0.938	1.107	1.001	1.039	
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: To achieve the 22 dBm maximum allowed MIMO power shown in the documentation each antenna transmits at a maximum allowed power of 19.0 dBm.
Note: Blue entries represent variability measurements.

Table 11-47
DTS MIMO Hotspot SAR for Conditions with 5 GHz WLAN SAR and/or with 5G NR – Closed

MEASUREMENT RESULTS																						
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
2412	1	802.11n	OFDM	20	15.0	14.86	15.0	14.07	0.10	5 mm	MIMO	1274M	13	back	99.9	0.033	-	1.239	1.001	-	
2412	1	802.11n	OFDM	20	15.0	14.86	15.0	14.07	-0.09	5 mm	MIMO	1274M	13	front	99.9	0.099	-	1.239	1.001	-	
2412	1	802.11n	OFDM	20	15.0	14.86	15.0	14.07	-0.08	5 mm	MIMO	1274M	13	bottom	99.9	0.073	-	1.239	1.001	-	
2412	1	802.11n	OFDM	20	15.0	14.86	15.0	14.07	-0.03	5 mm	MIMO	1274M	13	right	99.9	0.026	-	1.239	1.001	-	
2412	1	802.11n	OFDM	20	15.0	14.86	15.0	14.07	-0.03	5 mm	MIMO	1274M	13	left	99.9	0.113	0.075	1.239	1.001	0.093	
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: 2.4 GHZ WLAN MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 2.4 GHz WLAN and 5 GHz WLAN and/or 5G NR active. 5 GHz WIFI and/or 5G NR were not transmitting during the above evaluations.

Table 11-48
NII SISO Hotspot SAR – Open

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5825	165	802.11a	OFDM	20	18.0	17.80	0.11	10 mm	1	1274M	6	back	98.9	0.128	0.081	1.047	1.011	0.086	
5825	165	802.11a	OFDM	20	18.0	17.80	-0.13	10 mm	1	1274M	6	front	98.9	0.113	-	1.047	1.011	-	
5825	165	802.11a	OFDM	20	18.0	17.80	0.16	10 mm	1	1274M	6	top	98.9	0.231	0.151	1.047	1.011	0.160	
5825	165	802.11a	OFDM	20	18.0	17.80	0.17	10 mm	1	1274M	6	right	98.9	0.058	-	1.047	1.011	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

Table 11-49
NII SISO Hotspot SAR – Closed

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5825	165	802.11a	OFDM	20	18.0	17.80	-0.13	5 mm	1	1274M	6	back	98.9	0.055	0.018	1.047	1.011	0.019	
5825	165	802.11a	OFDM	20	18.0	17.80	0.09	5 mm	1	1274M	6	front	98.9	0.278	0.244	1.047	1.011	0.258	
5825	165	802.11a	OFDM	20	18.0	17.80	0.12	5 mm	1	1274M	6	bottom	98.9	0.259	0.312	1.047	1.011	**0.330**	
5825	165	802.11a	OFDM	20	18.0	17.80	-0.13	5 mm	1	1274M	6	right	98.9	0.184	-	1.047	1.011	-	
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 11-50
NII SISO Hotspot SAR for Conditions with 2.4 GHz WLAN SAR and/or 5G NR - Closed

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (1g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (1g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5775	155	802.11ac	OFDM	80	15.0	14.28	-0.15	5 mm	1	1274M	29.3	back	99.7	0.000	-	1.180	1.003	-	
5775	155	802.11ac	OFDM	80	15.0	14.28	-0.16	5 mm	1	1274M	29.3	front	99.7	0.067	0.034	1.180	1.003	0.040	
5775	155	802.11ac	OFDM	80	15.0	14.28	0.13	5 mm	1	1274M	29.3	bottom	99.7	0.050	-	1.180	1.003	-	
5775	155	802.11ac	OFDM	80	15.0	14.28	-0.13	5 mm	1	1274M	29.3	right	99.7	0.000	-	1.180	1.003	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Body 1.6 W/kg (mW/g) averaged over 1 gram					

Note: 5 GHZ WLAN SISO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 5 GHz WLAN and 2.4 GHz WLAN and/or 5G NR active. 2.4 GHz WIFI and/or 5G NR were not transmitting during the above evaluations.

Table 11-51
NII MIMO Hotspot SAR – Open

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)	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	0.20	10 mm	MIMO	1274M	13	back	99.7	0.184	0.144	1.023	1.003	0.148	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	-0.10	10 mm	MIMO	1274M	13	front	99.7	0.311	-	1.023	1.003	-	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	0.14	10 mm	MIMO	1274M	13	top	99.7	0.192	-	1.023	1.003	-	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	-0.19	10 mm	MIMO	1274M	13	right	99.7	0.071	-	1.023	1.003	-	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	0.17	10 mm	MIMO	1274M	13	left	99.7	0.323	0.233	1.023	1.003	0.239	
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: 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 11-52
NII MIMO Hotspot SAR – Closed

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)	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	0.17	5 mm	MIMO	1262M	13	back	99.7	0.115	0.078	1.023	1.003	0.080	
5745	149	802.11n	OFDM	20	18.0	17.64	18.0	17.59	-0.15	5 mm	MIMO	1262M	13	front	99.7	0.669	0.501	1.099	1.003	0.552	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	-0.01	5 mm	MIMO	1262M	13	front	99.7	0.775	0.653	1.023	1.003	0.670	A46
5825	165	802.11n	OFDM	20	18.0	17.69	18.0	17.93	-0.03	5 mm	MIMO	1262M	13	front	99.7	0.790	0.617	1.074	1.003	0.665	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	-0.20	5 mm	MIMO	1262M	13	bottom	99.7	0.312	0.212	1.023	1.003	0.218	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	-0.16	5 mm	MIMO	1262M	13	right	99.7	0.086	0.047	1.023	1.003	0.048	
5785	157	802.11n	OFDM	20	18.0	17.90	18.0	17.99	0.02	5 mm	MIMO	1262M	13	left	99.7	0.640	0.528	1.023	1.003	0.542	
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: 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 11-53
NII MIMO Hotspot SAR for Conditions with 2.4 GHz WLAN SAR and/or with 5G NR – Closed

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)	
5775	155	802.11ac	OFDM	80	15.0	14.44	15.0	14.52	-0.15	5 mm	MIMO	1274M	58.5	back	99.7	0.000	-	1.138	1.003	-	
5775	155	802.11ac	OFDM	80	15.0	14.44	15.0	14.52	-0.20	5 mm	MIMO	1274M	58.5	front	99.7	0.046	0.027	1.138	1.003	0.031	
5775	155	802.11ac	OFDM	80	15.0	14.44	15.0	14.52	-0.17	5 mm	MIMO	1274M	58.5	bottom	99.7	0.000	-	1.138	1.003	-	
5775	155	802.11ac	OFDM	80	15.0	14.44	15.0	14.52	0.15	5 mm	MIMO	1274M	58.5	right	99.7	0.000	-	1.138	1.003	-	
5775	155	802.11ac	OFDM	80	15.0	14.44	15.0	14.52	-0.18	5 mm	MIMO	1274M	58.5	left	99.7	0.000	-	1.138	1.003	-	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population										Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: 5 GHZ WLAN MIMO was additionally evaluated at the maximum allowed output power during operations with Simultaneous 5 GHz WLAN and 2.4 GHz WLAN and/or 5G NR active. 2.4 GHz WIFI and/or 5G NR were not transmitting during the above evaluations.

Table 11-54
DSS Hotspot SAR – Open

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)	
2441	39	Bluetooth	FHSS	16.0	15.55	0.00	10 mm	1	1262M	1	back	76.80	0.074	1.109	1.302	0.107	
2441	39	Bluetooth	FHSS	16.0	15.55	0.16	10 mm	1	1262M	1	front	76.80	0.061	1.109	1.302	0.088	
2441	39	Bluetooth	FHSS	16.0	15.55	0.20	10 mm	1	1262M	1	top	76.80	0.046	1.109	1.302	0.066	
2441	39	Bluetooth	FHSS	16.0	15.55	0.12	10 mm	1	1262M	1	right	76.80	0.011	1.109	1.302	0.016	
2480	78	Bluetooth	FHSS	17.0	16.60	-0.06	10 mm	2	1262M	1	back	76.80	0.074	1.096	1.302	0.106	
2480	78	Bluetooth	FHSS	17.0	16.60	-0.12	10 mm	2	1262M	1	front	76.80	0.116	1.096	1.302	0.166	
2480	78	Bluetooth	FHSS	17.0	16.60	0.16	10 mm	2	1262M	1	top	76.80	0.042	1.096	1.302	0.060	
2480	78	Bluetooth	FHSS	17.0	16.60	-0.13	10 mm	2	1262M	1	left	76.80	0.009	1.096	1.302	0.013	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-55
DSS Hotspot SAR – Closed

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)	
2441	39	Bluetooth	FHSS	16.0	15.55	-0.13	5 mm	1	1262M	1	back	76.80	0.036	1.109	1.302	0.052	
2441	39	Bluetooth	FHSS	16.0	15.55	-0.19	5 mm	1	1262M	1	front	76.80	0.182	1.109	1.302	**0.263**	A48
2441	39	Bluetooth	FHSS	16.0	15.55	0.14	5 mm	1	1262M	1	bottom	76.80	0.125	1.109	1.302	0.180	
2441	39	Bluetooth	FHSS	16.0	15.55	-0.12	5 mm	1	1262M	1	right	76.80	0.046	1.109	1.302	0.066	
2480	78	Bluetooth	FHSS	17.0	16.60	0.10	5 mm	2	1262M	1	back	76.80	0.022	1.096	1.302	0.031	
2480	78	Bluetooth	FHSS	17.0	16.60	0.06	5 mm	2	1262M	1	front	76.80	0.152	1.096	1.302	0.217	
2480	78	Bluetooth	FHSS	17.0	16.60	-0.14	5 mm	2	1262M	1	bottom	76.80	0.107	1.096	1.302	0.153	
2480	78	Bluetooth	FHSS	17.0	16.60	-0.09	5 mm	2	1262M	1	left	76.80	0.035	1.096	1.302	0.050	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 11-56
DSS Hotspot SAR for Conditions with 5G NR – Closed

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)	
2441	39	Bluetooth	FHSS	14.0	13.11	0.12	5 mm	1	1271M	1	back	76.80	0.010	1.229	1.302	0.016	
2441	39	Bluetooth	FHSS	14.0	13.11	-0.01	5 mm	1	1271M	1	front	76.80	0.024	1.229	1.302	0.038	
2441	39	Bluetooth	FHSS	14.0	13.11	-0.12	5 mm	1	1271M	1	bottom	76.80	0.033	1.229	1.302	0.053	
2441	39	Bluetooth	FHSS	14.0	13.11	-0.18	5 mm	1	1271M	1	right	76.80	0.009	1.229	1.302	0.014	
2480	78	Bluetooth	FHSS	14.0	13.67	-0.16	5 mm	2	1271M	1	back	76.80	0.008	1.080	1.302	0.011	
2480	78	Bluetooth	FHSS	14.0	13.67	-0.08	5 mm	2	1271M	1	front	76.80	0.068	1.080	1.302	0.096	
2480	78	Bluetooth	FHSS	14.0	13.67	0.14	5 mm	2	1271M	1	bottom	76.80	0.035	1.080	1.302	0.049	
2480	78	Bluetooth	FHSS	14.0	13.67	0.14	5 mm	2	1271M	1	left	76.80	0.015	1.080	1.302	0.021	
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: BT was additionally evaluated at the maximum allowed output power during operations with Simultaneous 5G NR active. 5G NR was not transmitting during BT evaluations.

11.4 Standalone Open Phablet SAR Data

Table 11-57
GPRS/UMTS Phablet SAR Data

MEASUREMENT RESULTS																
FREQUENCY		Mode	Service	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	Spacing	Device Serial Number	# of Time Slots	Duty Cycle	Side	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.												(W/kg)		(W/kg)	
1880.00	661	GSM 1900	GPRS	27.5	26.95	13	-0.15	8 mm	1629M	3	1:2.76	back	0.484	1.135	0.549	
1880.00	661	GSM 1900	GPRS	27.5	26.95	13	-0.01	6 mm	1629M	3	1:2.76	front	0.527	1.135	0.598	
1880.00	661	GSM 1900	GPRS	27.5	26.95	13	0.03	11 mm	1629M	3	1:2.76	bottom	0.503	1.135	0.571	
1880.00	661	GSM 1900	GPRS	27.5	26.95	13	-0.14	0 mm	1629M	3	1:2.76	right	0.157	1.135	0.178	
1880.00	661	GSM 1900	GPRS	27.5	26.95	13	-0.13	0 mm	1629M	3	1:2.76	left	0.192	1.135	0.218	
1850.20	512	GSM 1900	GPRS	25.5	24.81	13	-0.02	0 mm	1629M	3	1:2.76	back	1.580	1.172	1.852	
1880.00	661	GSM 1900	GPRS	25.5	24.91	13	0.04	0 mm	1629M	3	1:2.76	back	1.450	1.146	1.662	
1909.80	810	GSM 1900	GPRS	25.5	24.85	13	0.03	0 mm	1629M	3	1:2.76	back	1.690	1.161	1.962	A49
1880.00	661	GSM 1900	GPRS	25.5	24.91	13	-0.07	0 mm	1629M	3	1:2.76	front	1.310	1.146	1.501	
1880.00	661	GSM 1900	GPRS	25.5	24.91	13	-0.20	0 mm	1629M	3	1:2.76	bottom	1.300	1.146	1.490	
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	0.00	8 mm	2635M	N/A	1:1	back	0.770	1.143	0.880	
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	0.01	6 mm	2635M	N/A	1:1	front	0.919	1.143	1.050	
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	-0.03	11 mm	2635M	N/A	1:1	bottom	0.995	1.143	1.137	
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	0.02	0 mm	2635M	N/A	1:1	right	0.282	1.143	0.322	
1712.40	1312	UMTS 1750	RMC	24.0	23.42	0	-0.02	0 mm	2635M	N/A	1:1	left	0.531	1.143	0.607	
1712.40	1312	UMTS 1750	RMC	21.0	20.39	0	-0.02	0 mm	2635M	N/A	1:1	back	2.160	1.151	2.486	A50
1732.40	1412	UMTS 1750	RMC	21.0	20.26	0	-0.01	0 mm	2635M	N/A	1:1	back	1.870	1.186	2.218	
1752.60	1513	UMTS 1750	RMC	21.0	20.17	0	-0.01	0 mm	2635M	N/A	1:1	back	1.670	1.211	2.022	
1712.40	1312	UMTS 1750	RMC	21.0	20.39	0	0.02	0 mm	2635M	N/A	1:1	front	1.600	1.151	1.842	
1712.40	1312	UMTS 1750	RMC	21.0	20.39	0	-0.14	0 mm	2635M	N/A	1:1	bottom	1.810	1.151	2.083	
1732.40	1412	UMTS 1750	RMC	21.0	20.26	0	0.09	0 mm	2635M	N/A	1:1	bottom	1.560	1.186	1.850	
1752.60	1513	UMTS 1750	RMC	21.0	20.17	0	0.04	0 mm	2635M	N/A	1:1	bottom	1.300	1.211	1.574	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	0.09	8 mm	1629M	N/A	1:1	back	0.731	1.023	0.748	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	0.04	6 mm	1629M	N/A	1:1	front	0.870	1.023	0.890	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	-0.11	11 mm	1629M	N/A	1:1	bottom	0.784	1.023	0.802	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	-0.05	0 mm	1629M	N/A	1:1	right	0.235	1.023	0.240	
1852.40	9262	UMTS 1900	RMC	24.0	23.90	13	-0.08	0 mm	1629M	N/A	1:1	left	0.289	1.023	0.296	
1852.40	9262	UMTS 1900	RMC	22.0	21.92	13	-0.06	0 mm	2616M	N/A	1:1	back	2.360	1.019	2.405	
1880.00	9400	UMTS 1900	RMC	22.0	21.78	13	-0.02	0 mm	2616M	N/A	1:1	back	2.310	1.052	2.430	
1907.60	9538	UMTS 1900	RMC	22.0	21.64	13	0.10	0 mm	2616M	N/A	1:1	back	2.600	1.086	**2.824**	A51
1852.40	9262	UMTS 1900	RMC	22.0	21.92	13	0.02	0 mm	2616M	N/A	1:1	front	2.000	1.019	2.038	
1880.00	9400	UMTS 1900	RMC	22.0	21.78	13	-0.04	0 mm	2616M	N/A	1:1	front	1.910	1.052	2.009	
1907.60	9538	UMTS 1900	RMC	22.0	21.64	13	-0.07	0 mm	2616M	N/A	1:1	front	1.980	1.086	2.150	
1852.40	9262	UMTS 1900	RMC	22.0	21.92	13	-0.09	0 mm	2616M	N/A	1:1	bottom	1.810	1.019	1.844	
1907.60	9538	UMTS 1900	RMC	22.0	21.64	13	-0.01	0 mm	2616M	N/A	1:1	back	2.500	1.086	2.715	
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 11-58
LTE Band 66 (AWS) Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	Power Drift [dB]	MPR [dB]	Serial Number	Modulation	RB Size	RB Offset	Spacing	Side	Duty Cycle	SAR (10g)	Scaling Factor	Reported SAR (10g)	Plot #
MHz	Ch.																(W/kg)		(W/kg)	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	0	0.05	0	2635M	QPSK	1	99	8 mm	back	1:1	0.591	1.327	0.784	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	0	0.01	1	2635M	QPSK	50	50	8 mm	back	1:1	0.483	1.285	0.621	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	0	0.04	0	2635M	QPSK	1	99	6 mm	front	1:1	0.637	1.327	0.845	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	0	0.04	1	2635M	QPSK	50	50	6 mm	front	1:1	0.514	1.285	0.660	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	0	-0.03	0	2635M	QPSK	1	99	11 mm	bottom	1:1	0.618	1.327	0.820	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	0	0.02	1	2635M	QPSK	50	50	11 mm	bottom	1:1	0.507	1.285	0.651	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	0	-0.02	0	2635M	QPSK	1	99	0 mm	right	1:1	0.235	1.327	0.312	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	0	0.04	1	2635M	QPSK	50	50	0 mm	right	1:1	0.192	1.285	0.247	
1770.00	132572	High	LTE Band 66 (AWS)	20	24.0	22.77	0	-0.06	0	2635M	QPSK	1	99	0 mm	left	1:1	0.250	1.327	0.332	
1770.00	132572	High	LTE Band 66 (AWS)	20	23.0	21.91	0	0.03	1	2635M	QPSK	50	50	0 mm	left	1:1	0.210	1.285	0.270	
1720.00	132072	Low	LTE Band 66 (AWS)	20	21.0	20.13	0	0.02	0	2635M	QPSK	1	50	0 mm	back	1:1	1.990	1.222	2.432	A52
1745.00	132322	Mid	LTE Band 66 (AWS)	20	21.0	19.96	0	0.00	0	2635M	QPSK	1	99	0 mm	back	1:1	1.570	1.271	1.995	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.27	0	0.04	0	2635M	QPSK	1	0	0 mm	back	1:1	1.670	1.183	1.976	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.41	0	0.15	0	2635M	QPSK	50	25	0 mm	back	1:1	1.720	1.146	1.971	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.25	0	0.00	0	2635M	QPSK	100	0	0 mm	back	1:1	1.690	1.189	2.009	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.27	0	-0.03	0	2635M	QPSK	1	0	0 mm	front	1:1	1.220	1.183	1.443	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.41	0	-0.01	0	2635M	QPSK	50	25	0 mm	front	1:1	1.300	1.146	1.490	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.27	0	0.05	0	2635M	QPSK	1	0	0 mm	bottom	1:1	0.982	1.183	1.162	
1770.00	132572	High	LTE Band 66 (AWS)	20	21.0	20.41	0	0.00	0	2635M	QPSK	50	25	0 mm	bottom	1:1	1.040	1.146	1.192	

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 11-59
LTE Band 25 (PCS) Phablet SAR

MEASUREMENT RESULTS																				
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Tune State	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	24.0	23.74	58	0.00	0	1262M	QPSK	1	0	8 mm	back	1:1	0.756	1.062	0.803	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	58	0.00	1	1262M	QPSK	50	0	8 mm	back	1:1	0.618	1.045	0.646	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	58	-0.02	0	1262M	QPSK	1	0	6 mm	front	1:1	0.757	1.062	0.804	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	58	0.00	1	1262M	QPSK	50	0	6 mm	front	1:1	0.620	1.045	0.648	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	58	-0.01	0	1262M	QPSK	1	0	11 mm	bottom	1:1	0.709	1.062	0.753	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	58	-0.05	1	1262M	QPSK	50	0	11 mm	bottom	1:1	0.597	1.045	0.624	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	58	0.01	0	1262M	QPSK	1	0	0 mm	right	1:1	0.255	1.062	0.271	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	58	0.04	1	1262M	QPSK	50	0	0 mm	right	1:1	0.213	1.045	0.223	
1860.00	26140	Low	LTE Band 25 (PCS)	20	24.0	23.74	58	-0.07	0	1262M	QPSK	1	0	0 mm	left	1:1	0.287	1.062	0.305	
1860.00	26140	Low	LTE Band 25 (PCS)	20	23.0	22.81	58	0.03	1	1262M	QPSK	50	0	0 mm	left	1:1	0.219	1.045	0.229	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.23	58	0.01	0	1262M	QPSK	1	0	0 mm	back	1:1	1.870	1.194	2.233	A53
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.22	58	0.02	0	1262M	QPSK	1	0	0 mm	back	1:1	1.680	1.197	2.011	
1905.00	26590	High	LTE Band 25 (PCS)	20	21.0	20.09	58	0.01	0	1262M	QPSK	1	99	0 mm	back	1:1	1.650	1.233	2.034	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.42	58	0.01	0	1262M	QPSK	50	25	0 mm	back	1:1	1.760	1.143	2.012	
1882.50	26365	Mid	LTE Band 25 (PCS)	20	21.0	20.28	58	-0.04	0	1262M	QPSK	50	25	0 mm	back	1:1	1.680	1.180	1.982	
1905.00	26590	High	LTE Band 25 (PCS)	20	21.0	20.10	58	0.02	0	1262M	QPSK	50	50	0 mm	back	1:1	1.750	1.230	2.153	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.22	58	0.00	0	1262M	QPSK	100	0	0 mm	back	1:1	1.750	1.197	2.095	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.23	58	-0.04	0	1262M	QPSK	1	0	0 mm	front	1:1	1.450	1.194	1.731	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.42	58	-0.04	0	1262M	QPSK	50	25	0 mm	front	1:1	1.490	1.143	1.703	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.23	58	-0.01	0	1262M	QPSK	1	0	0 mm	bottom	1:1	1.430	1.194	1.707	
1860.00	26140	Low	LTE Band 25 (PCS)	20	21.0	20.42	58	-0.02	0	1262M	QPSK	50	25	0 mm	bottom	1:1	1.470	1.143	1.680	

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

Table 11-60
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	2680.00	41490	High	LTE Band 41	20	25.0	24.06	-0.03	0	6266M	QPSK	1	50	8 mm	back	1:1.58	0.199	1.242	0.247	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	23.17	0.07	1	6266M	QPSK	50	50	8 mm	back	1:1.58	0.158	1.211	0.191	
Power Class 3	2680.00	41490	High	LTE Band 41	20	25.0	24.06	-0.06	0	6266M	QPSK	1	50	6 mm	front	1:1.58	0.180	1.242	0.224	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	23.17	0.04	1	6266M	QPSK	50	50	6 mm	front	1:1.58	0.144	1.211	0.174	
Power Class 3	2680.00	41490	High	LTE Band 41	20	25.0	24.06	0.06	0	6266M	QPSK	1	50	11 mm	bottom	1:1.58	0.248	1.242	0.308	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	23.17	0.02	1	6266M	QPSK	50	50	11 mm	bottom	1:1.58	0.200	1.211	0.242	
Power Class 3	2680.00	41490	High	LTE Band 41	20	25.0	24.06	0.00	0	6266M	QPSK	1	50	0 mm	left	1:1.58	0.710	1.242	0.882	
Power Class 3	2680.00	41490	High	LTE Band 41	20	24.0	23.17	0.09	1	6266M	QPSK	50	50	0 mm	left	1:1.58	0.502	1.211	0.608	
Power Class 3	2680.00	41490	High	LTE Band 41	20	23.5	22.57	0.01	0	6266M	QPSK	1	50	0 mm	back	1:1.58	0.990	1.239	1.227	
Power Class 3	2680.00	41490	High	LTE Band 41	20	23.5	22.69	0.00	0	6266M	QPSK	50	50	0 mm	back	1:1.58	1.010	1.205	1.217	A54
Power Class 2	2680.00	41490	High	LTE Band 41	20	23.5	22.49	0.01	0	6266M	QPSK	1	50	0 mm	back	1:2.31	0.630	1.262	0.795	
Power Class 3	2680.00	41490	High	LTE Band 41	20	23.5	22.57	0.03	0	6266M	QPSK	1	50	0 mm	front	1:1.58	0.610	1.239	0.756	
Power Class 3	2680.00	41490	High	LTE Band 41	20	23.5	22.69	0.09	0	6266M	QPSK	50	50	0 mm	front	1:1.58	0.668	1.205	0.805	
Power Class 3	2680.00	41490	High	LTE Band 41	20	23.5	22.57	0.14	0	6266M	QPSK	1	50	0 mm	bottom	1:1.58	0.879	1.239	1.089	
Power Class 3	2680.00	41490	High	LTE Band 41	20	23.5	22.69	0.03	0	6266M	QPSK	50	50	0 mm	bottom	1:1.58	0.882	1.205	1.063	

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

Table 11-61
NR Band n66 (AWS) Phablet SAR

MEASUREMENT RESULTS																						
FREQUENCY			Mode	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	MPR [dB]	Antenna State	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)	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	0.10	0	0	2635M	DFT-S-OFDM	QPSK	1	104	8 mm	back	1:1	0.423	1.151	0.487	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	0.14	0	0	2635M	DFT-S-OFDM	QPSK	50	28	8 mm	back	1:1	0.451	1.180	0.532	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	0.14	0	0	2635M	DFT-S-OFDM	QPSK	1	104	6 mm	front	1:1	0.451	1.151	0.519	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	0.14	0	0	2635M	DFT-S-OFDM	QPSK	50	28	6 mm	front	1:1	0.484	1.180	0.571	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	-0.03	0	0	2635M	DFT-S-OFDM	QPSK	1	104	11 mm	bottom	1:1	0.459	1.151	0.528	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	0.03	0	0	2635M	DFT-S-OFDM	QPSK	50	28	11 mm	bottom	1:1	0.461	1.180	0.544	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	0.14	0	0	2635M	DFT-S-OFDM	QPSK	1	104	0 mm	right	1:1	0.276	1.151	0.318	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	0.14	0	0	2635M	DFT-S-OFDM	QPSK	50	28	0 mm	right	1:1	0.265	1.180	0.313	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.39	0.03	0	0	2635M	DFT-S-OFDM	QPSK	1	104	0 mm	left	1:1	0.454	1.151	0.523	
1720.00	344000	Low	NR Band n66 (AWS)	20	24.0	23.28	-0.03	0	0	2635M	DFT-S-OFDM	QPSK	50	28	0 mm	left	1:1	0.473	1.180	0.558	
1770.00	354000	High	NR Band n66 (AWS)	20	21.0	20.81	0.10	0	0	2635M	DFT-S-OFDM	QPSK	1	104	0 mm	back	1:1	1.760	1.045	1.839	
1720.00	344000	Low	NR Band n66 (AWS)	20	21.0	20.67	0.14	0	0	2635M	DFT-S-OFDM	QPSK	50	0	0 mm	back	1:1	2.320	1.079	2.503	
1745.00	349000	Mid	NR Band n66 (AWS)	20	21.0	20.42	0.13	0	0	2635M	DFT-S-OFDM	QPSK	50	0	0 mm	back	1:1	2.050	1.143	2.343	
1770.00	354000	High	NR Band n66 (AWS)	20	21.0	20.73	0.13	0	0	2635M	DFT-S-OFDM	QPSK	50	28	0 mm	back	1:1	1.770	1.064	1.883	
1770.00	354000	High	NR Band n66 (AWS)	20	21.0	20.69	0.13	0	0	2635M	DFT-S-OFDM	QPSK	100	0	0 mm	back	1:1	1.910	1.074	2.051	
1720.00	344000	Low	NR Band n66 (AWS)	20	21.0	20.54	0.13	0	0	2635M	CP-OFDM	QPSK	1	1	0 mm	back	1:1	2.330	1.112	2.591	A55
1770.00	354000	High	NR Band n66 (AWS)	20	21.0	20.81	0.13	0	0	2635M	DFT-S-OFDM	QPSK	1	104	0 mm	front	1:1	1.330	1.045	1.390	
1770.00	354000	High	NR Band n66 (AWS)	20	21.0	20.73	0.13	0	0	2635M	DFT-S-OFDM	QPSK	50	28	0 mm	front	1:1	1.380	1.064	1.468	
1770.00	354000	High	NR Band n66 (AWS)	20	21.0	20.81	0.18	0	0	2635M	DFT-S-OFDM	QPSK	1	104	0 mm	bottom	1:1	1.150	1.045	1.202	
1770.00	354000	High	NR Band n66 (AWS)	20	21.0	20.73	-0.01	0	0	2635M	DFT-S-OFDM	QPSK	50	28	0 mm	bottom	1:1	1.200	1.064	1.277	
1720.00	344000	Low	NR Band n66 (AWS)	20	21.0	20.54	0.13	0	0	2635M	CP-OFDM	QPSK	1	1	0 mm	back	1:1	2.260	1.112	2.513	
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Extremity 4.0 W/kg (mW/g) averaged over 10 grams								

Note: Blue entry represents variability measurement.

Table 11-62
WLAN SISO Phablet SAR

MEASUREMENT RESULTS																			
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power [dBm]	Conducted Power [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.													W/kg	(W/kg)			(W/kg)	
5260	52	802.11a	OFDM	20	18.0	17.98	0.02	0 mm	1	1274M	6	back	98.9	1.650	-	1.005	1.011	-	
5260	52	802.11a	OFDM	20	18.0	17.98	0.06	0 mm	1	1274M	6	front	98.9	1.570	-	1.005	1.011	-	
5260	52	802.11a	OFDM	20	18.0	17.98	-0.06	0 mm	1	1274M	6	top	98.9	3.980	0.421	1.005	1.011	0.428	
5260	52	802.11a	OFDM	20	18.0	17.98	0.05	0 mm	1	1274M	6	right	98.9	0.503	-	1.005	1.011	-	
5720	144	802.11a	OFDM	20	18.0	17.86	0.00	0 mm	1	1274M	6	back	98.9	1.850	-	1.033	1.011	-	
5720	144	802.11a	OFDM	20	18.0	17.86	0.03	0 mm	1	1274M	6	front	98.9	2.110	-	1.033	1.011	-	
5720	144	802.11a	OFDM	20	18.0	17.86	-0.08	0 mm	1	1274M	6	top	98.9	4.980	0.547	1.033	1.011	0.571	
5720	144	802.11a	OFDM	20	18.0	17.86	-0.02	0 mm	1	1274M	6	right	98.9	0.799	-	1.033	1.011	-	
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 11-63
WLAN MIMO Phablet SAR

MEASUREMENT RESULTS																					
FREQUENCY		Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 1) [dBm]	Conducted Power (Ant 1) [dBm]	Maximum Allowed Power (Ant 2) [dBm]	Conducted Power (Ant 2) [dBm]	Power Drift [dB]	Spacing	Antenna Config.	Device Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Peak SAR of Area Scan	SAR (10g)	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Reported SAR (10g)	Plot #
MHz	Ch.															W/kg	(W/kg)			(W/kg)	
5260	52	802.11n	OFDM	20	18.0	17.91	18.0	17.89	0.03	0 mm	MIMO	1274M	13	back	99.7	2.200	-	1.026	1.003	-	
5260	52	802.11n	OFDM	20	18.0	17.91	18.0	17.89	-0.01	0 mm	MIMO	1274M	13	front	99.7	2.200	-	1.026	1.003	-	
5260	52	802.11n	OFDM	20	18.0	17.91	18.0	17.89	0.01	0 mm	MIMO	1274M	13	top	99.7	2.610	0.442	1.026	1.003	0.455	
5260	52	802.11n	OFDM	20	18.0	17.91	18.0	17.89	0.02	0 mm	MIMO	1274M	13	right	99.7	0.483	-	1.026	1.003	-	
5260	52	802.11n	OFDM	20	18.0	17.91	18.0	17.89	-0.02	0 mm	MIMO	1274M	13	left	99.7	9.040	1.380	1.026	1.003	1.420	A56
5600	120	802.11n	OFDM	20	18.0	17.77	18.0	17.99	-0.01	0 mm	MIMO	1274M	13	back	99.7	5.360	0.851	1.054	1.003	0.900	
5600	120	802.11n	OFDM	20	18.0	17.77	18.0	17.99	-0.01	0 mm	MIMO	1274M	13	front	99.7	3.430	-	1.054	1.003	-	
5600	120	802.11n	OFDM	20	18.0	17.77	18.0	17.99	0.04	0 mm	MIMO	1274M	13	top	99.7	2.380	-	1.054	1.003	-	
5600	120	802.11n	OFDM	20	18.0	17.77	18.0	17.99	-0.04	0 mm	MIMO	1274M	13	right	99.7	0.592	-	1.054	1.003	-	
5600	120	802.11n	OFDM	20	18.0	17.77	18.0	17.99	0.04	0 mm	MIMO	1274M	13	left	99.7	8.530	1.100	1.054	1.003	1.163	
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: 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 13.1 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. Additional SAR tests for phablet SAR were evaluated per KDB 616217 Section 6 (See Section 6.9 for more information).
11. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds below.
12. This device supports dynamic antenna tuning for some bands. Per FCC Guidance, SAR was measured according to the normally required SAR measurement configurations with tuner active. The auto-tune state determined by the device was verified before and after each SAR measurement and is listed in tables above. Please see Section 14 for supplemental data.
13. This device has an open and closed configuration. When closed, 1g SAR test are required for back side at a test separation distance of 15mm for body-worn, and on all surfaces and edges with an antenna <=25 mm from that surface or edge at a test separation distance 5mm for hotspot.

GSM Test Notes:

1. Body-Worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.
2. Justification for reduced test configurations per KDB Publication 941225 D01v03r01 and October 2013 TCB Workshop Notes: The source-based frame-averaged output power was evaluated for all GPRS/EDGE slot configurations. The configuration with the highest target frame averaged output power was evaluated for hotspot SAR. When the maximum frame-averaged powers are equivalent across two or more slots (within 0.25 dB), the configuration with the most number of time slots was tested.
3. Per FCC KDB Publication 447498 D01v06, if the reported (scaled) SAR measured at the 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).

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 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).

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 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. Due to test setup limitations, SAR testing for NR was performed using test mode software to establish the connection.
2. Simultaneous transmission analysis for EN-DC operations is included in Section 12. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only. Per FCC guidance, all unique uplink combinations were assessed.
3. 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.
4. Per FCC Guidance, the device was configured with the tuner state selected by the device in LTE mode with auto-tune active at the same frequency as the NR test results. Additional tuner states were evaluated per April 2019 TCBC Workshop Guidance. Please see Section 14 for supplemental data.
5. 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.

WLAN Notes:

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

Bluetooth Notes

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

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.

LTE B25 SAR was used for EN-DC simultaneous analysis since the transmission frequency range of LTE B25 and B2 are overlapped and they share the same transmission path and signal characteristics. LTE B26 SAR was used for EN-DC simultaneous analysis since the transmission frequency range of LTE B26 and B5 are overlapped and they share the same transmission path and signal characteristics.

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

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

12.3 Head SAR Simultaneous Transmission Analysis

Table 12-1
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	GSM 850	0.166	0.076	0.242
	GSM 1900	0.052	0.076	0.128
	UMTS 850	0.237	0.076	**0.313**
	UMTS 1750	0.085	0.076	0.161
	UMTS 1900	0.090	0.076	0.166
	LTE Band 12	0.203	0.076	0.279
	LTE Band 13	0.121	0.076	0.197
	LTE Band 26 (Cell)	0.174	0.076	0.250
	LTE Band 66 (AWS)	0.102	0.076	0.178
	LTE Band 25 (PCS)	0.066	0.076	0.142
	LTE Band 41	0.137	0.076	0.213
	NR Band n5 (Cell)	0.237	0.076	**0.313**
	NR Band n66 (AWS)	0.096	0.076	0.172

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.076	**0.415**
	LTE Band 25 (PCS)	0.066	0.237	0.076	0.379
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.076	0.346
	LTE Band 12	0.203	0.096	0.076	**0.375**

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

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	GSM 850	0.166	0.191	0.357
	GSM 1900	0.052	0.191	0.243
	UMTS 850	0.237	0.191	**0.428**
	UMTS 1750	0.085	0.191	0.276
	UMTS 1900	0.090	0.191	0.281
	LTE Band 12	0.203	0.191	0.394
	LTE Band 13	0.121	0.191	0.312
	LTE Band 26 (Cell)	0.174	0.191	0.365
	LTE Band 66 (AWS)	0.102	0.191	0.293
	LTE Band 25 (PCS)	0.066	0.191	0.257
	LTE Band 41	0.137	0.191	0.328
	NR Band n5 (Cell)	0.237	0.191	**0.428**
	NR Band n66 (AWS)	0.096	0.191	0.287

Configuration	LTE Anchor Band	4G 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)	0.102	0.237	0.191	**0.530**
	LTE Band 25 (PCS)	0.066	0.237	0.191	0.494

Configuration	LTE Anchor Band	4G 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 26 (Cell)	0.174	0.096	0.191	0.461
	LTE Band 12	0.203	0.096	0.191	**0.490**

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

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	GSM 850	0.166	0.311	0.477
	GSM 1900	0.052	0.311	0.363
	UMTS 850	0.237	0.311	**0.548**
	UMTS 1750	0.085	0.311	0.396
	UMTS 1900	0.090	0.311	0.401
	LTE Band 12	0.203	0.311	0.514
	LTE Band 13	0.121	0.311	0.432
	LTE Band 26 (Cell)	0.174	0.311	0.485
	LTE Band 66 (AWS)	0.102	0.311	0.413
	LTE Band 25 (PCS)	0.066	0.311	0.377
	LTE Band 41	0.137	0.311	0.448
	NR Band n5 (Cell)	0.237	0.311	**0.548**
	NR Band n66 (AWS)	0.096	0.311	0.407

Configuration	LTE Anchor Band	4G 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
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.311	**0.650**
	LTE Band 25 (PCS)	0.066	0.237	0.311	0.614

Configuration	LTE Anchor Band	4G 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
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.311	0.581
	LTE Band 12	0.203	0.096	0.311	**0.610**

Table 12-4
Simultaneous Transmission Scenario with Bluetooth Antenna 1 (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	GSM 850	0.166	0.170	0.336
	GSM 1900	0.052	0.170	0.222
	UMTS 850	0.237	0.170	**0.407**
	UMTS 1750	0.085	0.170	0.255
	UMTS 1900	0.090	0.170	0.260
	LTE Band 12	0.203	0.170	0.373
	LTE Band 13	0.121	0.170	0.291
	LTE Band 26 (Cell)	0.174	0.170	0.344
	LTE Band 66 (AWS)	0.102	0.170	0.272
	LTE Band 25 (PCS)	0.066	0.170	0.236
	LTE Band 41	0.137	0.170	0.307
	NR Band n5 (Cell)	0.237	0.170	**0.407**
	NR Band n66 (AWS)	0.096	0.170	0.266

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.170	**0.509**
	LTE Band 25 (PCS)	0.066	0.237	0.170	0.473

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.170	0.440
	LTE Band 12	0.203	0.096	0.170	**0.469**

Table 12-5
Simultaneous Transmission Scenario with Bluetooth Antenna 2 (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Head SAR	GSM 850	0.166	0.330	0.496
	GSM 1900	0.052	0.330	0.382
	UMTS 850	0.237	0.330	**0.567**
	UMTS 1750	0.085	0.330	0.415
	UMTS 1900	0.090	0.330	0.420
	LTE Band 12	0.203	0.330	0.533
	LTE Band 13	0.121	0.330	0.451
	LTE Band 26 (Cell)	0.174	0.330	0.504
	LTE Band 66 (AWS)	0.102	0.330	0.432
	LTE Band 25 (PCS)	0.066	0.330	0.396
	LTE Band 41	0.137	0.330	0.467
	NR Band n5 (Cell)	0.237	0.330	**0.567**
	NR Band n66 (AWS)	0.096	0.330	0.426

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.330	**0.669**
	LTE Band 25 (PCS)	0.066	0.237	0.330	0.633

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.330	0.600
	LTE Band 12	0.203	0.096	0.330	**0.629**

Table 12-6
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5 GHz Antenna 1 WLAN (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	GSM 850	0.166	0.170	0.076	0.412
	GSM 1900	0.052	0.170	0.076	0.298
	UMTS 850	0.237	0.170	0.076	**0.483**
	UMTS 1750	0.085	0.170	0.076	0.331
	UMTS 1900	0.090	0.170	0.076	0.336
	LTE Band 12	0.203	0.170	0.076	0.449
	LTE Band 13	0.121	0.170	0.076	0.367
	LTE Band 26 (Cell)	0.174	0.170	0.076	0.420
	LTE Band 66 (AWS)	0.102	0.170	0.076	0.348
	LTE Band 25 (PCS)	0.066	0.170	0.076	0.312
	LTE Band 41	0.137	0.170	0.076	0.383
	NR Band n5 (Cell)	0.237	0.170	0.076	**0.483**
	NR Band n66 (AWS)	0.096	0.170	0.076	0.342

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.170	0.076	**0.585**
	LTE Band 25 (PCS)	0.066	0.237	0.170	0.076	0.549

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.170	0.076	0.516
	LTE Band 12	0.203	0.096	0.170	0.076	**0.545**

Table 12-7
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5 GHz Antenna 1 WLAN (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	GSM 850	0.166	0.330	0.076	0.572
	GSM 1900	0.052	0.330	0.076	0.458
	UMTS 850	0.237	0.330	0.076	**0.643**
	UMTS 1750	0.085	0.330	0.076	0.491
	UMTS 1900	0.090	0.330	0.076	0.496
	LTE Band 12	0.203	0.330	0.076	0.609
	LTE Band 13	0.121	0.330	0.076	0.527
	LTE Band 26 (Cell)	0.174	0.330	0.076	0.580
	LTE Band 66 (AWS)	0.102	0.330	0.076	0.508
	LTE Band 25 (PCS)	0.066	0.330	0.076	0.472
	LTE Band 41	0.137	0.330	0.076	0.543
	NR Band n5 (Cell)	0.237	0.330	0.076	**0.643**
	NR Band n66 (AWS)	0.096	0.330	0.076	0.502

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.330	0.076	**0.745**
	LTE Band 25 (PCS)	0.066	0.237	0.330	0.076	0.709

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.330	0.076	0.676
	LTE Band 12	0.203	0.096	0.330	0.076	**0.705**

Table 12-8
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5 GHz MIMO WLAN (Held to Ear)

Configuration	Mode	2G/3G/4G 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
Head SAR	GSM 850	0.166	0.170	0.191	0.527
	GSM 1900	0.052	0.170	0.191	0.413
	UMTS 850	0.237	0.170	0.191	**0.598**
	UMTS 1750	0.085	0.170	0.191	0.446
	UMTS 1900	0.090	0.170	0.191	0.451
	LTE Band 12	0.203	0.170	0.191	0.564
	LTE Band 13	0.121	0.170	0.191	0.482
	LTE Band 26 (Cell)	0.174	0.170	0.191	0.535
	LTE Band 66 (AWS)	0.102	0.170	0.191	0.463
	LTE Band 25 (PCS)	0.066	0.170	0.191	0.427
	LTE Band 41	0.137	0.170	0.191	0.498
	NR Band n5 (Cell)	0.237	0.170	0.191	**0.598**
	NR Band n66 (AWS)	0.096	0.170	0.191	0.457

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) 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	4	1+2+3+4
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.170	0.191	**0.700**
	LTE Band 25 (PCS)	0.066	0.237	0.170	0.191	0.664

Configuration	LTE Anchor Band	4G SAR (W/kg)	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	4	1+2+3+4
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.170	0.191	0.631
	LTE Band 12	0.203	0.096	0.170	0.191	**0.660**

Table 12-9
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5GHz MIMO WLAN (Held to Ear)

Configuration	Mode	2G/3G/4G 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
Head SAR	GSM 850	0.166	0.330	0.191	0.687
	GSM 1900	0.052	0.330	0.191	0.573
	UMTS 850	0.237	0.330	0.191	**0.758**
	UMTS 1750	0.085	0.330	0.191	0.606
	UMTS 1900	0.090	0.330	0.191	0.611
	LTE Band 12	0.203	0.330	0.191	0.724
	LTE Band 13	0.121	0.330	0.191	0.642
	LTE Band 26 (Cell)	0.174	0.330	0.191	0.695
	LTE Band 66 (AWS)	0.102	0.330	0.191	0.623
	LTE Band 25 (PCS)	0.066	0.330	0.191	0.587
	LTE Band 41	0.137	0.330	0.191	0.658
	NR Band n5 (Cell)	0.237	0.330	0.191	**0.758**
	NR Band n66 (AWS)	0.096	0.330	0.191	0.617

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) 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+3+4
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.330	0.191	**0.860**
	LTE Band 25 (PCS)	0.066	0.237	0.330	0.191	0.824

Configuration	LTE Anchor Band	4G SAR (W/kg)	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	4	1+2+3+4
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.330	0.191	0.791
	LTE Band 12	0.203	0.096	0.330	0.191	**0.820**

Table 12-10
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 2.4 GHz WLAN Antenna 2 (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	GSM 850	0.166	0.170	0.305	0.641
	GSM 1900	0.052	0.170	0.305	0.527
	UMTS 850	0.237	0.170	0.305	**0.712**
	UMTS 1750	0.085	0.170	0.305	0.560
	UMTS 1900	0.090	0.170	0.305	0.565
	LTE Band 12	0.203	0.170	0.305	0.678
	LTE Band 13	0.121	0.170	0.305	0.596
	LTE Band 26 (Cell)	0.174	0.170	0.305	0.649
	LTE Band 66 (AWS)	0.102	0.170	0.305	0.577
	LTE Band 25 (PCS)	0.066	0.170	0.305	0.541
	LTE Band 41	0.137	0.170	0.305	0.612
	NR Band n5 (Cell)	0.237	0.170	0.305	**0.712**
	NR Band n66 (AWS)	0.096	0.170	0.305	0.571

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth 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+4
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.170	0.305	**0.814**
	LTE Band 25 (PCS)	0.066	0.237	0.170	0.305	0.778
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth 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+4
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.170	0.305	0.745
	LTE Band 12	0.203	0.096	0.170	0.305	**0.774**

Table 12-11
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz Antenna 1 WLAN (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	GSM 850	0.166	0.170	0.305	0.076	0.717
	GSM 1900	0.052	0.170	0.305	0.076	0.603
	UMTS 850	0.237	0.170	0.305	0.076	**0.788**
	UMTS 1750	0.085	0.170	0.305	0.076	0.636
	UMTS 1900	0.090	0.170	0.305	0.076	0.641
	LTE Band 12	0.203	0.170	0.305	0.076	0.754
	LTE Band 13	0.121	0.170	0.305	0.076	0.672
	LTE Band 26 (Cell)	0.174	0.170	0.305	0.076	0.725
	LTE Band 66 (AWS)	0.102	0.170	0.305	0.076	0.653
	LTE Band 25 (PCS)	0.066	0.170	0.305	0.076	0.617
	LTE Band 41	0.137	0.170	0.305	0.076	0.688
	NR Band n5 (Cell)	0.237	0.170	0.305	0.076	**0.788**
	NR Band n66 (AWS)	0.096	0.170	0.305	0.076	0.647

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.170	0.305	0.076	**0.890**
	LTE Band 25 (PCS)	0.066	0.237	0.170	0.305	0.076	0.854

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.170	0.305	0.076	0.821
	LTE Band 12	0.203	0.096	0.170	0.305	0.076	**0.850**

Table 12-12
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz MIMO WLAN (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth 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	0.166	0.170	0.305	0.191	0.832
	GSM 1900	0.052	0.170	0.305	0.191	0.718
	UMTS 850	0.237	0.170	0.305	0.191	**0.903**
	UMTS 1750	0.085	0.170	0.305	0.191	0.751
	UMTS 1900	0.090	0.170	0.305	0.191	0.756
	LTE Band 12	0.203	0.170	0.305	0.191	0.869
	LTE Band 13	0.121	0.170	0.305	0.191	0.787
	LTE Band 26 (Cell)	0.174	0.170	0.305	0.191	0.840
	LTE Band 66 (AWS)	0.102	0.170	0.305	0.191	0.768
	LTE Band 25 (PCS)	0.066	0.170	0.305	0.191	0.732
	LTE Band 41	0.137	0.170	0.305	0.191	0.803
	NR Band n5 (Cell)	0.237	0.170	0.305	0.191	**0.903**
	NR Band n66 (AWS)	0.096	0.170	0.305	0.191	0.762

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth 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)	0.102	0.237	0.170	0.305	0.191	**1.005**
	LTE Band 25 (PCS)	0.066	0.237	0.170	0.305	0.191	0.969

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth 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 26 (Cell)	0.174	0.096	0.170	0.305	0.191	0.936
	LTE Band 12	0.203	0.096	0.170	0.305	0.191	**0.965**

Table 12-13
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN and 5 GHz MIMO WLAN (Held to Ear)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Head SAR	GSM 850	0.166	0.311	0.191	0.668
	GSM 1900	0.052	0.311	0.191	0.554
	UMTS 850	0.237	0.311	0.191	**0.739**
	UMTS 1750	0.085	0.311	0.191	0.587
	UMTS 1900	0.090	0.311	0.191	0.592
	LTE Band 12	0.203	0.311	0.191	0.705
	LTE Band 13	0.121	0.311	0.191	0.623
	LTE Band 26 (Cell)	0.174	0.311	0.191	0.676
	LTE Band 66 (AWS)	0.102	0.311	0.191	0.604
	LTE Band 25 (PCS)	0.066	0.311	0.191	0.568
	LTE Band 41	0.137	0.311	0.191	0.639
	NR Band n5 (Cell)	0.237	0.311	0.191	**0.739**
	NR Band n66 (AWS)	0.096	0.311	0.191	0.598

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 66 (AWS)	0.102	0.237	0.311	0.191	**0.841**
	LTE Band 25 (PCS)	0.066	0.237	0.311	0.191	0.805

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Head SAR	LTE Band 26 (Cell)	0.174	0.096	0.311	0.191	0.772
	LTE Band 12	0.203	0.096	0.311	0.191	**0.801**

12.4 Open Body-Worn Simultaneous Transmission Analysis

Table 12-14
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.143	0.049	0.192
	GSM 1900	0.270	0.049	0.319
	UMTS 850	0.224	0.049	0.273
	UMTS 1750	0.565	0.049	0.614
	UMTS 1900	0.540	0.049	0.589
	LTE Band 12	0.212	0.049	0.261
	LTE Band 13	0.200	0.049	0.249
	LTE Band 26 (Cell)	0.219	0.049	0.268
	LTE Band 66 (AWS)	0.666	0.049	0.715
	LTE Band 25 (PCS)	0.576	0.049	0.625
	LTE Band 41	0.190	0.049	0.239
	NR Band n5 (Cell)	0.279	0.049	0.328
	NR Band n66 (AWS)	0.733	0.049	**0.782**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.049	**0.994**
	LTE Band 25 (PCS)	0.576	0.279	0.049	0.904

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.049	**1.001**
	LTE Band 12	0.212	0.733	0.049	0.994

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

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.143	0.082	0.225
	GSM 1900	0.270	0.082	0.352
	UMTS 850	0.224	0.082	0.306
	UMTS 1750	0.565	0.082	0.647
	UMTS 1900	0.540	0.082	0.622
	LTE Band 12	0.212	0.082	0.294
	LTE Band 13	0.200	0.082	0.282
	LTE Band 26 (Cell)	0.219	0.082	0.301
	LTE Band 66 (AWS)	0.666	0.082	0.748
	LTE Band 25 (PCS)	0.576	0.082	0.658
	LTE Band 41	0.190	0.082	0.272
	NR Band n5 (Cell)	0.279	0.082	0.361
	NR Band n66 (AWS)	0.733	0.082	**0.815**

Configuration	LTE Anchor Band	4G 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)	0.666	0.279	0.082	**1.027**
	LTE Band 25 (PCS)	0.576	0.279	0.082	0.937

Configuration	LTE Anchor Band	4G 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 26 (Cell)	0.219	0.733	0.082	**1.034**
	LTE Band 12	0.212	0.733	0.082	1.027

Table 12-16
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.143	0.231	0.374
	GSM 1900	0.270	0.231	0.501
	UMTS 850	0.224	0.231	0.455
	UMTS 1750	0.565	0.231	0.796
	UMTS 1900	0.540	0.231	0.771
	LTE Band 12	0.212	0.231	0.443
	LTE Band 13	0.200	0.231	0.431
	LTE Band 26 (Cell)	0.219	0.231	0.450
	LTE Band 66 (AWS)	0.666	0.231	0.897
	LTE Band 25 (PCS)	0.576	0.231	0.807
	LTE Band 41	0.190	0.231	0.421
	NR Band n5 (Cell)	0.279	0.231	0.510
	NR Band n66 (AWS)	0.733	0.231	**0.964**

Configuration	LTE Anchor Band	4G 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)	0.666	0.279	0.231	**1.176**
	LTE Band 25 (PCS)	0.576	0.279	0.231	1.086

Configuration	LTE Anchor Band	4G 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 26 (Cell)	0.219	0.733	0.231	**1.183**
	LTE Band 12	0.212	0.733	0.231	1.176

Table 12-17
Simultaneous Transmission Scenario with Bluetooth Antenna 1 (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.143	0.052	0.195
	GSM 1900	0.270	0.052	0.322
	UMTS 850	0.224	0.052	0.276
	UMTS 1750	0.565	0.052	0.617
	UMTS 1900	0.540	0.052	0.592
	LTE Band 12	0.212	0.052	0.264
	LTE Band 13	0.200	0.052	0.252
	LTE Band 26 (Cell)	0.219	0.052	0.271
	LTE Band 66 (AWS)	0.666	0.052	0.718
	LTE Band 25 (PCS)	0.576	0.052	0.628
	LTE Band 41	0.190	0.052	0.242
	NR Band n5 (Cell)	0.279	0.052	0.331
	NR Band n66 (AWS)	0.733	0.052	**0.785**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.052	**0.997**
	LTE Band 25 (PCS)	0.576	0.279	0.052	0.907

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.052	**1.004**
	LTE Band 12	0.212	0.733	0.052	0.997

Table 12-18
Simultaneous Transmission Scenario with Bluetooth Antenna 2 (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.143	0.043	0.186
	GSM 1900	0.270	0.043	0.313
	UMTS 850	0.224	0.043	0.267
	UMTS 1750	0.565	0.043	0.608
	UMTS 1900	0.540	0.043	0.583
	LTE Band 12	0.212	0.043	0.255
	LTE Band 13	0.200	0.043	0.243
	LTE Band 26 (Cell)	0.219	0.043	0.262
	LTE Band 66 (AWS)	0.666	0.043	0.709
	LTE Band 25 (PCS)	0.576	0.043	0.619
	LTE Band 41	0.190	0.043	0.233
	NR Band n5 (Cell)	0.279	0.043	0.322
	NR Band n66 (AWS)	0.733	0.043	**0.776**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.043	**0.988**
	LTE Band 25 (PCS)	0.576	0.279	0.043	0.898

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.043	**0.995**
	LTE Band 12	0.212	0.733	0.043	0.988

Table 12-19
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5 GHz Antenna 1 WLAN
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.143	0.052	0.049	0.244
	GSM 1900	0.270	0.052	0.049	0.371
	UMTS 850	0.224	0.052	0.049	0.325
	UMTS 1750	0.565	0.052	0.049	0.666
	UMTS 1900	0.540	0.052	0.049	0.641
	LTE Band 12	0.212	0.052	0.049	0.313
	LTE Band 13	0.200	0.052	0.049	0.301
	LTE Band 26 (Cell)	0.219	0.052	0.049	0.320
	LTE Band 66 (AWS)	0.666	0.052	0.049	0.767
	LTE Band 25 (PCS)	0.576	0.052	0.049	0.677
	LTE Band 41	0.190	0.052	0.049	0.291
	NR Band n5 (Cell)	0.279	0.052	0.049	0.380
	NR Band n66 (AWS)	0.733	0.052	0.049	**0.834**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.052	0.049	**1.046**
	LTE Band 25 (PCS)	0.576	0.279	0.052	0.049	0.956

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.052	0.049	**1.053**
	LTE Band 12	0.212	0.733	0.052	0.049	1.046

Table 12-20
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5 GHz Antenna 1 WLAN
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.143	0.043	0.049	0.235
	GSM 1900	0.270	0.043	0.049	0.362
	UMTS 850	0.224	0.043	0.049	0.316
	UMTS 1750	0.565	0.043	0.049	0.657
	UMTS 1900	0.540	0.043	0.049	0.632
	LTE Band 12	0.212	0.043	0.049	0.304
	LTE Band 13	0.200	0.043	0.049	0.292
	LTE Band 26 (Cell)	0.219	0.043	0.049	0.311
	LTE Band 66 (AWS)	0.666	0.043	0.049	0.758
	LTE Band 25 (PCS)	0.576	0.043	0.049	0.668
	LTE Band 41	0.190	0.043	0.049	0.282
	NR Band n5 (Cell)	0.279	0.043	0.049	0.371
	NR Band n66 (AWS)	0.733	0.043	0.049	**0.825**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.043	0.049	**1.037**
	LTE Band 25 (PCS)	0.576	0.279	0.043	0.049	0.947

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.043	0.049	**1.044**
	LTE Band 12	0.212	0.733	0.043	0.049	1.037

Table 12-21
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5 GHz MIMO WLAN
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G 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
Body - Worn SAR	GSM 850	0.143	0.052	0.082	0.277
	GSM 1900	0.270	0.052	0.082	0.404
	UMTS 850	0.224	0.052	0.082	0.358
	UMTS 1750	0.565	0.052	0.082	0.699
	UMTS 1900	0.540	0.052	0.082	0.674
	LTE Band 12	0.212	0.052	0.082	0.346
	LTE Band 13	0.200	0.052	0.082	0.334
	LTE Band 26 (Cell)	0.219	0.052	0.082	0.353
	LTE Band 66 (AWS)	0.666	0.052	0.082	0.800
	LTE Band 25 (PCS)	0.576	0.052	0.082	0.710
	LTE Band 41	0.190	0.052	0.082	0.324
	NR Band n5 (Cell)	0.279	0.052	0.082	0.413
	NR Band n66 (AWS)	0.733	0.052	0.082	**0.867**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) 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	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.052	0.082	**1.079**
	LTE Band 25 (PCS)	0.576	0.279	0.052	0.082	0.989

Configuration	LTE Anchor Band	4G SAR (W/kg)	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	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.052	0.082	**1.086**
	LTE Band 12	0.212	0.733	0.052	0.082	1.079

Table 12-22
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5GHz MIMO WLAN
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G 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
Body - Worn SAR	GSM 850	0.143	0.043	0.082	0.268
	GSM 1900	0.270	0.043	0.082	0.395
	UMTS 850	0.224	0.043	0.082	0.349
	UMTS 1750	0.565	0.043	0.082	0.690
	UMTS 1900	0.540	0.043	0.082	0.665
	LTE Band 12	0.212	0.043	0.082	0.337
	LTE Band 13	0.200	0.043	0.082	0.325
	LTE Band 26 (Cell)	0.219	0.043	0.082	0.344
	LTE Band 66 (AWS)	0.666	0.043	0.082	0.791
	LTE Band 25 (PCS)	0.576	0.043	0.082	0.701
	LTE Band 41	0.190	0.043	0.082	0.315
	NR Band n5 (Cell)	0.279	0.043	0.082	0.404
	NR Band n66 (AWS)	0.733	0.043	0.082	**0.858**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) 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+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.043	0.082	**1.070**
	LTE Band 25 (PCS)	0.576	0.279	0.043	0.082	0.980

Configuration	LTE Anchor Band	4G SAR (W/kg)	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	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.043	0.082	**1.077**
	LTE Band 12	0.212	0.733	0.043	0.082	1.070

Table 12-23
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 2.4 GHz WLAN Antenna 2
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.143	0.052	0.059	0.254
	GSM 1900	0.270	0.052	0.059	0.381
	UMTS 850	0.224	0.052	0.059	0.335
	UMTS 1750	0.565	0.052	0.059	0.676
	UMTS 1900	0.540	0.052	0.059	0.651
	LTE Band 12	0.212	0.052	0.059	0.323
	LTE Band 13	0.200	0.052	0.059	0.311
	LTE Band 26 (Cell)	0.219	0.052	0.059	0.330
	LTE Band 66 (AWS)	0.666	0.052	0.059	0.777
	LTE Band 25 (PCS)	0.576	0.052	0.059	0.687
	LTE Band 41	0.190	0.052	0.059	0.301
	NR Band n5 (Cell)	0.279	0.052	0.059	0.390
	NR Band n66 (AWS)	0.733	0.052	0.059	**0.844**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth 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+4
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.052	0.059	**1.056**
	LTE Band 25 (PCS)	0.576	0.279	0.052	0.059	0.966

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth 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+4
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.052	0.059	**1.063**
	LTE Band 12	0.212	0.733	0.052	0.059	1.056

Table 12-24
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz Antenna 1 WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	GSM 850	0.143	0.052	0.059	0.049	0.303
	GSM 1900	0.270	0.052	0.059	0.049	0.430
	UMTS 850	0.224	0.052	0.059	0.049	0.384
	UMTS 1750	0.565	0.052	0.059	0.049	0.725
	UMTS 1900	0.540	0.052	0.059	0.049	0.700
	LTE Band 12	0.212	0.052	0.059	0.049	0.372
	LTE Band 13	0.200	0.052	0.059	0.049	0.360
	LTE Band 26 (Cell)	0.219	0.052	0.059	0.049	0.379
	LTE Band 66 (AWS)	0.666	0.052	0.059	0.049	0.826
	LTE Band 25 (PCS)	0.576	0.052	0.059	0.049	0.736
	LTE Band 41	0.190	0.052	0.059	0.049	0.350
	NR Band n5 (Cell)	0.279	0.052	0.059	0.049	0.439
	NR Band n66 (AWS)	0.733	0.052	0.059	0.049	**0.893**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.052	0.059	0.049	**1.105**
	LTE Band 25 (PCS)	0.576	0.279	0.052	0.059	0.049	1.015

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.052	0.059	0.049	**1.112**
	LTE Band 12	0.212	0.733	0.052	0.059	0.049	1.105

Table 12-25
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz MIMO WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth 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
Body - Worn SAR	GSM 850	0.143	0.052	0.059	0.082	0.336
	GSM 1900	0.270	0.052	0.059	0.082	0.463
	UMTS 850	0.224	0.052	0.059	0.082	0.417
	UMTS 1750	0.565	0.052	0.059	0.082	0.758
	UMTS 1900	0.540	0.052	0.059	0.082	0.733
	LTE Band 12	0.212	0.052	0.059	0.082	0.405
	LTE Band 13	0.200	0.052	0.059	0.082	0.393
	LTE Band 26 (Cell)	0.219	0.052	0.059	0.082	0.412
	LTE Band 66 (AWS)	0.666	0.052	0.059	0.082	0.859
	LTE Band 25 (PCS)	0.576	0.052	0.059	0.082	0.769
	LTE Band 41	0.190	0.052	0.059	0.082	0.383
	NR Band n5 (Cell)	0.279	0.052	0.059	0.082	0.472
	NR Band n66 (AWS)	0.733	0.052	0.059	0.082	**0.926**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth 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
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.052	0.059	0.082	**1.138**
	LTE Band 25 (PCS)	0.576	0.279	0.052	0.059	0.082	1.048
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth 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
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.052	0.059	0.082	**1.145**
	LTE Band 12	0.212	0.733	0.052	0.059	0.082	1.138

Table 12-26
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN and 5 GHz MIMO WLAN
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.143	0.231	0.082	0.456
	GSM 1900	0.270	0.231	0.082	0.583
	UMTS 850	0.224	0.231	0.082	0.537
	UMTS 1750	0.565	0.231	0.082	0.878
	UMTS 1900	0.540	0.231	0.082	0.853
	LTE Band 12	0.212	0.231	0.082	0.525
	LTE Band 13	0.200	0.231	0.082	0.513
	LTE Band 26 (Cell)	0.219	0.231	0.082	0.532
	LTE Band 66 (AWS)	0.666	0.231	0.082	0.979
	LTE Band 25 (PCS)	0.576	0.231	0.082	0.889
	LTE Band 41	0.190	0.231	0.082	0.503
	NR Band n5 (Cell)	0.279	0.231	0.082	0.592
	NR Band n66 (AWS)	0.733	0.231	0.082	**1.046**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.666	0.279	0.231	0.082	**1.258**
	LTE Band 25 (PCS)	0.576	0.279	0.231	0.082	1.168

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.219	0.733	0.231	0.082	**1.265**
	LTE Band 12	0.212	0.733	0.231	0.082	1.258

12.5 Open Hotspot SAR Simultaneous Transmission Analysis

Table 12-27
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.321	0.160	0.481
	GPRS 1900	0.552	0.160	**0.712**
	UMTS 850	0.356	0.160	0.516
	UMTS 1750	0.479	0.160	0.639
	UMTS 1900	0.410	0.160	0.570
	LTE Band 12	0.254	0.160	0.414
	LTE Band 13	0.263	0.160	0.423
	LTE Band 26 (Cell)	0.347	0.160	0.507
	LTE Band 66 (AWS)	0.433	0.160	0.593
	LTE Band 25 (PCS)	0.462	0.160	0.622
	LTE Band 41	0.353	0.160	0.513
	NR Band n5 (Cell)	0.320	0.160	0.480
	NR Band n66 (AWS)	0.439	0.160	0.599

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.160	0.913
	LTE Band 25 (PCS)	0.462	0.320	0.160	**0.942**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.160	**0.946**
	LTE Band 12	0.254	0.439	0.160	0.853

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

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.321	0.239	0.560
	GPRS 1900	0.552	0.239	**0.791**
	UMTS 850	0.356	0.239	0.595
	UMTS 1750	0.479	0.239	0.718
	UMTS 1900	0.410	0.239	0.649
	LTE Band 12	0.254	0.239	0.493
	LTE Band 13	0.263	0.239	0.502
	LTE Band 26 (Cell)	0.347	0.239	0.586
	LTE Band 66 (AWS)	0.433	0.239	0.672
	LTE Band 25 (PCS)	0.462	0.239	0.701
	LTE Band 41	0.353	0.239	0.592
	NR Band n5 (Cell)	0.320	0.239	0.559
	NR Band n66 (AWS)	0.439	0.239	0.678

Configuration	LTE Anchor Band	4G 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	LTE Band 66 (AWS)	0.433	0.320	0.239	0.992
	LTE Band 25 (PCS)	0.462	0.320	0.239	**1.021**

Configuration	LTE Anchor Band	4G 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	LTE Band 26 (Cell)	0.347	0.439	0.239	**1.025**
	LTE Band 12	0.254	0.439	0.239	0.932

Table 12-29
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.321	0.545	0.866
	GPRS 1900	0.552	0.545	**1.097**
	UMTS 850	0.356	0.545	0.901
	UMTS 1750	0.479	0.545	1.024
	UMTS 1900	0.410	0.545	0.955
	LTE Band 12	0.254	0.545	0.799
	LTE Band 13	0.263	0.545	0.808
	LTE Band 26 (Cell)	0.347	0.545	0.892
	LTE Band 66 (AWS)	0.433	0.545	0.978
	LTE Band 25 (PCS)	0.462	0.545	1.007
	LTE Band 41	0.353	0.545	0.898
	NR Band n5 (Cell)	0.320	0.545	0.865
	NR Band n66 (AWS)	0.439	0.545	0.984

Configuration	LTE Anchor Band	4G 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	LTE Band 66 (AWS)	0.433	0.320	0.545	1.298
	LTE Band 25 (PCS)	0.462	0.320	0.545	**1.327**

Configuration	LTE Anchor Band	4G 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	LTE Band 26 (Cell)	0.347	0.439	0.545	**1.331**
	LTE Band 12	0.254	0.439	0.545	1.238

Table 12-30
Simultaneous Transmission Scenario with Bluetooth Antenna 1 (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.321	0.107	0.428
	GPRS 1900	0.552	0.107	**0.659**
	UMTS 850	0.356	0.107	0.463
	UMTS 1750	0.479	0.107	0.586
	UMTS 1900	0.410	0.107	0.517
	LTE Band 12	0.254	0.107	0.361
	LTE Band 13	0.263	0.107	0.370
	LTE Band 26 (Cell)	0.347	0.107	0.454
	LTE Band 66 (AWS)	0.433	0.107	0.540
	LTE Band 25 (PCS)	0.462	0.107	0.569
	LTE Band 41	0.353	0.107	0.460
	NR Band n5 (Cell)	0.320	0.107	0.427
	NR Band n66 (AWS)	0.439	0.107	0.546

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.107	0.860
	LTE Band 25 (PCS)	0.462	0.320	0.107	**0.889**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.107	**0.893**
	LTE Band 12	0.254	0.439	0.107	0.800

Table 12-31
Simultaneous Transmission Scenario with Bluetooth Antenna 2 (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.321	0.166	0.487
	GPRS 1900	0.552	0.166	**0.718**
	UMTS 850	0.356	0.166	0.522
	UMTS 1750	0.479	0.166	0.645
	UMTS 1900	0.410	0.166	0.576
	LTE Band 12	0.254	0.166	0.420
	LTE Band 13	0.263	0.166	0.429
	LTE Band 26 (Cell)	0.347	0.166	0.513
	LTE Band 66 (AWS)	0.433	0.166	0.599
	LTE Band 25 (PCS)	0.462	0.166	0.628
	LTE Band 41	0.353	0.166	0.519
	NR Band n5 (Cell)	0.320	0.166	0.486
	NR Band n66 (AWS)	0.439	0.166	0.605

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.166	0.919
	LTE Band 25 (PCS)	0.462	0.320	0.166	**0.948**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.166	**0.952**
	LTE Band 12	0.254	0.439	0.166	0.859

Table 12-32
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5 GHz Antenna 1 WLAN (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.321	0.107	0.160	0.588
	GPRS 1900	0.552	0.107	0.160	**0.819**
	UMTS 850	0.356	0.107	0.160	0.623
	UMTS 1750	0.479	0.107	0.160	0.746
	UMTS 1900	0.410	0.107	0.160	0.677
	LTE Band 12	0.254	0.107	0.160	0.521
	LTE Band 13	0.263	0.107	0.160	0.530
	LTE Band 26 (Cell)	0.347	0.107	0.160	0.614
	LTE Band 66 (AWS)	0.433	0.107	0.160	0.700
	LTE Band 25 (PCS)	0.462	0.107	0.160	0.729
	LTE Band 41	0.353	0.107	0.160	0.620
	NR Band n5 (Cell)	0.320	0.107	0.160	0.587
	NR Band n66 (AWS)	0.439	0.107	0.160	0.706

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.107	0.160	1.020
	LTE Band 25 (PCS)	0.462	0.320	0.107	0.160	**1.049**
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.107	0.160	**1.053**
	LTE Band 12	0.254	0.439	0.107	0.160	0.960

Table 12-33
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5 GHz Antenna 1 WLAN (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.321	0.166	0.160	0.647
	GPRS 1900	0.552	0.166	0.160	**0.878**
	UMTS 850	0.356	0.166	0.160	0.682
	UMTS 1750	0.479	0.166	0.160	0.805
	UMTS 1900	0.410	0.166	0.160	0.736
	LTE Band 12	0.254	0.166	0.160	0.580
	LTE Band 13	0.263	0.166	0.160	0.589
	LTE Band 26 (Cell)	0.347	0.166	0.160	0.673
	LTE Band 66 (AWS)	0.433	0.166	0.160	0.759
	LTE Band 25 (PCS)	0.462	0.166	0.160	0.788
	LTE Band 41	0.353	0.166	0.160	0.679
	NR Band n5 (Cell)	0.320	0.166	0.160	0.646
	NR Band n66 (AWS)	0.439	0.166	0.160	0.765

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.166	0.160	1.079
	LTE Band 25 (PCS)	0.462	0.320	0.166	0.160	**1.108**
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.166	0.160	**1.112**
	LTE Band 12	0.254	0.439	0.166	0.160	1.019

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

Configuration	Mode	2G/3G/4G 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	GPRS 850	0.321	0.107	0.239	0.667
	GPRS 1900	0.552	0.107	0.239	**0.898**
	UMTS 850	0.356	0.107	0.239	0.702
	UMTS 1750	0.479	0.107	0.239	0.825
	UMTS 1900	0.410	0.107	0.239	0.756
	LTE Band 12	0.254	0.107	0.239	0.600
	LTE Band 13	0.263	0.107	0.239	0.609
	LTE Band 26 (Cell)	0.347	0.107	0.239	0.693
	LTE Band 66 (AWS)	0.433	0.107	0.239	0.779
	LTE Band 25 (PCS)	0.462	0.107	0.239	0.808
	LTE Band 41	0.353	0.107	0.239	0.699
	NR Band n5 (Cell)	0.320	0.107	0.239	0.666
	NR Band n66 (AWS)	0.439	0.107	0.239	0.785

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) 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	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.107	0.239	1.099
	LTE Band 25 (PCS)	0.462	0.320	0.107	0.239	**1.128**

Configuration	LTE Anchor Band	4G SAR (W/kg)	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	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.107	0.239	**1.132**
	LTE Band 12	0.254	0.439	0.107	0.239	1.039

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

Configuration	Mode	2G/3G/4G 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	GPRS 850	0.321	0.166	0.239	0.726
	GPRS 1900	0.552	0.166	0.239	**0.957**
	UMTS 850	0.356	0.166	0.239	0.761
	UMTS 1750	0.479	0.166	0.239	0.884
	UMTS 1900	0.410	0.166	0.239	0.815
	LTE Band 12	0.254	0.166	0.239	0.659
	LTE Band 13	0.263	0.166	0.239	0.668
	LTE Band 26 (Cell)	0.347	0.166	0.239	0.752
	LTE Band 66 (AWS)	0.433	0.166	0.239	0.838
	LTE Band 25 (PCS)	0.462	0.166	0.239	0.867
	LTE Band 41	0.353	0.166	0.239	0.758
	NR Band n5 (Cell)	0.320	0.166	0.239	0.725
	NR Band n66 (AWS)	0.439	0.166	0.239	0.844

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) 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+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.166	0.239	1.158
	LTE Band 25 (PCS)	0.462	0.320	0.166	0.239	**1.187**

Configuration	LTE Anchor Band	4G SAR (W/kg)	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	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.166	0.239	**1.191**
	LTE Band 12	0.254	0.439	0.166	0.239	1.098

Table 12-36
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 2.4 GHz WLAN Antenna 2 (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.321	0.107	0.174	0.602
	GPRS 1900	0.552	0.107	0.174	**0.833**
	UMTS 850	0.356	0.107	0.174	0.637
	UMTS 1750	0.479	0.107	0.174	0.760
	UMTS 1900	0.410	0.107	0.174	0.691
	LTE Band 12	0.254	0.107	0.174	0.535
	LTE Band 13	0.263	0.107	0.174	0.544
	LTE Band 26 (Cell)	0.347	0.107	0.174	0.628
	LTE Band 66 (AWS)	0.433	0.107	0.174	0.714
	LTE Band 25 (PCS)	0.462	0.107	0.174	0.743
	LTE Band 41	0.353	0.107	0.174	0.634
	NR Band n5 (Cell)	0.320	0.107	0.174	0.601
	NR Band n66 (AWS)	0.439	0.107	0.174	0.720

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth 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+4
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.107	0.174	1.034
	LTE Band 25 (PCS)	0.462	0.320	0.107	0.174	**1.063**
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth 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+4
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.107	0.174	**1.067**
	LTE Band 12	0.254	0.439	0.107	0.174	0.974

Table 12-37
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz Antenna 1 WLAN (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	GPRS 850	0.321	0.107	0.174	0.160	0.762
	GPRS 1900	0.552	0.107	0.174	0.160	**0.993**
	UMTS 850	0.356	0.107	0.174	0.160	0.797
	UMTS 1750	0.479	0.107	0.174	0.160	0.920
	UMTS 1900	0.410	0.107	0.174	0.160	0.851
	LTE Band 12	0.254	0.107	0.174	0.160	0.695
	LTE Band 13	0.263	0.107	0.174	0.160	0.704
	LTE Band 26 (Cell)	0.347	0.107	0.174	0.160	0.788
	LTE Band 66 (AWS)	0.433	0.107	0.174	0.160	0.874
	LTE Band 25 (PCS)	0.462	0.107	0.174	0.160	0.903
	LTE Band 41	0.353	0.107	0.174	0.160	0.794
	NR Band n5 (Cell)	0.320	0.107	0.174	0.160	0.761
	NR Band n66 (AWS)	0.439	0.107	0.174	0.160	0.880

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.107	0.174	0.160	1.194
	LTE Band 25 (PCS)	0.462	0.320	0.107	0.174	0.160	**1.223**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.107	0.174	0.160	**1.227**
	LTE Band 12	0.254	0.439	0.107	0.174	0.160	1.134

Table 12-38
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz MIMO WLAN (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz Bluetooth 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
Hotspot SAR	GPRS 850	0.321	0.107	0.174	0.239	0.841
	GPRS 1900	0.552	0.107	0.174	0.239	**1.072**
	UMTS 850	0.356	0.107	0.174	0.239	0.876
	UMTS 1750	0.479	0.107	0.174	0.239	0.999
	UMTS 1900	0.410	0.107	0.174	0.239	0.930
	LTE Band 12	0.254	0.107	0.174	0.239	0.774
	LTE Band 13	0.263	0.107	0.174	0.239	0.783
	LTE Band 26 (Cell)	0.347	0.107	0.174	0.239	0.867
	LTE Band 66 (AWS)	0.433	0.107	0.174	0.239	0.953
	LTE Band 25 (PCS)	0.462	0.107	0.174	0.239	0.982
	LTE Band 41	0.353	0.107	0.174	0.239	0.873
	NR Band n5 (Cell)	0.320	0.107	0.174	0.239	0.840
	NR Band n66 (AWS)	0.439	0.107	0.174	0.239	0.959

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth 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
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.107	0.174	0.239	1.273
	LTE Band 25 (PCS)	0.462	0.320	0.107	0.174	0.239	**1.302**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth 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
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.107	0.174	0.239	**1.306**
	LTE Band 12	0.254	0.439	0.107	0.174	0.239	1.213

Table 12-39
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN and 5 GHz MIMO WLAN (Hotspot at 1.0 cm)

Configuration	Mode	2G/3G/4G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.321	0.545	0.239	1.105
	GPRS 1900	0.552	0.545	0.239	**1.336**
	UMTS 850	0.356	0.545	0.239	1.140
	UMTS 1750	0.479	0.545	0.239	1.263
	UMTS 1900	0.410	0.545	0.239	1.194
	LTE Band 12	0.254	0.545	0.239	1.038
	LTE Band 13	0.263	0.545	0.239	1.047
	LTE Band 26 (Cell)	0.347	0.545	0.239	1.131
	LTE Band 66 (AWS)	0.433	0.545	0.239	1.217
	LTE Band 25 (PCS)	0.462	0.545	0.239	1.246
	LTE Band 41	0.353	0.545	0.239	1.137
	NR Band n5 (Cell)	0.320	0.545	0.239	1.104
	NR Band n66 (AWS)	0.439	0.545	0.239	1.223

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.433	0.320	0.545	0.239	1.537
	LTE Band 25 (PCS)	0.462	0.320	0.545	0.239	**1.566**

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.347	0.439	0.545	0.239	**1.570**
	LTE Band 12	0.254	0.439	0.545	0.239	1.477

12.6 Phablet Simultaneous Transmission Analysis

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

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

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

Table 12-40
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	GPRS 1900	1.962	0.571	2.533
	UMTS 1750	2.486	0.571	3.057
	UMTS 1900	2.824	0.571	**3.395**
	LTE Band 66 (AWS)	2.432	0.571	3.003
	LTE Band 25 (PCS)	2.233	0.571	2.804
	LTE Band 41	1.227	0.571	1.798
	NR Band n66 (AWS)	2.591	0.571	3.162

Table 12-41
Simultaneous Transmission Scenario with 5 GHz MIMO WLAN

Configuration	Mode	2G/3G/4G SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	GPRS 1900	1.962	1.420	3.382
	UMTS 1750	2.486	1.420	**3.906**
	UMTS 1900	2.824	1.420	See Table Below
	LTE Band 66 (AWS)	2.432	1.420	3.852
	LTE Band 25 (PCS)	2.233	1.420	3.653
	LTE Band 41	1.227	1.420	2.647
	NR Band n66 (AWS)	2.591	1.420	See Table Below

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Phablet SAR	Back	2.824	0.900	**3.724**
	Front	2.150	1.420*	3.570
	Top	-	0.455	0.455
	Bottom	1.844	-	1.844
	Right	0.240	1.420*	1.660
	Left	0.296	1.420	1.716

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
Phablet SAR	Back	2.591	0.900	**3.491**
	Front	1.468	1.420*	2.888
	Top	-	0.455	0.455
	Bottom	1.277	-	1.277
	Right	0.318	1.420*	1.738
	Left	0.558	1.420	1.978

12.7 Closed Body-Worn Simultaneous Transmission Analysis

Table 12-42
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.278	0.000	0.278
	GSM 1900	0.119	0.000	0.119
	UMTS 850	0.404	0.000	**0.404**
	UMTS 1750	0.242	0.000	0.242
	UMTS 1900	0.235	0.000	0.235
	LTE Band 12	0.260	0.000	0.260
	LTE Band 13	0.193	0.000	0.193
	LTE Band 26 (Cell)	0.336	0.000	0.336
	LTE Band 66 (AWS)	0.353	0.000	0.353
	LTE Band 25 (PCS)	0.238	0.000	0.238
	LTE Band 41	0.123	0.000	0.123
	NR Band n5 (Cell)	0.384	0.000	0.384
	NR Band n66 (AWS)	0.157	0.000	0.157

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.000	**0.737**
	LTE Band 25 (PCS)	0.238	0.384	0.000	0.622

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.000	**0.493**
	LTE Band 12	0.260	0.157	0.000	0.417

Table 12-43
Simultaneous Transmission Scenario with 5 GHz MIMO WLAN (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	0.278	0.008	0.286
	GSM 1900	0.119	0.008	0.127
	UMTS 850	0.404	0.008	**0.412**
	UMTS 1750	0.242	0.008	0.250
	UMTS 1900	0.235	0.008	0.243
	LTE Band 12	0.260	0.008	0.268
	LTE Band 13	0.193	0.008	0.201
	LTE Band 26 (Cell)	0.336	0.008	0.344
	LTE Band 66 (AWS)	0.353	0.008	0.361
	LTE Band 25 (PCS)	0.238	0.008	0.246
	LTE Band 41	0.123	0.008	0.131
	NR Band n5 (Cell)	0.384	0.008	0.392
	NR Band n66 (AWS)	0.157	0.008	0.165

Configuration	LTE Anchor Band	4G 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)	0.353	0.384	0.008	**0.745**
	LTE Band 25 (PCS)	0.238	0.384	0.008	0.630

Configuration	LTE Anchor Band	4G 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 26 (Cell)	0.336	0.157	0.008	**0.501**
	LTE Band 12	0.260	0.157	0.008	0.425

Table 12-44
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN (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	0.278	0.103	0.381
	GSM 1900	0.119	0.103	0.222
	UMTS 850	0.404	0.103	**0.507**
	UMTS 1750	0.242	0.103	0.345
	UMTS 1900	0.235	0.103	0.338
	LTE Band 12	0.260	0.103	0.363
	LTE Band 13	0.193	0.103	0.296
	LTE Band 26 (Cell)	0.336	0.103	0.439
	LTE Band 66 (AWS)	0.353	0.103	0.456
	LTE Band 25 (PCS)	0.238	0.103	0.341
	LTE Band 41	0.123	0.103	0.226
	NR Band n5 (Cell)	0.384	0.103	0.487
	NR Band n66 (AWS)	0.157	0.103	0.260

Configuration	LTE Anchor Band	4G 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)	0.353	0.384	0.103	**0.840**
	LTE Band 25 (PCS)	0.238	0.384	0.103	0.725

Configuration	LTE Anchor Band	4G 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 26 (Cell)	0.336	0.157	0.103	**0.596**
	LTE Band 12	0.260	0.157	0.103	0.520

Table 12-45
Simultaneous Transmission Scenario with Bluetooth Antenna 1 (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.278	0.014	0.292
	GSM 1900	0.119	0.014	0.133
	UMTS 850	0.404	0.014	**0.418**
	UMTS 1750	0.242	0.014	0.256
	UMTS 1900	0.235	0.014	0.249
	LTE Band 12	0.260	0.014	0.274
	LTE Band 13	0.193	0.014	0.207
	LTE Band 26 (Cell)	0.336	0.014	0.350
	LTE Band 66 (AWS)	0.353	0.014	0.367
	LTE Band 25 (PCS)	0.238	0.014	0.252
	LTE Band 41	0.123	0.014	0.137
	NR Band n5 (Cell)	0.384	0.014	0.398
	NR Band n66 (AWS)	0.157	0.014	0.171

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.014	**0.751**
	LTE Band 25 (PCS)	0.238	0.384	0.014	0.636

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.014	**0.507**
	LTE Band 12	0.260	0.157	0.014	0.431

Table 12-46
Simultaneous Transmission Scenario with Bluetooth Antenna 2 (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Body - Worn SAR	GSM 850	0.278	0.004	0.282
	GSM 1900	0.119	0.004	0.123
	UMTS 850	0.404	0.004	**0.408**
	UMTS 1750	0.242	0.004	0.246
	UMTS 1900	0.235	0.004	0.239
	LTE Band 12	0.260	0.004	0.264
	LTE Band 13	0.193	0.004	0.197
	LTE Band 26 (Cell)	0.336	0.004	0.340
	LTE Band 66 (AWS)	0.353	0.004	0.357
	LTE Band 25 (PCS)	0.238	0.004	0.242
	LTE Band 41	0.123	0.004	0.127
	NR Band n5 (Cell)	0.384	0.004	0.388
	NR Band n66 (AWS)	0.157	0.004	0.161

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.004	**0.741**
	LTE Band 25 (PCS)	0.238	0.384	0.004	0.626

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.004	**0.497**
	LTE Band 12	0.260	0.157	0.004	0.421

Table 12-47
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5 GHz Antenna 1 WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.278	0.014	0.000	0.292
	GSM 1900	0.119	0.014	0.000	0.133
	UMTS 850	0.404	0.014	0.000	**0.418**
	UMTS 1750	0.242	0.014	0.000	0.256
	UMTS 1900	0.235	0.014	0.000	0.249
	LTE Band 12	0.260	0.014	0.000	0.274
	LTE Band 13	0.193	0.014	0.000	0.207
	LTE Band 26 (Cell)	0.336	0.014	0.000	0.350
	LTE Band 66 (AWS)	0.353	0.014	0.000	0.367
	LTE Band 25 (PCS)	0.238	0.014	0.000	0.252
	LTE Band 41	0.123	0.014	0.000	0.137
	NR Band n5 (Cell)	0.384	0.014	0.000	0.398
	NR Band n66 (AWS)	0.157	0.014	0.000	0.171

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.014	0.000	**0.751**
	LTE Band 25 (PCS)	0.238	0.384	0.014	0.000	0.636
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.014	0.000	**0.507**
	LTE Band 12	0.260	0.157	0.014	0.000	0.431

Table 12-48
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5 GHz Antenna 1 WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.278	0.004	0.000	0.282
	GSM 1900	0.119	0.004	0.000	0.123
	UMTS 850	0.404	0.004	0.000	**0.408**
	UMTS 1750	0.242	0.004	0.000	0.246
	UMTS 1900	0.235	0.004	0.000	0.239
	LTE Band 12	0.260	0.004	0.000	0.264
	LTE Band 13	0.193	0.004	0.000	0.197
	LTE Band 26 (Cell)	0.336	0.004	0.000	0.340
	LTE Band 66 (AWS)	0.353	0.004	0.000	0.357
	LTE Band 25 (PCS)	0.238	0.004	0.000	0.242
	LTE Band 41	0.123	0.004	0.000	0.127
	NR Band n5 (Cell)	0.384	0.004	0.000	0.388
	NR Band n66 (AWS)	0.157	0.004	0.000	0.161

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.004	0.000	**0.741**
	LTE Band 25 (PCS)	0.238	0.384	0.004	0.000	0.626
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.004	0.000	**0.497**
	LTE Band 12	0.260	0.157	0.004	0.000	0.421

Table 12-49
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5 GHz MIMO WLAN (Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G 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
Body - Worn SAR	GSM 850	0.278	0.014	0.008	0.300
	GSM 1900	0.119	0.014	0.008	0.141
	UMTS 850	0.404	0.014	0.008	**0.426**
	UMTS 1750	0.242	0.014	0.008	0.264
	UMTS 1900	0.235	0.014	0.008	0.257
	LTE Band 12	0.260	0.014	0.008	0.282
	LTE Band 13	0.193	0.014	0.008	0.215
	LTE Band 26 (Cell)	0.336	0.014	0.008	0.358
	LTE Band 66 (AWS)	0.353	0.014	0.008	0.375
	LTE Band 25 (PCS)	0.238	0.014	0.008	0.260
	LTE Band 41	0.123	0.014	0.008	0.145
	NR Band n5 (Cell)	0.384	0.014	0.008	0.406
	NR Band n66 (AWS)	0.157	0.014	0.008	0.179

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) 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	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.014	0.008	**0.759**
	LTE Band 25 (PCS)	0.238	0.384	0.014	0.008	0.644

Configuration	LTE Anchor Band	4G SAR (W/kg)	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	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.014	0.008	**0.515**
	LTE Band 12	0.260	0.157	0.014	0.008	0.439

Table 12-50
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5 GHz MIMO WLAN
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G 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
Body - Worn SAR	GSM 850	0.278	0.004	0.008	0.290
	GSM 1900	0.119	0.004	0.008	0.131
	UMTS 850	0.404	0.004	0.008	**0.416**
	UMTS 1750	0.242	0.004	0.008	0.254
	UMTS 1900	0.235	0.004	0.008	0.247
	LTE Band 12	0.260	0.004	0.008	0.272
	LTE Band 13	0.193	0.004	0.008	0.205
	LTE Band 26 (Cell)	0.336	0.004	0.008	0.348
	LTE Band 66 (AWS)	0.353	0.004	0.008	0.365
	LTE Band 25 (PCS)	0.238	0.004	0.008	0.250
	LTE Band 41	0.123	0.004	0.008	0.135
	NR Band n5 (Cell)	0.384	0.004	0.008	0.396
	NR Band n66 (AWS)	0.157	0.004	0.008	0.169

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) 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+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.004	0.008	**0.749**
	LTE Band 25 (PCS)	0.238	0.384	0.004	0.008	0.634

Configuration	LTE Anchor Band	4G SAR (W/kg)	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	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.004	0.008	**0.505**
	LTE Band 12	0.260	0.157	0.004	0.008	0.429

Table 12-51
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 2.4 GHz WLAN Antenna 2
(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 WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.278	0.014	0.016	0.308
	GSM 1900	0.119	0.014	0.016	0.149
	UMTS 850	0.404	0.014	0.016	**0.434**
	UMTS 1750	0.242	0.014	0.016	0.272
	UMTS 1900	0.235	0.014	0.016	0.265
	LTE Band 12	0.260	0.014	0.016	0.290
	LTE Band 13	0.193	0.014	0.016	0.223
	LTE Band 26 (Cell)	0.336	0.014	0.016	0.366
	LTE Band 66 (AWS)	0.353	0.014	0.016	0.383
	LTE Band 25 (PCS)	0.238	0.014	0.016	0.268
	LTE Band 41	0.123	0.014	0.016	0.153
	NR Band n5 (Cell)	0.384	0.014	0.016	0.414
	NR Band n66 (AWS)	0.157	0.014	0.016	0.187

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth 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+4
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.014	0.016	**0.767**
	LTE Band 25 (PCS)	0.238	0.384	0.014	0.016	0.652
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth 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+4
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.014	0.016	**0.523**
	LTE Band 12	0.260	0.157	0.014	0.016	0.447

Table 12-52
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz Antenna 1 WLAN (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 WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	GSM 850	0.278	0.014	0.016	0.000	0.308
	GSM 1900	0.119	0.014	0.016	0.000	0.149
	UMTS 850	0.404	0.014	0.016	0.000	**0.434**
	UMTS 1750	0.242	0.014	0.016	0.000	0.272
	UMTS 1900	0.235	0.014	0.016	0.000	0.265
	LTE Band 12	0.260	0.014	0.016	0.000	0.290
	LTE Band 13	0.193	0.014	0.016	0.000	0.223
	LTE Band 26 (Cell)	0.336	0.014	0.016	0.000	0.366
	LTE Band 66 (AWS)	0.353	0.014	0.016	0.000	0.383
	LTE Band 25 (PCS)	0.238	0.014	0.016	0.000	0.268
	LTE Band 41	0.123	0.014	0.016	0.000	0.153
	NR Band n5 (Cell)	0.384	0.014	0.016	0.000	0.414
	NR Band n66 (AWS)	0.157	0.014	0.016	0.000	0.187

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.014	0.016	0.000	**0.767**
	LTE Band 25 (PCS)	0.238	0.384	0.014	0.016	0.000	0.652

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.014	0.016	0.000	**0.523**
	LTE Band 12	0.260	0.157	0.014	0.016	0.000	0.447

Table 12-53
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz MIMO WLAN (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 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
Body - Worn SAR	GSM 850	0.278	0.014	0.016	0.008	0.316
	GSM 1900	0.119	0.014	0.016	0.008	0.157
	UMTS 850	0.404	0.014	0.016	0.008	**0.442**
	UMTS 1750	0.242	0.014	0.016	0.008	0.280
	UMTS 1900	0.235	0.014	0.016	0.008	0.273
	LTE Band 12	0.260	0.014	0.016	0.008	0.298
	LTE Band 13	0.193	0.014	0.016	0.008	0.231
	LTE Band 26 (Cell)	0.336	0.014	0.016	0.008	0.374
	LTE Band 66 (AWS)	0.353	0.014	0.016	0.008	0.391
	LTE Band 25 (PCS)	0.238	0.014	0.016	0.008	0.276
	LTE Band 41	0.123	0.014	0.016	0.008	0.161
	NR Band n5 (Cell)	0.384	0.014	0.016	0.008	0.422
	NR Band n66 (AWS)	0.157	0.014	0.016	0.008	0.195

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth 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
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.014	0.016	0.008	**0.775**
	LTE Band 25 (PCS)	0.238	0.384	0.014	0.016	0.008	0.660

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth 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
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.014	0.016	0.008	**0.531**
	LTE Band 12	0.260	0.157	0.014	0.016	0.008	0.455

Table 12-54
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN and 5 GHz MIMO WLAN
(Body-Worn at 1.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Body - Worn SAR	GSM 850	0.278	0.103	0.008	0.389
	GSM 1900	0.119	0.103	0.008	0.230
	UMTS 850	0.404	0.103	0.008	**0.515**
	UMTS 1750	0.242	0.103	0.008	0.353
	UMTS 1900	0.235	0.103	0.008	0.346
	LTE Band 12	0.260	0.103	0.008	0.371
	LTE Band 13	0.193	0.103	0.008	0.304
	LTE Band 26 (Cell)	0.336	0.103	0.008	0.447
	LTE Band 66 (AWS)	0.353	0.103	0.008	0.464
	LTE Band 25 (PCS)	0.238	0.103	0.008	0.349
	LTE Band 41	0.123	0.103	0.008	0.234
	NR Band n5 (Cell)	0.384	0.103	0.008	0.495
	NR Band n66 (AWS)	0.157	0.103	0.008	0.268

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 66 (AWS)	0.353	0.384	0.103	0.008	**0.848**
	LTE Band 25 (PCS)	0.238	0.384	0.103	0.008	0.733

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	5 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Body - Worn SAR	LTE Band 26 (Cell)	0.336	0.157	0.103	0.008	**0.604**
	LTE Band 12	0.260	0.157	0.103	0.008	0.528

12.8 Closed Hotspot SAR Simultaneous Transmission Analysis

Table 12-55
Simultaneous Transmission Scenario with 5 GHz WLAN Antenna 1 (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.566	0.330	0.896
	GPRS 1900	0.762	0.330	1.092
	UMTS 850	0.808	0.330	**1.138**
	UMTS 1750	0.677	0.330	1.007
	UMTS 1900	0.510	0.330	0.840
	LTE Band 12	0.801	0.330	1.131
	LTE Band 13	0.490	0.330	0.820
	LTE Band 26 (Cell)	0.723	0.330	1.053
	LTE Band 66 (AWS)	0.659	0.330	0.989
	LTE Band 25 (PCS)	0.658	0.330	0.988
	LTE Band 41	0.616	0.330	0.946
	NR Band n5 (Cell)	0.677	0.330	1.007
	NR Band n66 (AWS)	0.597	0.330	0.927

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.040	**1.376**
	LTE Band 25 (PCS)	0.658	0.677	0.040	1.375
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.040	1.360
	LTE Band 12	0.801	0.597	0.040	**1.438**

Table 12-56
Simultaneous Transmission Scenario with 5 GHz MIMO WLAN (Hotspot at 0.5 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
Hotspot SAR	GPRS 850	0.566	0.670	1.236
	GPRS 1900	0.762	0.670	1.432
	UMTS 850	0.808	0.670	**1.478**
	UMTS 1750	0.677	0.670	1.347
	UMTS 1900	0.510	0.670	1.180
	LTE Band 12	0.801	0.670	1.471
	LTE Band 13	0.490	0.670	1.160
	LTE Band 26 (Cell)	0.723	0.670	1.393
	LTE Band 66 (AWS)	0.659	0.670	1.329
	LTE Band 25 (PCS)	0.658	0.670	1.328
	LTE Band 41	0.616	0.670	1.286
	NR Band n5 (Cell)	0.677	0.670	1.347
	NR Band n66 (AWS)	0.597	0.670	1.267

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.031	**1.367**
	LTE Band 25 (PCS)	0.658	0.677	0.031	1.366

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.031	1.351
	LTE Band 12	0.801	0.597	0.031	**1.429**

Table 12-57
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN (Hotspot at 0.5 cm)

Simult Tx	Configuration	GPRS 850 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.566	0.420	0.986
	Front	0.154	1.012	1.166
	Bottom	0.176	0.724	0.900
	Right	0.093	1.197*	1.290
	Left	0.105	1.197	**1.302**

Simult Tx	Configuration	GPRS 1900 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.381	0.420	0.801
	Front	0.170	1.012	1.182
	Bottom	0.762	0.724	**1.486**
	Right	0.100	1.197*	1.297
	Left	0.047	1.197	1.244

Simult Tx	Configuration	UMTS 850 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.808	0.420	1.228
	Front	0.234	1.012	1.246
	Bottom	0.214	0.724	0.938
	Right	0.145	1.197*	1.342
	Left	0.168	1.197	**1.365**

Simult Tx	Configuration	UMTS 1750 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.554	0.420	0.974
	Front	0.101	1.012	1.113
	Bottom	0.677	0.724	**1.401**
	Right	0.012	1.197*	1.209
	Left	0.089	1.197	1.286

Simult Tx	Configuration	UMTS 1900 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.331	0.420	0.751
	Front	0.120	1.012	1.132
	Bottom	0.510	0.724	1.234
	Right	0.050	1.197*	**1.247**
	Left	0.042	1.197	1.239

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.801	0.420	1.221
	Front	0.270	1.012	1.282
	Bottom	0.104	0.724	0.828
	Right	0.077	1.197*	1.274
	Left	0.163	1.197	**1.360**

Simult Tx	Configuration	LTE Band 13 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.490	0.420	0.910
	Front	0.087	1.012	1.099
	Bottom	0.218	0.724	0.942
	Right	0.090	1.197*	**1.287**
	Left	0.090	1.197	**1.287**

Simult Tx	Configuration	LTE Band 26 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.723	0.420	1.143
	Front	0.162	1.012	1.174
	Bottom	0.201	0.724	0.925
	Right	0.096	1.197*	**1.293**
	Left	0.092	1.197	1.289

Simult Tx	Configuration	LTE Band 66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.622	0.420	1.042
	Front	0.095	1.012	1.107
	Bottom	0.659	0.724	**1.383**
	Right	0.018	1.197*	1.215
	Left	0.123	1.197	1.320

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	0.312	0.420	0.732
	Front	0.141	1.012	1.153
	Bottom	0.658	0.724	**1.382**
	Right	0.039	1.197*	1.236
	Left	0.025	1.197	1.222

Simult Tx	Configuration	LTE Band 41 SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.202	0.420	0.622
	Front	0.026	1.012	1.038
	Bottom	0.616	0.724	**1.340**
	Right	-	1.197*	1.197
	Left	0.069	1.197	1.266

Simult Tx	Configuration	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.677	0.420	1.097
	Front	0.132	1.012	1.144
	Bottom	0.194	0.724	0.918
	Right	0.094	1.197*	1.291
	Left	0.113	1.197	**1.310**

Simult Tx	Configuration	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	Back	0.298	0.420	0.718
	Front	0.091	1.012	1.103
	Bottom	0.597	0.724	**1.321**
	Right	0.021	1.197*	1.218
	Left	0.055	1.197	1.252

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.093	**1.429**
	LTE Band 25 (PCS)	0.658	0.677	0.093	1.428
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.093	1.413
	LTE Band 12	0.801	0.597	0.093	**1.491**

Table 12-58
Simultaneous Transmission Scenario with Bluetooth Antenna 1 (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.566	0.263	0.829
	GPRS 1900	0.762	0.263	1.025
	UMTS 850	0.808	0.263	**1.071**
	UMTS 1750	0.677	0.263	0.940
	UMTS 1900	0.510	0.263	0.773
	LTE Band 12	0.801	0.263	1.064
	LTE Band 13	0.490	0.263	0.753
	LTE Band 26 (Cell)	0.723	0.263	0.986
	LTE Band 66 (AWS)	0.659	0.263	0.922
	LTE Band 25 (PCS)	0.658	0.263	0.921
	LTE Band 41	0.616	0.263	0.879
	NR Band n5 (Cell)	0.677	0.263	0.940
	NR Band n66 (AWS)	0.597	0.263	0.860

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.053	**1.389**
	LTE Band 25 (PCS)	0.658	0.677	0.053	1.388

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.053	1.373
	LTE Band 12	0.801	0.597	0.053	**1.451**

Table 12-59
Simultaneous Transmission Scenario with Bluetooth Antenna 2 (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	1+2
Hotspot SAR	GPRS 850	0.566	0.217	0.783
	GPRS 1900	0.762	0.217	0.979
	UMTS 850	0.808	0.217	**1.025**
	UMTS 1750	0.677	0.217	0.894
	UMTS 1900	0.510	0.217	0.727
	LTE Band 12	0.801	0.217	1.018
	LTE Band 13	0.490	0.217	0.707
	LTE Band 26 (Cell)	0.723	0.217	0.940
	LTE Band 66 (AWS)	0.659	0.217	0.876
	LTE Band 25 (PCS)	0.658	0.217	0.875
	LTE Band 41	0.616	0.217	0.833
	NR Band n5 (Cell)	0.677	0.217	0.894
	NR Band n66 (AWS)	0.597	0.217	0.814

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 at 13 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.096	**1.432**
	LTE Band 25 (PCS)	0.658	0.677	0.096	1.431

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 at 13 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.096	1.416
	LTE Band 12	0.801	0.597	0.096	**1.494**

Table 12-60
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5 GHz Antenna 1 WLAN (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	2	1+2+3
Hotspot SAR	GPRS 850	0.566	0.263	0.330	1.159
	GPRS 1900	0.762	0.263	0.330	1.355
	UMTS 850	0.808	0.263	0.330	**1.401**
	UMTS 1750	0.677	0.263	0.330	1.270
	UMTS 1900	0.510	0.263	0.330	1.103
	LTE Band 12	0.801	0.263	0.330	1.394
	LTE Band 13	0.490	0.263	0.330	1.083
	LTE Band 26 (Cell)	0.723	0.263	0.330	1.316
	LTE Band 66 (AWS)	0.659	0.263	0.330	1.252
	LTE Band 25 (PCS)	0.658	0.263	0.330	1.251
	LTE Band 41	0.616	0.263	0.330	1.209
	NR Band n5 (Cell)	0.677	0.263	0.330	1.270
	NR Band n66 (AWS)	0.597	0.263	0.330	1.190

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.053	0.040	**1.429**
	LTE Band 25 (PCS)	0.658	0.677	0.053	0.040	1.428

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.053	0.040	1.413
	LTE Band 12	0.801	0.597	0.053	0.040	**1.491**

Table 12-61
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5 GHz Antenna 1 WLAN
(Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 2 SAR (W/kg)	5 GHz WLAN Ant 1 SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	1+2+3
Hotspot SAR	GPRS 850	0.566	0.217	0.330	1.113
	GPRS 1900	0.762	0.217	0.330	1.309
	UMTS 850	0.808	0.217	0.330	**1.355**
	UMTS 1750	0.677	0.217	0.330	1.224
	UMTS 1900	0.510	0.217	0.330	1.057
	LTE Band 12	0.801	0.217	0.330	1.348
	LTE Band 13	0.490	0.217	0.330	1.037
	LTE Band 26 (Cell)	0.723	0.217	0.330	1.270
	LTE Band 66 (AWS)	0.659	0.217	0.330	1.206
	LTE Band 25 (PCS)	0.658	0.217	0.330	1.205
	LTE Band 41	0.616	0.217	0.330	1.163
	NR Band n5 (Cell)	0.677	0.217	0.330	1.224
	NR Band n66 (AWS)	0.597	0.217	0.330	1.144

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 at 13 dBm SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.096	0.040	**1.472**
	LTE Band 25 (PCS)	0.658	0.677	0.096	0.040	1.471

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 at 13 dBm SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.096	0.040	1.456
	LTE Band 12	0.801	0.597	0.096	0.040	**1.534**

Table 12-62
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 5GHz MIMO WLAN (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G 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	GPRS 850	0.566	0.263	0.670	1.499
	GPRS 1900	0.762	0.263	0.670	See Table Below
	UMTS 850	0.808	0.263	0.670	See Table Below
	UMTS 1750	0.677	0.263	0.670	See Table Below
	UMTS 1900	0.510	0.263	0.670	1.443
	LTE Band 12	0.801	0.263	0.670	See Table Below
	LTE Band 13	0.490	0.263	0.670	1.423
	LTE Band 26 (Cell)	0.723	0.263	0.670	See Table Below
	LTE Band 66 (AWS)	0.659	0.263	0.670	**1.592**
	LTE Band 25 (PCS)	0.658	0.263	0.670	**1.591**
	LTE Band 41	0.616	0.263	0.670	1.549
	NR Band n5 (Cell)	0.677	0.263	0.670	See Table Below
	NR Band n66 (AWS)	0.597	0.263	0.670	1.530

Simult Tx	Configuration	GPRS 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
Body SAR	Back	0.381	0.052	0.080	0.513
	Front	0.170	0.263	0.670	1.103
	Bottom	0.762	0.180	0.218	**1.160**
	Right	0.100	0.066	0.048	0.214
	Left	0.047	-	0.542	0.589

Simult Tx	Configuration	LTE Band 12 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
Body SAR	Back	0.801	0.052	0.080	0.933
	Front	0.270	0.263	0.670	**1.203**
	Bottom	0.104	0.180	0.218	0.502
	Right	0.077	0.066	0.048	0.191
	Left	0.163	-	0.542	0.705

Simult Tx	Configuration	UMTS 850 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
Body SAR	Back	0.808	0.052	0.080	0.940
	Front	0.234	0.263	0.670	**1.167**
	Bottom	0.214	0.180	0.218	0.612
	Right	0.145	0.066	0.048	0.259
	Left	0.168	-	0.542	0.710

Simult Tx	Configuration	LTE Band 26 (Cell) 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
Body SAR	Back	0.723	0.052	0.080	0.855
	Front	0.162	0.263	0.670	**1.095**
	Bottom	0.201	0.180	0.218	0.599
	Right	0.096	0.066	0.048	0.210
	Left	0.092	-	0.542	0.634

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
Body SAR	Back	0.554	0.052	0.080	0.686
	Front	0.101	0.263	0.670	1.034
	Bottom	0.677	0.180	0.218	**1.075**
	Right	0.012	0.066	0.048	0.126
	Left	0.089	-	0.542	0.631

Simult Tx	Configuration	NR Band n5 (Cell) 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
Body SAR	Back	0.677	0.052	0.080	0.809
	Front	0.132	0.263	0.670	**1.065**
	Bottom	0.194	0.180	0.218	0.592
	Right	0.094	0.066	0.048	0.208
	Left	0.113	-	0.542	0.655

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.053	0.031	**1.420**
	LTE Band 25 (PCS)	0.658	0.677	0.053	0.031	1.419
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.053	0.031	1.404
	LTE Band 12	0.801	0.597	0.053	0.031	**1.482**

Table 12-63
Simultaneous Transmission Scenario with Bluetooth Antenna 2 and 5 GHz MIMO WLAN (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G 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	GPRS 850	0.566	0.217	0.670	1.453
	GPRS 1900	0.762	0.217	0.670	See Table Below
	UMTS 850	0.808	0.217	0.670	See Table Below
	UMTS 1750	0.677	0.217	0.670	**1.564**
	UMTS 1900	0.510	0.217	0.670	1.397
	LTE Band 12	0.801	0.217	0.670	See Table Below
	LTE Band 13	0.490	0.217	0.670	1.377
	LTE Band 26 (Cell)	0.723	0.217	0.670	See Table Below
	LTE Band 66 (AWS)	0.659	0.217	0.670	1.546
	LTE Band 25 (PCS)	0.658	0.217	0.670	1.545
	LTE Band 41	0.616	0.217	0.670	1.503
	NR Band n5 (Cell)	0.677	0.217	0.670	**1.564**
	NR Band n66 (AWS)	0.597	0.217	0.670	1.484

Simult Tx	Configuration	GPRS 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
Body SAR	Back	0.381	0.031	0.080	0.492
	Front	0.170	0.217	0.670	1.057
	Bottom	0.762	0.153	0.218	**1.133**
	Right	0.100	-	0.048	0.148
	Left	0.047	0.050	0.542	0.639

Simult Tx	Configuration	LTE Band 12 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
Body SAR	Back	0.801	0.031	0.080	0.912
	Front	0.270	0.217	0.670	**1.157**
	Bottom	0.104	0.153	0.218	0.475
	Right	0.077	-	0.048	0.125
	Left	0.163	0.050	0.542	0.755

Simult Tx	Configuration	UMTS 850 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
Body SAR	Back	0.808	0.031	0.080	0.919
	Front	0.234	0.217	0.670	**1.121**
	Bottom	0.214	0.153	0.218	0.585
	Right	0.145	-	0.048	0.193
	Left	0.168	0.050	0.542	0.760

Simult Tx	Configuration	LTE Band 26 (Cell) 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
Body SAR	Back	0.723	0.031	0.080	0.834
	Front	0.162	0.217	0.670	**1.049**
	Bottom	0.201	0.153	0.218	0.572
	Right	0.096	-	0.048	0.144
	Left	0.092	0.050	0.542	0.684

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 at 13 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.096	0.031	**1.463**
	LTE Band 25 (PCS)	0.658	0.677	0.096	0.031	1.462
Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 2 at 13 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.096	0.031	1.447
	LTE Band 12	0.801	0.597	0.096	0.031	**1.525**

Table 12-64
Simultaneous Transmission Scenario with Bluetooth Antenna 1 and 2.4 GHz WLAN Antenna 2 (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 SAR (W/kg)	Σ SAR (W/kg)
		1	2	2	1+2+3
Hotspot SAR	GPRS 850	0.566	0.263	0.493	1.322
	GPRS 1900	0.762	0.263	0.493	1.518
	UMTS 850	0.808	0.263	0.493	**1.564**
	UMTS 1750	0.677	0.263	0.493	1.433
	UMTS 1900	0.510	0.263	0.493	1.266
	LTE Band 12	0.801	0.263	0.493	1.557
	LTE Band 13	0.490	0.263	0.493	1.246
	LTE Band 26 (Cell)	0.723	0.263	0.493	1.479
	LTE Band 66 (AWS)	0.659	0.263	0.493	1.415
	LTE Band 25 (PCS)	0.658	0.263	0.493	1.414
	LTE Band 41	0.616	0.263	0.493	1.372
	NR Band n5 (Cell)	0.677	0.263	0.493	1.433
	NR Band n66 (AWS)	0.597	0.263	0.493	1.353

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.053	0.133	**1.522**
	LTE Band 25 (PCS)	0.658	0.677	0.053	0.133	1.521

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.053	0.133	1.506
	LTE Band 12	0.801	0.597	0.053	0.133	**1.584**

Table 12-65
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz Antenna 1 WLAN (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	GPRS 850	0.566	0.263	0.133	0.040	1.002
	GPRS 1900	0.762	0.263	0.133	0.040	1.198
	UMTS 850	0.808	0.263	0.133	0.040	**1.244**
	UMTS 1750	0.677	0.263	0.133	0.040	1.113
	UMTS 1900	0.510	0.263	0.133	0.040	0.946
	LTE Band 12	0.801	0.263	0.133	0.040	1.237
	LTE Band 13	0.490	0.263	0.133	0.040	0.926
	LTE Band 26 (Cell)	0.723	0.263	0.133	0.040	1.159
	LTE Band 66 (AWS)	0.659	0.263	0.133	0.040	1.095
	LTE Band 25 (PCS)	0.658	0.263	0.133	0.040	1.094
	LTE Band 41	0.616	0.263	0.133	0.040	1.052
	NR Band n5 (Cell)	0.677	0.263	0.133	0.040	1.113
	NR Band n66 (AWS)	0.597	0.263	0.133	0.040	1.033

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.053	0.133	0.040	**1.562**
	LTE Band 25 (PCS)	0.658	0.677	0.053	0.133	0.040	1.561

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.053	0.133	0.040	**1.546**
	LTE Band 12	0.801	0.597	0.053	0.133	0.040	See Table Below

Simult Tx	Configuration	LTE Band 12 SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	5 GHz WLAN Ant 1 at 14 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Body SAR	Back	0.801	0.298	0.016	0.133*	0.040*	**1.288**
	Front	0.270	0.091	0.038	0.133*	0.040	0.572
	Bottom	0.104	0.597	0.053	0.133*	0.040*	0.927
	Right	0.077	0.021	0.014	-	0.040*	0.152
	Left	0.163	0.055	-	0.133	-	0.351

Table 12-66
Simultaneous Transmission Scenario with Bluetooth Antenna 1, 2.4 GHz Antenna 2 WLAN, and 5 GHz MIMO WLAN (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz Bluetooth Ant 1 SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	GPRS 850	0.566	0.263	0.133	0.031	0.993
	GPRS 1900	0.762	0.263	0.133	0.031	1.189
	UMTS 850	0.808	0.263	0.133	0.031	**1.235**
	UMTS 1750	0.677	0.263	0.133	0.031	1.104
	UMTS 1900	0.510	0.263	0.133	0.031	0.937
	LTE Band 12	0.801	0.263	0.133	0.031	1.228
	LTE Band 13	0.490	0.263	0.133	0.031	0.917
	LTE Band 26 (Cell)	0.723	0.263	0.133	0.031	1.150
	LTE Band 66 (AWS)	0.659	0.263	0.133	0.031	1.086
	LTE Band 25 (PCS)	0.658	0.263	0.133	0.031	1.085
	LTE Band 41	0.616	0.263	0.133	0.031	1.043
	NR Band n5 (Cell)	0.677	0.263	0.133	0.031	1.104
	NR Band n66 (AWS)	0.597	0.263	0.133	0.031	1.024

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.053	0.133	0.031	**1.553**
	LTE Band 25 (PCS)	0.658	0.677	0.053	0.133	0.031	1.552

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz Bluetooth Ant 1 at 13 dBm SAR (W/kg)	2.4 GHz WLAN Ant 2 at 14 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	5	1+2+3+4+5
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.053	0.133	0.031	**1.537**
	LTE Band 12	0.801	0.000	0.053	0.133	0.031	1.018

Table 12-67
Simultaneous Transmission Scenario with 2.4 GHz MIMO WLAN and 5 GHz MIMO WLAN (Hotspot at 0.5 cm)

Configuration	Mode	2G/3G/4G /5G SAR (W/kg)	2.4 GHz WLAN MIMO at 17 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	2	1+2+3
Hotspot SAR	GPRS 850	0.566	0.093	0.031	0.690
	GPRS 1900	0.762	0.093	0.031	0.886
	UMTS 850	0.808	0.093	0.031	**0.932**
	UMTS 1750	0.677	0.093	0.031	0.801
	UMTS 1900	0.510	0.093	0.031	0.634
	LTE Band 12	0.801	0.093	0.031	0.925
	LTE Band 13	0.490	0.093	0.031	0.614
	LTE Band 26 (Cell)	0.723	0.093	0.031	0.847
	LTE Band 66 (AWS)	0.659	0.093	0.031	0.783
	LTE Band 25 (PCS)	0.658	0.093	0.031	0.782
	LTE Band 41	0.616	0.093	0.031	0.740
	NR Band n5 (Cell)	0.677	0.093	0.031	0.801
	NR Band n66 (AWS)	0.597	0.093	0.031	0.721

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n5 (Cell) SAR (W/kg)	2.4 GHz WLAN MIMO at 17 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 66 (AWS)	0.659	0.677	0.093	0.031	**1.460**
	LTE Band 25 (PCS)	0.658	0.677	0.093	0.031	1.459

Configuration	LTE Anchor Band	4G SAR (W/kg)	NR Band n66 (AWS) SAR (W/kg)	2.4 GHz WLAN MIMO at 17 dBm SAR (W/kg)	5 GHz WLAN MIMO at 17 dBm SAR (W/kg)	Σ SAR (W/kg)
		1	2	3	4	1+2+3+4
Hotspot SAR	LTE Band 26 (Cell)	0.723	0.597	0.093	0.031	1.444
	LTE Band 12	0.801	0.597	0.093	0.031	**1.522**

12.9 Simultaneous Transmission Conclusion

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

13 SAR MEASUREMENT VARIABILITY

13.1 Measurement Variability

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

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

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

Table 13-1
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	Side	Spacing	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
2450	2462.00	11	802.11b, 22 MHz Bandwidth	DSSS , MIMO	1	left	5 mm	1.080	0.938	1.15	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	1720.00	344000	NR Band n66 (AWS), 20 MHz Bandwidth	CP-OFDM, QPSK, 1 RB, 1 RB Offset	back	0 mm	2.330	2.260	1.03	N/A	N/A	N/A	N/A
1900	1907.60	9538	UMTS 1900	RMC	back	0 mm	2.600	2.500	1.04	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 Tuner Testing

Per April 2019 TCB Workshop Notes, the following test procedures were followed to demonstrate that the SAR results in Section 11 represented the appropriate SAR test conditions. Per FCC Guidance, during NR testing the device was configured with the tuner state selected by the device in LTE mode with auto-tune active at the same frequency.

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

To evaluate all the tuner states, the 120 tuner states were divided among the aggregate band, mode and exposure combinations. Single point time-sweep measurements were performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state was able to be established remotely so that the device was not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe remained stationary at the same position throughout the entire series of single point measurements for each combination. When the single point SAR or 1g SAR was > 1.2 W/kg for a particular band/mode/exposure condition, point SAR measurements were made for all 120 states.

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

Table 14-1
UMTS Supplemental Head SAR Data

Supplemental Head SAR Data					
UMTS B5		UMTS B4		UMTS B2	
RMC		RMC		RMC	
Test Position	Right Cheek	Test Position	Left Cheek	Test Position	Left Cheek
Frequency (MHz)	836.60	Frequency (MHz)	1712.40	Frequency (MHz)	1852.40
Channel	4183	Channel	1312	Channel	9262
Measured 1g SAR (W/kg)	0.202	Measured 1g SAR (W/kg)	0.074	Measured 1g SAR (W/kg)	0.088
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 5)	0.220	Auto-tune (State 0)	0.083	Auto-tune (State 13)	0.101
Default (State 0)	0.214	Default (State 0)	0.082	Default (State 13)	0.092
State 5	0.231	State 0	0.082	State 7	0.063
State 9	0.066	State 8	0.075	State 13	0.092
State 31	0.146	State 30	0.020	State 29	0.013
State 53	0.178	State 52	0.060	State 51	0.009
State 75	0.017	State 74	0.046	State 73	0.076
State 97	0.105	State 96	0.054	State 95	0.043
State 119	0.099	State 118	0.028	State 117	0.027

Table 14-2
LTE Supplemental Head SAR Data

Supplemental Head SAR Data									
LTE B12		LTE B13		LTE B26		LTE B66		LTE B25	
QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 25 RB Offset		QPSK, 15 MHz Bandwidth, 1 RB, 36 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 99 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 0 RB Offset	
Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	707.50	Frequency (MHz)	782.00	Frequency (MHz)	831.50	Frequency (MHz)	1770.00	Frequency (MHz)	1860.00
Channel	23095	Channel	23230	Channel	26865	Channel	132572	Channel	26140
Measured 1g SAR (W/kg)	0.183	Measured 1g SAR (W/kg)	0.111	Measured 1g SAR (W/kg)	0.147	Measured 1g SAR (W/kg)	0.077	Measured 1g SAR (W/kg)	0.062
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.196	Auto-tune (State 27)	0.115	Auto-tune (State 5)	0.156	Auto-tune (State 13)	0.093	Auto-tune (State 13)	0.063
Default (State 0)	0.203	Default (State 0)	0.130	Default (State 0)	0.170	Default (State 0)	0.077	Default (State 13)	0.065
State 0	0.203	State 5	0.098	State 3	0.170	State 2	0.071	State 1	0.055
State 6	0.143	State 27	0.128	State 5	0.159	State 13	0.084	State 13	0.065
State 28	0.133	State 49	0.019	State 25	0.022	State 24	0.052	State 23	0.033
State 50	0.015	State 54	0.104	State 47	0.097	State 46	0.020	State 45	0.019
State 72	0.028	State 71	0.038	State 69	0.119	State 68	0.073	State 67	0.062
State 94	0.105	State 93	0.113	State 91	0.062	State 90	0.002	State 89	0.010
State 116	0.111	State 115	0.094	State 113	0.139	State 112	0.084	State 111	0.011

Table 14-3
NR Supplemental Head SAR Data

Supplemental Head SAR Data			
NR Band n5		NR Band n66	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 53 RB Offset		DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset	
Test Position	Right Cheek	Test Position	Right Cheek
Frequency (MHz)	836.50	Frequency (MHz)	1720.00
Channel	167300	Channel	344000
Measured 1g SAR (W/kg)	0.175	Measured 1g SAR (W/kg)	0.081
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 5)	0.191	Auto-tune (State 13)	0.087
Default (State 0)	0.206	Default (State 0)	0.074
State 0	0.206	State 13	0.087
State 5	0.191	State 21	0.096
State 22	0.079	State 43	0.011
State 44	0.196	State 52	0.084
State 66	0.140	State 65	0.056
State 88	0.013	State 87	0.013
State 110	0.117	State 109	0.000

Table 14-4
UMTS Supplemental Body SAR Data

Supplemental Body SAR Data					
UMTS B5		UMTS B4		UMTS B2	
RMC		RMC		RMC	
Test Position	Back	Test Position	Bottom	Test Position	Back
Spacing	5 mm	Spacing	5 mm	Spacing	15 mm
Frequency (MHz)	826.40	Frequency (MHz)	1752.60	Frequency (MHz)	1852.40
Channel	4132	Channel	1513	Channel	9262
Measured 1g SAR (W/kg)	0.598	Measured 1g SAR (W/kg)	0.485	Measured 1g SAR (W/kg)	0.528
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 80)	0.965	Auto-tune (State 2)	0.820	Auto-tune (State 13)	0.850
Default (State 0)	0.993	Default (State 0)	0.862	Default (State 13)	0.851
State 20	0.644	State 2	0.854	State 13	0.851
State 33	0.594	State 19	0.822	State 18	0.817
State 42	0.966	State 41	0.299	State 40	0.158
State 64	0.030	State 48	0.163	State 59	0.829
State 80	0.955	State 63	0.862	State 62	0.663
State 86	0.165	State 85	0.349	State 84	0.147
State 108	0.994	State 107	0.195	State 106	0.892

Table 14-5
LTE Supplemental Body SAR Data

Supplemental Body SAR Data									
LTE B12		LTE B13		LTE B26		LTE B66		LTE B25	
QPSK, 10 MHz Bandwidth, 1 RB, 25 RB Offset		QPSK, 10 MHz Bandwidth, 25 RB, 12 RB Offset		QPSK, 15 MHz Bandwidth, 1 RB, 74 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 99 RB Offset		QPSK, 20 MHz Bandwidth, 1 RB, 99 RB Offset	
Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	5 mm	Spacing	5 mm	Spacing	5 mm	Spacing	15 mm	Spacing	5 mm
Frequency (MHz)	707.50	Frequency (MHz)	782.00	Frequency (MHz)	831.50	Frequency (MHz)	1745.00	Frequency (MHz)	1905.00
Channel	23095	Channel	23230	Channel	26865	Channel	132322	Channel	26590
Measured 1g SAR (W/kg)	0.609	Measured 1g SAR (W/kg)	0.402	Measured 1g SAR (W/kg)	0.547	Measured 1g SAR (W/kg)	0.474	Measured 1g SAR (W/kg)	0.607
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 0)	0.684	Auto-tune (State 27)	0.427	Auto-tune (State 109)	0.882	Auto-tune (State 18)	0.719	Auto-tune (State 61)	1.032
Default (State 0)	0.654	Default (State 0)	0.484	Default (State 0)	0.667	Default (State 0)	0.600	Default (State 13)	0.916
State 0	0.654	State 16	0.437	State 14	0.911	State 13	0.661	State 12	0.341
State 17	0.465	State 27	0.450	State 36	0.150	State 18	0.682	State 34	0.060
State 39	0.513	State 38	0.025	State 58	0.453	State 35	0.031	State 42	0.295
State 61	0.049	State 60	0.063	State 80	0.728	State 57	0.639	State 56	0.888
State 73	0.045	State 79	0.476	State 102	0.042	State 69	0.505	State 61	0.962
State 83	0.221	State 82	0.328	State 109	0.927	State 79	0.151	State 78	0.199
State 105	0.612	State 104	0.476	State 111	0.638	State 101	0.210	State 100	0.395

Table 14-6
NR Supplemental Body SAR Data

Supplemental Body SAR Data			
NR Band n5		NR Band n66	
CP-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 1 RB Offset		DFT-s-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 1 RB Offset	
Test Position	Back	Test Position	Back
Spacing	5 mm	Spacing	15 mm
Frequency (MHz)	836.50	Frequency (MHz)	1745.00
Channel	167300	Channel	349000
Measured 1g SAR (W/kg)	0.545	Measured 1g SAR (W/kg)	0.624
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 109)	0.889	Auto-tune (State 18)	0.927
Default (State 0)	0.915	Default (State 0)	0.937
State 11	0.163	State 4	0.738
State 26	0.895	State 10	0.493
State 33	0.496	State 18	0.927
State 55	0.826	State 32	0.072
State 77	0.019	State 54	0.851
State 99	0.216	State 76	1.013
State 109	0.889	State 98	0.497

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

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

Table 14-7
LTE Band 41 Head Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.00	27.50
Measured Output Power (dBm)	24.06	26.42
Measured SAR (W/kg)	0.088	0.107
Measured Power (mW)	254.68	438.53
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	161.21	189.88
% deviation from expected linearity		3.23%

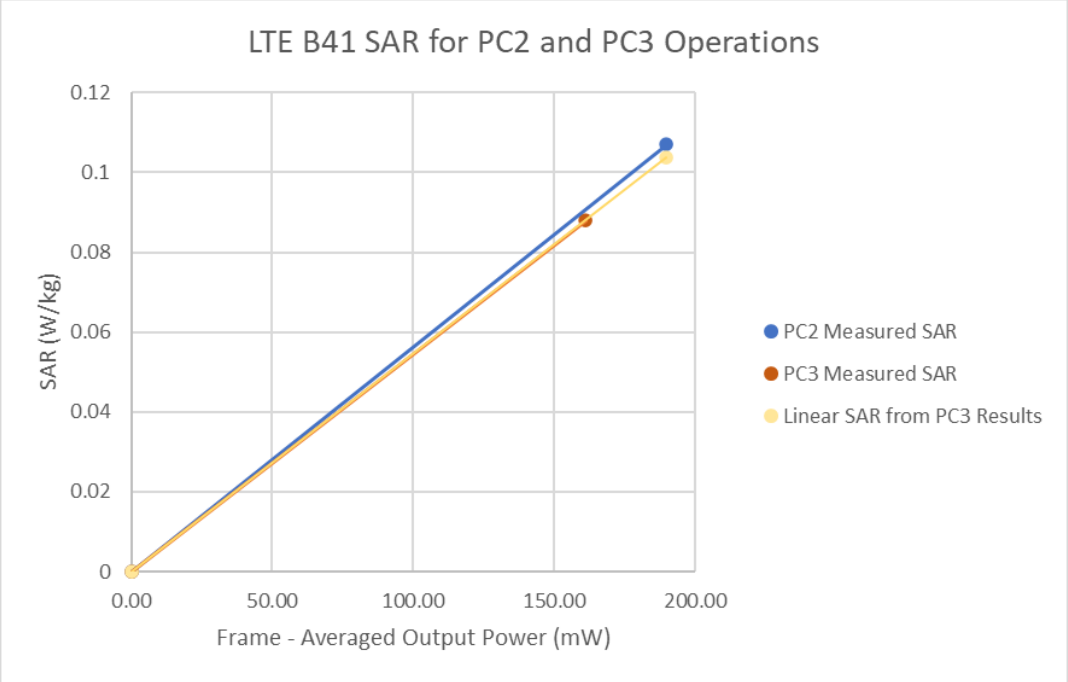


Figure 14-1
LTE Band 41 Head Linearity

Table 14-8
LTE Band 41 Open Body-Worn Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.00	27.50
Measured Output Power (dBm)	24.06	26.42
Measured SAR (W/kg)	0.137	0.148
Measured Power (mW)	254.68	438.53
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	161.21	189.88
% deviation from expected linearity		-8.28%

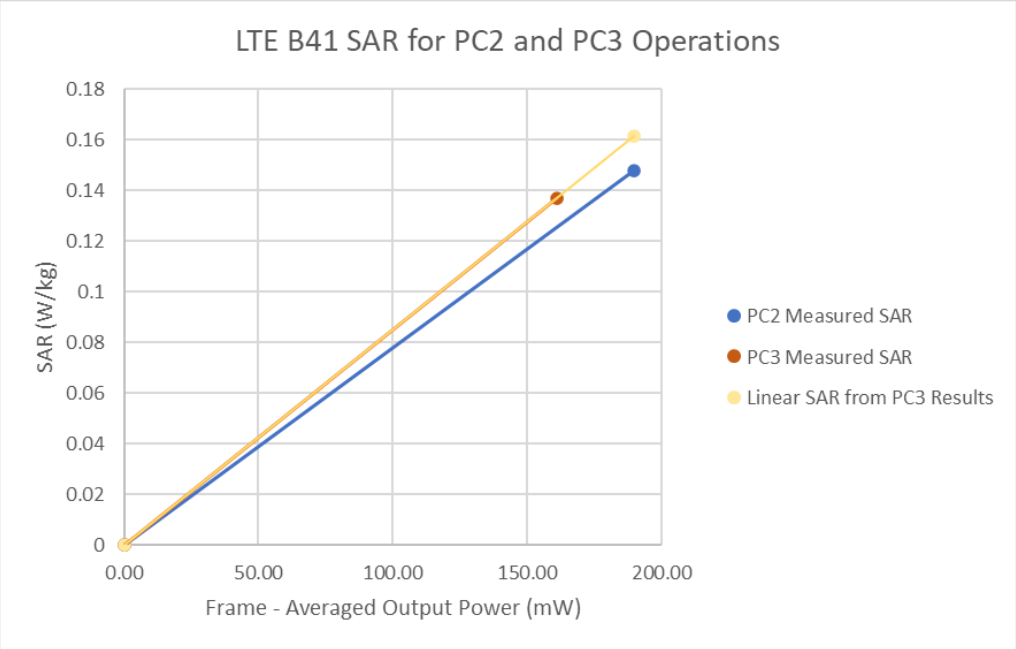


Figure 14-2
LTE Band 41 Open Body-Worn Linearity

Table 14-9
LTE Band 41 Closed Hotspot Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	19.50	19.50
Measured Output Power (dBm)	18.64	18.68
Measured SAR (W/kg)	0.505	0.355
Measured Power (mW)	73.11	73.79
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	46.28	31.95
% deviation from expected linearity		1.82%

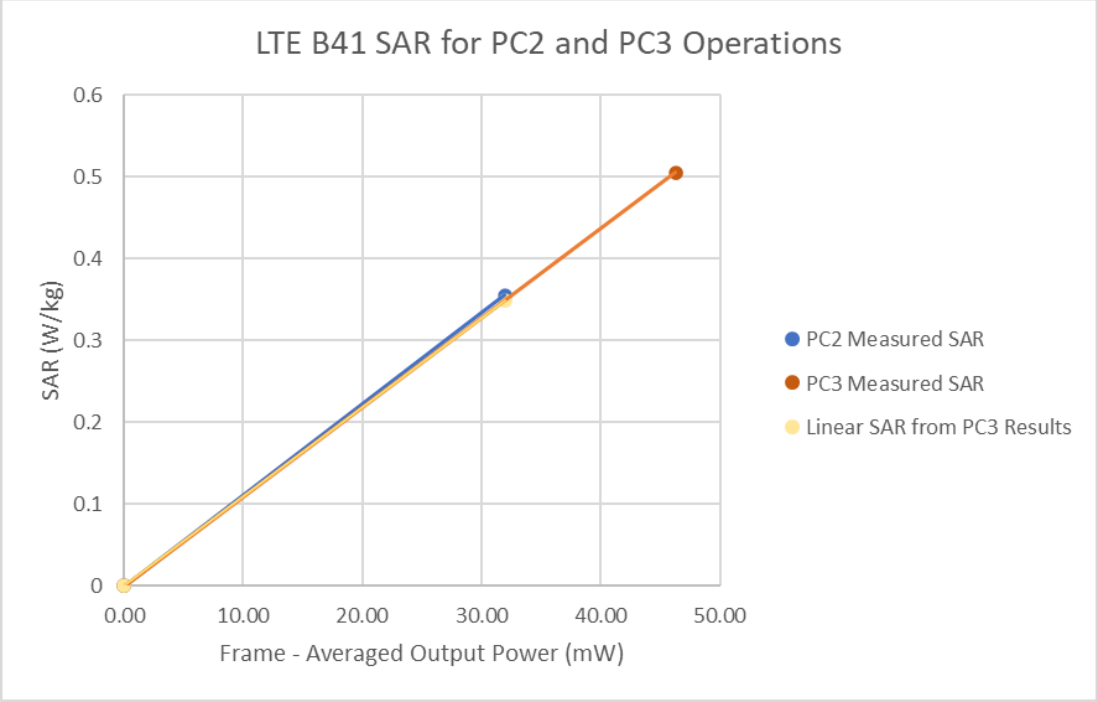


Figure 14-3
LTE Band 41 Closed Hotspot Linearity

Table 14-10
LTE Band 41 Phablet Linearity Data

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	23.50	23.50
Measured Output Power (dBm)	22.57	22.49
Measured SAR (W/kg)	0.990	0.630
Measured Power (mW)	180.72	177.42
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	114.39	76.82
% deviation from expected linearity		-5.24%

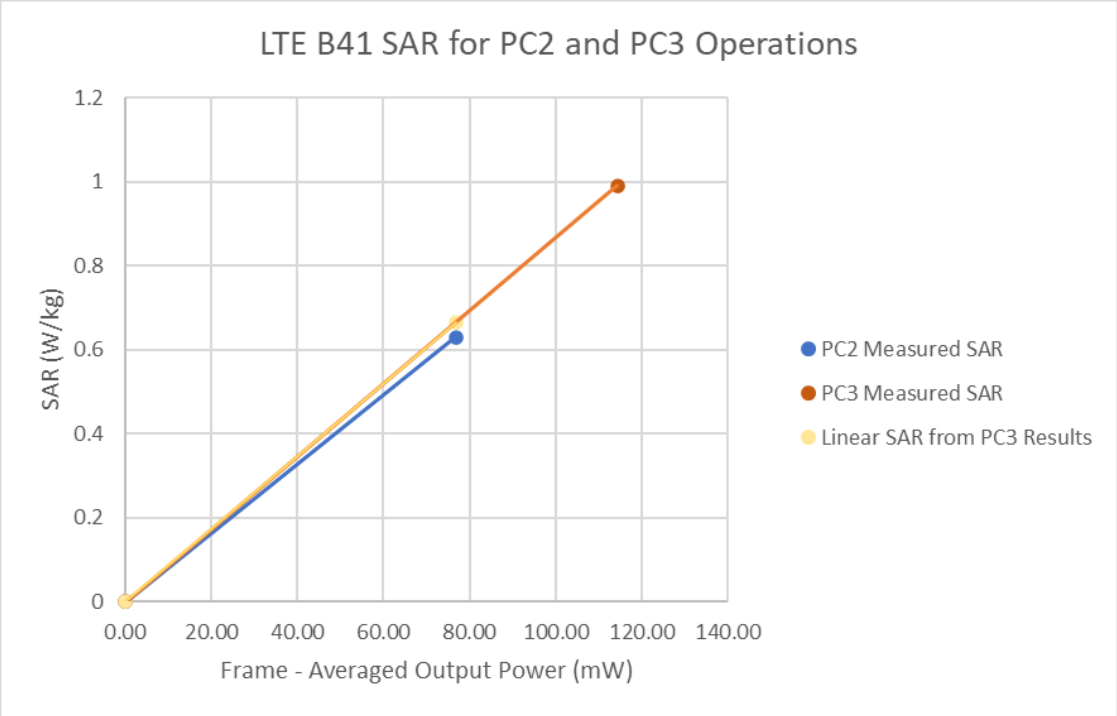


Figure 14-4
LTE Band 41 Phablet Linearity

15 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	85033E	3.5mm Standard Calibration Kit	7/7/2021	Annual	7/7/2022	MY53402352
Agilent	8594A	(9kHz-2.9GHz) Spectrum Analyzer	N/A	N/A	N/A	3051A00187
Agilent	8753ES	S-Parameter Vector Network Analyzer	12/15/2020	Annual	12/15/2021	MY40003841
Agilent	8753ES	S-Parameter Vector Network Analyzer	2/2/2021	Annual	2/2/2022	US39170122
Agilent	E4432B	ESG-D Series Signal Generator	2/24/2021	Annual	2/24/2022	US40053896
Agilent	E4438C	ESG Vector Signal Generator	9/29/2020	Annual	9/29/2021	MY45093852
Agilent	E4438C	ESG Vector Signal Generator	12/14/2020	Biennial	12/14/2022	MY42082385
Agilent	E4440A	PSA Series Spectrum Analyzer	1/29/2021	Annual	1/29/2022	MY46186272
Agilent	E5515C	Wireless Communications Test Set	12/15/2020	Annual	12/15/2021	GB42361078
Agilent	E5515C	Wireless Communications Test Set	2/4/2021	Annual	2/4/2022	GB43193563
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Agilent	N5182A	MXG Vector Signal Generator	6/15/2021	Annual	6/15/2022	MY47420800
Agilent	N5182A	MXG Vector Signal Generator	6/21/2021	Annual	6/21/2022	MY47420603
Agilent	N9020A	MXA Signal Analyzer	12/21/2020	Annual	12/21/2021	MY50200571
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	343971
Anritsu	MA24106A	USB Power Sensor	10/14/2020	Annual	10/14/2021	1827531
Anritsu	MA24106A	USB Power Sensor	10/14/2020	Annual	10/14/2021	1827528
Anritsu	MA2411B	Pulse Power Sensor	12/18/2020	Annual	12/18/2021	1126066
Anritsu	MA2411B	Pulse Power Sensor	3/8/2021	Annual	3/8/2022	1339007
Anritsu	ML2495A	Power Meter	11/3/2020	Annual	11/3/2021	1039008
Anritsu	ML2495A	Power Meter	1/18/2021	Annual	1/18/2022	941001
Anritsu	MT8821C	Radio Communication Analyzer	2/1/2021	Annual	2/1/2022	6201664756
Anritsu	MT8821C	Radio Communication Analyzer	3/2/2021	Annual	3/2/2022	6262044715
Anritsu	MT8821C	Radio Communication Analyzer	3/23/2021	Annual	3/23/2022	6201144418
Anritsu	MT8821C	Radio Communication Analyzer	4/14/2021	Annual	4/14/2022	6261895213
Anritsu	MT8821C	Radio Communication Analyzer	4/16/2021	Annual	4/16/2022	6200901190
Anritsu	MT8821C	Radio Communication Analyzer	7/18/2021	Annual	7/18/2022	6262150047
Anritsu	MT8821C	Radio Communication Analyzer	5/21/2021	Annual	5/21/2022	6201144419
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	4352	Long Stem Thermometer	1/24/2020	Biennial	1/24/2022	200043634
Control Company	4352	Long Stem Thermometer	1/24/2020	Biennial	1/24/2022	200043644
Control Company	4352	Ultra Long Stem Thermometer	3/2/2021	Annual	3/2/2022	160508097
Control Company	4352	Ultra Long Stem Thermometer	3/2/2021	Annual	3/2/2022	160508122
HEWLETT PACKARD	8753E	Network Analyzer	12/10/2020	Annual	12/10/2021	US38161081
Keysight	772D	Dual Directional Coupler	CBT	N/A	CBT	MY52180215
Keysight Technologies	AT/N6705B	DC Power Supply	CBT	N/A	CBT	MY53001315
Keysight Technologies	N6705B	DC Power Analyzer	5/5/2021	Triennial	5/5/2024	MY53004059
Keysight Technologies	N9020A	MXA Signal Analyzer	2/24/2021	Annual	2/24/2022	MY48010233
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
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	12/1/2020	Annual	12/1/2021	N/A
Pasternack	NC-100	Torque Wrench	8/4/2020	Biennial	8/4/2022	N/A
Pasternack	PE2208-6	Bidirectional Coupler	CBT	N/A	CBT	N/A
Pasternack	PE2209-10	Bidirectional Coupler	CBT	N/A	CBT	N/A
Rohde & Schwarz	CMW500	Radio Communication Tester	10/16/2020	Annual	10/16/2021	101699
Rohde & Schwarz	CMW500	Radio Communication Tester	10/16/2020	Annual	10/16/2021	106578
Rohde & Schwarz	CMW500	Radio Communication Tester	10/27/2020	Annual	10/27/2021	108843
Rohde & Schwarz	NRX	Power Meter	12/7/2020	Annual	12/7/2021	102583
Rohde & Schwarz	NRX	Power Meter	12/7/2020	Annual	12/7/2021	102582
Rohde & Schwarz	ZNLE6	Vector Network Analyzer	9/29/2020	Annual	9/29/2021	101307
SPEAG	DAK-3.5	Dielectric Assessment Kit	10/14/2020	Annual	10/14/2021	1091
SPEAG	DAK-3.5	Dielectric Assessment Kit	5/12/2021	Annual	5/12/2022	1070
Insize	1108-150	Digital Caliper	1/17/2020	Biennial	1/17/2022	409193536
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1237
SPEAG	D750V3	750 MHz SAR Dipole	10/19/2018	Triennial	10/19/2021	1161
SPEAG	D835V2	835 MHz SAR Dipole	1/21/2021	Annual	1/21/2022	4d132
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2018	Triennial	10/22/2021	1150
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Triennial	10/23/2021	5d080
SPEAG	D2450V2	2450 MHz SAR Dipole	1/19/2021	Annual	1/19/2022	981
SPEAG	D2450V2	2450 MHz SAR Dipole	9/9/2020	Annual	9/9/2021	797
SPEAG	D2600V2	2600 MHz SAR Dipole	6/14/2019	Triennial	6/14/2022	1064
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/20/2021	Annual	1/20/2022	1057
SPEAG	D750V3	750 MHz SAR Dipole	3/16/2020	Biennial	3/16/2022	1003
SPEAG	D835V2	835 MHz SAR Dipole	10/19/2018	Triennial	10/19/2021	4d133
SPEAG	D1750V2	1750 MHz SAR Dipole	5/12/2020	Biennial	5/12/2022	1148
SPEAG	D1900V2	1900 MHz SAR Dipole	10/23/2018	Triennial	10/23/2021	5d149
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2019	Triennial	2/21/2022	5d148
SPEAG	D2600V2	2600 MHz SAR Dipole	4/14/2021	Annual	4/14/2022	1004
SPEAG	D5GHzV2	5 GHz SAR Dipole	9/10/2020	Annual	9/10/2021	1191
SPEAG	EX3DV4	SAR Probe	7/20/2021	Annual	7/20/2022	7406
SPEAG	EX3DV4	SAR Probe	12/11/2020	Annual	12/11/2021	7571
SPEAG	EX3DV4	SAR Probe	11/23/2020	Annual	11/23/2021	7538
SPEAG	EX3DV4	SAR Probe	6/28/2021	Annual	6/28/2022	7660
SPEAG	EX3DV4	SAR Probe	4/19/2021	Annual	4/19/2022	7357
SPEAG	EX3DV4	SAR Probe	6/21/2021	Annual	6/21/2022	7409
SPEAG	EX3DV4	SAR Probe	1/20/2021	Annual	1/20/2022	3589
SPEAG	EX3DV4	SAR Probe	7/20/2021	Annual	7/20/2022	7410
SPEAG	EX3DV4	SAR Probe	3/16/2021	Annual	3/16/2022	7526
SPEAG	EX3DV4	SAR Probe	10/20/2020	Annual	10/20/2021	7539
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/21/2021	Annual	6/21/2022	1676
SPEAG	DAE4	Data Acquisition Electronics	12/7/2020	Annual	12/7/2021	1533
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/22/2021	Annual	6/22/2022	1677
SPEAG	DAE4	Dasy Data Acquisition Electronics	9/10/2020	Annual	9/10/2021	1449
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/7/2021	Annual	4/7/2022	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/15/2021	Annual	6/15/2022	1334
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/13/2021	Annual	1/13/2022	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	7/13/2021	Annual	7/13/2022	1583
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/18/2021	Annual	3/18/2022	1272
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/10/2021	Annual	3/10/2022	1415

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 within its respective calibration period.

16 MEASUREMENT UNCERTAINTIES

a	b	c	d	e= f(d,k)	f	g	h = c x f/e	i = c x g/e	k
Uncertainty Component	IEEE 1528 Sec.	Tol. (± %)	Prob. Dist.	Div.	c_i 1gm	c_i 10 gms	1gm u_i (± %)	10gms u_i (± %)	v_i
Measurement System									
Probe Calibration	E.2.1	7	N	1	1	1	7.0	7.0	∞
Axial Isotropy	E.2.2	0.25	N	1	0.7	0.7	0.2	0.2	∞
Hemishperical Isotropy	E.2.2	1.3	N	1	0.7	0.7	0.9	0.9	∞
Boundary Effect	E.2.3	2	R	1.73	1	1	1.2	1.2	∞
Linearity	E.2.4	0.3	N	1	1	1	0.3	0.3	∞
System Detection Limits	E.2.4	0.25	R	1.73	1	1	0.1	0.1	∞
Modulation Response	E.2.5	4.8	R	1.73	1	1	2.8	2.8	∞
Readout Electronics	E.2.6	0.3	N	1	1	1	0.3	0.3	∞
Response Time	E.2.7	0.8	R	1.73	1	1	0.5	0.5	∞
Integration Time	E.2.8	2.6	R	1.73	1	1	1.5	1.5	∞
RF Ambient Conditions - Noise	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
RF Ambient Conditions - Reflections	E.6.1	3	R	1.73	1	1	1.7	1.7	∞
Probe Positioner Mechanical Tolerance	E.6.2	0.8	R	1.73	1	1	0.5	0.5	∞
Probe Positioning w/ respect to Phantom	E.6.3	6.7	R	1.73	1	1	3.9	3.9	∞
Extrapolation, Interpolation & Integration algorithms for Max. SAR Evaluation	E.5	4	R	1.73	1	1	2.3	2.3	∞
Test Sample Related									
Test Sample Positioning	E.4.2	3.12	N	1	1	1	3.1	3.1	35
Device Holder Uncertainty	E.4.1	1.67	N	1	1	1	1.7	1.7	5
Output Power Variation - SAR drift measurement	E.2.9	5	R	1.73	1	1	2.9	2.9	∞
SAR Scaling	E.6.5	0	R	1.73	1	1	0.0	0.0	∞
Phantom & Tissue Parameters									
Phantom Uncertainty (Shape & Thickness tolerances)	E.3.1	7.6	R	1.73	1.0	1.0	4.4	4.4	∞
Liquid Conductivity - measurement uncertainty	E.3.3	4.3	N	1	0.78	0.71	3.3	3.0	76
Liquid Permittivity - measurement uncertainty	E.3.3	4.2	N	1	0.23	0.26	1.0	1.1	75
Liquid Conductivity - Temperature Uncertainty	E.3.4	3.4	R	1.73	0.78	0.71	1.5	1.4	∞
Liquid Permittivity - Temperature Unceritainty	E.3.4	0.6	R	1.73	0.23	0.26	0.1	0.1	∞
Liquid Conductivity - deviation from target values	E.3.2	5.0	R	1.73	0.64	0.43	1.8	1.2	∞
Liquid Permittivity - deviation from target values	E.3.2	5.0	R	1.73	0.60	0.49	1.7	1.4	∞
Combined Standard Uncertainty (k=1)			RSS				12.2	12.0	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				24.4	24.0	

The above measurement uncertainties are according to IEEE Std. 1528-2013

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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