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SAR CHARACTERIZATION AND EVALUATION REPORT

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

Date of Testing:
09/06/23 – 11/16/23
Test Site/Location:
Element, Columbia, MD, USA
Document Serial No.:
1M2308210093-21.A3L(R1)

FCC ID: **A3LSMS928B**

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

DUT Type: Portable Handset
Application Type: Certification
FCC Rule Part(s): CFR §2.1093
Model(s): SM-S928B/DS, SM-S928B

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	0.56	0.34	0.55	N/A
PCE	GSM/GPRS/EDGE 1900	1850.20 - 1909.80 MHz	<0.1	0.70	**1.08**	N/A
PCE	UMTS 850	826.40 - 846.60 MHz	1.00	0.60	0.73	N/A
PCE	UMTS 1750	1712.4 - 1752.6 MHz	0.14	0.43	0.80	N/A
PCE	UMTS 1900	1852.4 - 1907.6 MHz	0.12	0.27	1.00	N/A
PCE	LTE Band 12	699.7 - 715.3 MHz	0.99	0.42	0.42	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	0.75	0.53	0.58	N/A
PCE	LTE Band 26	814.7 - 848.3 MHz	0.87	0.59	0.64	N/A
PCE	LTE Band 5	824.7 - 848.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 66	1710.7 - 1779.3 MHz	0.67	0.45	0.88	N/A
PCE	LTE Band 4	1710.7 - 1754.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 25	1850.7 - 1914.3 MHz	0.79	0.44	**1.08**	N/A
PCE	LTE Band 2	1850.7 - 1909.3 MHz	N/A	N/A	N/A	N/A
PCE	LTE Band 41	2498.5 - 2687.5 MHz	0.88	0.62	0.88	N/A
PCE	NR Band n5	826.5 - 846.5 MHz	0.91	0.63	0.76	N/A
PCE	NR Band n66	1712.5 - 1777.5 MHz	0.81	0.37	0.83	N/A
PCE	NR Band n25	1852.5 - 1912.5 MHz	0.96	0.37	0.90	N/A
PCE	NR Band n2	1852.5 - 1907.5 MHz	N/A	N/A	N/A	N/A
PCE	NR Band n41	2501.01 - 2685 MHz	1.06	0.39	0.68	N/A
PCE	NR Band n77	3455.01 - 3544.98 MHz; 3705 - 3975 MHz	**1.11**	**0.85**	0.85	N/A
DTS	2.4 GHz WiFi	2412 - 2472 MHz	**0.69**	**0.27**	**0.62**	N/A
NII	5 GHz WiFi	U-NII-1: 5180 - 5240 MHz; U-NII-2A: 5260 - 5320 MHz; U-NII-2C: 5500 - 5720 MHz; U-NII-3: 5745 - 5825 MHz; U-NII-4: 5845 - 5885 MHz	**0.31**	**0.59**	**0.59**	**2.71**
6CD	6 GHz WiFi	U-NII-5: 5935 - 6415 MHz; U-NII-6: 6435 - 6515 MHz; U-NII-7: 6535 - 6875 MHz; U-NII-8: 6895 - 7115 MHz	**0.25**	**<0.1**	N/A	**0.55**
DSS	2.4 GHz Bluetooth	2402 - 2480 MHz	**0.54**	**0.36**	**0.50**	**0.52**
DXX	NFC	13.56 MHz	N/A	N/A	N/A	**<0.1**
UWB	UWB	6489.6 - 7987.2 MHz	N/A	N/A	N/A	**<0.1**
Simultaneous SAR per KDB 690783 D01v01r03:			1.44	**1.59**	**1.59**	**2.83**

Equipment Class	Band & Mode	Tx Frequency	Head	Body-worn	Phablet	Reported
			APD (W/m^2)	APD (W/m^2)	APD (W/m^2)	PD (W/m^2)
6CD	6 GHz WiFi	U-NII-5: 5935 - 6415 MHz; U-NII-6: 6435 - 6515 MHz; U-NII-7: 6535 - 6875 MHz; U-NII-8: 6895 - 7115 MHz	1.38	0.34	13.07	7.43
UWB	UWB	6489.6 - 7987.2 MHz	N/A	N/A	0.1	0.33

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 1.9 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.

RJ Ortanez
Executive Vice 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	Voice/Data	814.7 - 848.3 MHz
LTE Band 5	Voice/Data	824.7 - 848.3 MHz
LTE Band 66	Voice/Data	1710.7 - 1779.3 MHz
LTE Band 4	Voice/Data	1710.7 - 1754.3 MHz
LTE Band 25	Voice/Data	1850.7 - 1914.3 MHz
LTE Band 2	Voice/Data	1850.7 - 1909.3 MHz
LTE Band 41	Voice/Data	2498.5 - 2687.5 MHz
NR Band n5	Voice/Data	826.5 - 846.5 MHz
NR Band n66	Voice/Data	1712.5 - 1777.5 MHz
NR Band n25	Voice/Data	1852.5 - 1912.5 MHz
NR Band n2	Voice/Data	1852.5 - 1907.5 MHz
NR Band n41	Voice/Data	2501.01 - 2685 MHz
NR Band n77	Voice/Data	3455.01 - 3544.98 MHz; 3705 - 3975 MHz
2.4 GHz WIFI	Voice/Data	2412 - 2472 MHz
5 GHz WIFI	Voice/Data	U-NII-1: 5180 - 5240 MHz U-NII-2A: 5260 - 5320 MHz U-NII-2C: 5500 - 5720 MHz U-NII-3: 5745 - 5825 MHz U-NII-4: 5845 - 5885 MHz
6 GHz WIFI	Voice/Data	U-NII-5: 5935 - 6415 MHz U-NII-6: 6435 - 6515 MHz U-NII-7: 6535 - 6875 MHz U-NII-8: 6895 - 7115 MHz
2.4 GHz Bluetooth	Data	2402 - 2480 MHz
NFC	Data	13.56 MHz
UWB	Data	6489.6 - 7987.2 MHz

1.2 Time-Averaging Algorithm for RF Exposure Compliance

The purpose of this report is to show SAR Characterization of WWAN sub-6/WLAN/BT (Part0) and to demonstrate that the EUT meets FCC SAR limits when transmitting in static transmission scenario at maximum allowable time-averaged power levels (Part1).

1.2.1 Nomenclature

Technology	Term	Description
WWAN Sub-6 /WLAN/BT	P_{limit}	Power level that corresponds to the exposure design target (*SAR_design_target)* after accounting for all device design related uncertainties
	P_{max}	Maximum tune up output power
	SAR_design_target	Target SAR level < FCC SAR limit after accounting for all device design related uncertainties
	SAR Char	Table containing *Plimit* for all technologies and bands

1.2.2 Time-Averaged Algorithm

This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature with antenna grouping. This feature performs time-averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time. Refer to Compliance Summary document for detailed description of Qualcomm® Smart Transmit feature (report SN could be found in Section 1.11 – Bibliography).

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of *SAR_design_target* or *PD_design_target*, below the predefined time-averaged power limit (i.e., P_{limit} for WWAN sub-6/WLAN/BT radio, and *input.power.limit* for 5G mmW NR), for each characterized technology and band. Characterization is achieved by determining P_{limit} for WWAN sub-6/WLAN/BT that corresponds to the exposure design targets after accounting for all device design related uncertainties, i.e., SAR_design_target (<FCC SAR Limit) for sub-6 radio. The SAR characterization is denoted as SAR char in this report (see SAR Summary Section and Part 0 SAR Test Results for P_{limit} Calculations Appendix).

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

The maximum time-averaged output power (dBm) for any WWAN sub-6/WLAN/BT technology, band, and DSI is the minimum of ("P_{limit} EFS" and "Maximum tune up output power P_{max}") + 1dB device uncertainty. SAR values in this report were scaled to this maximum time-averaged output power to determine compliance per KDB Publication 447498 D01v06.

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

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.

Note: Targets for 802.11ax/be RU operations can be found in 802.11ax/be RU SAR Exclusion Appendix.

1.3.1 Licensed Output Power

GSM/GPRS/EDGE 850										
Antenna 0										
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
Pmax	Max Allowed Power	33.5	33.5	31.5	29.0	27.0	26.5	25.0	22.5	21.5
	Nominal	32.5	32.5	30.5	28.0	26.0	25.5	24.0	21.5	20.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	33.5	33.5	31.5	29.0	27.0	26.5	25.0	22.5	21.5
	Nominal	32.5	32.5	30.5	28.0	26.0	25.5	24.0	21.5	20.5
DSI = 1 (Head)	Max Allowed Power	33.5	33.5	31.5	29.0	27.0	26.5	25.0	22.5	21.5
	Nominal	32.5	32.5	30.5	28.0	26.0	25.5	24.0	21.5	20.5
GSM/GPRS/EDGE 850										
Antenna 6										
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
Pmax	Max Allowed Power	33.5	33.5	31.5	29.0	27.0	26.5	25.0	22.5	21.5
	Nominal	32.5	32.5	30.5	28.0	26.0	25.5	24.0	21.5	20.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	33.5	33.5	31.5	29.0	27.0	26.5	25.0	22.5	21.5
	Nominal	32.5	32.5	30.5	28.0	26.0	25.5	24.0	21.5	20.5
DSI = 1 (Head)	Max Allowed Power	29.5	29.5	26.5	24.7	23.5	26.5	25.0	22.5	21.5
	Nominal	28.5	28.5	25.5	23.7	22.5	25.5	24.0	21.5	20.5
GSM/GPRS/EDGE 1900										
Antenna 0										
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
Pmax	Max Allowed Power	30.5	30.5	28.5	27.0	25.0	26.5	24.5	22.5	21.5
	Nominal	29.5	29.5	27.5	26.0	24.0	25.5	23.5	21.5	20.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	29.0	29.0	26.0	24.2	23.0	26.5	24.5	22.5	21.5
	Nominal	28.0	28.0	25.0	23.2	22.0	25.5	23.5	21.5	20.5
DSI = 1 (Head)	Max Allowed Power	30.5	30.5	28.5	27.0	25.0	26.5	24.5	22.5	21.5
	Nominal	29.5	29.5	27.5	26.0	24.0	25.5	23.5	21.5	20.5

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

UMTS Band 5 (850 MHz)					
Antenna 0					
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
Pmax	Max Allowed Power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
DSI = 1 (Head)	Max Allowed Power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
UMTS Band 5 (850 MHz)					
Antenna 6					
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
Pmax	Max Allowed Power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	25.5	24.5	24.5	24.5
	Nominal	24.5	23.5	23.5	23.5
DSI = 1 (Head)	Max Allowed Power	21.0	20.0	20.0	20.0
	Nominal	20.0	19.0	19.0	19.0
UMTS Band 4 (1750 MHz)					
Antenna 0					
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
Pmax	Max Allowed Power	24.0	23.5	23.5	23.5
	Nominal	23.0	22.5	22.5	22.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	18.0	17.5	17.5	17.5
	Nominal	17.0	16.5	16.5	16.5
DSI = 1 (Head)	Max Allowed Power	24.0	23.5	23.5	23.5
	Nominal	23.0	22.5	22.5	22.5
UMTS Band 2 (1900 MHz)					
Antenna 0					
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
Pmax	Max Allowed Power	24.0	23.5	23.5	23.5
	Nominal	23.0	22.5	22.5	22.5
DSI = 0 (Body-Worn, Hotspot, or Phablet)	Max Allowed Power	18.0	17.5	17.5	17.5
	Nominal	17.0	16.5	16.5	16.5
DSI = 1 (Head)	Max Allowed Power	24.0	23.5	23.5	23.5
	Nominal	23.0	22.5	22.5	22.5

Mode / Band	Antenna		Modulated Average Output Power (in dBm)		
			Pmax	DSI = 0 (Body-Worn, Hotspot, or Phablet)	DSI = 1 (Head)
LTE Band 12/17	0	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
LTE Band 12/17	6	Max Allowed Power	25.0	25.0	23.0
		Nominal	24.0	24.0	22.0
LTE Band 13	0	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
LTE Band 13	6	Max Allowed Power	25.0	25.0	21.0
		Nominal	24.0	24.0	20.0
LTE Band 26/5	0	Max Allowed Power	25.5	25.5	25.5
		Nominal	24.5	24.5	24.5
LTE Band 26/5	6	Max Allowed Power	25.5	25.5	20.5
		Nominal	24.5	24.5	19.5
LTE Band 66/4	0	Max Allowed Power	24.0	18.5	24.0
		Nominal	23.0	17.5	23.0
LTE Band 66/4	7	Max Allowed Power	24.0	21.0	19.0
		Nominal	23.0	20.0	18.0
LTE Band 25/2	0	Max Allowed Power	24.0	18.5	24.0
		Nominal	23.0	17.5	23.0
LTE Band 25/2	7	Max Allowed Power	24.0	21.5	19.0
		Nominal	23.0	20.5	18.0
LTE Band 41 PC3	1	Max Allowed Power	25.0	22.0	25.0
		Nominal	24.0	21.0	24.0
LTE Band 41 PC3	7	Max Allowed Power	25.0	22.0	18.0
		Nominal	24.0	21.0	17.0
LTE Band 41 PC2	1	Max Allowed Power	26.0	23.6	26.0
		Nominal	25.0	22.6	25.0
LTE Band 41 PC2	7	Max Allowed Power	26.0	23.6	19.6
		Nominal	25.0	22.6	18.6

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

Mode / Band	Antenna		Modulated Average Output Power (in dBm)		
			Pmax	DSI = 0 (Body-Worn, Hotspot, or Phablet)	DSI = 1 (Head)
NR Band n5	0	Max Allowed Power	25.0	25.0	25.0
		Nominal	24.0	24.0	24.0
NR Band n5	6	Max Allowed Power	25.0	25.0	20.5
		Nominal	24.0	24.0	19.5
NR Band n66	0	Max Allowed Power	24.0	18.0	24.0
		Nominal	23.0	17.0	23.0
NR Band n66	7	Max Allowed Power	24.0	21.0	19.0
		Nominal	23.0	20.0	18.0
NR Band n25/n2	0	Max Allowed Power	24.0	18.5	24.0
		Nominal	23.0	17.5	23.0
NR Band n25/n2	7	Max Allowed Power	24.0	21.5	19.0
		Nominal	23.0	20.5	18.0
NR Band n41 PC3	7	Max Allowed Power	25.0	20.0	16.0
		Nominal	24.0	19.0	15.0
NR Band n41 PC3	1	Max Allowed Power	24.5	21.0	21.0
		Nominal	23.5	20.0	20.0
NR Band n41 PC3	6	Max Allowed Power	23.0	21.0	18.0
		Nominal	22.0	20.0	17.0
NR Band n41 PC3	3	Max Allowed Power	22.0	21.0	21.0
		Nominal	21.0	20.0	20.0
NR Band n77 PC3	7	Max Allowed Power	25.5	21.0	16.0
		Nominal	24.5	20.0	15.0
NR Band n77 PC3	2	Max Allowed Power	24.0	18.0	20.0
		Nominal	23.0	17.0	19.0
NR Band n77 PC3	10	Max Allowed Power	23.0	18.0	19.5
		Nominal	22.0	17.0	18.5
NR Band n77 PC3	3	Max Allowed Power	24.0	20.0	20.0
		Nominal	23.0	19.0	19.0

For NR TDD, the above powers listed are TDD burst average and framed average values

1.3.2 2.4 GHz WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax, DSI=0 (Body-worn, Hotspot or Phablet)

Mode	IEEE 802.11 Modulated Output Power (in dBm)																																	
	SISO												SISO												SISO in MIMO											
	Antenna 9												Antenna 11												MIMO											
	b		g		n		ac		ax (SU)		be (SU)		b		g		n		ac		ax (SU)		be (SU)		b (CDD + STBC)		g (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WLAN	19.0	18.0	18.0	17.0	18.0	17.0	17.0	16.0	17.0	16.0	17.0	16.0	19.0	18.0	18.0	17.0	18.0	17.0	17.0	16.0	17.0	16.0	17.0	16.0	19.0	18.0	18.0	17.0	18.0	17.0	17.0	16.0	17.0	16.0	17.0	16.0
	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0
	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: 0.0	-1.0	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: 0.0	-1.0	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: 0.0	-1.0	ch. 13: 0.0	-1.0	ch. 13: 0.0	-1.0

The below table is applicable is applicable in the following conditions:

- DSI=1 (Head)

Band	IEEE 802.11 Modulated Output Power (in dBm)																																	
	SISO												SISO												SISO in MIMO											
	Antenna 9												Antenna 11												MIMO											
	b		g		n		ac		ax (SU)		be (SU)		b		g		n		ac		ax (SU)		be (SU)		b (CDD + STBC)		g (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
2.4 GHz WLAN	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0
	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0	ch. 1: 6.0	5.0
	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: 0.0	-1.0	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: 0.0	-1.0	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: 0.0	-1.0	ch. 13: 0.0	-1.0	ch. 13: 0.0	-1.0

1.3.3 5 GHz WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																																	
		SISO												SISO												SISO in MIMO											
		Antenna 9												Antenna 6												MIMO											
		a		n		ac		ax (SU)		be (SU)		a		n		ac		ax (SU)		be (SU)		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)					
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	UNII-1/2A/2C/3/4	18.0	17.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	18.0	17.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	18.0	17.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0
5 GHz WIFI (40MHz BW)	UNII-1/2A/2C/3/4			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0
5 GHz WIFI (80MHz BW)	UNII-1/2A/2C/3/4					16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0
						UNII-1: 15.0	14.0	UNII-1: 15.0	14.0	UNII-1: 15.0	14.0					UNII-1: 15.0	14.0	UNII-1: 15.0	14.0	UNII-1: 15.0	14.0					UNII-1: 15.0	14.0	UNII-1: 15.0	14.0	UNII-1: 15.0	14.0	UNII-1: 15.0	14.0
						UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0					UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0					UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0
5 GHz WIFI (160MHz BW)	UNII-1/2A/2C/3/4					15.0	14.0	15.0	14.0	15.0	14.0					15.0	14.0	15.0	14.0	15.0	14.0					15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0
						UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0					UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0					UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0

The below table is applicable is applicable in the following conditions:

- DSI=0 (Body-worn, Hotspot or Phablet)

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																																	
		SISO												SISO												SISO in MIMO											
		Antenna 9												Antenna 6												MIMO											
		a		n		ac		ax (SU)		be (SU)		a		n		ac		ax (SU)		be (SU)		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)					
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	UNII-1/2A/2C/3/4	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0	17.0	16.0
5 GHz WIFI (40MHz BW)	UNII-1/2A/2C/3/4			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0
5 GHz WIFI (80MHz BW)	UNII-1/2A/2C/3/4					16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0					16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0	16.0	15.0
						UNII-1: 15.0	14.0	UNII-1: 15.0	14.0	UNII-1: 15.0	14.0					UNII-1: 15.0	14.0	UNII-1: 15.0	14.0	UNII-1: 15.0	14.0					UNII-1: 15.0	14.0	UNII-1: 15.0	14.0	UNII-1: 15.0	14.0	UNII-1: 15.0	14.0
						UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0					UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0					UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0	UNII-2A: 15.0	14.0
5 GHz WIFI (160MHz BW)	UNII-1/2A/2C/3/4					15.0	14.0	15.0	14.0	15.0	14.0					15.0	14.0	15.0	14.0	15.0	14.0					15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0	15.0	14.0
						UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0					UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0					UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0	UNII-1/2A: 14.0	13.0

The below table is applicable is applicable in the following conditions:

- DSI=1 (Head)

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																																	
		SISO												SISO												SISO in MIMO											
		Antenna 9												Antenna 6												MIMO											
		a		n		ac		ax (SU)		be (SU)		a		n		ac		ax (SU)		be (SU)		a (CDD + STBC)		n (CDD + STBC, SDM)		ac (CDD + STBC, SDM)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)					
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
5 GHz WIFI (20MHz BW)	UNII-1/2A/2C/3/4	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
5 GHz WIFI (40MHz BW)	UNII-1/2A/2C/3/4			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0			14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
5 GHz WIFI (80MHz BW)	UNII-1/2A/2C/3/4					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0
5 GHz WIFI (160MHz BW)	UNII-1/2A/2C/3/4					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0					14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0	14.0	13.0

1.3.4 6 GHz WLAN Output Power

The below table is applicable is applicable in the following conditions:

- Pmax

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
		SISO Antenna 9						SISO Antenna 6						SISO in MIMO					
		a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
6 GHz WIFI (20MHz BW) - SP	UNII-5/7	15.0 ch. 2: 5.5	14.0 4.5	16.0 ch. 2: 5.5	15.0 4.5	16.0 ch. 2: 5.5	15.0 4.5	15.0 ch. 2: 5.5	14.0 4.5	16.0 ch. 2: 5.5	15.0 4.5	16.0 ch. 2: 5.5	15.0 4.5	15.0 ch. 2: 5.5	14.0 4.5	16.0 ch. 2: 5.5	15.0 4.5	16.0 ch. 2: 5.5	15.0 4.5
6 GHz WIFI (40MHz BW) - SP	UNII-5/7			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0
6 GHz WIFI (80MHz BW) - SP	UNII-5/7			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0
6 GHz WIFI (160MHz BW) - SP	UNII-5/7			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0
6 GHz WIFI (320MHz BW) - SP	UNII-5/7					16.0	15.0					16.0	15.0					16.0	15.0

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
		SISO Antenna 9						SISO Antenna 6						SISO in MIMO					
		a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
6 GHz WIFI (20MHz BW) - LPI	UNII-5/6/7/8	8.0 ch. 2: 5.5	7.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	8.0 ch. 2: 5.5	7.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	8.0 ch. 2: 5.5	7.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	9.0 ch. 2: 5.5	8.0 4.5
6 GHz WIFI (40MHz BW) - LPI	UNII-5/6/7/8			11.5	10.5	11.5	10.5			11.5	10.5	11.5	10.5			11.5	10.5	11.5	10.5
6 GHz WIFI (80MHz BW) - LPI	UNII-5/6/7/8			15.0	14.0	15.0	14.0			15.0	14.0	15.0	14.0			15.0	14.0	15.0	14.0
6 GHz WIFI (160MHz BW) - LPI	UNII-5/6/7/8			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0			16.0	15.0	16.0	15.0
6 GHz WIFI (320MHz BW) - LPI	UNII-5/6/7/8					16.0	15.0					16.0	15.0					16.0	15.0

The below table is applicable is applicable in the following conditions:

- DSI=0 (Body-worn, Hotspot or Phablet)
- DSI=1 (Head)

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
		SISO Antenna 9						SISO Antenna 6						SISO in MIMO					
		a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
6 GHz WIFI (20MHz BW) - SP	UNII-5/7	10.0 ch. 2: 5.5	9.0 4.5	10.0 ch. 2: 5.5	9.0 4.5	10.0 ch. 2: 5.5	9.0 4.5	10.0 ch. 2: 5.5	9.0 4.5	10.0 ch. 2: 5.5	9.0 4.5	10.0 ch. 2: 5.5	9.0 4.5	10.0 ch. 2: 5.5	9.0 4.5	10.0 ch. 2: 5.5	9.0 4.5	10.0 ch. 2: 5.5	9.0 4.5
6 GHz WIFI (40MHz BW) - SP	UNII-5/7			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
6 GHz WIFI (80MHz BW) - SP	UNII-5/7			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
6 GHz WIFI (160MHz BW) - SP	UNII-5/7			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
6 GHz WIFI (320MHz BW) - SP	UNII-5/7					10.0	9.0					10.0	9.0					10.0	9.0

Mode	Band	IEEE 802.11 Modulated Output Power (in dBm)																	
		SISO Antenna 9						SISO Antenna 6						SISO in MIMO					
		a		ax (SU)		be (SU)		a		ax (SU)		be (SU)		a (CDD + STBC)		ax (SU) (CDD + STBC, SDM)		be (SU) (CDD + STBC, SDM)	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.	Max	Nom.
6 GHz WIFI (20MHz BW) - LPI	UNII-5/6/7/8	8.0 ch. 2: 5.5	7.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	8.0 ch. 2: 5.5	7.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	8.0 ch. 2: 5.5	7.0 4.5	9.0 ch. 2: 5.5	8.0 4.5	9.0 ch. 2: 5.5	8.0 4.5
6 GHz WIFI (40MHz BW) - LPI	UNII-5/6/7/8			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
6 GHz WIFI (80MHz BW) - LPI	UNII-5/6/7/8			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
6 GHz WIFI (160MHz BW) - LPI	UNII-5/6/7/8			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0			10.0	9.0	10.0	9.0
6 GHz WIFI (320MHz BW) - LPI	UNII-5/6/7/8					10.0	9.0					10.0	9.0					10.0	9.0

1.3.5 2.4 GHz Maximum Bluetooth Output Power

The below table is applicable is applicable in the following conditions:

- Pmax, DSI=0 (Body-worn, Hotspot or Phablet)

Mode	Data Rate	Modulated Output Power (in dBm)					
		Single Antenna				Each Chain in Dual Mode	
		Antenna 9		Antenna 11		MIMO	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.
Bluetooth	1Mbps	19.0	18.0	19.5	18.5	15.0	14.0
Bluetooth EDR	2Mbps	14.5	13.5	14.5	13.5	11.0	10.0
Bluetooth EDR	3Mbps	14.5	13.5	14.5	13.5	11.0	10.0
Bluetooth LE	1Mbps	19.0	18.0	19.0	18.0	14.5	13.5
Bluetooth LE	2Mbps	19.0	18.0	19.0	18.0	14.5	13.5
Bluetooth LE	125kbps	10.5	9.5	10.5	9.5	N/A	N/A
Bluetooth LE	500kbps	10.5	9.5	10.5	9.5	N/A	N/A

The below table is applicable is applicable in the following conditions:

- DSI=1 (Head)

Mode	Data Rate	Modulated Output Power (in dBm)					
		Single Antenna				Each Chain in Dual Mode	
		Antenna 9		Antenna 11		MIMO	
Maximum / Nominal Power		Max	Nom.	Max	Nom.	Max	Nom.
Bluetooth	1Mbps	12.5	11.5	12.5	11.5	10.0	9.0
Bluetooth EDR	2Mbps	12.0	11.0	12.0	11.0	10.0	9.0
Bluetooth EDR	3Mbps	12.0	11.0	12.0	11.0	10.0	9.0
Bluetooth LE	1Mbps	12.0	11.0	12.0	11.0	10.0	9.0
Bluetooth LE	2Mbps	12.0	11.0	12.0	11.0	10.0	9.0
Bluetooth LE	125kbps	10.5	9.5	10.5	9.5	N/A	N/A
Bluetooth LE	500kbps	10.5	9.5	10.5	9.5	N/A	N/A

1.4 DUT Antenna Locations

The overall dimensions of this device are > 9 x 5 cm. A diagram showing the location of the device antennas can be found in DUT Antenna Diagram & SAR Test Setup Photographs Appendix. Since the display diagonal dimension of this device is > 150 mm and <200 mm, it is considered a “phablet.” Exact antenna dimensions and separation distances are shown in the Technical Descriptions in the FCC filing.

Table 1-1
Device Edges/Sides for SAR Testing

Antenna	Back	Front	Top	Bottom	Right	Left
0	Yes	Yes	No	Yes	Yes	Yes
1	Yes	Yes	No	Yes	Yes	No
2	Yes	Yes	No	Yes	Yes	No
3	Yes	Yes	No	Yes	No	Yes
6	Yes	Yes	Yes	No	Yes	No
7	Yes	Yes	Yes	No	No	Yes
9	Yes	Yes	Yes	No	No	Yes
10	Yes	Yes	Yes	No	No	Yes
11	Yes	Yes	Yes	No	Yes	No

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 D01v06r03. 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, U-NII-4, and WIFI6E 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 DUT Antenna Diagram & SAR Test Setup Photographs Appendix.

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 procedures.

Table 1-2
Simultaneous Transmission Scenarios

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

1. No other simultaneous scenarios besides described above is supported for this model.
2. SISO represents 2.4 GHz WLAN/BT transmission on Ant H or Ant J, and 5/6 GHz transmission on Ant H or Ant E.
3. When the user utilizes multiple services in UMTS 3G mode it uses multi-Radio Access Bearer or multi-RAB. The power control is based on a physical control channel (Dedicated Physical Control Channel [DPCCH]) and power control will be adjusted to meet the needs of both services. Therefore, the UMTS+WLAN scenario also represents the UMTS Voice/DATA + WLAN Hotspot scenario.
4. Per the manufacturer, WIFI Direct is not expected to be used in conjunction with a held-to-ear or body-worn accessory voice call. Therefore, there are no simultaneous transmission scenarios involving WIFI direct beyond that listed in the above table.
5. 5 GHz Wireless Router is only supported for the U-NII-3 by S/W, therefore U-NII-1, U-NII-2A, U-NII-2C, and U-NII-4 were not evaluated for wireless router conditions.
6. 6 GHz Wireless Router is not supported, therefore it was not evaluated for wireless router conditions.
7. This device supports 2x2 MIMO Tx for WLAN 802.11a/b/g/n/ac/ax/be. 802.11a/b/g/n/ac/ax/be supports CDD and STBC and 802.11n/ac/ax/be additionally supports SDM.
8. This device supports VoWIFI.
9. This device supports Bluetooth Tethering on Ant 1 only.
10. This device supports VoLTE.
11. This device supports VoNR.
12. LTE + 5G NR FR1 Scenarios are limited to EN-DC combinations with anchor bands as shown in the NR FR1 checklist.
13. UWB and NFC were evaluated for phablet based on expected usage conditions.

1.7 Miscellaneous SAR Test Considerations

(A) WIFI/BT

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, channels 1, 6, and 11 were considered for SAR testing per FCC KDB 248227 D01V02r02.

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, U-NII-4 WIFI and 6 GHz, only 2.4 GHz WIFI, 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/be with the following features:

a) Up to 320 MHz Bandwidth only for 6GHz
b) Up to 160 MHz Bandwidth only for 5/6 GHz
c) Up to 20 MHz Bandwidth only for 2.4 GHz
d) 2 Tx antenna output
e) Up to 4KQAM is supported
f) TDWR and Band gap channels are supported for 5/6 GHz
g) MU-MIMO UL Operations are not supported

Per FCC KDB Publication 648474 D01v06r03, this device is considered a "phablet" since the display diagonal dimension is greater than 150mm 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, U-NII-4 WIFI and 6 GHz, 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 and FCC guidance, SAR testing for 802.11ax/be follows initial test configuration procedures of KDB 248227, with 802.11ax/be considered a higher order 802.11 mode.

Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factors for WIFI 6GHz/UWB and 8GHz SAR probe calibration factors for UWB. FCC KDB 648474, FCC KDB 941225 D07 and FCC KDB 248227 were followed for test positions, distances, and modes. Absorbed power density (APD) using a $4cm^2$ averaging area is reported based on SAR measurements. Incident power density is evaluated at 2mm ensuring that the resolution is sufficient such that integrated power density (iPD) between d=2mm and d=λ/5mm is ≥ -1dB per equipment manufacturer guidance. Power density results are scaled up for uncertainty above 30%. Per TCB workshop October 2020 notes, 5 channels were tested for WIFI 6 GHz.

(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 Downlink LTE CA RF Conducted Powers Appendix.

Per FCC KDB Publication 648474 D01v06r03, this device is considered a "phablet" since the display diagonal dimension is greater than 150mm 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/NR capabilities with overlapping transmission frequency ranges. When the supported frequency range of an LTE/NR Band falls completely within an LTE/NR band with a larger transmission frequency range, both LTE/NR bands have the same target power (or the band with the larger transmission frequency range has a higher target power), and both LTE/NR 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 15).

This device can transmit with antenna 6 for GSM 850, UMTS 850, LTE B71/12/13/26/5, and NR Band n5, and antenna 7 for LTE B2/4/25/41/66 and NR Band n2/25/66/41. SAR tests for antenna 6, and antenna 7 respectively were additionally performed for these bands to ensure compliance.

Per FCC Guidance, C-Band for NR n77 (3705 – 3975 MHz) was fully tested according to FCC procedures. For each exposure condition and antenna, the worst-case position was additionally evaluated for the NR n77 DoD (3455.01 – 3544.98 MHz).

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.

SRS was tested with CW signal per Qualcomm guidance in 80-w2112-4.

Per Qualcomm guidance in 80-W2112-4, when hotspot mode applies, 10-g extremity SAR is required for the surfaces and edges with hotspot mode 1g reported SAR > 1.2 W/kg. For surfaces and edges with hotspot mode 1g SAR < 1.2 W/kg, the 10-g extremity can be excluded when the normalized *SAR_design_target* for extremity DSI is less than or equal to that of hotspot DSI.

$$SAR\_design\_target\_extremity \leq \frac{SAR\_design\_target\_hotspot}{1g\ SAR\ limit} * 10g\ SAR\ limit$$

1.8 Guidance Applied

- IEEE 1528-2013
- FCC KDB Publication 941225 D01v03r01, D05v02r05, 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 D01v06r03 (Phablet Procedures)
- October 2013 TCB Workshop Notes (GPRS Testing Considerations)
- May 2017 TCB Workshop Notes (LTE 4x4 Downlink MIMO, LTE Band 41 Power Class 2/3)
- November 2017, April 2018, October 2018 TCB Workshop Notes (LTE Carrier Aggregation)
- April 2019 TCB Workshop Notes (IEEE 802.11ax, Dynamic Antenna Tuning)
- November 2017, October 2018, April 2019, November 2019, October 2020 TCBC Workshop Notes (6-8 GHz)
- SPEAG DASY6 Application Note (Interim Procedures for Devices Operating at 6-10 GHz) (Nov 2021)
- IEC/IEEE 63195-1:2022
- IEC 62479:2010

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 12.

1.10 Bibliography

Report Type	Report Serial Number
RF Exposure Part 2 Test Report	1M2308210093-24.A3L
RF Exposure Compliance Summary Report	1M2308210093-25.A3L

2 PART 0 SAR CHARACTERIZATION

2.1 SAR Characterization

2.1.1 DSI and SAR Determination

This device uses different Device State Index (DSI) to configure different time averaged power levels based on certain exposure scenarios. Depending on the detection scheme implemented in the smartphone, the worst-case SAR was determined by measurements for the relevant exposure conditions for that DSI. Detailed descriptions of the detection mechanisms are included in the operational description.

When 1g SAR and 10g SAR exposure comparison is needed, the worst-case was determined from SAR normalized to 1g or 10g SAR limit.

The device state index (DSI) conditions used in Table 2-1 represent different exposure scenarios.

Table 2-1
DSI and Corresponding Exposure Scenarios

Scenario	Description	SAR Test Cases
Head (DSI = 1)	▪ Device positioned next to head ▪ Receiver Active	*Head SAR per KDB Publication 648474 D04*
Hotspot mode (DSI = 0)	▪ Device transmits in hotspot mode near body ▪ Hotspot Mode Active	*Hotspot SAR per KDB Publication 941225 D06*
Phablet (DSI = 0)	▪ Device is held with hand	*Phablet SAR per KDB Publication 648474 D04 & KDB Publication 616217 D04*
Body-worn (DSI = 0)	▪ Device being used with a body-worn accessory	*Body-worn SAR per KDB Publication 648474 D04*

2.1.2 SAR_Design_Target

SAR_design_target is determined by ensuring that it is less than FCC SAR limit after accounting for total device designed related uncertainties specified by the manufacturer (see Table 2-2).

Table 2-2
***SAR_design_target* Calculations**

SAR_design_target			
$SAR\_design\_target < SAR\_regulatory\_limit \times 10^{\frac{-Total\ Uncertainty}{10}}$			
1g SAR (W/kg)		**10g SAR (W/kg)**	
Total Uncertainty	1.0 dB	*Total Uncertainty*	1.0 dB
SAR_regulatory_limit	1.6 W/kg	*SAR_regulatory_limit*	4.0 W/kg
SAR_design_target	1.0 W/kg	*SAR_design_target*	2.5 W/kg

2.1.3 SAR Char

SAR test results corresponding to *Pmax/Plimit* for each antenna/technology/band/DSI can be found in SAR Summary Section and Part 0 SAR Test Results for Plimit Calculations Appendix.

Plimit is calculated by linearly scaling with the measured SAR at the Ppart0 to correspond to the *SAR_design_target*. When *Plimit* < *Pmax*, *Ppart0* was used as Plimit in the Smart Transmit EFS. When *Plimit* > *Pmax* and *Ppart0*=Pmax, calculated *Plimit* was used in the Smart Transmit EFS. All reported SAR obtained from the Ppart0 SAR tests was less than *SAR_Design_targe*t+ 1 dB Uncertainty. The final *Plimit* determination for each exposure scenario corresponding to *SAR_design_target* is shown in Table 2-3.

Table 2-3
***PLimit* Determination**

Device State Index (DSI)	*PLimit* Determination Scenarios
0	The worst-case SAR exposure is determined as maximum SAR normalized to the limit (i.e. lowest P_{limit}) among: 1. Body Worn SAR 2. Extremity SAR measured at 0 mm for all surfaces. 3. Hotspot SAR at 10 mm
1	P_{limit} is calculated based on 1g Head SAR

Table 2-4
SAR Characterizations

Exposure Scenario			Maximum Tune-Up Output Power*	Body-Worn, Hotspot, or Phablet	Head
Averaging Volume				1g/10g	1g
Spacing				0	0
DSI				0	1
Technology/Band	Antenna	Antenna Group	Pmax		
GSM 850	0	AG0	24.3	27.0	31.4
GSM 850	6	AG1	24.3	27.8	19.3
GSM 1900	0	AG0	21.6	18.8	31.2
UMTS 850	0	AG0	24.5	26.4	30.2
UMTS 850	6	AG1	24.5	25.9	20.0
UMTS 1750	0	AG0	23.0	17.0	27.8
UMTS 1900	0	AG0	23.0	17.0	28.4
LTE Band 12/17	0	AG0	24.0	27.0	28.8
LTE Band 12/17	6	AG1	24.0	26.6	22.0
LTE Band 13	0	AG0	24.0	26.3	27.5
LTE Band 13	6	AG1	24.0	26.4	20.0
LTE Band 26/5	0	AG0	24.5	26.4	29.5
LTE Band 26/5	6	AG1	24.5	25.9	19.5
LTE Band 66/4	0	AG0	23.0	17.5	28.5
LTE Band 66/4	7	AG1	23.0	20.0	18.0
LTE Band 25/2	0	AG0	23.0	17.5	30.2
LTE Band 25/2	7	AG1	23.0	20.5	18.0
LTE Band 41 PC3	1	AG0	22.0	19.0	26.6
LTE Band 41 PC3	7	AG1	22.0	19.0	15.0
LTE Band 41 PC2	1	AG0	21.4	19.0	26.6
LTE Band 41 PC2	7	AG1	21.4	19.0	15.0
NR Band n5	0	AG0	24.0	25.7	29.3
NR Band n5	6	AG1	24.0	25.9	19.5
NR Band n66	0	AG0	23.0	17.0	26.9
NR Band n66	7	AG1	23.0	20.0	18.0
NR Band n25/n2	0	AG0	23.0	17.5	28.7
NR Band n25/n2	7	AG1	23.0	20.5	18.0
NR Band n41 PC3	7	AG1	24.0	19.0	15.0
NR Band n41 PC3	1	AG0	23.5	20.0	20.0
NR Band n41 PC3	6	AG1	22.0	20.0	17.0
NR Band n41 PC3	3	AG0	21.0	20.0	20.0
NR Band n77 PC3	7	AG1	24.5	20.0	15.0
NR Band n77 PC3	2	AG0	23.0	17.0	19.0
NR Band n77 PC3	10	AG1	22.0	17.0	18.5
NR Band n77 PC3	3	AG0	23.0	19.0	19.0
2.4 GHz WIFI	9	AG1	18.0	19.8	16.0
2.4 GHz WIFI	11	AG1	18.0	22.2	16.0
2.4 GHz WIFI	MIMO	AG1	18.0	18.5	16.0
5 GHz WIFI	9	AG1	17.0	16.0	13.0
5 GHz WIFI	6	AG1	17.0	16.0	13.0
5 GHz WIFI	MIMO	AG1	17.0	16.0	13.0
6 GHz WIFI	9	AG1	15.0	9.0	9.0
6 GHz WIFI	6	AG1	15.0	9.0	9.0
6 GHz WIFI	MIMO	AG1	15.0	9.0	9.0
2.4 GHz Bluetooth	9	AG1	17.0	19.8	10.5
2.4 GHz Bluetooth	11	AG1	17.5	24.0	10.5
2.4 GHz Bluetooth	MIMO	AG1	13.0	19.1	8.0

Notes:

- When P_{max} < P_{limit} EFS, the DUT will operate at a power level up to P_{max}

- All P_{limit} EFS and maximum tune up output power P_{max} levels entered in above Table correspond to average power levels after accounting for duty cycle in the case of TDD, GMSK, or OFDM modulation schemes (e.g. GSM, LTE TDD and WLAN/BT).

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

- All MIMO P_{max} and P_{limit} are defined per antenna chain.

3 LTE AND NR INFORMATION

LTE Information					
Form Factor	Portable Handset				
Frequency Range of each LTE transmission band	LTE Band 12: 699.7 - 715.3 MHz				
	LTE Band 17: 706.5 - 713.5 MHz				
	LTE Band 13: 779.5 - 784.5 MHz				
	LTE Band 26: 814.7 - 848.3 MHz				
	LTE Band 5: 824.7 - 848.3 MHz				
	LTE Band 66: 1710.7 - 1779.3 MHz				
	LTE Band 4: 1710.7 - 1754.3 MHz				
	LTE Band 25: 1850.7 - 1914.3 MHz				
	LTE Band 2: 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: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz				
	LTE Band 5: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz				
	LTE Band 66: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 4: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 25: 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz				
	LTE Band 2: 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: 1.4 MHz	814.7 (26697)		831.5 (26865)	848.3 (27033)	
LTE Band 26: 3 MHz	815.5 (26705)		831.5 (26865)	847.5 (27025)	
LTE Band 26: 5 MHz	816.5 (26715)		831.5 (26865)	846.5 (27015)	
LTE Band 26: 10 MHz	819 (26740)		831.5 (26865)	844 (26990)	
LTE Band 26: 15 MHz	821.5 (26765)		831.5 (26865)	841.5 (26965)	
LTE Band 5: 1.4 MHz	824.7 (20407)		836.5 (20525)	848.3 (20643)	
LTE Band 5: 3 MHz	825.5 (20415)		836.5 (20525)	847.5 (20635)	
LTE Band 5: 5 MHz	826.5 (20425)		836.5 (20525)	846.5 (20625)	
LTE Band 5: 10 MHz	829 (20450)		836.5 (20525)	844 (20600)	
LTE Band 66: 1.4 MHz	1710.7 (131979)		1745 (132322)	1779.3 (132665)	
LTE Band 66: 3 MHz	1711.5 (131987)		1745 (132322)	1778.5 (132657)	
LTE Band 66: 5 MHz	1712.5 (131997)		1745 (132322)	1777.5 (132647)	
LTE Band 66: 10 MHz	1715 (132022)		1745 (132322)	1775 (132622)	
LTE Band 66: 15 MHz	1717.5 (132047)		1745 (132322)	1772.5 (132597)	
LTE Band 66: 20 MHz	1720 (132072)		1745 (132322)	1770 (132572)	
LTE Band 4: 1.4 MHz	1710.7 (19957)		1732.5 (20175)	1754.3 (20393)	
LTE Band 4: 3 MHz	1711.5 (19965)		1732.5 (20175)	1753.5 (20385)	
LTE Band 4: 5 MHz	1712.5 (19975)		1732.5 (20175)	1752.5 (20375)	
LTE Band 4: 10 MHz	1715 (20000)		1732.5 (20175)	1750 (20350)	
LTE Band 4: 15 MHz	1717.5 (20025)		1732.5 (20175)	1747.5 (20325)	
LTE Band 4: 20 MHz	1720 (20050)		1732.5 (20175)	1745 (20300)	
LTE Band 25: 1.4 MHz	1850.7 (26047)		1882.5 (26365)	1914.3 (26683)	
LTE Band 25: 3 MHz	1851.5 (26055)		1882.5 (26365)	1913.5 (26675)	
LTE Band 25: 5 MHz	1852.5 (26065)		1882.5 (26365)	1912.5 (26665)	
LTE Band 25: 10 MHz	1855 (26090)		1882.5 (26365)	1910 (26640)	
LTE Band 25: 15 MHz	1857.5 (26115)		1882.5 (26365)	1907.5 (26615)	
LTE Band 25: 20 MHz	1860 (26140)		1882.5 (26365)	1905 (26590)	
LTE Band 2: 1.4 MHz	1850.7 (18607)		1880 (18900)	1909.3 (19193)	
LTE Band 2: 3 MHz	1851.5 (18615)		1880 (18900)	1908.5 (19185)	
LTE Band 2: 5 MHz	1852.5 (18625)		1880 (18900)	1907.5 (19175)	
LTE Band 2: 10 MHz	1855 (18650)		1880 (18900)	1905 (19150)	
LTE Band 2: 15 MHz	1857.5 (18675)		1880 (18900)	1902.5 (19125)	
LTE Band 2: 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	UL CAT 18, DL CAT 20				
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 16. It supports carrier aggregation, downlink MIMO features as shown in the RF Conducted Powers section of this report and the Downlink LTE CA RF Conducted Powers Appendix. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. The following LTE Release 16 Features are not supported: Relay, HetNet, Enhanced MIMO, eICIC, eMBMS, Wifi Offloading, Cross-Carrier Scheduling, Enhanced SC-FDMA.				

NR Information						
Form Factor	Portable Handset					
Frequency Range of each NR transmission band	NR Band n5: 826.5 - 846.5 MHz					
	NR Band n66: 1712.5 - 1777.5 MHz					
	NR Band n25: 1852.5 - 1912.5 MHz					
	NR Band n2: 1852.5 - 1907.5 MHz					
	NR Band n41: 2501.01 - 2685 MHz					
	NR Band n77: 3455.01 - 3544.98 MHz; 3705 - 3975 MHz					
Channel Bandwidths	NR Band n5: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
	NR Band n66: 5 MHz, 10 MHz, 15 MHz, 20 MHz, 25 MHz, 30 MHz, 40 MHz					
	NR Band n25: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
	NR Band n2: 5 MHz, 10 MHz, 15 MHz, 20 MHz					
	NR Band n41: 10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz					
	NR Band n77: 10 MHz, 15 MHz, 20 MHz, 30 MHz, 40 MHz, 50 MHz, 60 MHz, 70 MHz, 80 MHz, 90 MHz, 100 MHz					
Channel Numbers and Frequencies (MHz)						
NR Band n5: 5 MHz	826.5 (165300)		836.5 (167300)		846.5 (169300)	
NR Band n5: 10 MHz	829 (165800)		836.5 (167300)		844 (168800)	
NR Band n5: 15 MHz	831.5 (166300)		836.5 (167300)		841.5 (168300)	
NR Band n5: 20 MHz	834 (166800)		836.5 (167300)		839 (167800)	
NR Band n66: 5 MHz	1712.5 (342500)		1745 (349000)		1777.5 (355500)	
NR Band n66: 10 MHz	1715 (343000)		1745 (349000)		1775 (355000)	
NR Band n66: 15 MHz	1717.5 (343500)		1745 (349000)		1772.5 (354500)	
NR Band n66: 20 MHz	1720 (344000)		1745 (349000)		1770 (354000)	
NR Band n66: 25 MHz	1722.5 (344500)		1745 (349000)		1767.5 (353500)	
NR Band n66: 30 MHz	1725 (345000)		1745 (349000)		1765 (353000)	
NR Band n66: 40 MHz	1730 (346000)		1745 (349000)		1760 (352000)	
NR Band n25: 5 MHz	1852.5 (370500)		1882.5 (376500)		1912.5 (382500)	
NR Band n25: 10 MHz	1855 (371000)		1882.5 (376500)		1910 (382000)	
NR Band n25: 15 MHz	1857.5 (371500)		1882.5 (376500)		1907.5 (381500)	
NR Band n25: 20 MHz	1860 (372000)		1882.5 (376500)		1905 (381000)	
NR Band n2: 5 MHz	1852.5 (370500)		1880 (376000)		1907.5 (381500)	
NR Band n2: 10 MHz	1855 (371000)		1880 (376000)		1905 (381000)	
NR Band n2: 15 MHz	1857.5 (371500)		1880 (376000)		1902.5 (380500)	
NR Band n2: 20 MHz	1860 (372000)		1880 (376000)		1900 (380000)	
NR Band n41: 10 MHz	2501.01 (500202)	2547 (509400)	2592.99 (518598)		2639.01 (527802)	2685 (537000)
NR Band n41: 15 MHz	2503.5 (500700)	2548.26 (509652)	2592.99 (518598)		2637.75 (527550)	2682.51 (536502)
NR Band n41: 20 MHz	2506.02 (501204)	2549.49 (509898)	2592.99 (518598)		2636.49 (527298)	2679.99 (535998)
NR Band n41: 30 MHz	2511 (502200)	2552.01 (510402)	2592.99 (518598)		2634 (526800)	2674.98 (534996)
NR Band n41: 40 MHz	2616.01 (523202)	2567.34 (513468)	(N/A)		2618.67 (523734)	2670 (534000)
NR Band n41: 50 MHz	2521.02 (504204)		2592.99 (518598)		2664.99 (532998)	
NR Band n41: 60 MHz	2526 (505200)		2592.99 (518598)		2659.98 (531996)	
NR Band n41: 70 MHz	2531.01 (506202)		(N/A)		2655 (531000)	
NR Band n41: 80 MHz	2536.02 (507204)		(N/A)		2649.99 (529998)	
NR Band n41: 90 MHz	2541 (508200)		(N/A)		2644.98 (528996)	
NR Band n41: 100 MHz	2546.01 (509202)		2592.99 (518598)		2640 (528000)	
NR Band n77: 10 MHz	3705 (647000)	3759 (650600)	3813 (654200)	3867 (657800)	3921 (661400)	3975 (665000)
NR Band n77: 15 MHz	3707.52 (647168)	3760.5 (650700)	3813.51 (654234)	3866.49 (657766)	3919.5 (661300)	3972.48 (664832)
NR Band n77: 20 MHz	3710.01 (647334)	3762 (650800)	3813.99 (654266)	3866.01 (657734)	3918 (661200)	3969.99 (664666)
NR Band n77: 30 MHz	3715.02 (647668)	3765 (651000)	3815.01 (654334)	3864.99 (657666)	3915 (661000)	3964.98 (664332)
NR Band n77: 40 MHz	3720 (648000)	3768 (651200)	3816 (654400)	3864 (657600)	3912 (660800)	3960 (664000)
NR Band n77: 50 MHz	3725.01 (648334)	3782.49 (652166)	3840 (656000)		3897.51 (659834)	3954.99 (663666)
NR Band n77: 60 MHz	3730.02 (648668)	3803.34 (653556)	(N/A)		3876.66 (658444)	3949.98 (663332)
NR Band n77: 70 MHz	3735 (649000)	3804.99 (653666)	(N/A)		3875.01 (658334)	3945 (663000)
NR Band n77: 80 MHz	3740.01 (649334)	(N/A)	3840 (656000)		(N/A)	3939.99 (662666)
NR Band n77: 90 MHz	3745.02 (649668)	(N/A)	3840 (656000)		(N/A)	3934.98 (662332)
NR Band n77: 100 MHz	3750 (650000)	(N/A)	(N/A)	(N/A)	(N/A)	3930 (662000)
SCS for NR Band n5, n66, n25, n2	15 kHz					
SCS for NR Band n41, n77, n77 DoD	30 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 and NR Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations					
LTE Anchor Bands for NR Band n5	LTE Band 2/66					
LTE Anchor Bands for NR Band n66	LTE Band 2/5/12/13					
LTE Anchor Bands for NR Band n25	LTE Band 12/13					
LTE Anchor Bands for NR Band n2	LTE Band 4/5/12/13/66					
LTE Anchor Bands for NR Band n41	LTE Band 4/5/12/26/66					
LTE Anchor Bands for NR Band n77	LTE Band 2/5/12/13/25/66					
LTE Anchor Bands for NR Band n77 DoD	LTE Band 2/5/12/13/25/66					

4 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.

4.1 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 4-1).

Equation 4-1
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]

5 DOSIMETRIC ASSESSMENT

5.1 Measurement Procedure

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

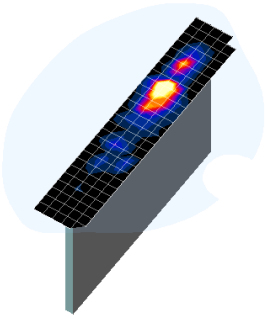


Figure 5-1
Sample SAR Area Scan

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 5-1) 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 5-1) 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 5-1. 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 5-1
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

6 DEFINITION OF REFERENCE POINTS

6.1 EAR REFERENCE POINT

Figure 6-2 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 6-1. 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 6-1). 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].

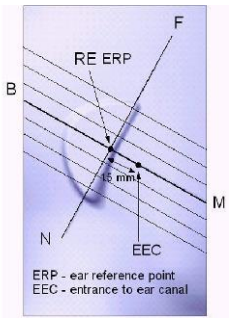


Figure 6-1
Close-Up Side view of ERP

6.2 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 6-3). 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 6-2
Front, back and side view of SAM Twin Phantom

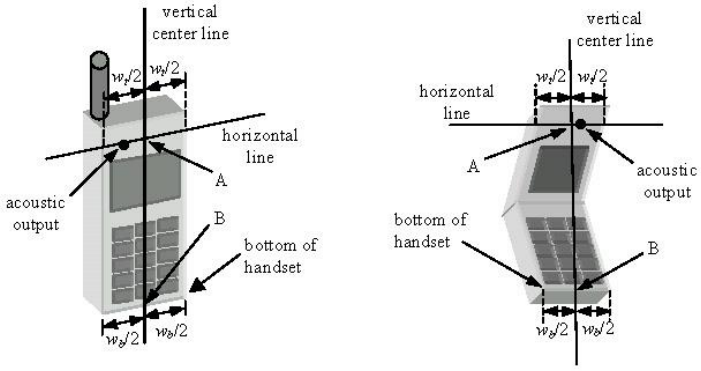


Figure 6-3
Handset Vertical Center & Horizontal Line Reference Points

7 TEST CONFIGURATION POSITIONS

7.1 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.

7.2 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 7-1), 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.

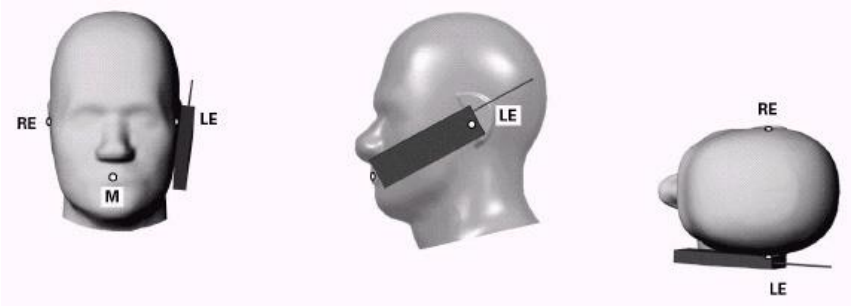


Figure 7-1 Front, Side and Top View of Cheek Position

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 7-2).

7.3 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 7-2).

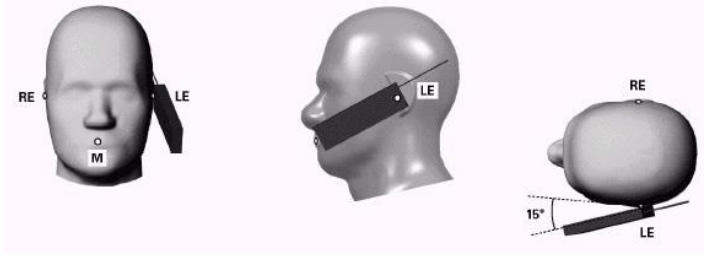


Figure 7-2 Front, Side and Top View of Ear/15º Tilt Position

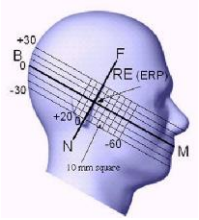


Figure 7-3
Side view w/ relevant markings

7.4 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 D01v06r03. 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.

7.5 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 7-4). Per FCC KDB Publication 648474 D01v06r03, 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.

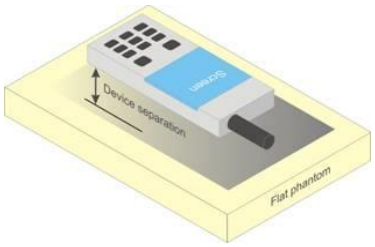


Figure 7-4
Sample Body-Worn Diagram

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.

7.6 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.

7.7 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.

7.8 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 D01v06r03 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.

8 RF EXPOSURE LIMITS

8.1 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.

8.2 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 8-1
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.

8.3 RF Exposure Limits for Frequencies above 6 GHz

Per §1.1310 (d)(3), the MPE limits are applied for frequencies above 6 GHz. Power Density is expressed in units of W/m^2 or mW/cm^2.

Peak Spatially Averaged Power Density was evaluated over a circular area of 4 cm^2 per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes.

Table 8-2
Human Exposure Limits Specified in FCC 47 CFR §1.1310

Human Exposure to Radiofrequency (RF) Radiation Limits		
Frequency Range [MHz]	**Power Density** [mW/cm^2]	**Average Time** [Minutes]
(A) Limits For Occupational / Controlled Environments		
1,500 – 100,000	5.0	6
(B) Limits For General Population / Uncontrolled Environments		
1,500 – 100,000	1.0	30

Note: 1.0 mW/cm^2 is 10 W/m^2

9 FCC MEASUREMENT PROCEDURES

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

9.1 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.

9.2 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.

9.3 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.

9.4 SAR Measurement Conditions for UMTS

9.4.1 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.

9.4.2 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.

9.4.3 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.

9.4.4 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.

9.4.5 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.

9.4.6 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.

9.5 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).

9.5.1 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.

9.5.2 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.

9.5.3 A-MPR

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

9.5.4 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.

9.5.5 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.

9.5.6 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.

9.6 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.

9.6.1 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.

9.6.2 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.

9.6.3 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.

9.6.4 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.

9.6.5 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.

9.6.6 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 and FCC guidance, 802.11ax/be 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.

9.6.7 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 9.6.6). When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.

9.6.8 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.

9.6.9 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.

10 RF CONDUCTED POWERS

All conducted power measurements for Sub6 WWAN technologies and bands in this section were performed by setting *Reserve_power_margin* (Qualcomm® Smart Transmit EFS entry) to 0dB, so that the EUT transmits continuously at minimum (P_{limit}, maximum tune up output power P_{max}).

10.1 GSM Conducted Powers

Table 10-1
Measured P_{Max} for all DSI for GSM 850 Antenna 0
Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) for GSM 1900 Antenna 0

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	32.62	32.68	**30.19**	28.20	26.13	25.59	24.17	22.12	20.87
	190	32.95	32.97	**30.72**	28.52	26.61	26.00	24.42	22.38	21.19
	251	32.87	32.97	**30.59**	28.43	26.50	25.92	24.26	22.34	20.54
GSM 1900	512	27.05	27.07	24.02	22.35	**21.13**	25.33	23.39	21.60	19.91
	661	27.03	27.03	24.01	22.20	**21.10**	25.31	23.31	21.73	20.57
	810	27.16	27.11	24.19	22.37	**21.09**	25.48	23.35	21.77	20.69
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	23.42	23.48	**24.00**	23.77	22.95	16.39	17.98	17.69	17.69
	190	23.75	23.77	**24.53**	24.09	23.43	16.80	18.23	17.95	18.01
	251	23.67	23.77	**24.40**	24.00	23.32	16.72	18.07	17.91	17.36
GSM 1900	512	17.85	17.87	17.83	17.92	**17.95**	16.13	17.20	17.17	16.73
	661	17.83	17.83	17.82	17.77	**17.92**	16.11	17.12	17.30	17.39
	810	17.96	17.91	18.00	17.94	**17.91**	16.28	17.16	17.34	17.51
GSM 850	**Frame Avg.Targets:**	23.30	23.30	**24.31**	23.57	22.82	16.30	17.81	17.07	17.32
GSM 1900		18.80	18.80	18.81	18.77	**18.82**	16.30	17.31	17.07	17.32

Table 10-2
Measured P_{Max} for DSI = 1 (Head) for GSM 1900 Antenna 0

Maximum Burst-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	29.19	29.20	27.11	**25.74**	23.92	25.33	23.39	21.60	19.91
	661	29.32	29.29	27.14	**26.04**	23.95	25.31	23.31	21.73	20.57
	810	29.30	29.28	26.95	**26.07**	23.84	25.48	23.35	21.77	20.69
Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 1900	512	19.99	20.00	20.92	**21.31**	20.74	16.13	17.20	17.17	16.73
	661	20.12	20.09	20.95	**21.61**	20.77	16.11	17.12	17.30	17.39
	810	20.10	20.08	20.76	**21.64**	20.66	16.28	17.16	17.34	17.51
GSM 1900	**Frame Avg.Targets:**	20.30	20.30	21.31	**21.57**	20.82	16.30	17.31	17.07	17.32

Table 10-3
Measured P_{Max} for DSI = 0 (Body-worn, Hotspot, or Phablet) for GSM 850 Antenna 6

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	32.14	32.18	**30.42**	28.61	26.75	25.87	24.52	22.44	21.32
	190	32.32	32.27	**30.62**	28.68	26.93	26.02	24.53	22.43	21.36
	251	32.29	32.22	**30.45**	28.50	26.84	26.04	24.35	22.27	21.24
Calculated Maximum Frame-Averaged Output Power										
		Voice	*GPRS/EDGE Data (GMSK)*				*EDGE Data (8-PSK)*			
Band	**Channel**	**GSM [dBm] CS (1 Slot)**	**GPRS [dBm] 1 Tx Slot**	**GPRS [dBm] 2 Tx Slot**	**GPRS [dBm] 3 Tx Slot**	**GPRS [dBm] 4 Tx Slot**	**EDGE [dBm] 1 Tx Slot**	**EDGE [dBm] 2 Tx Slot**	**EDGE [dBm] 3 Tx Slot**	**EDGE [dBm] 4 Tx Slot**
GSM 850	128	22.94	22.98	**24.23**	24.18	23.57	16.67	18.33	18.01	18.14
	190	23.12	23.07	**24.43**	24.25	23.75	16.82	18.34	18.00	18.18
	251	23.09	23.02	**24.26**	24.07	23.66	16.84	18.16	17.84	18.06
GSM 850	**Frame Avg.Targets:**	23.30	23.30	**24.31**	23.57	22.82	16.30	17.81	17.07	17.32

Table 10-4
Measured P_{Limit} for DSI = 1 (Head) for GSM 850 Antenna 6

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	28.21	28.14	25.12	23.74	22.24	26.45	24.91	22.04	21.24
	190	28.12	28.10	25.05	23.46	22.15	26.31	24.84	22.48	21.50
	251	27.98	27.98	24.88	23.19	21.88	26.34	24.63	22.15	21.19
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	19.01	18.94	18.93	19.31	19.06	17.25	18.72	17.61	18.06
	190	18.92	18.90	18.86	19.03	18.97	17.11	18.65	18.05	18.32
	251	18.78	18.78	18.69	18.76	18.70	17.14	18.44	17.72	18.01
GSM 850	**Frame Avg.Targets:**	19.30	19.30	19.31	19.27	19.32	16.30	17.81	17.07	17.32

Note:

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

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

Figure 10-1
Power Measurement Setup

10.2 UMTS Conducted Powers

Table 10-5
Measured P_{Max} for all DSI for UMTS 850 Antenna 0
Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) for UMTS 1750 & UMTS 1900 Antenna 0

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	**24.26**	24.22	24.06	17.10	16.93	**17.16**	17.31	17.40	**17.46**	-
99		12.2 kbps AMR	24.31	24.23	24.03	17.13	16.86	17.18	17.23	17.45	17.54	-
6	HSDPA	Subtest 1	23.05	22.94	22.87	16.00	15.80	16.32	15.65	15.60	15.67	0
6		Subtest 2	23.07	22.93	22.88	16.02	15.81	16.31	15.63	15.59	15.57	0
6		Subtest 3	22.56	22.44	22.40	15.50	15.30	15.88	15.17	15.08	15.06	0.5
6		Subtest 4	22.52	22.43	22.46	15.49	15.24	15.82	15.15	15.07	15.09	0.5
6	HSUPA	Subtest 1	23.06	22.97	22.95	16.03	15.80	16.28	15.65	15.55	15.57	0
6		Subtest 2	21.06	20.95	20.87	14.00	13.77	14.26	13.61	13.59	13.60	2
6		Subtest 3	22.05	21.99	21.90	15.02	14.82	15.32	14.54	14.57	14.58	1
6		Subtest 4	21.05	20.93	20.90	13.98	13.77	14.28	13.65	13.57	13.62	2
6		Subtest 5	23.04	22.95	22.92	16.08	15.86	16.33	15.63	15.57	15.58	0
8	DC-HSDPA	Subtest 1	23.05	22.93	22.88	15.97	15.80	16.32	15.63	15.59	15.59	0
8		Subtest 2	23.02	22.95	22.90	15.97	15.79	16.30	15.61	15.57	15.58	0
8		Subtest 3	22.50	22.42	22.38	15.49	15.32	15.81	15.07	15.09	15.07	0.5
8		Subtest 4	22.52	22.40	22.39	15.47	15.29	15.80	15.13	15.06	15.04	0.5

Table 10-6
Measured P_{Max} for DSI = 1 (Head) for UMTS 1750 & UMTS 1900 Antenna 0

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	**23.26**	22.91	23.16	22.93	22.91	**23.00**	-
99		12.2 kbps AMR	23.17	22.91	23.14	22.85	22.72	22.84	-
6	HSDPA	Subtest 1	21.56	21.52	21.59	22.60	22.58	22.68	0
6		Subtest 2	21.56	21.50	21.62	22.55	22.56	22.64	0
6		Subtest 3	21.10	21.05	21.11	22.03	22.00	22.10	0.5
6		Subtest 4	21.08	21.01	21.08	22.02	22.00	22.08	0.5
6	HSUPA	Subtest 1	22.25	21.93	22.18	22.14	22.28	22.21	0
6		Subtest 2	20.18	19.92	20.15	20.13	20.19	20.16	2
6		Subtest 3	21.21	20.91	21.21	21.10	21.20	21.19	1
6		Subtest 4	20.25	19.91	20.15	20.13	20.18	20.17	2
6		Subtest 5	22.25	21.94	22.22	22.19	22.20	22.19	0
8	DC-HSDPA	Subtest 1	22.23	21.97	22.21	22.13	22.20	22.14	0
8		Subtest 2	22.22	21.95	22.18	22.13	22.21	22.18	0
8		Subtest 3	21.72	21.42	21.68	21.64	21.72	21.63	0.5
8		Subtest 4	21.73	21.44	21.69	21.66	21.69	21.72	0.5

Table 10-7
Measured P_{Max} for DSI = 0 (Body-worn, Hotspot, or Phablet) for UMTS 850 Antenna 6

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	
99	WCDMA	12.2 kbps RMC	**24.44**	24.36	24.13	-
99		12.2 kbps AMR	24.28	24.31	24.01	-
6	HSDPA	Subtest 1	23.85	23.67	23.43	0
6		Subtest 2	23.85	23.65	23.40	0
6		Subtest 3	23.33	23.16	22.93	0.5
6		Subtest 4	23.35	23.17	22.93	0.5
6	HSUPA	Subtest 1	23.87	23.69	23.46	0
6		Subtest 2	21.84	21.66	21.42	2
6		Subtest 3	22.88	22.66	22.41	1
6		Subtest 4	21.89	21.65	21.43	2
6		Subtest 5	23.88	23.64	23.44	0
8	DC-HSDPA	Subtest 1	23.86	23.68	23.42	0
8		Subtest 2	23.85	23.67	23.43	0
8		Subtest 3	23.34	23.17	22.93	0.5
8		Subtest 4	23.37	23.18	22.95	0.5

Table 10-8
Measured P_{Limit} for DSI = 1 (Head) for UMTS 850 Antenna 6

3GPP Release Version	Mode	3GPP 34.121 Subtest	Cellular Band [dBm]			3GPP MPR [dB]
			4132	4183	4233	
99	WCDMA	12.2 kbps RMC	**19.92**	19.81	19.76	-
99		12.2 kbps AMR	19.95	19.73	19.51	-
6	HSDPA	Subtest 1	18.61	18.45	18.19	0
6		Subtest 2	18.64	18.46	18.21	0
6		Subtest 3	18.13	17.94	17.68	0.5
6		Subtest 4	18.14	17.94	17.70	0.5
6	HSUPA	Subtest 1	18.62	18.46	18.22	0
6		Subtest 2	16.61	16.44	16.20	2
6		Subtest 3	17.64	17.43	17.22	1
6		Subtest 4	16.61	16.46	16.23	2
6		Subtest 5	18.60	18.43	18.19	0
8	DC-HSDPA	Subtest 1	18.61	18.44	18.16	0
8		Subtest 2	18.63	18.43	18.21	0
8		Subtest 3	18.13	17.93	17.69	0.5
8		Subtest 4	18.15	17.85	17.70	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 10-2
Power Measurement Setup

10.3 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 LTE and NR Lower Bandwidth RF Conducted Powers Appendix.

Note: Some bands do 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.

10.3.1 LTE Band 12 Antenna 0

Table 10-9
LTE Band 12 Antenna 0 Measured P_{Max} for all DSI - 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	**23.85**	0	0
	1	25	23.72		0
	1	49	23.56		0
	25	0	**22.66**	0-1	1
	25	12	22.63		1
	25	25	22.65		1
	50	0	22.57		1
16QAM	1	0	22.75	0-1	1
	1	25	22.83		1
	1	49	22.65		1
	25	0	21.61	0-2	2
	25	12	21.57		2
	25	25	21.63		2
	50	0	21.55		2
64QAM	1	0	21.70	0-2	2
	1	25	21.67		2
	1	49	21.64		2
	25	0	20.59	0-3	3
	25	12	20.57		3
	25	25	20.55		3
	50	0	20.60		3
256QAM	1	0	18.56	0-5	5
	1	25	18.63		5
	1	49	18.54		5
	25	0	18.50		5
	25	12	18.53		5
	25	25	18.64		5
	50	0	18.60		5

10.3.2 LTE Band 12 Antenna 6

Table 10-10
LTE Band 12 Antenna 6 Measured P_{Max} for DSI = 0 (Body, Phablet, or Hotspot Mode) - 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	**23.20**	0	0
	1	25	23.17		0
	1	49	23.18		0
	25	0	22.17	0-1	1
	25	12	22.16		1
	25	25	**22.22**		1
	50	0	22.15		1
16QAM	1	0	22.51	0-1	1
	1	25	22.42		1
	1	49	22.24		1
	25	0	21.22	0-2	2
	25	12	21.23		2
	25	25	21.26		2
	50	0	21.24		2
64QAM	1	0	21.28	0-2	2
	1	25	21.38		2
	1	49	21.22		2
	25	0	20.14	0-3	3
	25	12	20.18		3
	25	25	20.30		3
	50	0	20.22		3
256QAM	1	0	18.18	0-5	5
	1	25	18.26		5
	1	49	18.34		5
	25	0	18.16		5
	25	12	18.17		5
	25	25	18.23		5
	50	0	18.15		5

Table 10-11
LTE Band 12 Antenna 6 Measured P_{Limit} for DSI = 1 (Head) - 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	22.10	0	0
	1	25	**22.21**		0
	1	49	22.13		0
	25	0	22.16	0-1	0
	25	12	22.21		0
	25	25	**22.23**		0
	50	0	22.16		0
16QAM	1	0	22.24	0-1	0
	1	25	22.46		0
	1	49	22.35		0
	25	0	21.58	0-2	0
	25	12	21.62		0
	25	25	21.70		0
	50	0	21.62		0
64QAM	1	0	21.74	0-2	0
	1	25	21.81		0
	1	49	21.81		0
	25	0	21.10	0-3	1
	25	12	21.13		1
	25	25	21.20		1
	50	0	21.10		1
256QAM	1	0	19.01	0-5	3
	1	25	19.31		3
	1	49	19.14		3
	25	0	19.06		3
	25	12	19.09		3
	25	25	19.16		3
	50	0	19.10		3

10.3.3 LTE Band 13 Antenna 0

Table 10-12
LTE Band 13 Antenna 0 Measured P_{Max} for all DSI - 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	**24.22**	0	0
	1	25	24.17		0
	1	49	24.18		0
	25	0	**23.13**	0-1	1
	25	12	23.12		1
	25	25	23.05		1
	50	0	23.00		1
16QAM	1	0	23.12	0-1	1
	1	25	23.14		1
	1	49	23.08		1
	25	0	22.16	0-2	2
	25	12	22.12		2
	25	25	22.03		2
	50	0	22.18		2
64QAM	1	0	22.23	0-2	2
	1	25	22.45		2
	1	49	22.30		2
	25	0	21.30	0-3	3
	25	12	21.24		3
	25	25	21.40		3
	50	0	21.22		3
256QAM	1	0	19.24	0-5	5
	1	25	19.20		5
	1	49	18.97		5
	25	0	19.08		5
	25	12	19.10		5
	25	25	19.18		5
	50	0	19.21		5

10.3.4 LTE Band 13 Antenna 6

Table 10-13
LTE Band 13 Antenna 6 Measured P_{Max} for DSI = 0 (Body, Phablet, or Hotspot Mode) - 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	24.14	0	0
	1	25	**24.28**		0
	1	49	23.93		0
	25	0	**23.23**	0-1	1
	25	12	23.10		1
	25	25	23.02		1
	50	0	23.01		1
16QAM	1	0	23.35	0-1	1
	1	25	23.30		1
	1	49	23.12		1
	25	0	22.28	0-2	2
	25	12	22.23		2
	25	25	22.09		2
	50	0	22.08		2
64QAM	1	0	22.38	0-2	2
	1	25	22.31		2
	1	49	22.05		2
	25	0	21.18	0-3	3
	25	12	21.15		3
	25	25	21.03		3
	50	0	21.10		3
256QAM	1	0	19.30	0-5	5
	1	25	19.18		5
	1	49	19.01		5
	25	0	19.15		5
	25	12	19.10		5
	25	25	19.08		5
	50	0	19.06		5

Table 10-14
LTE Band 13 Antenna 6 Measured P_{Limit} for DSI = 1 (Head) - 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	**19.95**	0	0
	1	25	19.79		0
	1	49	19.67		0
	25	0	19.99	0-1	0
	25	12	**20.00**		0
	25	25	19.87		0
	50	0	19.92		0
16QAM	1	0	20.17	0-1	0
	1	25	20.09		0
	1	49	20.04		0
	25	0	20.07	0-2	0
	25	12	20.02		0
	25	25	19.89		0
	50	0	19.97		0
64QAM	1	0	20.31	0-2	0
	1	25	20.20		0
	1	49	20.13		0
	25	0	20.04	0-3	0
	25	12	20.03		0
	25	25	19.91		0
	50	0	20.00		0
256QAM	1	0	19.27	0-5	1
	1	25	19.33		1
	1	49	19.04		1
	25	0	19.25		1
	25	12	19.25		1
	25	25	19.10		1
	50	0	19.21		1

10.3.5 LTE Band 26 Antenna 0

Table 10-15
LTE Band 26 Antenna 0 Measured P_{Max} for all DSI - 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	**23.92**	0	0
	1	36	23.85		0
	1	74	23.73		0
	36	0	**22.92**	0-1	1
	36	18	22.91		1
	36	37	22.90		1
	75	0	22.87		1
16QAM	1	0	23.02	0-1	1
	1	36	23.21		1
	1	74	23.11		1
	36	0	22.01	0-2	2
	36	18	21.90		2
	36	37	21.90		2
	75	0	21.87		2
64QAM	1	0	22.06	0-2	2
	1	36	22.04		2
	1	74	21.92		2
	36	0	21.02	0-3	3
	36	18	20.90		3
	36	37	21.01		3
	75	0	20.87		3
256QAM	1	0	18.98	0-5	5
	1	36	18.95		5
	1	74	18.94		5
	36	0	18.90		5
	36	18	19.00		5
	36	37	18.97		5
	75	0	18.88		5

10.3.6 LTE Band 26 Antenna 6

Table 10-16
LTE Band 26 Antenna 6 Measured P_{Max} for DSI = 0 (Body, Phablet, or Hotspot Mode) - 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	**23.95**	0	0
	1	36	23.85		0
	1	74	23.75		0
	36	0	**22.94**	0-1	1
	36	18	22.90		1
	36	37	22.79		1
	75	0	22.77		1
16QAM	1	0	23.10	0-1	1
	1	36	23.09		1
	1	74	22.93		1
	36	0	22.05	0-2	2
	36	18	21.90		2
	36	37	21.85		2
	75	0	21.84		2
64QAM	1	0	22.01	0-2	2
	1	36	22.16		2
	1	74	21.93		2
	36	0	20.92	0-3	3
	36	18	20.88		3
	36	37	20.76		3
	75	0	20.76		3
256QAM	1	0	19.18	0-5	5
	1	36	19.16		5
	1	74	18.80		5
	36	0	18.75		5
	36	18	18.94		5
	36	37	18.80		5
	75	0	18.85		5

Table 10-17
LTE Band 26 Antenna 6 Measured P_{Limit} for DSI = 1 (Head) - 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	19.07	0	0
	1	36	**19.17**		0
	1	74	18.96		0
	36	0	**19.19**	0-1	0
	36	18	19.18		0
	36	37	19.08		0
	75	0	19.11		0
16QAM	1	0	19.37	0-1	0
	1	36	19.44		0
	1	74	19.29		0
	36	0	19.22	0-2	0
	36	18	19.21		0
	36	37	19.14		0
	75	0	19.15		0
64QAM	1	0	19.28	0-2	0
	1	36	19.37		0
	1	74	19.23		0
	36	0	19.25	0-3	0
	36	18	19.20		0
	36	37	19.11		0
	75	0	19.15		0
256QAM	1	0	18.86	0-5	0
	1	36	19.12		0
	1	74	18.81		0
	36	0	18.94		0
	36	18	18.92		0
	36	37	18.84		0
	75	0	18.87		0

10.3.7 LTE Band 66 Antenna 0

Table 10-18
LTE Band 66 Antenna 0 Measured P_{Max} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 66 (AWS) 20 MHz Bandwidth							
Modulation	RB Size	RB Offset	Low Channel 132072 (1720.0 MHz)	Mid Channel 132322 (1745.0 MHz)	High Channel 132572 (1770.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]				
QPSK	1	0	23.10	23.01	23.09	0	0
	1	50	22.96	22.82	23.12		0
	1	99	23.05	22.94	**23.16**		0
	50	0	22.07	21.87	22.07	0-1	1
	50	25	21.99	21.86	22.19		1
	50	50	21.97	21.84	**22.21**		1
	100	0	22.00	21.89	22.17		1
16QAM	1	0	22.38	22.23	22.35	0-1	1
	1	50	22.22	22.34	22.47		1
	1	99	22.10	22.03	22.37		1
	50	0	21.10	21.15	21.20	0-2	2
	50	25	20.96	21.19	21.20		2
	50	50	21.08	21.16	21.21		2
	100	0	21.00	21.16	21.17		2
64QAM	1	0	21.05	21.22	21.29	0-2	2
	1	50	21.06	21.21	21.34		2
	1	99	21.01	21.16	21.30		2
	50	0	20.07	20.19	20.12	0-3	3
	50	25	19.92	20.19	20.20		3
	50	50	19.97	20.24	20.18		3
	100	0	19.98	20.16	20.26		3
256QAM	1	0	18.08	18.20	18.24	0-5	5
	1	50	18.14	18.33	18.41		5
	1	99	17.93	18.15	18.24		5
	50	0	18.01	18.20	18.15		5
	50	25	18.00	18.19	18.21		5
	50	50	17.92	18.14	18.19		5
	100	0	18.02	18.22	18.18		5

Table 10-19
LTE Band 66 Antenna 0 Measured P_{Limit} for DSI = 0 (Body, Phablet, or Hotspot Mode) - 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	17.69	17.66	17.21	0	0
	1	50	**17.83**	17.79	17.29		0
	1	99	17.66	17.63	17.23		0
	50	0	17.75	17.69	17.54	0-1	0
	50	25	**17.82**	17.63	17.61		0
	50	50	17.66	17.58	17.58		0
	100	0	17.73	17.56	17.55		0
16QAM	1	0	17.88	17.99	17.81	0-1	0
	1	50	18.02	18.08	17.89		0
	1	99	17.91	17.96	17.77		0
	50	0	17.75	17.72	17.59	0-2	0
	50	25	17.81	17.67	17.63		0
	50	50	17.69	17.58	17.58		0
	100	0	17.76	17.61	17.59		0
64QAM	1	0	17.86	17.82	17.66	0-2	0
	1	50	18.01	17.89	17.73		0
	1	99	18.03	17.61	17.69		0
	50	0	17.78	17.68	17.56	0-3	0
	50	25	17.80	17.64	17.62		0
	50	50	17.67	17.57	17.55		0
	100	0	17.75	17.59	17.57		0
256QAM	1	0	17.82	17.82	17.64	0-5	0
	1	50	17.99	17.96	17.75		0
	1	99	17.82	17.66	17.66		0
	50	0	17.78	17.72	17.58		0
	50	25	17.82	17.66	17.61		0
	50	50	17.66	17.59	17.57		0
	100	0	17.73	17.62	17.56		0

10.3.8 LTE Band 66 Antenna 7

Table 10-20
LTE Band 66 Antenna 7 Measured P_{Limit} for DSI = 0 (Body, Phablet, or Hotspot Mode) - 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	19.49	19.22	19.53	0	0
	1	50	19.68	19.26	**19.72**		0
	1	99	19.35	19.27	19.64		0
	50	0	19.56	19.19	19.50	0-1	0
	50	25	19.51	19.30	**19.68**		0
	50	50	19.45	19.34	19.53		0
	100	0	19.47	19.25	19.40		0
16QAM	1	0	19.65	19.55	19.71	0-1	0
	1	50	19.50	19.45	19.70		0
	1	99	19.46	19.45	19.43		0
	50	0	19.33	19.35	19.30	0-2	0
	50	25	19.51	19.36	19.47		0
	50	50	19.49	19.35	19.51		0
	100	0	19.40	19.35	19.60		0
64QAM	1	0	19.78	19.51	19.64	0-2	0
	1	50	19.67	19.36	19.57		0
	1	99	19.61	19.66	19.58		0
	50	0	19.64	19.29	19.43	0-3	0
	50	25	19.53	19.33	19.49		0
	50	50	19.50	19.36	19.39		0
	100	0	19.46	19.30	19.28		0
256QAM	1	0	17.56	17.47	17.64	0-5	2
	1	50	17.68	17.63	17.45		2
	1	99	17.57	17.57	17.44		2
	50	0	17.69	17.44	17.56		2
	50	25	17.64	17.47	17.60		2
	50	50	17.48	17.54	17.54		2
	100	0	17.66	17.39	17.40		2

Table 10-21
LTE Band 66 Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 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	**18.30**	18.26	18.05	0	0
	1	50	18.25	18.18	18.04		0
	1	99	18.19	18.10	17.95		0
	50	0	18.36	18.15	18.14	0-1	0
	50	25	**18.40**	18.17	18.16		0
	50	50	18.28	18.15	18.09		0
	100	0	18.28	18.19	18.12		0
16QAM	1	0	18.53	18.27	18.39	0-1	0
	1	50	18.53	18.57	18.15		0
	1	99	18.61	18.32	18.19		0
	50	0	18.40	18.12	18.11	0-2	0
	50	25	18.45	18.21	18.10		0
	50	50	18.42	18.15	18.14		0
	100	0	18.34	18.23	18.17		0
64QAM	1	0	18.45	18.23	18.25	0-2	0
	1	50	18.52	18.32	18.09		0
	1	99	18.37	18.09	18.29		0
	50	0	18.42	18.25	18.19	0-3	0
	50	25	18.48	18.31	18.13		0
	50	50	18.32	18.22	18.16		0
	100	0	18.40	18.27	18.18		0
256QAM	1	0	18.46	18.38	18.21	0-5	0
	1	50	18.55	18.50	18.32		0
	1	99	18.47	18.03	18.08		0
	50	0	18.42	18.26	18.16		0
	50	25	18.48	18.26	18.16		0
	50	50	18.37	18.15	18.17		0
	100	0	18.41	18.27	18.28		0

10.3.9 LTE Band 25 Antenna 0

Table 10-22
LTE Band 25 Antenna 0 Measured P_{Max} for DSI = 1 (Head) - 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	23.27	23.32	23.30	0	0
	1	50	23.16	23.33	23.45		0
	1	99	23.30	23.27	**23.56**		0
	50	0	22.23	22.29	22.40	0-1	1
	50	25	22.39	22.37	22.35		1
	50	50	22.37	22.32	**22.54**		1
	100	0	22.34	22.32	22.38		1
16QAM	1	0	22.86	22.41	22.50	0-1	1
	1	50	22.67	22.46	22.55		1
	1	99	22.61	22.48	22.52		1
	50	0	21.26	21.34	21.49	0-2	2
	50	25	21.38	21.43	21.39		2
	50	50	21.37	21.33	21.36		2
	100	0	21.36	21.36	21.32		2
64QAM	1	0	21.53	21.45	21.63	0-2	2
	1	50	21.52	21.44	21.40		2
	1	99	21.42	21.39	21.58		2
	50	0	20.25	20.37	20.51	0-3	3
	50	25	20.30	20.34	20.39		3
	50	50	20.29	20.34	20.34		3
	100	0	20.32	20.32	20.40		3
256QAM	1	0	18.42	18.26	18.47	0-5	5
	1	50	18.39	18.44	18.48		5
	1	99	18.38	18.24	18.45		5
	50	0	18.22	18.35	18.43		5
	50	25	18.31	18.42	18.37		5
	50	50	18.18	18.26	18.33		5
	100	0	18.25	18.29	18.40		5

Table 10-23
LTE Band 25 Antenna 0 Measured P_{Limit} for DSI = 0 (Body, Phablet, or Hotspot Mode) - 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	17.31	17.58	17.60	0	0
	1	50	17.40	17.64	17.69		0
	1	99	17.45	17.63	**17.72**		0
	50	0	17.49	17.62	17.62	0-1	0
	50	25	17.60	17.72	17.72		0
	50	50	17.64	17.73	**17.76**		0
	100	0	17.60	17.66	17.71		0
16QAM	1	0	17.80	17.74	17.95	0-1	0
	1	50	17.76	17.80	17.94		0
	1	99	17.87	17.79	18.04		0
	50	0	17.51	17.64	17.67	0-2	0
	50	25	17.63	17.73	17.74		0
	50	50	17.68	17.71	17.75		0
	100	0	17.61	17.70	17.69		0
64QAM	1	0	17.73	17.82	17.86	0-2	0
	1	50	17.83	17.89	17.83		0
	1	99	17.85	17.80	17.94		0
	50	0	17.56	17.66	17.66	0-3	0
	50	25	17.65	17.73	17.75		0
	50	50	17.66	17.73	17.79		0
	100	0	17.61	17.67	17.79		0
256QAM	1	0	17.62	17.77	17.75	0-5	0
	1	50	17.77	17.79	17.80		0
	1	99	17.76	17.85	17.80		0
	50	0	17.54	17.67	17.65		0
	50	25	17.68	17.74	17.78		0
	50	50	17.67	17.72	17.75		0
	100	0	17.66	17.71	17.76		0

10.3.10 LTE Band 25 Antenna 7

Table 10-24
LTE Band 25 Antenna 7 Measured P_{Limit} for DSI = 0 (Body, Phablet, or Hotspot Mode) - 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	20.44	20.51	20.32	0	0
	1	50	**20.56**	20.49	20.43		0
	1	99	20.45	20.33	20.42		0
	50	0	**20.58**	20.41	20.32	0-1	0
	50	25	20.43	20.44	20.39		0
	50	50	20.43	20.40	20.43		0
	100	0	20.33	20.40	20.39		0
16QAM	1	0	20.39	20.60	20.41	0-1	0
	1	50	20.43	20.56	20.39		0
	1	99	20.41	20.51	20.22		0
	50	0	20.38	20.46	20.28	0-2	0
	50	25	20.42	20.46	20.41		0
	50	50	20.39	20.38	20.33		0
	100	0	20.45	20.50	20.31		0
64QAM	1	0	20.45	20.62	20.52	0-2	0
	1	50	20.62	20.00	20.43		0
	1	99	20.48	20.42	20.44		0
	50	0	20.09	20.10	20.31	0-3	0.5
	50	25	20.00	20.09	20.45		0.5
	50	50	20.12	20.03	20.44		0.5
	100	0	20.01	20.05	20.52		0.5
256QAM	1	0	17.93	18.09	17.97	0-5	2.5
	1	50	18.03	18.20	17.89		2.5
	1	99	18.00	18.15	17.88		2.5
	50	0	18.12	18.32	18.03		2.5
	50	25	18.21	18.21	18.20		2.5
	50	50	17.98	18.20	18.10		2.5
	100	0	18.00	18.12	18.32		2.5

Table 10-25
LTE Band 25 Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 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	18.26	18.21	18.22	0	0
	1	50	18.29	18.18	18.28		0
	1	99	18.17	18.22	**18.43**		0
	50	0	18.40	18.19	18.31	0-1	0
	50	25	18.30	18.15	18.44		0
	50	50	18.35	18.19	**18.49**		0
	100	0	18.36	18.12	18.40		0
16QAM	1	0	18.63	18.51	18.39	0-1	0
	1	50	18.43	18.29	18.55		0
	1	99	18.50	18.31	18.62		0
	50	0	18.38	18.27	18.31	0-2	0
	50	25	18.46	18.20	18.41		0
	50	50	18.30	18.17	18.45		0
	100	0	18.38	18.12	18.43		0
64QAM	1	0	18.48	18.40	18.46	0-2	0
	1	50	18.52	18.26	18.53		0
	1	99	18.45	18.48	18.67		0
	50	0	18.48	18.32	18.46	0-3	0
	50	25	18.37	18.19	18.45		0
	50	50	18.26	18.24	18.55		0
	100	0	18.41	18.16	18.40		0
256QAM	1	0	18.61	18.25	18.22	0-5	0
	1	50	18.46	18.32	18.61		0
	1	99	18.17	18.26	18.57		0
	50	0	18.49	18.17	18.37		0
	50	25	18.47	18.19	18.50		0
	50	50	18.32	18.11	18.50		0
	100	0	18.31	18.25	18.44		0

10.3.11 LTE Band 41 Antenna 1

Table 10-26
LTE Band 41 PC3 Antenna 1 Measured P_{Max} for DSI = 1 (Head) - 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	23.97	24.18	24.25	24.54	24.34	0	0
	1	50	24.00	24.24	24.55	**24.69**	24.36		0
	1	99	23.98	24.10	24.37	24.50	24.30		0
	50	0	22.93	23.11	23.37	23.58	23.57	0-1	1
	50	25	23.07	23.22	23.50	**23.62**	23.29		1
	50	50	23.02	23.15	23.46	23.59	23.04		1
	100	0	23.01	23.17	23.45	23.57	23.34		1
16QAM	1	0	23.09	23.22	23.40	23.61	23.61	0-1	1
	1	50	23.19	23.15	23.51	23.86	23.34		1
	1	99	23.08	23.06	23.28	23.66	23.09		1
	50	0	21.90	22.12	22.41	22.58	22.52	0-2	2
	50	25	22.07	22.22	22.51	22.62	22.56		2
	50	50	22.02	22.12	22.45	22.58	22.33		2
	100	0	21.98	22.15	22.42	22.53	22.49		2
64QAM	1	0	21.87	22.09	22.29	22.46	22.59	0-2	2
	1	50	22.12	22.31	22.46	22.74	22.50		2
	1	99	21.99	22.10	22.19	22.38	22.14		2
	50	0	20.98	21.10	21.40	21.58	21.48	0-3	3
	50	25	21.05	21.18	21.53	21.59	21.55		3
	50	50	20.99	21.13	21.44	21.60	21.52		3
	100	0	20.97	21.14	21.42	21.55	21.46		3
256QAM	1	0	18.80	18.86	19.25	19.56	19.40	0-5	5
	1	50	19.07	18.95	19.54	19.56	19.59		5
	1	99	18.86	18.92	19.45	19.33	19.41		5
	50	0	18.85	19.03	19.37	19.54	19.46		5
	50	25	18.95	19.13	19.52	19.59	19.49		5
	50	50	18.94	19.04	19.40	19.57	19.45		5
	100	0	18.96	19.08	19.45	19.52	19.41		5

Table 10-27
LTE Band 41 PC2 Antenna 1 Measured P_{Max} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel	Low-Mid Channel	Mid Channel	Mid-High Channel	High Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
			39750 (2506.0 MHz)	40185 (2549.5 MHz)	40620 (2593.0 MHz)	41055 (2636.5 MHz)	41490 (2680.0 MHz)		
			Conducted Power [dBm]						
QPSK	1	0	25.03	25.01	25.08	25.54	25.32	0	0
	1	50	25.10	25.04	25.35	**25.71**	25.51		0
	1	99	25.08	24.93	25.22	25.53	25.13		0
	50	0	23.90	24.02	24.26	24.52	24.42	0-1	1
	50	25	24.04	24.12	24.40	**24.57**	24.48		1
	50	50	23.97	24.08	24.39	24.56	24.47		1
	100	0	23.96	24.04	24.39	24.52	24.41		1

Table 10-28
LTE Band 41 PC3 Antenna 1 Measured P_{Limit} for DSI = 0 (Body, Phablet, or Hotspot Mode) – 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	21.21	21.43	21.51	21.77	21.62	0	0
	1	50	21.35	21.50	21.83	**21.94**	21.84		0
	1	99	21.30	21.41	21.68	21.67	21.63		0
	50	0	21.31	21.42	21.63	21.85	21.79	0-1	0
	50	25	21.39	21.50	21.82	**21.91**	21.84		0
	50	50	21.33	21.41	21.76	21.86	21.83		0
	100	0	21.33	21.46	21.73	21.85	21.79		0
16QAM	1	0	21.39	21.48	21.54	21.73	21.92	0-1	0
	1	50	21.53	21.52	21.84	21.97	21.93		0
	1	99	21.34	21.54	21.80	21.84	21.98		0
	50	0	21.32	21.43	21.66	21.86	21.83	0-2	0
	50	25	21.44	21.53	21.77	21.90	21.85		0
	50	50	21.39	21.47	21.81	21.89	21.85		0
	100	0	21.35	21.44	21.78	21.86	21.79		0
64QAM	1	0	21.36	21.51	21.56	21.72	21.72	0-2	0
	1	50	21.36	21.47	21.89	21.88	21.94		0
	1	99	21.35	21.32	21.73	21.77	21.72		0
	50	0	21.13	21.24	21.45	21.69	21.62	0-3	0
	50	25	21.26	21.36	21.61	21.74	21.68		0
	50	50	21.17	21.26	21.56	21.74	21.71		0
	100	0	21.19	21.29	21.52	21.68	21.62		0
256QAM	1	0	19.11	18.93	19.26	19.57	19.55	0-5	2
	1	50	19.23	19.22	19.67	19.84	19.58		2
	1	99	19.13	19.02	19.51	19.68	19.55		2
	50	0	19.05	19.19	19.44	19.66	19.56		2
	50	25	19.19	19.29	19.59	19.71	19.66		2
	50	50	19.15	19.23	19.56	19.73	19.62		2
	100	0	19.15	19.29	19.60	19.66	19.57		2

Table 10-29
LTE Band 41 PC2 Antenna 1 Measured P_{Limit} for DSI = 0 (Body, Phablet, or Hotspot Mode) – 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	23.16	23.05	23.13	23.51	23.34	0	0
	1	50	23.25	23.16	23.41	**23.57**	23.55		0
	1	99	23.21	22.96	23.29	23.53	23.34		0
	50	0	23.02	23.11	23.32	23.57	23.47	0-1	0
	50	25	23.16	23.25	23.45	**23.58**	23.53		0
	50	50	23.10	23.12	23.42	23.56	23.53		0
	100	0	23.06	23.16	23.40	23.53	23.49		0

10.3.12 LTE Band 41 Antenna 7

Table 10-30
LTE Band 41 PC3 Antenna 7 Measured P_{Limit} for DSI = 0 (Body, Phablet, or Hotspot Mode) – 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	21.50	21.52	21.72	21.81	21.75	0	0
	1	50	21.70	21.57	21.95	**21.96**	21.87		0
	1	99	21.55	21.52	21.90	21.87	21.77		0
	50	0	21.70	21.67	21.88	21.93	21.96	0-1	0
	50	25	21.80	21.71	21.95	**21.98**	21.97		0
	50	50	21.66	21.60	21.91	21.92	21.90		0
	100	0	21.65	21.67	21.86	21.94	21.91		0
16QAM	1	0	21.54	21.82	21.86	21.90	21.92	0-1	0
	1	50	21.73	21.95	21.92	21.91	21.96		0
	1	99	21.52	21.85	21.97	21.84	21.95		0
	50	0	21.72	21.64	21.87	21.98	21.98	0-2	0
	50	25	21.77	21.71	21.97	21.90	21.93		0
	50	50	21.66	21.64	21.94	21.93	21.90		0
	100	0	21.65	21.67	21.84	21.94	21.98		0
64QAM	1	0	21.61	21.59	21.81	21.75	21.74	0-2	0
	1	50	21.85	21.70	21.88	21.97	21.94		0
	1	99	21.61	21.38	21.83	21.92	21.85		0
	50	0	21.71	21.64	21.85	22.00	21.95	0-3	0
	50	25	21.78	21.70	21.96	21.92	21.79		0
	50	50	21.65	21.58	21.87	21.97	21.61		0
	100	0	21.66	21.62	21.79	21.97	21.78		0
256QAM	1	0	19.58	19.72	19.76	19.93	19.89	0-5	2
	1	50	19.86	19.81	19.89	19.94	19.94		2
	1	99	19.63	19.50	19.74	19.99	19.76		2
	50	0	19.61	19.61	19.83	20.00	19.98		2
	50	25	19.79	19.70	19.92	19.91	19.89		2
	50	50	19.63	19.57	19.84	20.00	19.71		2
	100	0	19.60	19.63	19.79	19.96	19.94		2

Table 10-31
LTE Band 41 PC2 Antenna 7 Measured P_{Limit} for DSI = 0 (Body, Phablet, or Hotspot Mode) – 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	23.43	23.28	23.41	23.25	23.43	0	0
	1	50	23.49	23.35	23.54	**23.58**	23.43		0
	1	99	23.53	23.20	23.55	23.53	23.40		0
	50	0	23.43	23.39	23.54	23.51	23.55	0-1	0
	50	25	23.48	23.41	23.47	23.44	23.51		0
	50	50	23.34	23.31	23.56	23.52	**23.57**		0
	100	0	23.34	23.36	23.50	23.47	23.56		0

Table 10-32
LTE Band 41 PC3 Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	17.38	17.34	17.50	17.71	17.51	0	0
	1	50	17.54	17.38	17.75	**17.86**	17.70		0
	1	99	17.43	17.29	17.62	17.74	17.51		0
	50	0	17.57	17.43	17.64	17.80	17.73	0-1	0
	50	25	17.62	17.46	17.74	**17.91**	17.81		0
	50	50	17.48	17.31	17.65	17.78	17.64		0
	100	0	17.43	17.37	17.59	17.84	17.74		0
16QAM	1	0	17.39	17.60	17.51	17.59	17.59	0-1	0
	1	50	17.49	17.51	17.84	17.92	17.79		0
	1	99	17.35	17.41	17.84	17.91	17.59		0
	50	0	17.56	17.36	17.64	17.84	17.74	0-2	0
	50	25	17.59	17.45	17.70	17.87	17.85		0
	50	50	17.48	17.32	17.63	17.77	17.69		0
	100	0	17.41	17.37	17.60	17.84	17.78		0
64QAM	1	0	17.37	17.25	17.45	17.69	17.68	0-2	0
	1	50	17.55	17.36	17.58	17.97	17.82		0
	1	99	17.50	17.30	17.46	17.70	17.56		0
	50	0	17.52	17.41	17.64	17.83	17.75	0-3	0
	50	25	17.55	17.41	17.74	17.92	17.80		0
	50	50	17.49	17.31	17.66	17.78	17.70		0
	100	0	17.40	17.39	17.56	17.88	17.76		0
256QAM	1	0	17.48	17.22	17.37	17.66	17.80	0-5	0
	1	50	17.63	17.45	17.78	17.90	17.95		0
	1	99	17.39	17.36	17.57	17.78	17.67		0
	50	0	17.49	17.34	17.65	17.85	17.77		0
	50	25	17.61	17.47	17.76	17.96	17.86		0
	50	50	17.48	17.35	17.67	17.85	17.74		0
	100	0	17.46	17.43	17.66	17.90	17.82		0

Table 10-33
LTE Band 41 PC2 Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

LTE Band 41 20 MHz Bandwidth									
Modulation	RB Size	RB Offset	Low Channel 39750 (2506.0 MHz)	Low-Mid Channel 40185 (2549.5 MHz)	Mid Channel 40620 (2593.0 MHz)	Mid-High Channel 41055 (2636.5 MHz)	High Channel 41490 (2680.0 MHz)	MPR Allowed per 3GPP [dB]	MPR [dB]
			Conducted Power [dBm]						
QPSK	1	0	19.02	19.23	19.11	19.37	19.49	0	0
	1	50	19.20	19.33	19.39	**19.58**	19.52		0
	1	99	19.08	19.19	19.25	19.43	19.49		0
	50	0	19.15	19.13	19.31	19.51	19.47	0-1	0
	50	25	19.23	19.19	19.48	**19.57**	19.51		0
	50	50	19.08	19.03	19.30	19.53	19.40		0
	100	0	19.08	19.11	19.32	19.54	19.44		0

Figure 10-3
Power Measurement Setup

10.4 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 LTE and NR Lower Bandwidth RF Conducted Powers Appendix.

Note: Some bands do 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.

10.4.1 NR Band n5 Antenna 0

Table 10-34
NR Band n5 Antenna 0 Measured P_{Max} for all DSI - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**23.35**	0	0.0
	1	53	23.25		0.0
	1	104	23.25		0.0
	50	0	22.20	0-1	1.0
	50	28	**23.26**	0	0.0
	50	56	22.21	0-1	1.0
	100	0	22.34		1.0
DFT-s-OFDM 16QAM	1	1	22.12	0-1	1.0
CP-OFDM QPSK	1	1	21.66	0-1.5	1.5

10.4.2 NR Band n5 Antenna 6

Table 10-35
NR Band n5 Antenna 6 Measured P_{Max} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**23.27**	0	0.0
	1	53	23.15		0.0
	1	104	23.16		0.0
	50	0	22.15	0-1	1.0
	50	28	**23.18**	0	0.0
	50	56	22.22	0-1	1.0
	100	0	22.15		1.0
DFT-s-OFDM 16QAM	1	1	22.14	0-1	1.0
CP-OFDM QPSK	1	1	21.70	0-1.5	1.5

Table 10-36
NR Band n5 Antenna 6 Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

NR Band n5 20 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	167300 (836.5 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**19.03**	0	0.0
	1	53	18.92		0.0
	1	104	18.74		0.0
	50	0	**18.90**	0-1	0.0
	50	28	18.84	0	0.0
	50	56	18.72	0-1	0.0
	100	0	18.89		0.0
DFT-s-OFDM 16QAM	1	1	18.93	0-1	0.0
CP-OFDM QPSK	1	1	19.16	0-1.5	0.0

10.4.3 NR Band n66 Antenna 0

Table 10-37
NR Band n66 Antenna 0 Measured P_{Max} for DSI = 1 (Head) - 40 MHz Bandwidth

NR Band n66 40 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**22.32**	0	0.0
	1	108	22.14		0.0
	1	214	22.17		0.0
	108	0	21.35	0-1	1.0
	108	54	**22.20**	0	0.0
	108	108	21.13	0-1	1.0
	216	0	21.01		1.0
DFT-s-OFDM 16QAM	1	1	21.05	0-1	1.0
CP-OFDM QPSK	1	1	20.70	0-1.5	1.5

Table 10-38
NR Band n66 Antenna 0 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 40 MHz Bandwidth

NR Band n66 40 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**17.66**	0	0.0
	1	108	17.39		0.0
	1	214	17.41		0.0
	108	0	**17.53**	0-1	0.0
	108	54	17.40	0	0.0
	108	108	17.35	0-1	0.0
	216	0	17.52		0.0
DFT-s-OFDM 16QAM	1	1	17.54	0-1	0.0
CP-OFDM QPSK	1	1	17.70	0-1.5	0.0

10.4.4 NR Band n66 Antenna 7

Table 10-39
NR Band n66 Antenna 7 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 40 MHz Bandwidth

NR Band n66 40 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**20.43**	0	0.0
	1	108	20.19		0.0
	1	214	20.34		0.0
	108	0	**20.26**	0-1	0.0
	108	54	20.25	0	0.0
	108	108	20.22	0-1	0.0
	216	0	20.25		0.0
DFT-s-OFDM 16QAM	1	1	20.29	0-1	0.0
CP-OFDM QPSK	1	1	20.59	0-1.5	0.0

Table 10-40
NR Band n66 Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 40 MHz Bandwidth

NR Band n66 40 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	349000 (1745 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**18.27**	0	0.0
	1	108	18.03		0.0
	1	214	18.16		0.0
	108	0	18.10	0-1	0.0
	108	54	**18.16**	0	0.0
	108	108	18.04	0-1	0.0
	216	0	18.10		0.0
DFT-s-OFDM 16QAM	1	1	18.13	0-1	0.0
CP-OFDM QPSK	1	1	18.42	0-1.5	0.0

10.4.5 NR Band n25 Antenna 0

Table 10-41
NR Band n25 Antenna 0 Measured P_{Max} for DSI = 1 (Head) - 20 MHz Bandwidth

NR Band n25 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376500 (1882.5 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	22.81	**23.05**	22.82	0	0.0
	1	53	23.02	22.87	22.94		0.0
	1	104	22.99	22.78	22.72		0.0
	50	0	21.84	21.80	21.79	0-1	1.0
	50	28	22.87	**23.10**	23.02	0	0.0
	50	56	21.99	21.76	22.00	0-1	1.0
	100	0	21.91	21.95	21.92		1.0
DFT-s-OFDM 16QAM	1	1	21.66	21.79	21.73	0-1	1.0
CP-OFDM QPSK	1	1	21.44	21.53	21.48	0-1.5	1.5

Table 10-42
NR Band n25 Antenna 0 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 20 MHz Bandwidth

NR Band n25 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376500 (1882.5 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	17.79	**18.04**	17.96	0	0.0
	1	53	17.91	18.00	17.96		0.0
	1	104	17.98	18.01	17.90		0.0
	50	0	17.77	17.94	17.91	0-1	0.0
	50	28	18.02	**18.06**	17.93	0	0.0
	50	56	17.91	17.99	17.82	0-1	0.0
	100	0	18.01	18.02	17.96		0.0
DFT-s-OFDM 16QAM	1	1	17.77	17.94	17.86	0-1	0.0
CP-OFDM QPSK	1	1	17.95	18.03	18.02	0-1.5	0.0

10.4.6 NR Band n25 Antenna 7

Table 10-43
NR Band n25 Antenna 7 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 20 MHz Bandwidth

NR Band n25 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376500 (1882.5 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	20.85	**20.89**	20.80	0	0.0
	1	53	20.79	20.79	20.81		0.0
	1	104	20.78	20.70	20.75		0.0
	50	0	20.75	20.68	20.67	0-1	0.0
	50	28	20.82	**20.84**	20.80	0	0.0
	50	56	20.72	20.63	20.66	0-1	0.0
	100	0	20.82	20.83	20.82		0.0
DFT-s-OFDM 16QAM	1	1	20.80	20.80	20.64	0-1	0.0
CP-OFDM QPSK	1	1	21.02	21.04	20.81	0-1.5	0.0

Table 10-44
NR Band n25 Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 20 MHz Bandwidth

NR Band n25 20 MHz Bandwidth							
			Channel			MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	372000 (1860 MHz)	376500 (1882.5 MHz)	381000 (1905 MHz)		
			Conducted Power [dBm]				
DFT-s-OFDM QPSK	1	1	18.07	**18.19**	18.10	0	0.0
	1	53	18.03	18.04	18.16		0.0
	1	104	18.03	18.15	18.09		0.0
	50	0	18.05	18.08	18.08	0-1	0.0
	50	28	18.11	**18.19**	18.18	0	0.0
	50	56	18.12	18.11	18.03	0-1	0.0
	100	0	18.15	18.16	18.05		0.0
DFT-s-OFDM 16QAM	1	1	18.12	18.05	18.05	0-1	0.0
CP-OFDM QPSK	1	1	18.31	18.35	18.25	0-1.5	0.0

10.4.7 NR Band n41 Antenna 7

Table 10-45
NR Band n41 Antenna 7 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	19.09	0	0.0
	1	137	**19.71**		0.0
	1	271	19.50		0.0
	135	0	19.54	0-1	0.0
	135	69	**19.69**	0	0.0
	135	138	19.68	0-1	0.0
	270	0	19.64		0.0
DFT-s-OFDM 16QAM	1	1	19.40	0-1	0.0
CP-OFDM QPSK	1	1	19.58	0-1.5	0.0

Table 10-46
NR Band n41 Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	518598 (2592.99 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	15.37	0	0.0
	1	137	**15.77**		0.0
	1	271	15.56		0.0
	135	0	15.60	0-1	0.0
	135	69	**15.71**	0	0.0
	135	138	15.68	0-1	0.0
	270	0	15.65		0.0
DFT-s-OFDM 16QAM	1	1	15.34	0-1	0.0
CP-OFDM QPSK	1	1	15.37	0-1.5	0.0

10.4.8 NR Band n41 Antenna 1, 6, 3

Table 10-47
NR Band n41 Antenna 1 & 3 Measured P_{Limit} for all DSI
NR Band n41 Antenna 6 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth	
	Channel
Antenna	518598 (2592.99 MHz)
	Conducted Power [dBm]
SRS #1 Ant 1	**20.35**
SRS #2 Ant 6	**20.42**
SRS #3 Ant 3	**20.48**

Table 10-48
NR Band n41 Antenna 6 Measured P_{Limit} for DSI = 1 (Head) – 100 MHz Bandwidth

NR Band n41 100 MHz Bandwidth	
	Channel
Antenna	518598 (2592.99 MHz)
	Conducted Power [dBm]
SRS #2 Ant 6	17.42

10.4.9 NR Band n77 DoD Antenna 7

Table 10-49
NR Band n77 DoD Antenna 7 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 100 MHz Bandwidth

NR Band n77 DoD 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	633334 (3500.01 MHz)		
			Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**20.44**	0	0.0
	1	137	19.95		0.0
	1	271	19.45		0.0
	135	0	**20.25**	0-1	0.0
	135	69	19.95	0	0.0
	135	138	19.62	0-1	0.0
	270	0	20.15		0.0
DFT-s-OFDM 16QAM	1	1	19.96	0-1	0.0
CP-OFDM QPSK	1	1	20.19	0-1.5	0.0

Table 10-50
NR Band n77 DoD Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n77 DoD 100 MHz Bandwidth					
			Channel	MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	633334 (3500.01 MHz) Conducted Power [dBm]		
DFT-s-OFDM QPSK	1	1	**14.97**	0	0.0
	1	137	14.35		0.0
	1	271	14.23		0.0
	135	0	**14.69**	0-1	0.0
	135	69	14.52	0	0.0
	135	138	14.30	0-1	0.0
	270	0	14.53		0.0
DFT-s-OFDM 16QAM	1	1	15.04	0-1	0.0
CP-OFDM QPSK	1	1	15.11	0-1.5	0.0

10.4.10 NR Band n77 DoD Antenna 2, 10, 3

Table 10-51
NR Band n77 DoD Antenna 3 Measured P_{Limit} for all DSI
NR Band n77 DoD Antenna 2 & 10 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 100 MHz Bandwidth

NR Band n77 DoD 100 MHz Bandwidth	
	Channel
Antenna	633334 (3500.01 MHz) Conducted Power [dBm]
SRS #1 Ant 2	**17.82**
SRS #2 Ant 10	**17.07**
SRS #3 Ant 3	**19.78**

Table 10-52
NR Band n77 DoD Antenna 2 & 10 Measured P_{Limit} for DSI = 1 (Head) – 100 MHz Bandwidth

NR Band n77 DoD 100 MHz Bandwidth	
	Channel
Antenna	633334 (3500.01 MHz) Conducted Power [dBm]
SRS #2 Ant 2	19.41
SRS #2 Ant 10	19.28

10.4.11 NR Band n77 C-Band Antenna 7

Table 10-53
NR Band n77 C-Band Antenna 7 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM QPSK	1	1	**20.55**	20.51	0	0.0
	1	137	20.21	20.42		0.0
	1	271	20.18	20.46		0.0
	135	0	**20.49**	20.47	0-1	0.0
	135	69	20.15	20.43	0	0.0
	135	138	20.18	20.48	0-1	0.0
	270	0	20.38	20.37		0.0
DFT-s-OFDM 16QAM	1	1	20.43	20.35	0-1	0.0
CP-OFDM QPSK	1	1	20.77	20.36	0-1.5	0.0

Table 10-54
NR Band n77 Antenna 7 Measured P_{Limit} for DSI = 1 (Head) - 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth						
			Channel		MPR Allowed per 3GPP [dB]	MPR [dB]
Modulation	RB Size	RB Offset	650000 (3750 MHz)	662000 (3930 MHz)		
			Conducted Power [dBm]			
DFT-s-OFDM QPSK	1	1	**15.29**	14.88	0	0.0
	1	137	14.66	14.82		0.0
	1	271	14.94	14.73		0.0
	135	0	**15.02**	14.87	0-1	0.0
	135	69	14.80	14.78	0	0.0
	135	138	14.67	14.85	0-1	0.0
	270	0	14.79	14.80		0.0
DFT-s-OFDM 16QAM	1	1	15.29	14.89	0-1	0.0
CP-OFDM QPSK	1	1	15.38	15.05	0-1.5	0.0

10.4.12 NR Band n77 C-Band Antenna 2, 10, 3

Table 10-55
NR Band n77 C-Band Antenna 3 Measured P_{Limit} for all DSI
NR Band n77 C-Band Antenna 2 & 10 Measured P_{Limit} for DSI = 0 (Body-worn, Hotspot, or Phablet) – 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth		
	Channel	
Antenna	650000 (3750 MHz)	662000 (3930 MHz)
	Conducted Power [dBm]	
SRS #1 Ant 2	**17.73**	17.33
SRS #2 Ant 10	**17.08**	17.04
SRS #3 Ant 3	18.62	**18.64**

Table 10-56
NR Band n77 C-Band Antenna 2 & 10 Measured P_{Limit} for DSI = 1 (Head) – 100 MHz Bandwidth

NR Band n77 100 MHz Bandwidth		
	Channel	
Antenna	650000 (3750 MHz)	662000 (3930 MHz)
	Conducted Power [dBm]	
SRS #1 Ant 2	19.43	19.40
SRS #2 Ant 10	19.42	19.32

Figure 10-4
Power Measurement Setup – NR FDD

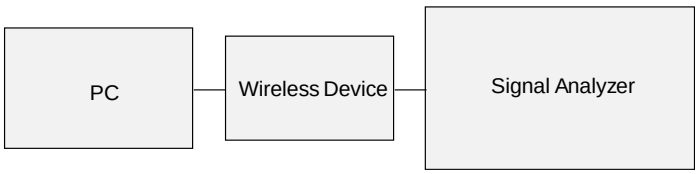


Figure 10-5
Power Measurement Setup – NR TDD

10.5 WLAN Conducted Powers

Table 10-57

2.4 GHz WLAN Measured P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot, or Phablet) – Ant 9

2.4GHz WIFI (20MHz 802.11b SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	18.78
2437	6		18.78
2462	11		18.74

2.4GHz WIFI (20MHz 802.11g SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	17.68
2437	6		17.69
2462	11		17.69

2.4GHz WIFI (20MHz 802.11n SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	17.72
2437	6		17.71
2462	11		17.75

2.4GHz WIFI (20MHz 802.11ac SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.82
2437	6		16.79
2462	11		16.83

2.4GHz WIFI (20MHz 802.11ax SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.93
2437	6		16.91
2462	11		16.97

2.4GHz WIFI (20MHz 802.11be SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.95
2437	6		16.97
2462	11		16.99

Table 10-58

2.4 GHz WLAN Measured P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot, or Phablet) – Ant 11

2.4GHz WIFI (20MHz 802.11b SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	18.59
2437	6		18.39
2462	11		18.69

2.4GHz WIFI (20MHz 802.11g SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	17.98
2437	6		17.84
2462	11		17.74

2.4GHz WIFI (20MHz 802.11n SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	17.51
2437	6		17.86
2462	11		17.77

2.4GHz WIFI (20MHz 802.11ac SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.71
2437	6		16.68
2462	11		16.74

2.4GHz WIFI (20MHz 802.11ax SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.81
2437	6		16.90
2462	11		16.92

2.4GHz WIFI (20MHz 802.11be SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.78
2437	6		16.89
2462	11		16.90

Table 10-59

2.4 GHz WLAN Measured P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot, or Phablet) – MIMO

2.4GHz WIFI (20MHz 802.11b MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	18.74	18.39	21.58
2437	6		18.74	18.19	21.48
2462	11		18.61	18.08	21.36

Table 10-60
2.4 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant 9

2.4GHz WIFI (20MHz 802.11b SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.61
2437	6		16.51
2462	11		16.60

2.4GHz WIFI (20MHz 802.11g SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	15.22
2437	6		15.45
2462	11		15.27

2.4GHz WIFI (20MHz 802.11n SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	15.07
2437	6		15.44
2462	11		15.27

2.4GHz WIFI (20MHz 802.11ac SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.82
2437	6		16.79
2462	11		16.83

2.4GHz WIFI (20MHz 802.11ax SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.93
2437	6		16.91
2462	11		16.97

2.4GHz WIFI (20MHz 802.11be SISO ANT 9)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.95
2437	6		16.97
2462	11		16.99

Table 10-61
2.4 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant 11

2.4GHz WIFI (20MHz 802.11b SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.53
2437	6		16.20
2462	11		16.52

2.4GHz WIFI (20MHz 802.11g SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	15.35
2437	6		15.12
2462	11		15.01

2.4GHz WIFI (20MHz 802.11n SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	15.30
2437	6		15.05
2462	11		15.02

2.4GHz WIFI (20MHz 802.11ac SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.71
2437	6		16.68
2462	11		16.74

2.4GHz WIFI (20MHz 802.11ax SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.81
2437	6		16.90
2462	11		16.92

2.4GHz WIFI (20MHz 802.11be SISO ANT 11)			
Freq. [MHz]	Channel	Detector	Conducted Power [dBm]
2412	1	Average	16.78
2437	6		16.89
2462	11		16.90

Table 10-62
2.4 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – MIMO

2.4GHz WIFI (20MHz 802.11b MIMO)					
Freq [MHz]	Channel	Detector	Conducted Power [dBm]		
			ANT1	ANT2	MIMO
2412	1	Average	16.67	16.53	19.61
2437	6		16.65	16.20	19.44
2462	11		16.67	16.51	19.60

Table 10-63
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 0 (Body-worn, Hotspot, or Phablet) – Ant 9

5GHz WIFI (20MHz 802.11a SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	15.67
	5200	40	16.05
	5220	44	16.68
	5240	48	16.75
UNII-2A	5260	52	16.88
	5280	56	16.28
	5300	60	16.94
	5320	64	16.98
UNII-2C	5500	100	16.60
	5600	120	15.82
	5620	124	15.85
	5720	144	16.04
UNII-3	5745	149	16.13
	5785	157	16.26
	5825	165	16.53
UNII-4	5845	169	16.58
	5865	173	16.56
	5885	177	16.53

5GHz WIFI (20MHz 802.11n SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.85
	5200	40	16.85
	5220	44	16.50
	5240	48	16.15
UNII-2A	5260	52	16.18
	5280	56	16.79
	5300	60	16.32
	5320	64	16.36
UNII-2C	5500	100	16.91
	5600	120	16.87
	5620	124	16.67
	5720	144	16.49
UNII-3	5745	149	16.68
	5785	157	16.89
	5825	165	16.79
UNII-4	5845	169	16.79
	5865	173	16.62
	5885	177	16.66

5GHz WIFI (20MHz 802.11ac SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.85
	5200	40	16.98
	5220	44	16.23
	5240	48	16.08
UNII-2A	5260	52	16.18
	5280	56	16.83
	5300	60	16.29
	5320	64	16.29
UNII-2C	5500	100	16.83
	5600	120	16.76
	5620	124	16.59
	5720	144	16.90
UNII-3	5745	149	16.63
	5785	157	16.95
	5825	165	16.83
UNII-4	5845	169	16.77
	5865	173	16.61
	5885	177	16.61

5GHz WIFI (20MHz 802.11ax SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.94
	5200	40	16.98
	5220	44	16.28
	5240	48	16.14
UNII-2A	5260	52	16.26
	5280	56	16.93
	5300	60	16.45
	5320	64	16.40
UNII-2C	5500	100	16.54
	5600	120	16.94
	5620	124	16.77
	5720	144	16.59
UNII-3	5745	149	16.89
	5785	157	16.56
	5825	165	16.45
UNII-4	5845	169	16.45
	5865	173	16.83
	5885	177	16.93

5GHz WIFI (20MHz 802.11be SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.63
	5200	40	16.79
	5220	44	16.81
	5240	48	16.82
UNII-2A	5260	52	16.86
	5280	56	16.51
	5300	60	16.67
	5320	64	16.93
UNII-2C	5500	100	16.68
	5600	120	16.88
	5620	124	16.85
	5720	144	16.64
UNII-3	5745	149	16.77
	5785	157	16.96
	5825	165	16.73
UNII-4	5845	169	16.83
	5865	173	16.89
	5885	177	16.86

Table 10-64
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 0 (Body-worn, Hotspot, or Phablet) – Ant 6

5GHz WIFI (20MHz 802.11a SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	15.62
	5200	40	15.75
	5220	44	15.65
	5240	48	15.99
UNII-2A	5260	52	16.11
	5280	56	16.37
	5300	60	16.33
	5320	64	16.26
UNII-2C	5500	100	16.35
	5600	120	16.21
	5620	124	16.08
	5720	144	16.57
UNII-3	5745	149	16.78
	5785	157	16.57
	5825	165	16.47
UNII-4	5845	169	16.35
	5865	173	16.25
	5885	177	16.34

5GHz WIFI (20MHz 802.11n SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.19
	5200	40	16.57
	5220	44	16.24
	5240	48	16.43
UNII-2A	5260	52	16.72
	5280	56	16.59
	5300	60	16.68
	5320	64	16.63
UNII-2C	5500	100	16.57
	5600	120	16.12
	5620	124	16.13
	5720	144	15.77
UNII-3	5745	149	15.82
	5785	157	16.48
	5825	165	16.83
UNII-4	5845	169	16.86
	5865	173	16.71
	5885	177	16.77

5GHz WIFI (20MHz 802.11ac SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.16
	5200	40	16.54
	5220	44	16.17
	5240	48	16.44
UNII-2A	5260	52	16.72
	5280	56	16.61
	5300	60	16.62
	5320	64	16.59
UNII-2C	5500	100	16.53
	5600	120	16.02
	5620	124	16.05
	5720	144	16.26
UNII-3	5745	149	15.79
	5785	157	16.49
	5825	165	16.75
UNII-4	5845	169	16.83
	5865	173	16.73
	5885	177	16.73

5GHz WIFI (20MHz 802.11ax SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.37
	5200	40	16.75
	5220	44	16.34
	5240	48	16.65
UNII-2A	5260	52	16.91
	5280	56	16.79
	5300	60	16.86
	5320	64	16.81
UNII-2C	5500	100	16.19
	5600	120	16.21
	5620	124	16.32
	5720	144	15.91
UNII-3	5745	149	16.06
	5785	157	16.24
	5825	165	16.43
UNII-4	5845	169	16.44
	5865	173	16.94
	5885	177	16.97

5GHz WIFI (20MHz 802.11be SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5180	36	16.71
	5200	40	16.94
	5220	44	16.70
	5240	48	16.75
UNII-2A	5260	52	16.67
	5280	56	16.92
	5300	60	16.78
	5320	64	16.93
UNII-2C	5500	100	16.99
	5600	120	16.98
	5620	124	16.94
	5720	144	16.99
UNII-3	5745	149	16.64
	5785	157	16.66
	5825	165	16.65
UNII-4	5845	169	16.67
	5865	173	16.71
	5885	177	16.62

Table 10-65
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 0 (Body-worn, Hotspot, or Phablet) – MIMO

5GHz WIFI (20MHz 802.11a MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5180	36	15.67	15.62	18.66
	5200	40	16.05	15.75	18.91
	5220	44	16.68	15.65	19.21
	5240	48	16.75	15.99	19.40
UNII-2A	5260	52	16.88	16.11	19.52
	5280	56	16.28	16.26	19.28
	5300	60	16.94	16.33	19.66
	5320	64	16.98	16.37	19.70
UNII-2C	5500	100	16.60	16.35	19.49
	5600	120	15.82	16.21	19.03
	5620	124	15.85	16.08	18.98
	5720	144	16.04	16.57	19.32
UNII-3	5745	149	16.13	16.78	19.48
	5785	157	16.26	16.57	19.43
	5825	165	16.53	16.47	19.51
UNII-4	5845	169	16.58	16.35	19.48
	5865	173	16.56	16.25	19.42
	5885	177	16.53	16.35	19.45

Table 10-66
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant 9

5GHz WIFI (80MHz 802.11ac SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	13.62
UNII-2A	5290	58	13.72
UNII-2C	5530	106	13.75
	5610	122	13.67
	5690	138	13.68
UNII-3	5775	155	13.58
UNII-4	5885	171	13.69

5GHz WIFI (80MHz 802.11ax SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	13.06
UNII-2A	5290	58	13.08
UNII-2C	5530	106	13.13
	5610	122	12.72
	5690	138	12.83
UNII-3	5775	155	12.57
UNII-4	5885	171	12.54

5GHz WIFI (80MHz 802.11be SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	13.26
UNII-2A	5290	58	13.28
UNII-2C	5530	106	13.34
	5610	122	12.89
	5690	138	13.03
UNII-3	5775	155	12.91
UNII-4	5885	171	12.73

Table 10-67
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Ant 6

5GHz WIFI (80MHz 802.11ac SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	13.61
UNII-2A	5290	58	13.65
UNII-2C	5530	106	13.60
	5610	122	13.68
	5690	138	13.58
UNII-3	5775	155	13.62
UNII-4	5885	171	13.43

5GHz WIFI (80MHz 802.11ax SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	12.62
UNII-2A	5290	58	12.71
UNII-2C	5530	106	13.31
	5610	122	13.79
	5690	138	13.33
UNII-3	5775	155	13.60
UNII-4	5885	171	13.36

5GHz WIFI (80MHz 802.11be SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-1	5210	42	12.75
UNII-2A	5290	58	12.83
UNII-2C	5530	106	13.45
	5610	122	13.77
	5690	138	13.59
UNII-3	5775	155	13.79
UNII-4	5885	171	13.67

Table 10-68
5 GHz WLAN Measured P_{Limit} Average RF Power for DSI = 1 (Head) – MIMO

5GHz WIFI (80MHz 802.11ac MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-1	5210	42	13.55	13.44	16.51
UNII-2A	5290	58	13.60	13.52	16.57
UNII-2C	5530	106	13.57	13.65	16.62
	5610	122	13.52	13.60	16.57
	5690	138	13.41	13.62	16.53
UNII-3	5775	155	13.61	13.58	16.61
UNII-4	5885	171	13.33	13.41	16.38

Table 10-69
6 GHz WLAN Measured P_{Limit} Average RF Power for all DSI – Ant 9

6GHz WIFI (80MHz 802.11ax SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.62
	6305	71	9.11
UNII-6	6465	103	9.53
UNII-7	6705	151	9.91
UNII-8	7025	215	9.92

6GHz WIFI (80MHz 802.11be SISO ANT 9)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.60
	6305	71	9.10
UNII-6	6465	103	9.51
UNII-7	6705	151	9.74
UNII-8	7025	215	9.31

Table 10-70
6 GHz WLAN Measured P_{Limit} Average RF Power for all DSI – Ant 6

6GHz WIFI (80MHz 802.11ax SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.78
	6305	71	9.78
UNII-6	6465	103	9.67
UNII-7	6705	151	9.65
UNII-8	7025	215	9.13

6GHz WIFI (80MHz 802.11be SISO ANT 6)			
Band	Freq. [MHz]	Channel	Avg. Conducted Power [dBm]
UNII-5	5985	7	9.75
	6305	71	9.63
UNII-6	6465	103	9.56
UNII-7	6705	151	9.62
UNII-8	7025	215	9.06

Table 10-71
6 GHz WLAN Measured P_{Limit} Average RF Power for all DSI – MIMO

6GHz WIFI (80MHz 802.11ax MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-5	5985	7	9.53	9.90	12.73
	6305	71	9.10	9.22	12.17
UNII-6	6465	103	9.53	9.62	12.59
UNII-7	6705	151	9.78	9.63	12.72
UNII-8	7025	215	9.52	9.11	12.33

6GHz WIFI (80MHz 802.11be MIMO)					
Band	Freq [MHz]	Channel	Avg. Conducted Powers [dBm]		
			ANT1	ANT2	MIMO
UNII-5	5985	7	9.53	9.81	12.68
	6305	71	9.15	9.24	12.21
UNII-6	6465	103	9.51	9.59	12.56
UNII-7	6705	151	9.75	9.64	12.71
UNII-8	7025	215	9.33	9.08	12.22

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.

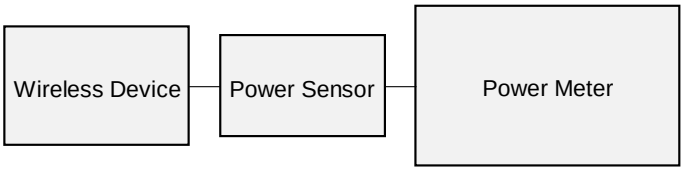


Figure 10-6
Power Measurement Setup

10.6 Bluetooth Conducted Powers

Table 10-72
Bluetooth Measured P_{Max} Average RF Power for DSI = 0 (Body-worn, Hotspot, or Phablet) – Antenna 9

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	17.50	56.201
2441	1.0	GFSK	ePA	39	18.81	76.079
2480	1.0	GFSK	ePA	78	18.27	67.214

Table 10-73
Bluetooth Measured P_{Max} Average RF Power for DSI = 0 (Body-worn or Phablet) – Antenna 11

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	18.90	77.619
2441	1.0	GFSK	ePA	39	19.24	84.010
2480	1.0	GFSK	ePA	78	18.04	63.721

Table 10-74
Bluetooth Measured P_{Max} Average RF Power for DSI = 0 (Body-worn or Phablet) – MIMO

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	ANT1 Avg Conducted Power		ANT2 Avg Conducted Power		Dual Avg Conducted Power	
					[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]
2402	1.0	GFSK	iPA	0	13.11	20.467	13.55	22.631	16.34	43.097
2441	1.0	GFSK	iPA	39	14.52	28.305	13.26	21.167	16.94	49.472
2480	1.0	GFSK	iPA	78	13.86	24.346	13.75	23.695	16.82	48.041

Table 10-75
Bluetooth Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Antenna 9

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	10.70	11.749
2441	1.0	GFSK	ePA	39	12.15	16.406
2480	1.0	GFSK	ePA	78	10.99	12.560

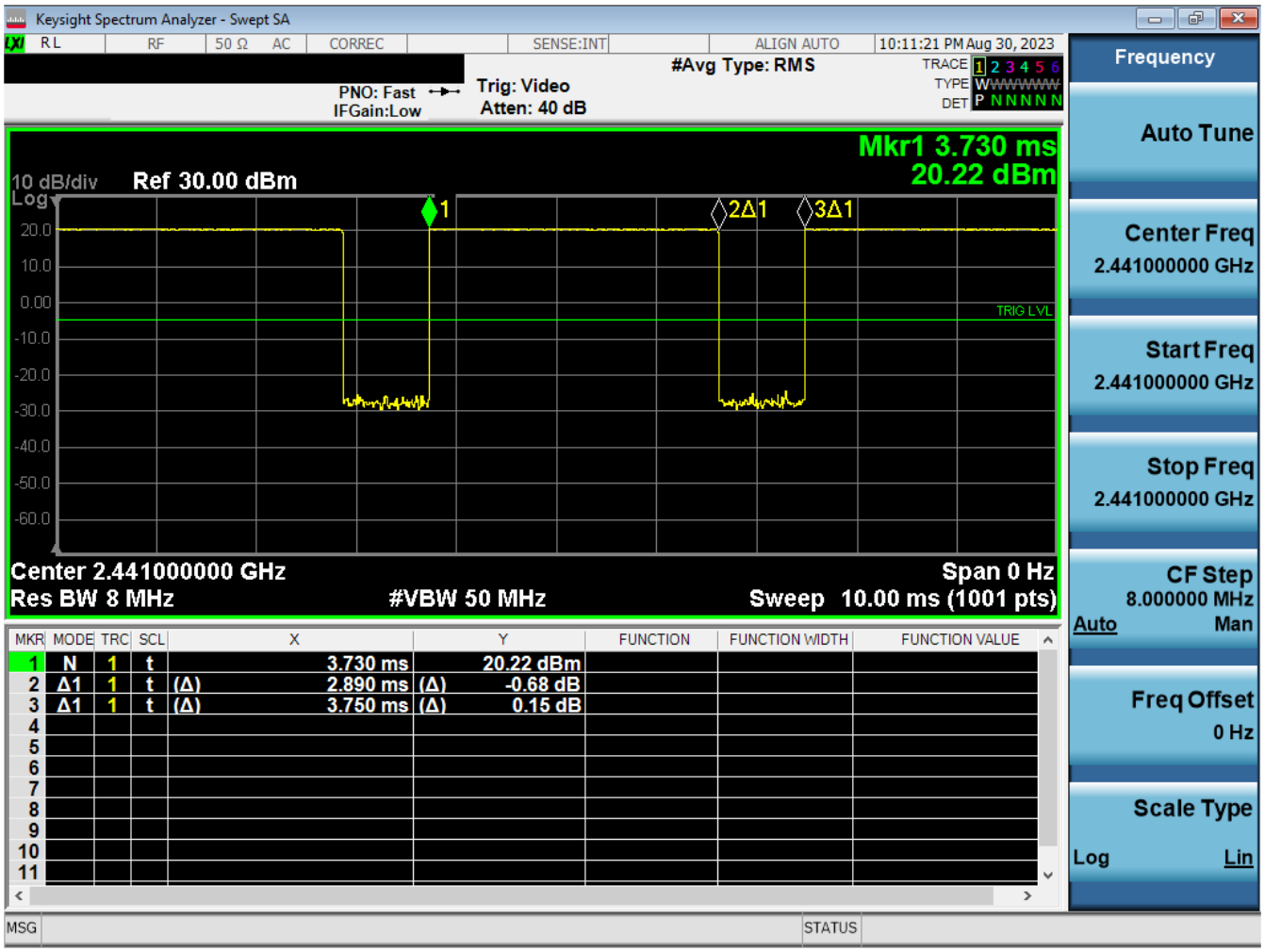
Table 10-76
Bluetooth Measured P_{Limit} Average RF Power for DSI = 1 (Head) – Antenna 11

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	Avg Conducted Power	
					[dBm]	[mW]
2402	1.0	GFSK	ePA	0	9.84	9.638
2441	1.0	GFSK	ePA	39	12.00	15.849
2480	1.0	GFSK	ePA	78	10.96	12.474

Table 10-77
Bluetooth Measured P_{Limit} Average RF Power for DSI = 1 (Head) – MIMO

Frequency [MHz]	Data Rate [Mbps]	Mod.	Power Scheme	Channel No.	ANT1 Avg Conducted Power		ANT2 Avg Conducted Power		Dual Avg Conducted Power	
					[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]
2402	1.0	GFSK	iPA	0	8.65	7.331	9.15	8.230	11.92	15.561
2441	1.0	GFSK	iPA	39	9.94	9.860	9.58	9.070	12.77	18.929
2480	1.0	GFSK	iPA	78	9.09	8.112	9.58	9.070	12.35	17.182

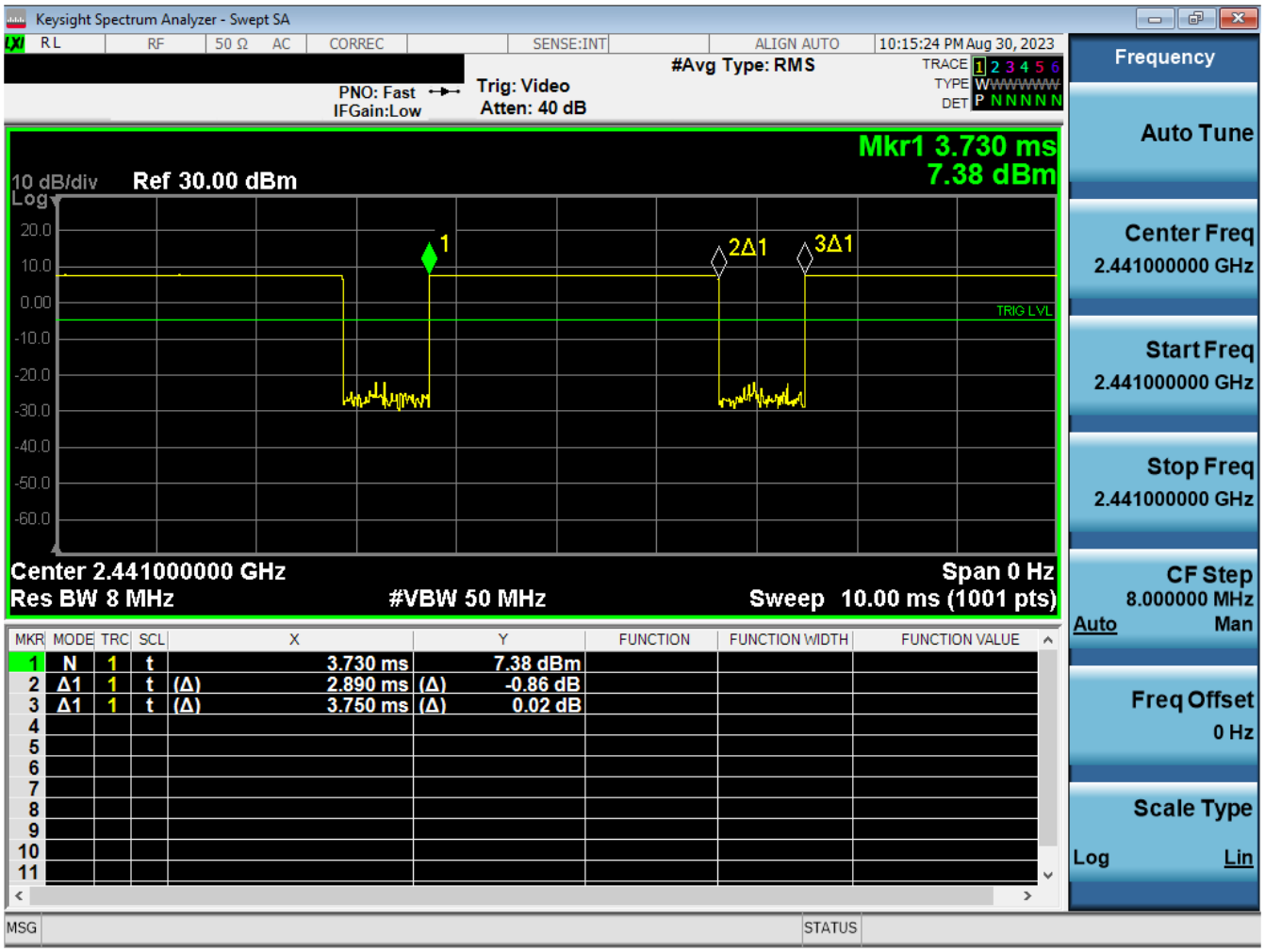
Figure 10-7
Bluetooth Antenna 9 Transmission Plot



Equation 10-1
Bluetooth Antenna 9 Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.890ms}{3.750ms} * 100\% = 77.07\%$$

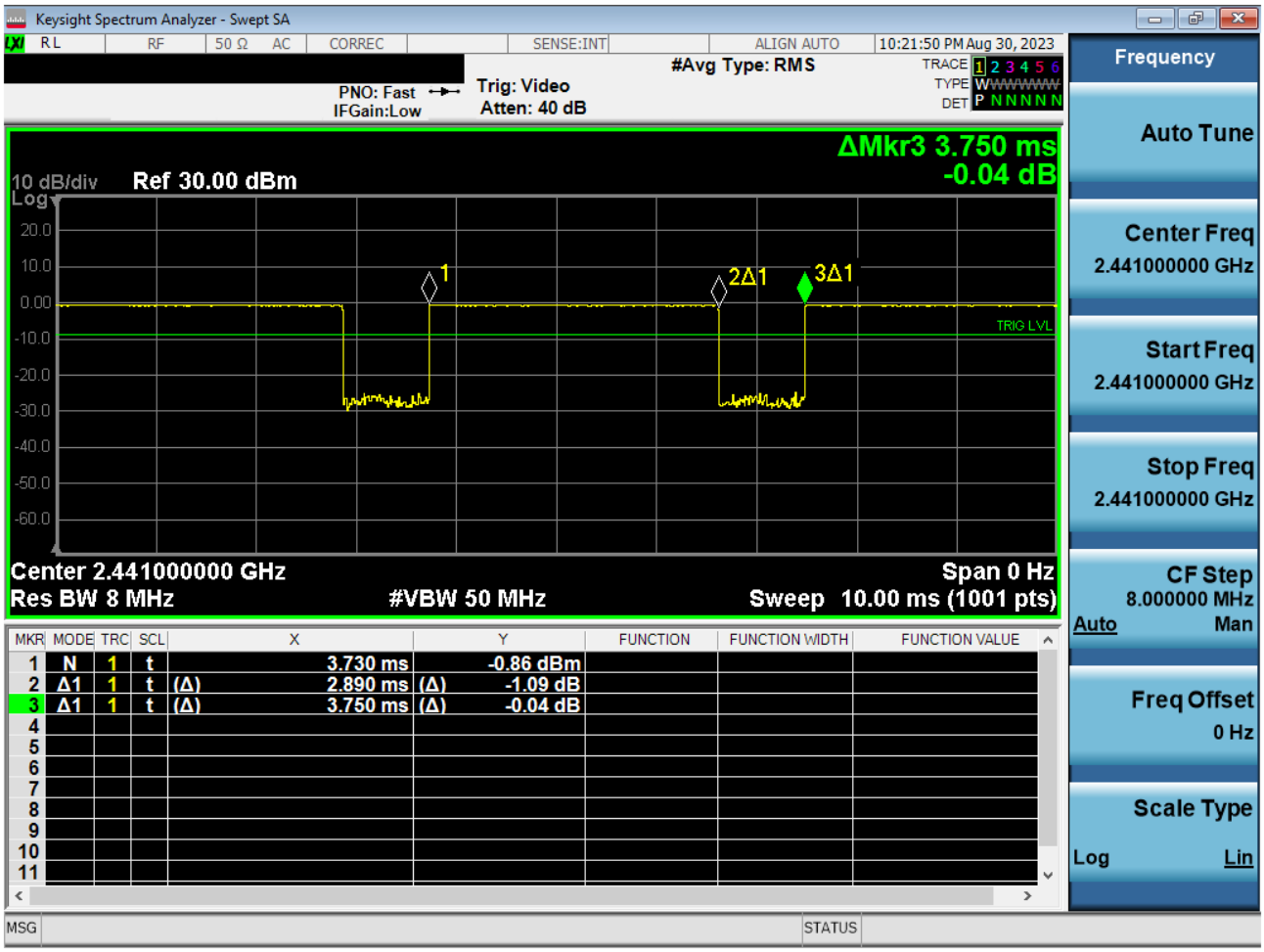
Figure 10-8
Bluetooth Antenna 11 Transmission Plot



Equation 10-2
Bluetooth Antenna 11 Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.890ms}{3.750ms} * 100\% = 77.07\%$$

Figure 10-9
Bluetooth MIMO Transmission Plot



Equation 10-3
Bluetooth MIMO Duty Cycle Calculation

$$Duty\ Cycle = \frac{Pulse\ Width}{Period} * 100\% = \frac{2.890ms}{3.750ms} * 100\% = 77.07\%$$

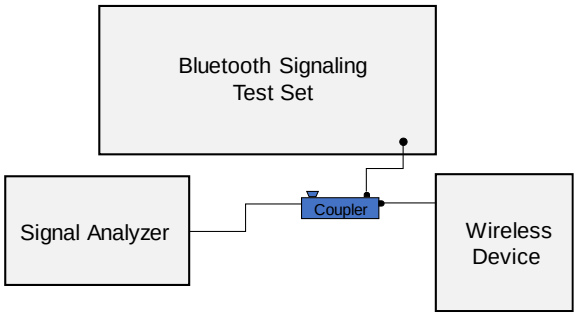


Figure 10-10
Power Measurement Setup

11 SYSTEM VERIFICATION

11.1 Tissue Verification

Table 11-1
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
10/14/2023	30 Head	23.0	12	0.725	52.988	0.750	55.000	-3.33%	-3.66%
			13	0.725	53.159	0.750	55.000	-3.33%	-3.35%
			14	0.726	53.302	0.750	55.000	-3.20%	-3.09%
09/20/2023	750 Head	21.8	680	0.852	43.294	0.888	42.305	-4.05%	2.34%
			695	0.857	43.262	0.889	42.227	-3.60%	2.45%
			700	0.859	43.251	0.889	42.201	-3.37%	2.49%
			710	0.862	43.222	0.890	42.149	-3.15%	2.55%
			725	0.868	43.176	0.891	42.071	-2.58%	2.63%
			750	0.877	43.090	0.894	41.942	-1.90%	2.74%
			770	0.884	43.030	0.895	41.838	-1.23%	2.85%
			785	0.889	42.990	0.896	41.760	-0.78%	2.95%
			800	0.894	42.947	0.897	41.682	-0.33%	3.03%
09/21/2023	750 Head	20.3	680	0.865	41.972	0.888	42.305	-2.59%	-0.79%
			695	0.870	41.942	0.889	42.227	-2.14%	-0.67%
			700	0.871	41.932	0.889	42.201	-2.02%	-0.64%
			710	0.874	41.910	0.890	42.149	-1.80%	-0.57%
			725	0.878	41.878	0.891	42.071	-1.46%	-0.46%
			750	0.887	41.823	0.894	41.942	-0.78%	-0.28%
			770	0.895	41.773	0.895	41.838	0.00%	-0.16%
			785	0.902	41.738	0.896	41.760	0.67%	-0.05%
			800	0.907	41.698	0.897	41.682	1.11%	0.04%
10/05/2023	750 Head	21.1	680	0.881	40.696	0.888	42.305	-0.79%	-3.80%
			695	0.887	40.654	0.889	42.227	-0.22%	-3.73%
			700	0.889	40.641	0.889	42.201	0.00%	-3.70%
			710	0.892	40.617	0.890	42.149	0.22%	-3.63%
			725	0.897	40.566	0.891	42.071	0.67%	-3.58%
			750	0.904	40.461	0.894	41.942	1.12%	-3.53%
			770	0.911	40.409	0.895	41.838	1.79%	-3.42%
			785	0.916	40.380	0.896	41.760	2.23%	-3.30%
			800	0.922	40.347	0.897	41.682	2.79%	-3.20%
10/09/2023	750 Head	20.3	680	0.875	40.367	0.888	42.305	-1.46%	-4.58%
			695	0.880	40.331	0.889	42.227	-1.01%	-4.49%
			700	0.882	40.318	0.889	42.201	-0.79%	-4.46%
			710	0.886	40.294	0.890	42.149	-0.45%	-4.40%
			725	0.891	40.252	0.891	42.071	0.00%	-4.32%
			750	0.900	40.170	0.894	41.942	0.67%	-4.22%
			770	0.908	40.103	0.895	41.838	1.45%	-4.15%
			785	0.913	40.055	0.896	41.760	1.90%	-4.08%
			800	0.919	40.009	0.897	41.682	2.45%	-4.01%

Table 11-2
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
09/06/2023	835 Head	21.1	815	0.859	41.925	0.898	41.594	-4.34%	0.80%
			820	0.864	41.853	0.899	41.578	-3.89%	0.66%
			835	0.878	41.612	0.900	41.500	-2.44%	0.27%
			850	0.891	41.422	0.916	41.500	-2.73%	-0.19%
09/11/2023	835 Head	21.4	815	0.883	42.252	0.898	41.594	-1.67%	1.58%
			820	0.888	42.187	0.899	41.578	-1.22%	1.46%
			835	0.903	41.991	0.900	41.500	0.33%	1.18%
			850	0.918	41.801	0.916	41.500	0.22%	0.73%
09/18/2023	835 Head	23.1	815	0.880	42.256	0.898	41.594	-2.00%	1.59%
			820	0.885	42.186	0.899	41.578	-1.56%	1.46%
			835	0.900	41.974	0.900	41.500	0.00%	1.14%
			850	0.915	41.774	0.916	41.500	-0.11%	0.66%
09/20/2023	835 Head	20.7	815	0.875	41.116	0.898	41.594	-2.56%	-1.15%
			820	0.880	41.053	0.899	41.578	-2.11%	-1.26%
			835	0.896	40.873	0.900	41.500	-0.44%	-1.51%
			850	0.912	40.693	0.916	41.500	-0.44%	-1.94%
09/25/2023	835 Head	22.3	815	0.855	40.273	0.898	41.594	-4.79%	-3.18%
			820	0.860	40.203	0.899	41.578	-4.34%	-3.31%
			835	0.874	39.994	0.900	41.500	-2.89%	-3.63%
			850	0.888	39.803	0.916	41.500	-3.06%	-4.09%
10/02/2023	835 Head	21.8	815	0.871	40.447	0.898	41.594	-3.01%	-2.76%
			820	0.876	40.381	0.899	41.578	-2.56%	-2.88%
			835	0.890	40.190	0.900	41.500	-1.11%	-3.16%
			850	0.904	40.013	0.916	41.500	-1.31%	-3.58%
10/04/2023	835 Head	19.0	815	0.854	39.960	0.898	41.594	-4.90%	-3.93%
			820	0.859	39.887	0.899	41.578	-4.45%	-4.07%
			835	0.873	39.675	0.900	41.500	-3.00%	-4.40%
			850	0.888	39.491	0.916	41.500	-3.06%	-4.84%
10/18/2023	835 Head	23.7	815	0.876	39.905	0.898	41.594	-2.45%	-4.06%
			820	0.878	39.889	0.899	41.578	-2.34%	-4.06%
			835	0.883	39.839	0.900	41.500	-1.89%	-4.00%
			850	0.888	39.794	0.916	41.500	-3.06%	-4.11%
09/18/2023	1750 Head	23.1	1710	1.347	38.708	1.348	40.142	-0.07%	-3.57%
			1720	1.352	38.668	1.354	40.126	-0.15%	-3.63%
			1745	1.367	38.512	1.368	40.087	-0.07%	-3.93%
			1750	1.371	38.480	1.371	40.079	0.00%	-3.99%
			1770	1.395	38.390	1.383	40.047	0.87%	-4.14%
			1790	1.422	38.358	1.394	40.016	2.01%	-4.14%
09/18/2023	1750 Head	19.5	1710	1.348	39.799	1.348	40.142	0.00%	-0.85%
			1720	1.358	39.754	1.354	40.126	0.30%	-0.93%
			1745	1.382	39.627	1.368	40.087	1.02%	-1.15%
			1750	1.388	39.602	1.371	40.079	1.24%	-1.19%
			1770	1.409	39.508	1.383	40.047	1.88%	-1.35%
			1790	1.431	39.428	1.394	40.016	2.65%	-1.47%
09/26/2023	1750 Head	22.8	1710	1.310	41.866	1.348	40.142	-2.82%	4.29%
			1720	1.316	41.852	1.354	40.126	-2.81%	4.30%
			1745	1.331	41.815	1.368	40.087	-2.70%	4.31%
			1750	1.335	41.808	1.371	40.079	-2.63%	4.31%
			1770	1.346	41.780	1.383	40.047	-2.68%	4.33%
			1790	1.356	41.748	1.394	40.016	-2.73%	4.33%
09/27/2023	1750 Head	24.5	1710	1.317	39.871	1.348	40.142	-2.30%	-0.68%
			1720	1.326	39.828	1.354	40.126	-2.07%	-0.74%
			1745	1.352	39.718	1.368	40.087	-1.17%	-0.92%
			1750	1.357	39.696	1.371	40.079	-1.02%	-0.96%
			1770	1.378	39.612	1.383	40.047	-0.36%	-1.09%
			1790	1.398	39.532	1.394	40.016	0.29%	-1.21%
10/02/2023	1750 Head	23.0	1710	1.292	42.017	1.348	40.142	-4.15%	4.67%
			1720	1.296	42.008	1.354	40.126	-4.28%	4.69%
			1745	1.309	41.976	1.368	40.087	-4.31%	4.71%
			1750	1.312	41.967	1.371	40.079	-4.30%	4.71%
			1770	1.323	41.931	1.383	40.047	-4.34%	4.70%
			1790	1.334	41.902	1.394	40.016	-4.30%	4.71%

element

Table 11-3
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
09/11/2023	1900 Head	23.4	1850	1.389	40.431	1.400	40.000	-0.79%	1.08%
			1860	1.399	40.396	1.400	40.000	-0.07%	0.99%
			1880	1.418	40.328	1.400	40.000	1.29%	0.82%
			1900	1.436	40.250	1.400	40.000	2.57%	0.63%
			1905	1.440	40.229	1.400	40.000	2.86%	0.57%
			1910	1.445	40.209	1.400	40.000	3.21%	0.52%
			1920	1.455	40.167	1.400	40.000	3.93%	0.42%
09/11/2023	1900 Head	21.8	1850	1.342	39.182	1.400	40.000	-4.14%	-2.04%
			1860	1.348	39.170	1.400	40.000	-3.71%	-2.08%
			1880	1.359	39.157	1.400	40.000	-2.93%	-2.11%
			1900	1.371	39.145	1.400	40.000	-2.07%	-2.14%
			1905	1.374	39.140	1.400	40.000	-1.86%	-2.15%
			1910	1.377	39.135	1.400	40.000	-1.64%	-2.16%
			1920	1.384	39.124	1.400	40.000	-1.14%	-2.19%
09/14/2023	1900 Head	23.0	1850	1.392	40.215	1.400	40.000	-0.57%	0.54%
			1860	1.401	40.183	1.400	40.000	0.07%	0.46%
			1880	1.421	40.121	1.400	40.000	1.50%	0.30%
			1900	1.439	40.054	1.400	40.000	2.79%	0.14%
			1905	1.443	40.036	1.400	40.000	3.07%	0.09%
			1910	1.448	40.019	1.400	40.000	3.43%	0.05%
			1920	1.457	39.986	1.400	40.000	4.07%	-0.04%
09/18/2023	1900 Head	20.4	1850	1.335	39.087	1.400	40.000	-4.64%	-2.28%
			1860	1.341	39.074	1.400	40.000	-4.21%	-2.32%
			1880	1.353	39.058	1.400	40.000	-3.36%	-2.36%
			1900	1.364	39.034	1.400	40.000	-2.57%	-2.42%
			1905	1.367	39.026	1.400	40.000	-2.36%	-2.43%
			1910	1.370	39.019	1.400	40.000	-2.14%	-2.45%
			1920	1.377	39.005	1.400	40.000	-1.64%	-2.49%
09/22/2023	1900 Head	21.3	1850	1.389	41.003	1.400	40.000	-0.79%	2.51%
			1860	1.399	40.962	1.400	40.000	-0.07%	2.41%
			1880	1.420	40.881	1.400	40.000	1.43%	2.20%
			1900	1.441	40.809	1.400	40.000	2.93%	2.02%
			1905	1.446	40.791	1.400	40.000	3.29%	1.98%
			1910	1.452	40.774	1.400	40.000	3.71%	1.94%
09/25/2023	1900 Head	22.7	1850	1.389	39.081	1.400	40.000	-0.79%	-2.30%
			1860	1.397	39.038	1.400	40.000	-0.21%	-2.41%
			1880	1.415	38.946	1.400	40.000	1.07%	-2.64%
			1900	1.435	38.852	1.400	40.000	2.50%	-2.87%
			1905	1.440	38.830	1.400	40.000	2.86%	-2.93%
			1910	1.445	38.809	1.400	40.000	3.21%	-2.98%
			1920	1.455	38.771	1.400	40.000	3.93%	-3.07%
11/13/2023	1900 Head	19.3	1850	1.396	41.891	1.400	40.000	-0.29%	4.73%
			1860	1.404	41.873	1.400	40.000	0.29%	4.68%
			1880	1.420	41.845	1.400	40.000	1.43%	4.61%
			1900	1.434	41.824	1.400	40.000	2.43%	4.56%
			1905	1.437	41.820	1.400	40.000	2.64%	4.55%
			1910	1.440	41.815	1.400	40.000	2.86%	4.54%
			1920	1.446	41.802	1.400	40.000	3.29%	4.51%
11/16/2023	1900 Head	21.3	1850	1.392	39.384	1.400	40.000	-0.57%	-1.54%
			1860	1.398	39.368	1.400	40.000	-0.14%	-1.58%
			1880	1.409	39.336	1.400	40.000	0.64%	-1.66%
			1900	1.421	39.309	1.400	40.000	1.50%	-1.73%
			1905	1.424	39.303	1.400	40.000	1.71%	-1.74%
			1910	1.427	39.298	1.400	40.000	1.93%	-1.76%

element

Table 11-4
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
10/02/2023	2450 Head	21.5	2300	1.712	39.660	1.670	39.500	2.51%	0.41%
			2310	1.724	39.626	1.679	39.480	2.68%	0.37%
			2320	1.738	39.589	1.687	39.460	3.02%	0.33%
			2400	1.827	39.327	1.756	39.289	4.04%	0.10%
			2450	1.888	39.135	1.800	39.200	4.89%	-0.17%
			2480	1.919	39.034	1.833	39.162	4.69%	-0.33%
			2500	1.939	38.943	1.855	39.136	4.53%	-0.49%
			2510	1.950	38.897	1.866	39.123	4.50%	-0.58%
			2535	1.981	38.801	1.893	39.092	4.65%	-0.74%
			2550	2.000	38.754	1.909	39.073	4.77%	-0.82%
			2560	2.011	38.725	1.920	39.060	4.74%	-0.86%
			2600	2.048	38.582	1.964	39.009	4.28%	-1.09%
			2650	2.108	38.375	2.018	38.945	4.46%	-1.46%
			2680	2.142	38.303	2.051	38.907	4.44%	-1.55%
			2700	2.159	38.222	2.073	38.882	4.15%	-1.70%
10/02/2023	2450 Head	21.5	2300	1.721	38.217	1.670	39.500	3.05%	-3.25%
			2310	1.729	38.203	1.679	39.480	2.98%	-3.23%
			2320	1.737	38.189	1.687	39.460	2.96%	-3.22%
			2400	1.797	38.068	1.756	39.289	2.33%	-3.11%
			2450	1.837	37.985	1.800	39.200	2.06%	-3.10%
			2480	1.859	37.937	1.833	39.162	1.42%	-3.13%
			2500	1.875	37.900	1.855	39.136	1.08%	-3.16%
			2510	1.884	37.883	1.866	39.123	0.96%	-3.17%
			2535	1.905	37.838	1.893	39.092	0.63%	-3.21%
			2550	1.918	37.816	1.909	39.073	0.47%	-3.22%
			2560	1.925	37.802	1.920	39.060	0.26%	-3.22%
			2600	1.956	37.721	1.964	39.009	-0.41%	-3.30%
			2650	1.999	37.622	2.018	38.945	-0.94%	-3.40%
			2680	2.023	37.586	2.051	38.907	-1.37%	-3.40%
			2700	2.037	37.549	2.073	38.882	-1.74%	-3.43%
10/04/2023	2450 Head	20.6	2300	1.621	38.666	1.670	39.500	-2.93%	-2.11%
			2310	1.635	38.642	1.679	39.480	-2.62%	-2.12%
			2320	1.649	38.623	1.687	39.460	-2.25%	-2.12%
			2400	1.735	38.390	1.756	39.289	-1.20%	-2.29%
			2450	1.793	38.257	1.800	39.200	-0.39%	-2.41%
			2480	1.823	38.158	1.833	39.162	-0.55%	-2.56%
			2500	1.846	38.083	1.855	39.136	-0.49%	-2.69%
			2510	1.859	38.049	1.866	39.123	-0.38%	-2.75%
			2535	1.888	37.985	1.893	39.092	-0.26%	-2.83%
			2550	1.904	37.950	1.909	39.073	-0.26%	-2.87%
			2560	1.914	37.922	1.920	39.060	-0.31%	-2.91%
			2600	1.957	37.782	1.964	39.009	-0.36%	-3.15%
			2650	2.011	37.632	2.018	38.945	-0.35%	-3.37%
			2680	2.045	37.538	2.051	38.907	-0.29%	-3.52%
			2700	2.066	37.467	2.073	38.882	-0.34%	-3.64%
10/11/2023	2450 Head	21.4	2300	1.710	38.764	1.670	39.500	2.40%	-1.86%
			2310	1.721	38.700	1.679	39.480	2.50%	-1.98%
			2320	1.733	38.627	1.687	39.460	2.73%	-2.11%
			2400	1.821	38.378	1.756	39.289	3.70%	-2.32%
			2450	1.883	38.084	1.800	39.200	4.61%	-2.85%
			2480	1.918	38.072	1.833	39.162	4.64%	-2.78%
			2500	1.932	37.998	1.855	39.136	4.15%	-2.91%
			2510	1.939	37.932	1.866	39.123	3.91%	-3.04%
			2535	1.968	37.771	1.893	39.092	3.96%	-3.38%
			2550	1.993	37.721	1.909	39.073	4.40%	-3.46%
			2560	2.008	37.712	1.920	39.060	4.58%	-3.45%
			2600	2.044	37.642	1.964	39.009	4.07%	-3.50%
			2650	2.103	37.361	2.018	38.945	4.21%	-4.07%
			2680	2.144	37.340	2.051	38.907	4.53%	-4.03%
			2700	2.153	37.279	2.073	38.882	3.86%	-4.12%

Table 11-5
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
10/11/2023	2450 Head	20.7	2300	1.703	38.539	1.670	39.500	1.98%	-2.43%
			2310	1.710	38.521	1.679	39.480	1.85%	-2.43%
			2320	1.717	38.500	1.687	39.460	1.78%	-2.43%
			2400	1.776	38.383	1.756	39.289	1.14%	-2.31%
			2450	1.813	38.292	1.800	39.200	0.72%	-2.32%
			2480	1.837	38.269	1.833	39.162	0.22%	-2.28%
			2500	1.852	38.241	1.855	39.136	-0.16%	-2.29%
			2510	1.860	38.223	1.866	39.123	-0.32%	-2.30%
			2535	1.880	38.172	1.893	39.092	-0.69%	-2.35%
			2550	1.892	38.148	1.909	39.073	-0.89%	-2.37%
			2560	1.900	38.135	1.920	39.060	-1.04%	-2.37%
			2600	1.934	38.082	1.964	39.009	-1.53%	-2.38%
			2650	1.973	37.983	2.018	38.945	-2.23%	-2.47%
			2680	1.998	37.934	2.051	38.907	-2.58%	-2.50%
			2700	2.014	37.906	2.073	38.882	-2.85%	-2.51%
10/25/2023	2450 Head	20.6	2300	1.692	38.715	1.670	39.500	1.32%	-1.99%
			2310	1.699	38.703	1.679	39.480	1.19%	-1.97%
			2320	1.706	38.689	1.687	39.460	1.13%	-1.95%
			2400	1.768	38.562	1.756	39.289	0.68%	-1.85%
			2450	1.806	38.480	1.800	39.200	0.33%	-1.84%
			2480	1.831	38.420	1.833	39.162	-0.11%	-1.89%
			2500	1.846	38.391	1.855	39.136	-0.49%	-1.90%
			2510	1.853	38.380	1.866	39.123	-0.70%	-1.90%
			2535	1.871	38.344	1.893	39.092	-1.16%	-1.91%
			2550	1.883	38.317	1.909	39.073	-1.36%	-1.93%
			2560	1.892	38.296	1.920	39.060	-1.46%	-1.96%
			2600	1.926	38.225	1.964	39.009	-1.93%	-2.01%
			2650	1.963	38.140	2.018	38.945	-2.73%	-2.07%
			2680	1.988	38.097	2.051	38.907	-3.07%	-2.08%
			2700	2.005	38.071	2.073	38.882	-3.28%	-2.09%
10/31/2023	2450 Head	23.0	2300	1.724	39.420	1.670	39.500	3.23%	-0.20%
			2310	1.731	39.401	1.679	39.480	3.10%	-0.20%
			2320	1.739	39.378	1.687	39.460	3.08%	-0.21%
			2400	1.794	39.275	1.756	39.289	2.16%	-0.04%
			2450	1.833	39.175	1.800	39.200	1.83%	-0.06%
			2480	1.857	39.130	1.833	39.162	1.31%	-0.08%
			2500	1.869	39.118	1.855	39.136	0.75%	-0.05%
			2510	1.875	39.109	1.866	39.123	0.48%	-0.04%
			2535	1.893	39.069	1.893	39.092	0.00%	-0.06%
			2550	1.906	39.034	1.909	39.073	-0.16%	-0.10%
			2560	1.916	39.010	1.920	39.060	-0.21%	-0.13%
			2600	1.948	38.958	1.964	39.009	-0.81%	-0.13%
			2650	1.983	38.888	2.018	38.945	-1.73%	-0.15%
			2680	2.010	38.823	2.051	38.907	-2.00%	-0.22%
			2700	2.026	38.797	2.073	38.882	-2.27%	-0.22%
10/16/2023	3600 Head	19.0	3300	2.620	39.054	2.708	38.157	-3.25%	2.35%
			3350	2.666	38.962	2.759	38.100	-3.37%	2.26%
			3450	2.759	38.769	2.861	37.986	-3.57%	2.06%
			3500	2.812	38.663	2.913	37.929	-3.47%	1.94%
			3550	2.857	38.591	2.964	37.871	-3.61%	1.90%
			3560	2.867	38.559	2.974	37.860	-3.60%	1.85%
			3600	2.909	38.483	3.015	37.814	-3.52%	1.77%
			3650	2.953	38.415	3.066	37.757	-3.69%	1.74%
			3690	2.998	38.337	3.107	37.711	-3.51%	1.66%
			3700	3.006	38.322	3.117	37.700	-3.56%	1.65%
			3750	3.051	38.230	3.169	37.643	-3.72%	1.56%
			3900	3.206	37.982	3.323	37.471	-3.52%	1.36%
			3930	3.237	37.932	3.353	37.437	-3.46%	1.32%
			4100	3.422	37.630	3.528	37.243	-3.00%	1.04%
			4150	3.475	37.533	3.579	37.186	-2.91%	0.93%
10/25/2023	3600 Head	21.3	3300	2.791	37.360	2.708	38.157	3.06%	-2.09%
			3350	2.820	37.267	2.759	38.100	2.21%	-2.19%
			3450	2.897	37.138	2.861	37.986	1.26%	-2.23%
			3500	2.951	37.085	2.913	37.929	1.30%	-2.23%
			3550	2.975	37.013	2.964	37.871	0.37%	-2.27%
			3560	2.982	36.972	2.974	37.860	0.27%	-2.35%
			3600	3.031	36.964	3.015	37.814	0.53%	-2.25%
			3650	3.056	36.877	3.066	37.757	-0.33%	-2.33%
			3690	3.098	36.869	3.107	37.711	-0.29%	-2.23%
			3700	3.108	36.844	3.117	37.700	-0.29%	-2.27%
			3750	3.135	36.772	3.169	37.643	-1.07%	-2.31%
			3900	3.267	36.608	3.323	37.471	-1.69%	-2.30%
			3930	3.301	36.584	3.353	37.437	-1.55%	-2.28%
			4100	3.443	36.410	3.528	37.243	-2.41%	-2.24%
			4150	3.502	36.408	3.579	37.186	-2.15%	-2.09%

element

Table 11-6
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
10/18/2023	5200-5800 Head	20.1	5180	4.520	35.658	4.635	36.009	-2.48%	-0.97%
			5190	4.536	35.640	4.645	35.998	-2.35%	-0.99%
			5200	4.549	35.634	4.655	35.986	-2.28%	-0.98%
			5210	4.560	35.626	4.666	35.975	-2.27%	-0.97%
			5220	4.568	35.617	4.676	35.963	-2.31%	-0.96%
			5240	4.585	35.577	4.696	35.940	-2.36%	-1.01%
			5250	4.596	35.549	4.706	35.929	-2.34%	-1.06%
			5260	4.606	35.521	4.717	35.917	-2.35%	-1.10%
			5270	4.617	35.493	4.727	35.906	-2.33%	-1.15%
			5280	4.631	35.474	4.737	35.894	-2.24%	-1.17%
			5290	4.645	35.459	4.748	35.883	-2.17%	-1.18%
			5300	4.659	35.444	4.758	35.871	-2.08%	-1.19%
			5310	4.669	35.430	4.768	35.860	-2.08%	-1.20%
			5320	4.678	35.420	4.778	35.849	-2.09%	-1.20%
			5500	4.878	35.129	4.963	35.643	-1.71%	-1.44%
			5510	4.883	35.107	4.973	35.632	-1.81%	-1.47%
			5520	4.890	35.088	4.983	35.620	-1.87%	-1.49%
			5530	4.899	35.058	4.994	35.609	-1.90%	-1.55%
			5540	4.913	35.022	5.004	35.597	-1.82%	-1.62%
			5550	4.929	34.986	5.014	35.586	-1.70%	-1.69%
			5560	4.949	34.968	5.024	35.574	-1.49%	-1.70%
			5580	4.983	34.956	5.045	35.551	-1.23%	-1.67%
			5600	5.001	34.936	5.065	35.529	-1.26%	-1.67%
			5610	5.009	34.932	5.076	35.518	-1.32%	-1.65%
			5620	5.016	34.914	5.086	35.506	-1.38%	-1.67%
			5640	5.034	34.853	5.106	35.483	-1.41%	-1.78%
			5660	5.064	34.785	5.127	35.460	-1.23%	-1.90%
			5670	5.082	34.769	5.137	35.449	-1.07%	-1.92%
			5680	5.100	34.762	5.147	35.437	-0.91%	-1.90%
			5690	5.115	34.759	5.158	35.426	-0.83%	-1.88%
			5700	5.126	34.759	5.168	35.414	-0.81%	-1.85%
			5710	5.135	34.752	5.178	35.403	-0.83%	-1.84%
			5720	5.143	34.750	5.188	35.391	-0.87%	-1.81%
			5745	5.162	34.706	5.214	35.363	-1.00%	-1.86%
			5750	5.166	34.690	5.219	35.357	-1.02%	-1.89%
			5755	5.170	34.675	5.224	35.351	-1.03%	-1.91%
			5765	5.181	34.644	5.234	35.340	-1.01%	-1.97%
			5775	5.197	34.617	5.245	35.329	-0.92%	-2.02%
			5785	5.216	34.591	5.255	35.317	-0.74%	-2.06%
			5795	5.230	34.575	5.265	35.305	-0.66%	-2.07%
			5800	5.236	34.572	5.270	35.300	-0.65%	-2.06%
			5800	5.236	34.572	5.270	35.300	-0.65%	-2.06%
			5805	5.242	34.571	5.275	35.294	-0.63%	-2.05%
			5825	5.266	34.550	5.296	35.271	-0.57%	-2.04%
			5835	5.279	34.529	5.305	35.230	-0.49%	-1.99%
			5845	5.285	34.514	5.315	35.210	-0.56%	-1.98%
			5855	5.289	34.506	5.325	35.197	-0.68%	-1.96%
			5865	5.298	34.491	5.336	35.190	-0.71%	-1.99%
			5865	5.298	34.491	5.336	35.190	-0.71%	-1.99%
			5865	5.298	34.491	5.336	35.190	-0.71%	-1.99%
			5865	5.298	34.491	5.336	35.190	-0.71%	-1.99%
			5875	5.308	34.458	5.347	35.183	-0.73%	-2.06%
			5885	5.319	34.417	5.357	35.177	-0.71%	-2.16%
			5905	5.350	34.378	5.379	35.163	-0.54%	-2.23%

element

Table 11-7
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
10/23/2023	5200-5800 Head	19.9	5180	4.530	36.038	4.635	36.009	-2.27%	0.08%
			5190	4.544	36.021	4.645	35.998	-2.17%	0.06%
			5200	4.555	36.005	4.655	35.986	-2.15%	0.05%
			5210	4.565	35.993	4.666	35.975	-2.16%	0.05%
			5220	4.577	35.980	4.676	35.963	-2.12%	0.05%
			5240	4.600	35.928	4.696	35.940	-2.04%	-0.03%
			5250	4.613	35.903	4.706	35.929	-1.98%	-0.07%
			5260	4.621	35.875	4.717	35.917	-2.04%	-0.12%
			5270	4.632	35.850	4.727	35.906	-2.01%	-0.16%
			5280	4.644	35.829	4.737	35.894	-1.96%	-0.18%
			5290	4.656	35.810	4.748	35.883	-1.94%	-0.20%
			5300	4.670	35.796	4.758	35.871	-1.85%	-0.21%
			5310	4.683	35.789	4.768	35.860	-1.78%	-0.20%
			5320	4.696	35.784	4.778	35.849	-1.72%	-0.18%
			5500	4.884	35.424	4.963	35.643	-1.59%	-0.61%
			5510	4.901	35.394	4.973	35.632	-1.45%	-0.67%
			5520	4.919	35.373	4.983	35.620	-1.28%	-0.69%
			5530	4.936	35.362	4.994	35.609	-1.16%	-0.69%
			5540	4.950	35.350	5.004	35.597	-1.08%	-0.69%
			5550	4.964	35.349	5.014	35.586	-1.00%	-0.67%
			5560	4.974	35.348	5.024	35.574	-1.00%	-0.64%
			5580	4.990	35.339	5.045	35.551	-1.09%	-0.60%
			5600	5.013	35.280	5.065	35.529	-1.03%	-0.70%
			5610	5.023	35.235	5.076	35.518	-1.04%	-0.80%
			5620	5.033	35.194	5.086	35.506	-1.04%	-0.88%
			5640	5.065	35.167	5.106	35.483	-0.80%	-0.89%
			5660	5.096	35.155	5.127	35.460	-0.60%	-0.86%
			5670	5.103	35.151	5.137	35.449	-0.66%	-0.84%
			5680	5.112	35.141	5.147	35.437	-0.68%	-0.84%
			5690	5.125	35.124	5.158	35.426	-0.64%	-0.85%
			5700	5.138	35.103	5.168	35.414	-0.58%	-0.88%
			5710	5.144	35.079	5.178	35.403	-0.66%	-0.92%
			5720	5.155	35.052	5.188	35.391	-0.64%	-0.96%
			5745	5.191	34.980	5.214	35.363	-0.44%	-1.08%
			5750	5.197	34.968	5.219	35.357	-0.42%	-1.10%
			5755	5.204	34.957	5.224	35.351	-0.38%	-1.11%
			5765	5.219	34.945	5.234	35.340	-0.29%	-1.12%
			5775	5.233	34.944	5.245	35.329	-0.23%	-1.09%
			5785	5.244	34.937	5.255	35.317	-0.21%	-1.08%
			5795	5.255	34.931	5.265	35.305	-0.19%	-1.06%
			5800	5.260	34.927	5.270	35.300	-0.19%	-1.06%
			5800	5.260	34.927	5.270	35.300	-0.19%	-1.06%
			5805	5.266	34.922	5.275	35.294	-0.17%	-1.05%
			5825	5.287	34.874	5.296	35.271	-0.17%	-1.13%
			5835	5.297	34.840	5.305	35.230	-0.15%	-1.11%
			5845	5.308	34.808	5.315	35.210	-0.13%	-1.14%
			5855	5.321	34.791	5.325	35.197	-0.08%	-1.15%
			5865	5.336	34.779	5.336	35.190	0.00%	-1.17%
			5865	5.336	34.779	5.336	35.190	0.00%	-1.17%
			5865	5.336	34.779	5.336	35.190	0.00%	-1.17%
			5865	5.336	34.779	5.336	35.190	0.00%	-1.17%
			5875	5.348	34.772	5.347	35.183	0.02%	-1.17%
			5885	5.358	34.757	5.357	35.177	0.02%	-1.19%
			5905	5.381	34.741	5.379	35.163	0.04%	-1.20%

element

Table 11-8
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
10/26/2023	6000 Head	20.1	5935	5.263	35.023	5.411	35.143	-2.74%	-0.34%
			5970	5.293	34.953	5.448	35.120	-2.85%	-0.48%
			5985	5.312	34.914	5.464	35.110	-2.78%	-0.56%
			6000	5.336	34.880	5.480	35.100	-2.63%	-0.63%
			6025	5.372	34.841	5.510	35.070	-2.50%	-0.65%
			6065	5.412	34.773	5.557	35.022	-2.61%	-0.71%
			6075	5.425	34.755	5.569	35.010	-2.59%	-0.73%
			6085	5.439	34.738	5.580	34.998	-2.53%	-0.74%
			6185	5.561	34.555	5.698	34.878	-2.40%	-0.93%
			6275	5.662	34.399	5.805	34.770	-2.46%	-1.07%
			6285	5.679	34.385	5.816	34.758	-2.36%	-1.07%
			6305	5.705	34.360	5.840	34.734	-2.31%	-1.08%
			6345	5.735	34.283	5.887	34.686	-2.58%	-1.16%
			6485	5.909	34.047	6.052	34.518	-2.36%	-1.36%
			6500	5.926	34.044	6.070	34.500	-2.37%	-1.32%
			6505	5.933	34.039	6.076	34.494	-2.35%	-1.32%
			6545	5.973	33.919	6.122	34.446	-2.43%	-1.53%
			6665	6.130	33.678	6.265	34.302	-2.15%	-1.82%
			6685	6.165	33.671	6.285	34.278	-1.91%	-1.77%
			6785	6.277	33.518	6.400	34.158	-1.92%	-1.87%
			6825	6.299	33.481	6.447	34.110	-2.30%	-1.84%
			6995	6.504	33.234	6.644	33.906	-2.11%	-1.98%
			7000	6.505	33.234	6.650	33.900	-2.18%	-1.96%
			7005	6.505	33.227	6.656	33.894	-2.27%	-1.97%
			7025	6.525	33.168	6.680	33.870	-2.32%	-2.07%
10/29/2023	6000 Head	23.0	5935	5.424	34.369	5.411	35.143	0.24%	-2.20%
			5970	5.458	34.325	5.448	35.120	0.18%	-2.26%
			5985	5.466	34.288	5.464	35.110	0.04%	-2.34%
			6000	5.498	34.232	5.480	35.100	0.33%	-2.47%
			6065	5.589	34.193	5.557	35.022	0.58%	-2.37%
			6075	5.591	34.146	5.569	35.010	0.40%	-2.47%
			6085	5.611	34.110	5.580	34.998	0.56%	-2.54%
			6185	5.736	33.990	5.698	34.878	0.67%	-2.55%
			6275	5.857	33.785	5.805	34.770	0.90%	-2.83%
			6305	5.873	33.744	5.840	34.734	0.57%	-2.85%
			6345	5.944	33.635	5.887	34.686	0.97%	-3.03%
			6475	6.107	33.428	6.041	34.530	1.09%	-3.19%
			6500	6.125	33.408	6.070	34.500	0.91%	-3.17%
			6545	6.163	33.206	6.122	34.446	0.67%	-3.60%
			6665	6.291	33.052	6.265	34.302	0.42%	-3.64%
			6675	6.319	32.999	6.273	34.290	0.73%	-3.76%
			6685	6.332	32.971	6.285	34.278	0.75%	-3.81%
			6785	6.439	32.796	6.400	34.158	0.61%	-3.99%
			6825	6.492	32.783	6.447	34.110	0.70%	-3.89%
			6985	6.638	32.579	6.633	33.918	0.08%	-3.95%
			6995	6.643	32.534	6.644	33.906	-0.02%	-4.05%
			7000	6.647	32.508	6.650	33.900	-0.05%	-4.11%
			7005	6.654	32.475	6.656	33.894	-0.03%	-4.19%
			7025	6.696	32.360	6.680	33.870	0.24%	-4.46%

Table 11-9
Measured Head Tissue Properties

Calibrated for Tests Performed on:	Tissue Type	Tissue Temp During Calibration (˚C)	Measured Frequency (MHz)	Measured Conductivity, σ (S/m)	Measured Dielectric Constant, ε	TARGET Conductivity, σ (S/m)	TARGET Dielectric Constant, ε	% dev σ	% dev ε
10/31/2023	6000 Head	20.4	5935	5.293	35.526	5.411	35.143	-2.18%	1.09%
			5970	5.327	35.481	5.448	35.120	-2.22%	1.03%
			5985	5.343	35.454	5.464	35.110	-2.21%	0.98%
			6000	5.363	35.418	5.480	35.100	-2.14%	0.91%
			6025	5.397	35.352	5.510	35.070	-2.05%	0.80%
			6065	5.444	35.291	5.557	35.022	-2.03%	0.77%
			6075	5.454	35.276	5.569	35.010	-2.07%	0.76%
			6085	5.466	35.257	5.580	34.998	-2.04%	0.74%
			6185	5.593	35.072	5.698	34.878	-1.84%	0.56%
			6275	5.701	34.917	5.805	34.770	-1.79%	0.42%
			6285	5.712	34.899	5.816	34.758	-1.79%	0.41%
			6305	5.739	34.867	5.840	34.734	-1.73%	0.38%
			6345	5.790	34.801	5.887	34.686	-1.65%	0.33%
			6475	5.939	34.572	6.041	34.530	-1.69%	0.12%
			6485	5.953	34.560	6.052	34.518	-1.64%	0.12%
			6500	5.975	34.545	6.070	34.500	-1.57%	0.13%
			6505	5.981	34.538	6.076	34.494	-1.56%	0.13%
			6545	6.018	34.455	6.122	34.446	-1.70%	0.03%
			6665	6.162	34.242	6.265	34.302	-1.64%	-0.17%
			6675	6.179	34.212	6.273	34.290	-1.50%	-0.23%
			6685	6.197	34.192	6.285	34.278	-1.40%	-0.25%
			6715	6.237	34.168	6.319	34.242	-1.30%	-0.22%
			6785	6.317	34.016	6.400	34.158	-1.30%	-0.42%
			6825	6.367	34.010	6.447	34.110	-1.24%	-0.29%
			6985	6.540	33.707	6.633	33.918	-1.40%	-0.62%
			7025	6.579	33.679	6.680	33.870	-1.51%	-0.56%
			7500	7.170	32.890	7.240	33.300	-0.97%	-1.23%
			7980	7.760	32.119	7.816	32.724	-0.72%	-1.85%
			8000	7.784	32.011	7.840	32.700	-0.71%	-2.11%

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.

11.2 SAR 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 SAR System Validation Appendix.

Table 11-10
System Verification Results

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	DAE	Measured SAR 1g (W/kg)	1W Target SAR 1g (W/kg)	1W Normalized SAR 1g (W/kg)	Deviation 1g (%)	Measured SAR 10g (W/kg)	1W Target SAR 10g (W/kg)	1W Normalized SAR 10g (W/kg)	Deviation 10g (%)
G	13	HEAD	10/14/2023	22.5	22.5	1.00	1002	7417	665	0.508	0.523	0.508	-2.87%	0.314	0.327	0.314	-3.98%
K1	750	HEAD	09/20/2023	19.8	20.5	0.20	1003	7402	1502	1.650	8.480	8.250	-2.71%	1.100	5.560	5.500	-1.08%
K1	750	HEAD	09/21/2023	21.0	20.3	0.20	1003	7402	1502	1.570	8.480	7.850	-7.43%	1.040	5.560	5.200	-6.47%
K4	750	HEAD	10/05/2023	21.4	21.1	0.20	1046	7640	1645	1.700	8.690	8.500	-2.19%	1.120	5.700	5.600	-1.75%
K4	750	HEAD	10/09/2023	22.4	20.3	0.20	1046	7640	1645	1.690	8.690	8.450	-2.76%	1.100	5.700	5.500	-3.51%
K5	835	HEAD	09/06/2023	22.2	21.1	0.20	4d119	7637	1652	1.800	9.720	9.000	-7.41%	1.180	6.380	5.900	-7.52%
K5	835	HEAD	09/11/2023	21.8	21.4	0.20	4d119	7637	1652	1.900	9.720	9.500	-2.26%	1.230	6.380	6.150	-3.61%
K5	835	HEAD	09/18/2023	22.6	23.1	0.20	4d119	7637	1652	1.950	9.720	9.750	0.31%	1.260	6.380	6.300	-1.25%
K5	835	HEAD	09/20/2023	22.5	20.7	0.20	4d180	7637	1652	1.900	9.630	9.500	-1.35%	1.260	6.270	6.300	0.48%
K5	835	HEAD	09/25/2023	22.2	22.3	0.20	4d119	7637	1652	1.890	9.720	9.450	-2.78%	1.250	6.380	6.250	-2.04%
K5	835	HEAD	10/02/2023	22.8	21.8	0.20	4d119	7637	1652	1.920	9.720	9.600	-1.23%	1.260	6.380	6.300	-1.25%
K5	835	HEAD	10/04/2023	20.2	19.0	0.20	4d119	7637	1652	1.920	9.720	9.600	-1.23%	1.270	6.380	6.350	-0.47%
K1	835	HEAD	10/18/2023	23.6	22.2	0.20	4d180	7402	1502	1.990	9.630	9.950	3.32%	1.310	6.270	6.550	4.47%
G	1750	HEAD	09/18/2023	20.9	22.2	0.10	1150	7417	665	3.610	36.900	36.100	-2.17%	1.900	19.400	19.000	-2.06%
K3	1750	HEAD	09/18/2023	22.5	23.1	0.10	1051	7547	1322	3.730	36.100	37.300	3.32%	1.960	19.000	19.600	3.16%
K2	1750	HEAD	09/26/2023	22.5	22.8	0.10	1092	7565	1466	3.600	36.200	36.000	-0.55%	1.960	19.100	19.600	2.62%
G	1750	HEAD	09/27/2023	20.9	23.2	0.10	1008	7417	665	3.530	37.400	35.300	-5.61%	1.840	19.600	18.400	-6.12%
K2	1750	HEAD	10/02/2023	23.1	23.0	0.10	1092	7565	1466	3.580	36.200	35.800	-1.10%	1.950	19.100	19.500	2.09%
AM8	1900	HEAD	09/11/2023	20.0	21.5	0.10	5d180	7421	604	4.150	39.200	41.500	5.87%	2.130	20.600	21.300	3.40%
AM6	1900	HEAD	09/11/2023	20.3	20.6	0.10	5d180	7638	1408	4.120	39.200	41.200	5.10%	2.170	20.600	21.700	5.34%
AM8	1900	HEAD	09/14/2023	20.7	21.2	0.10	5d180	7421	604	4.180	39.200	41.800	6.63%	2.140	20.600	21.400	3.88%
AM6	1900	HEAD	09/18/2023	20.1	19.9	0.10	5d131	7638	1408	4.220	40.100	42.200	5.24%	2.210	20.900	22.100	5.74%
P	1900	HEAD	09/22/2023	21.6	21.3	0.10	5d148	7659	1407	3.800	40.100	38.000	-5.24%	1.950	21.000	19.500	-7.14%
AM8	1900	HEAD	09/25/2023	20.3	20.8	0.10	5d180	7421	604	4.230	39.200	42.300	7.91%	2.160	20.600	21.600	4.85%
S	1900	HEAD	11/13/2023	21.0	19.6	0.10	5d148	7713	1530	4.340	40.100	43.400	8.23%	2.260	21.000	22.600	7.62%
S	1900	HEAD	11/16/2023	22.1	21.3	0.10	5d148	7713	1530	3.810	40.100	38.100	-4.99%	1.980	21.000	19.800	-5.71%
O	2450	HEAD	10/02/2023	22.7	21.7	0.10	981	7570	1558	5.450	53.900	54.500	1.11%	2.530	25.400	25.300	-0.39%
K3	2450	HEAD	10/02/2023	22.9	21.5	0.10	945	7547	1322	5.510	51.900	55.100	6.17%	2.540	24.600	25.400	3.25%
K3	2450	HEAD	10/04/2023	20.7	20.6	0.10	945	7547	1322	5.160	51.900	51.600	-0.58%	2.360	24.600	23.600	-4.07%
K3	2450	HEAD	10/11/2023	22.7	21.4	0.10	945	7547	1322	5.470	51.900	54.700	5.39%	2.520	24.600	25.200	2.44%
S	2450	HEAD	10/25/2023	23.6	20.9	0.10	981	7713	1530	5.230	53.900	52.300	-2.97%	2.440	25.400	24.400	-3.94%
S	2450	HEAD	10/31/2023	22.9	21.7	0.10	981	7713	1530	5.140	53.900	51.400	-4.64%	2.390	25.400	23.900	-5.91%
K3	2600	HEAD	10/02/2023	22.9	21.5	0.10	1009	7547	1322	5.910	57.300	59.100	3.14%	2.620	25.800	26.200	1.55%
K3	2600	HEAD	10/04/2023	20.7	20.6	0.10	1009	7547	1322	5.700	57.300	57.000	-0.52%	2.510	25.800	25.100	-2.71%
K3	2600	HEAD	10/11/2023	22.7	21.4	0.10	1009	7547	1322	5.890	57.300	58.900	2.79%	2.620	25.800	26.200	1.55%
K2	2600	HEAD	10/11/2023	20.3	20.7	0.10	1126	7565	1466	5.920	56.000	59.200	5.71%	2.660	25.300	26.600	5.14%
AM6	3500	HEAD	10/16/2023	21.1	20.3	0.10	1126	7638	1408	6.750	67.000	67.500	0.75%	2.570	25.000	25.700	2.80%
AM4	3500	HEAD	10/25/2023	23.0	21.1	0.10	1126	7490	1644	7.060	67.000	70.600	5.37%	2.670	25.000	26.700	6.80%
AM6	3700	HEAD	10/16/2023	21.1	20.3	0.10	1097	7638	1408	6.770	68.100	67.700	-0.59%	2.490	24.500	24.900	1.63%
AM4	3700	HEAD	10/25/2023	23.0	21.1	0.10	1097	7490	1644	6.570	68.100	65.700	-3.52%	2.420	24.500	24.200	-1.22%
AM6	3900	HEAD	10/16/2023	21.1	20.3	0.10	1062	7638	1408	7.220	68.600	72.200	5.25%	2.530	23.800	25.300	6.30%
AM4	3900	HEAD	10/25/2023	23.0	21.1	0.10	1062	7490	1644	6.930	68.600	69.300	1.02%	2.450	23.800	24.500	2.94%
G	5250	HEAD	10/18/2023	19.8	19.1	0.05	1191	7417	665	3.890	80.400	77.800	-3.23%	1.100	23.100	22.000	-4.76%
O	5250	HEAD	10/23/2023	20.9	19.9	0.05	1191	7570	1558	3.770	80.400	75.400	-6.22%	1.090	23.100	21.800	-5.63%
G	5600	HEAD	10/18/2023	19.8	19.1	0.05	1191	7417	665	4.000	81.900	80.000	-2.32%	1.130	23.300	22.600	-3.00%
O	5600	HEAD	10/23/2023	20.9	19.9	0.05	1191	7570	1558	4.080	81.900	81.600	-0.37%	1.180	23.300	23.600	1.29%
G	5750	HEAD	10/18/2023	19.8	19.1	0.05	1191	7417	665	3.790	78.400	75.800	-3.32%	1.080	22.300	21.600	-3.14%
O	5750	HEAD	10/23/2023	20.9	19.9	0.05	1191	7570	1558	3.820	78.400	76.400	-2.55%	1.080	22.300	21.600	-3.14%
G	5800	HEAD	10/18/2023	19.8	19.1	0.05	1191	7417	665	3.740	79.000	74.800	-5.32%	1.060	22.300	21.200	-4.93%
O	5800	HEAD	10/23/2023	20.9	19.9	0.05	1191	7570	1558	3.760	79.000	75.200	-4.81%	1.070	22.300	21.400	-4.04%
AM7	6500	HEAD	10/26/2023	21.9	20.1	0.03	1020	7532	501	7.130	296.000	285.200	-3.65%	1.330	54.500	1.363	-2.42%
H	6500	HEAD	10/29/2023	23.5	23.0	0.03	1018	7718	1368	7.040	293.000	281.600	-3.89%	1.300	54.100	52.000	-3.88%
AM7	8000	HEAD	10/31/2023	20.6	19.5	0.03	1006	7532	501	6.510	270.000	260.400	-3.56%	1.090	45.400	43.600	-3.96%

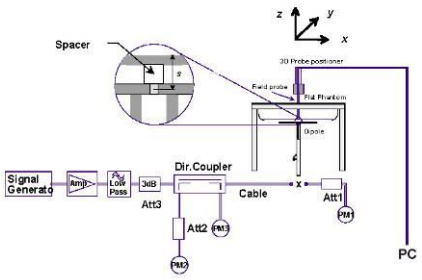


Figure 11-1
System Verification Setup Diagram

Figure 11-2
System Verification Setup Photo

11.3 Power Density Test System Verification

The system was verified to be within ±0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check.

The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

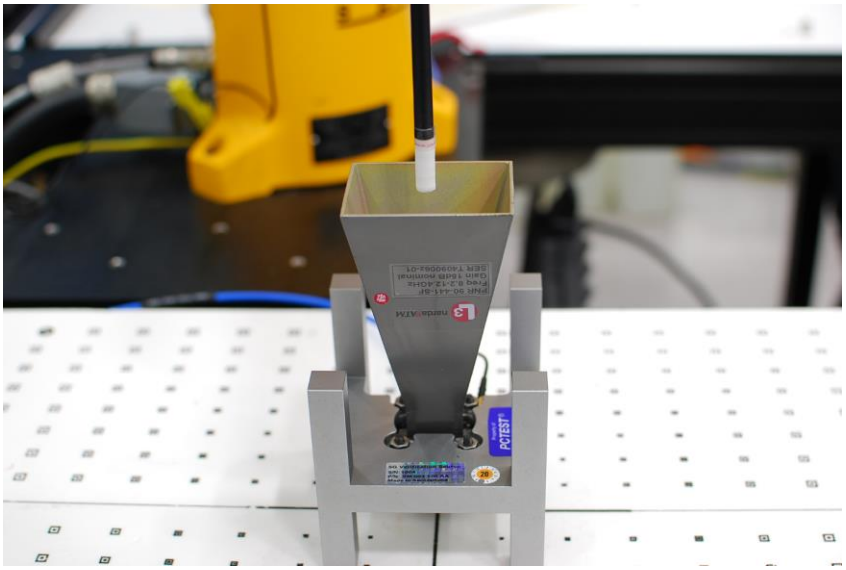


Figure 11-3
System Verification Setup Photo

Table 11-11
10 GHz Verifications

System Verification											
System	Frequency (GHz)	Date	Source S/N	Probe S/N	Prad (mW)	Normal psPD (W/m² over 4 cm²)		Deviation (dB)	Total psPD (W/m² over 4 cm²)		Deviation (dB)
						Measured	Target		Measured	Target	
R	10	10/02/2023	1004	9622	93.3	60.50	55.80	0.35	60.80	56.10	0.35
Q	10	10/22/2023	1004	9541	93.3	55.00	55.80	-0.06	55.30	56.10	-0.06

Note: A **10 mm distance spacing** was used from the reference horn antenna aperture to the probe element.

12 SAR DATA SUMMARY

12.1 GSM 850 Standalone SAR

Table 12-1
GSM 850 Antenna 0 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	GSM 850	GSM	0	0738M	1:8.3	0.06	836.60	190	33.5	32.95	Right Cheek	0	0.041	1.135	0.047	0.239	0.149		37.6	36.2	31.4
Head	GSM 850	GSM	0	0738M	1:8.3	0.20	836.60	190	33.5	32.95	Right Tilt	0	0.022	1.135	0.025	0.128	0.080		40.3		
Head	GSM 850	GSM	0	0738M	1:8.3	0.12	836.60	190	33.5	32.95	Left Cheek	0	0.056	1.135	0.064	0.326	0.204		36.2		
Head	GSM 850	GSM	0	0738M	1:8.3	0.05	836.60	190	33.5	32.95	Left Tilt	0	0.023	1.135	0.026	0.134	0.084		40.1		
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 12-2
GSM 850 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	GSM 850	GSM	0	0738M	1:8.3	-0.02	836.60	190	33.5	32.95	Back	10	0.263	1.135	0.299	0.556	0.348	A2	29.5	28.3	27.0
Hotspot	GPRS 850	GPRS 2 Tx Slots	0	0738M	1:4.15	-0.02	836.60	190	31.5	30.72	Back	10	0.416	1.197	0.498	0.736	0.460		28.3		
Hotspot	GPRS 850	GPRS 2 Tx Slots	0	0738M	1:4.15	-0.05	836.60	190	31.5	30.72	Front	10	0.193	1.197	0.231	0.342	0.214		31.6		
Hotspot	GPRS 850	GPRS 2 Tx Slots	0	0738M	1:4.15	-0.07	836.60	190	31.5	30.72	Bottom	10	0.092	1.197	0.110	0.163	0.102		34.8		
Hotspot	GPRS 850	GPRS 2 Tx Slots	0	0738M	1:4.15	-0.02	836.60	190	31.5	30.72	Right	10	0.038	1.197	0.045	0.067	0.042		38.7		
Hotspot	GPRS 850	GPRS 2 Tx Slots	0	0738M	1:4.15	-0.02	836.60	190	31.5	30.72	Left	10	0.094	1.197	0.113	0.166	0.104		34.7		
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 12-3
GSM 850 Antenna 6 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	GSM 850	GSM	6	0738M	1:8.3	-0.04	824.20	128	29.5	28.21	Right Cheek	0	0.296	1.346	0.398	0.398	0.249		24.2	22.7	19.3
Head	GSM 850	GSM	6	0738M	1:8.3	0.04	824.20	128	29.5	28.21	Right Tilt	0	0.242	1.346	0.326	0.326	0.204		25.1		
Head	GSM 850	GSM	6	0738M	1:8.3	0.07	824.20	128	29.5	28.21	Left Cheek	0	0.418	1.346	0.563	0.563	0.352	A1	22.7		
Head	GSM 850	GSM	6	0738M	1:8.3	0.00	824.20	128	29.5	28.21	Left Tilt	0	0.375	1.346	0.505	0.505	0.316		23.2		
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 12-4
GSM 850 Antenna 6 Body-worn/Hotspot SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	GSM 850	GSM	6	0738M	1:8.3	-0.08	836.60	190	33.5	32.32	Back	10	0.255	1.312	0.335	0.749	0.468		29.0	27.9	27.8
Hotspot	GPRS 850	GPRS 2 Tx Slots	6	0738M	1:4.15	-0.05	836.60	190	31.5	30.62	Back	10	0.317	1.225	0.388	0.690	0.431		29.4		
Hotspot	GPRS 850	GPRS 2 Tx Slots	6	0738M	1:4.15	-0.03	836.60	190	31.5	30.62	Front	10	0.429	1.225	0.526	0.934	0.584		28.1		
Hotspot	GPRS 850	GPRS 2 Tx Slots	6	0738M	1:4.15	0.02	836.60	190	31.5	30.62	Top	10	0.448	1.225	0.549	0.976	0.610	A3	27.9		
Hotspot	GPRS 850	GPRS 2 Tx Slots	6	0738M	1:4.15	-0.06	836.60	190	31.5	30.62	Right	10	0.311	1.225	0.381	0.677	0.423		29.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.2 GSM 1900 Standalone SAR

Table 12-5
GSM 1900 Antenna 0 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	GSM 1900	GSM	0	0733M	1:8.3	0.03	1880.00	661	30.5	29.32	Right Cheek	0	0.026	1.312	0.034	0.333	0.208	A4	35.9	35.9	31.2
Head	GSM 1900	GSM	0	0733M	1:8.3	-0.20	1880.00	661	30.5	29.32	Right Tilt	0	0.018	1.312	0.024	0.231	0.144		37.5		
Head	GSM 1900	GSM	0	0733M	1:8.3	-0.04	1880.00	661	30.5	29.32	Left Cheek	0	0.014	1.312	0.018	0.180	0.113		38.6		
Head	GSM 1900	GSM	0	0733M	1:8.3	-0.07	1880.00	661	30.5	29.32	Left Tilt	0	0.015	1.312	0.020	0.192	0.120		38.3		
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 12-6
GSM 1900 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	GSM 1900	GSM	0	0732M	1:8.3	0.00	1909.80	810	29.0	27.16	Back	10	0.457	1.528	0.698	0.698	0.436		21.3	19.5	18.8
Hotspot	GPRS 1900	GPRS 4 Tx Slots	0	0732M	1:2.076	-0.07	1850.20	512	23.0	21.13	Back	10	0.346	1.538	0.532	0.532	0.333		22.5		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	0	0732M	1:2.076	-0.01	1850.20	512	23.0	21.13	Front	10	0.289	1.538	0.444	0.444	0.278	A5	23.3		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	0	0732M	1:2.076	-0.13	1850.20	512	23.0	21.13	Bottom	10	0.624	1.538	0.960	0.960	0.600		19.9		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	0	0732M	1:2.076	-0.04	1880.00	661	23.0	21.10	Bottom	10	0.604	1.549	0.936	0.936	0.585		20.1		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	0	0732M	1:2.076	-0.04	1909.80	810	23.0	21.09	Bottom	10	0.693	1.552	1.076	1.076	0.673	A6	19.5		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	0	0732M	1:2.076	0.00	1850.20	512	23.0	21.13	Right	10	0.032	1.538	0.049	0.049	0.031		32.8		
Hotspot	GPRS 1900	GPRS 4 Tx Slots	0	0732M	1:2.076	-0.08	1850.20	512	23.0	21.13	Left	10	0.040	1.538	0.062	0.062	0.039		31.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.3 UMTS 850 Standalone SAR

Table 12-7
UMTS 850 Antenna 0 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	UMTS 850	RMC	0	0738M	1:1	0.14	826.40	4132	25.5	24.26	Right Cheek	0	16	0.070	1.330	0.093	0.275	0.172		35.8	35.0	30.2
Head	UMTS 850	RMC	0	0738M	1:1	0.18	826.40	4132	25.5	24.26	Right Tilt	0	37	0.062	1.330	0.082	0.243	0.152		36.3		
Head	UMTS 850	RMC	0	0738M	1:1	0.06	826.40	4132	25.5	24.26	Left Cheek	0	16	0.083	1.330	0.110	0.326	0.204		35.0		
Head	UMTS 850	RMC	0	0738M	1:1	0.09	826.40	4132	25.5	24.26	Left Tilt	0	37	0.052	1.330	0.069	0.204	0.128		37.0		
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 12-8
UMTS 850 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	UMTS 850	RMC	0	0738M	1:1	0.02	826.40	4132	25.5	24.26	Back	10	37	0.448	1.330	0.596	0.733	0.458		27.7	27.7	26.4
Hotspot	UMTS 850	RMC	0	0738M	1:1	0.00	826.40	4132	25.5	24.26	Front	10	16	0.224	1.330	0.298	0.367	0.229		30.7		
Hotspot	UMTS 850	RMC	0	0738M	1:1	-0.02	826.40	4132	25.5	24.26	Bottom	10	16	0.144	1.330	0.192	0.236	0.148		32.6		
Hotspot	UMTS 850	RMC	0	0738M	1:1	-0.06	826.40	4132	25.5	24.26	Right	10	36	0.043	1.330	0.057	0.070	0.044		37.9		
Hotspot	UMTS 850	RMC	0	0738M	1:1	-0.13	826.40	4132	25.5	24.26	Left	10	37	0.126	1.330	0.168	0.206	0.129		33.2		
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 12-9
UMTS 850 Antenna 6 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	UMTS 850	RMC	6	0738M	1:1	0.00	826.40	4132	21.0	19.92	Right Cheek	0	0.488	1.282	0.626	0.626	0.391		23.0	21.0	20.0
Head	UMTS 850	RMC	6	0738M	1:1	-0.01	826.40	4132	21.0	19.92	Right Tilt	0	0.395	1.282	0.506	0.506	0.316		23.9		
Head	UMTS 850	RMC	6	0738M	1:1	0.01	826.40	4132	21.0	19.92	Left Cheek	0	0.757	1.282	0.970	0.970	0.606	A7	21.1		
Head	UMTS 850	RMC	6	0738M	1:1	-0.03	836.60	4183	21.0	19.81	Left Cheek	0	0.744	1.315	0.978	0.978	0.611		21.0		
Head	UMTS 850	RMC	6	0738M	1:1	0.02	846.60	4233	21.0	19.76	Left Cheek	0	0.751	1.330	0.999	0.999	0.624		21.0		
Head	UMTS 850	RMC	6	0738M	1:1	0.02	826.40	4132	21.0	19.92	Left Tilt	0	0.581	1.282	0.745	0.745	0.466		22.2		
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 12-10
UMTS 850 Antenna 6 Body-worn/Hotspot SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	UMTS 850	RMC	6	0738M	1:1	0.00	826.40	4132	25.5	24.44	Back	10	0.455	1.276	0.581	0.637	0.398	A8	27.8	26.8	25.9
Hotspot	UMTS 850	RMC	6	0738M	1:1	-0.03	826.40	4132	25.5	24.44	Front	10	0.539	1.276	0.688	0.755	0.472		27.1		
Hotspot	UMTS 850	RMC	6	0738M	1:1	-0.03	826.40	4132	25.5	24.44	Top	10	0.573	1.276	0.731	0.802	0.501	A9	26.8		
Hotspot	UMTS 850	RMC	6	0738M	1:1	-0.05	826.40	4132	25.5	24.44	Right	10	0.444	1.276	0.567	0.622	0.389		27.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.4 UMTS 1750 Standalone SAR

Table 12-11
UMTS 1750 Antenna 0 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	UMTS 1750	RMC	0	0742M	1:1	0.03	1712.40	1312	24.0	23.26	Right Cheek	0	96	0.114	1.186	0.135	0.324	0.203	A10	32.6	32.6	27.8
Head	UMTS 1750	RMC	0	0742M	1:1	0.00	1712.40	1312	24.0	23.26	Right Tilt	0	96	0.054	1.186	0.064	0.154	0.096		35.9		
Head	UMTS 1750	RMC	0	0742M	1:1	0.12	1712.40	1312	24.0	23.26	Left Cheek	0	96	0.076	1.186	0.090	0.216	0.135		34.4		
Head	UMTS 1750	RMC	0	0742M	1:1	-0.10	1712.40	1312	24.0	23.26	Left Tilt	0	96	0.063	1.186	0.075	0.179	0.112		35.2		
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 12-12
UMTS 1750 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	UMTS 1750	RMC	0	0742M	1:1	-0.02	1752.60	1513	18.0	17.16	Back	10	96	0.354	1.213	0.429	0.429	0.268	A11	21.6	18.9	17.0
Hotspot	UMTS 1750	RMC	0	0742M	1:1	-0.04	1752.60	1513	18.0	17.16	Front	10	99	0.301	1.213	0.365	0.365	0.228		22.3		
Hotspot	UMTS 1750	RMC	0	0742M	1:1	0.03	1752.60	1513	18.0	17.16	Bottom	10	102	0.656	1.213	0.796	0.796	0.498	A12	18.9		
Hotspot	UMTS 1750	RMC	0	0742M	1:1	0.04	1752.60	1513	18.0	17.16	Right	10	96	0.047	1.213	0.057	0.057	0.036		30.4		
Hotspot	UMTS 1750	RMC	0	0742M	1:1	0.02	1752.60	1513	18.0	17.16	Left	10	96	0.039	1.213	0.047	0.047	0.029		31.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram											

12.5 UMTS 1900 Standalone SAR

Table 12-13
UMTS 1900 Antenna 0 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	UMTS 1900	RMC	0	0733M	1:1	0.11	1907.60	9538	24.0	23.00	Right Cheek	0	64	0.055	1.259	0.069	0.191	0.119		35.5	33.1	28.4
Head	UMTS 1900	RMC	0	0733M	1:1	-0.02	1907.60	9538	24.0	23.00	Right Tilt	0	64	0.047	1.259	0.059	0.163	0.102		36.2		
Head	UMTS 1900	RMC	0	0733M	1:1	-0.12	1907.60	9538	24.0	23.00	Left Cheek	0	64	0.096	1.259	0.121	0.333	0.208	A13	33.1		
Head	UMTS 1900	RMC	0	0733M	1:1	0.06	1907.60	9538	24.0	23.00	Left Tilt	0	64	0.038	1.259	0.048	0.132	0.083		37.2		
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 12-14
UMTS 1900 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	UMTS 1900	RMC	0	0733M	1:1	0.00	1907.60	9538	18.0	17.46	Back	10	64	0.238	1.132	0.269	0.269	0.168	A14	23.6	18.0	17.0
Hotspot	UMTS 1900	RMC	0	0733M	1:1	-0.01	1907.60	9538	18.0	17.46	Front	10	64	0.257	1.132	0.291	0.291	0.182		23.3		
Hotspot	UMTS 1900	RMC	0	0733M	1:1	-0.01	1852.40	9262	18.0	17.31	Bottom	10	135	0.774	1.172	0.907	0.907	0.567		18.4		
Hotspot	UMTS 1900	RMC	0	0733M	1:1	-0.01	1880.00	9400	18.0	17.40	Bottom	10	96	0.778	1.148	0.893	0.893	0.558		18.4		
Hotspot	UMTS 1900	RMC	0	0733M	1:1	0.00	1907.60	9538	18.0	17.46	Bottom	10	135	0.882	1.132	0.998	0.998	0.624	A15	18.0		
Hotspot	UMTS 1900	RMC	0	0733M	1:1	-0.14	1907.60	9538	18.0	17.46	Right	10	64	0.019	1.132	0.022	0.022	0.014		34.6		
Hotspot	UMTS 1900	RMC	0	0733M	1:1	-0.02	1907.60	9538	18.0	17.46	Left	10	64	0.046	1.132	0.052	0.052	0.033		30.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population											Body 1.6 W/kg (mW/g) averaged over 1 gram											

12.6 LTE Band 12 Standalone SAR

Table 12-15
LTE Band 12 Antenna 0 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 12	10	QPSK	0	0745M	1:1	-0.05	707.50	23095	0.0	25.0	23.85	1	0	Right Cheek	0	132	0.094	1.303	0.122	0.294	0.184		34.1	33.6	28.8
Head	LTE Band 12	10	QPSK	0	0745M	1:1	0.11	707.50	23095	1.0	24.0	22.66	25	0	Right Cheek	0	0	0.076	1.361	0.103	0.312	0.195		33.8		
Head	LTE Band 12	10	QPSK	0	0745M	1:1	0.05	707.50	23095	0.0	25.0	23.85	1	0	Right Tilt	0	132	0.046	1.303	0.060	0.144	0.090		37.2		
Head	LTE Band 12	10	QPSK	0	0745M	1:1	0.03	707.50	23095	1.0	24.0	22.66	25	0	Right Tilt	0	0	0.040	1.361	0.054	0.164	0.103		36.6		
Head	LTE Band 12	10	QPSK	0	0745M	1:1	0.00	707.50	23095	0.0	25.0	23.85	1	0	Left Cheek	0	0	0.104	1.303	0.136	0.325	0.203		33.6		
Head	LTE Band 12	10	QPSK	0	0745M	1:1	0.19	707.50	23095	1.0	24.0	22.66	25	0	Left Cheek	0	0	0.070	1.361	0.095	0.288	0.180		34.2		
Head	LTE Band 12	10	QPSK	0	0745M	1:1	0.09	707.50	23095	0.0	25.0	23.85	1	0	Left Tilt	0	0	0.040	1.303	0.052	0.125	0.078		37.8		
Head	LTE Band 12	10	QPSK	0	0745M	1:1	0.13	707.50	23095	1.0	24.0	22.66	25	0	Left Tilt	0	0	0.027	1.361	0.037	0.111	0.069		38.3		
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 12-16
LTE Band 12 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.04	707.50	23095	0.0	25.0	23.85	1	0	Back	10	132	0.243	1.303	0.317	0.502	0.314		29.9	29.6	27.0
Body-worn/Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.06	707.50	23095	1.0	24.0	22.66	25	0	Back	10	0	0.200	1.361	0.272	0.543	0.339		29.6		
Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.06	707.50	23095	0.0	25.0	23.85	1	0	Front	10	132	0.142	1.303	0.185	0.293	0.183		32.3		
Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.01	707.50	23095	1.0	24.0	22.66	25	0	Front	10	0	0.114	1.361	0.155	0.310	0.194		32.0		
Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.04	707.50	23095	0.0	25.0	23.85	1	0	Bottom	10	132	0.069	1.303	0.090	0.142	0.089		35.4		
Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.05	707.50	23095	1.0	24.0	22.66	25	0	Bottom	10	0	0.058	1.361	0.079	0.158	0.099		35.0		
Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.09	707.50	23095	0.0	25.0	23.85	1	0	Right	10	132	0.222	1.303	0.289	0.458	0.286		30.3		
Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.00	707.50	23095	1.0	24.0	22.66	25	0	Right	10	0	0.191	1.361	0.260	0.519	0.324		29.8		
Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.02	707.50	23095	0.0	25.0	23.85	1	0	Left	10	132	0.141	1.303	0.184	0.291	0.182		32.3		
Hotspot	LTE Band 12	10	QPSK	0	0745M	1:1	0.03	707.50	23095	1.0	24.0	22.66	25	0	Left	10	0	0.124	1.361	0.169	0.337	0.211		31.7		
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 12-17
LTE Band 12 Antenna 6 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 12	10	QPSK	6	0745M	1:1	-0.01	707.50	23095	0.0	23.0	22.21	1	25	Right Cheek	0	0.601	1.199	0.721	0.721	0.451		24.4		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	0.00	707.50	23095	0.0	23.0	22.23	25	25	Right Cheek	0	0.611	1.194	0.730	0.730	0.456		24.3		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	0.02	707.50	23095	0.0	23.0	22.21	1	25	Right Tilt	0	0.454	1.199	0.544	0.544	0.340		25.6		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	-0.04	707.50	23095	0.0	23.0	22.23	25	25	Right Tilt	0	0.469	1.194	0.560	0.560	0.350		25.5		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	0.02	707.50	23095	0.0	23.0	22.21	1	25	Left Cheek	0	0.804	1.199	0.964	0.964	0.603		23.1		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	0.05	707.50	23095	0.0	23.0	22.23	25	25	Left Cheek	0	0.825	1.194	0.985	0.985	0.616	A16	23.0	23.0	22.0
Head	LTE Band 12	10	QPSK	6	0745M	1:1	0.00	707.50	23095	0.0	23.0	22.21	25	25	Left Cheek	0	0.819	1.194	0.978	0.978	0.611		23.0		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	0.02	707.50	23095	0.0	23.0	22.16	50	0	Left Cheek	0	0.806	1.213	0.978	0.978	0.611		23.0		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	0.03	707.50	23095	0.0	23.0	22.21	1	25	Left Tilt	0	0.624	1.199	0.748	0.748	0.468		24.2		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	0.02	707.50	23095	0.0	23.0	22.23	25	25	Left Tilt	0	0.624	1.194	0.745	0.745	0.466		24.2		
Head	LTE Band 12	10	QPSK	6	0745M	1:1	-0.01	707.50	23095	0.0	23.0	22.16	50	0	Left Tilt	0	0.613	1.213	0.744	0.744	0.465		24.2		
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: Blue entry represents variability measurement

Table 12-18
LTE Band 12 Antenna 6 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 12	10	QPSK	6	0745M	1:1	-0.01	707.50	23095	0.0	25.0	23.20	1	0	Back	10	0.280	1.514	0.424	0.613	0.383	A17	28.7		
Body-worn/Hotspot	LTE Band 12	10	QPSK	6	0745M	1:1	-0.03	707.50	23095	1.0	24.0	22.22	25	25	Back	10	0.242	1.507	0.365	0.664	0.415		28.3		
Hotspot	LTE Band 12	10	QPSK	6	0745M	1:1	0.07	707.50	23095	0.0	25.0	23.20	1	0	Front	10	0.275	1.514	0.416	0.602	0.376		28.8		
Hotspot	LTE Band 12	10	QPSK	6	0745M	1:1	0.02	707.50	23095	1.0	24.0	22.22	25	25	Front	10	0.244	1.507	0.368	0.669	0.418		28.3	28.3	26.6
Hotspot	LTE Band 12	10	QPSK	6	0745M	1:1	0.02	707.50	23095	0.0	25.0	23.20	1	0	Top	10	0.269	1.514	0.407	0.589	0.368		28.9		
Hotspot	LTE Band 12	10	QPSK	6	0745M	1:1	-0.01	707.50	23095	1.0	24.0	22.22	25	25	Top	10	0.236	1.507	0.356	0.647	0.404		28.4		
Hotspot	LTE Band 12	10	QPSK	6	0745M	1:1	-0.03	707.50	23095	0.0	25.0	23.20	1	0	Right	10	0.276	1.514	0.418	0.604	0.378		28.7		
Hotspot	LTE Band 12	10	QPSK	6	0745M	1:1	-0.04	707.50	23095	1.0	24.0	22.22	25	25	Right	10	0.205	1.507	0.309	0.562	0.351		29.1		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.7 LTE Band 13 Standalone SAR

Table 12-19
LTE Band 13 Antenna 0 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 13	10	QPSK	0	0745M	1:1	0.17	782.00	23230	0.0	25.0	24.22	1	0	Right Cheek	0	0	0.110	1.197	0.132	0.234	0.146		33.8		
Head	LTE Band 13	10	QPSK	0	0745M	1:1	0.11	782.00	23230	1.0	24.0	23.13	25	0	Right Cheek	0	132	0.081	1.222	0.099	0.222	0.139		34.0		
Head	LTE Band 13	10	QPSK	0	0745M	1:1	0.07	782.00	23230	0.0	25.0	24.22	1	0	Right Tilt	0	132	0.084	1.197	0.101	0.179	0.112		34.9		
Head	LTE Band 13	10	QPSK	0	0745M	1:1	0.06	782.00	23230	1.0	24.0	23.13	25	0	Right Tilt	0	132	0.052	1.222	0.064	0.142	0.089		35.9		
Head	LTE Band 13	10	QPSK	0	0745M	1:1	0.17	782.00	23230	0.0	25.0	24.22	1	0	Left Cheek	0	132	0.148	1.197	0.177	0.315	0.197		32.5	32.3	27.5
Head	LTE Band 13	10	QPSK	0	0745M	1:1	0.07	782.00	23230	1.0	24.0	23.13	25	0	Left Cheek	0	132	0.119	1.222	0.145	0.325	0.203		32.3		
Head	LTE Band 13	10	QPSK	0	0745M	1:1	0.09	782.00	23230	0.0	25.0	24.22	1	0	Left Tilt	0	132	0.055	1.197	0.066	0.117	0.073		36.8		
Head	LTE Band 13	10	QPSK	0	0745M	1:1	0.01	782.00	23230	1.0	24.0	23.13	25	0	Left Tilt	0	132	0.036	1.222	0.044	0.098	0.061		37.5		
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 12-20
LTE Band 13 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	-0.03	782.00	23230	0.0	25.0	24.22	1	0	Back	10	132	0.440	1.197	0.527	0.710	0.444	A19	27.7		
Body-worn/Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	0.04	782.00	23230	1.0	24.0	23.13	25	0	Back	10	0	0.352	1.222	0.430	0.730	0.456		27.6		
Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	-0.04	782.00	23230	0.0	25.0	24.22	1	0	Front	10	0	0.270	1.197	0.323	0.436	0.273		29.9		
Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	0.05	782.00	23230	1.0	24.0	23.13	25	0	Front	10	132	0.211	1.222	0.258	0.438	0.274		29.8		
Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	-0.10	782.00	23230	0.0	25.0	24.22	1	0	Bottom	10	0	0.164	1.197	0.196	0.265	0.166		32.0		
Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	0.16	782.00	23230	1.0	24.0	23.13	25	0	Bottom	10	0	0.128	1.222	0.156	0.266	0.166		32.0		
Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	0.06	782.00	23230	0.0	25.0	24.22	1	0	Right	10	132	0.065	1.197	0.078	0.105	0.066		36.0		
Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	0.02	782.00	23230	1.0	24.0	23.13	25	0	Right	10	132	0.062	1.222	0.076	0.129	0.081		35.2		
Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	-0.08	782.00	23230	0.0	25.0	24.22	1	0	Left	10	1	0.195	1.197	0.233	0.315	0.197		31.3		
Hotspot	LTE Band 13	10	QPSK	0	0745M	1:1	-0.03	782.00	23230	1.0	24.0	23.13	25	0	Left	10	0	0.153	1.222	0.187	0.317	0.198		31.2		
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 12-21
LTE Band 13 Antenna 6 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 13	10	QPSK	6	0745M	1:1	0.01	782.00	23230	0.0	21.0	19.95	1	0	Right Cheek	0	0.509	1.274	0.648	0.648	0.405		22.8		
Head	LTE Band 13	10	QPSK	6	0745M	1:1	0.01	782.00	23230	0.0	21.0	20.00	25	12	Right Cheek	0	0.518	1.259	0.652	0.652	0.408		22.8		
Head	LTE Band 13	10	QPSK	6	0745M	1:1	0.01	782.00	23230	0.0	21.0	19.95	1	0	Right Tilt	0	0.398	1.274	0.507	0.507	0.317		23.9		
Head	LTE Band 13	10	QPSK	6	0745M	1:1	0.01	782.00	23230	0.0	21.0	20.00	25	12	Right Tilt	0	0.410	1.259	0.516	0.516	0.323		23.8		
Head	LTE Band 13	10	QPSK	6	0745M	1:1	-0.06	782.00	23230	0.0	21.0	19.95	1	0	Left Cheek	0	0.588	1.274	0.749	0.749	0.468		22.2	22.2	20.0
Head	LTE Band 13	10	QPSK	6	0745M	1:1	0.01	782.00	23230	0.0	21.0	20.00	25	12	Left Cheek	0	0.598	1.259	0.753	0.753	0.471	A18	22.2		
Head	LTE Band 13	10	QPSK	6	0745M	1:1	0.01	782.00	23230	0.0	21.0	19.95	1	0	Left Tilt	0	0.519	1.274	0.661	0.661	0.413		22.7		
Head	LTE Band 13	10	QPSK	6	0745M	1:1	0.01	782.00	23230	0.0	21.0	20.00	25	12	Left Tilt	0	0.539	1.259	0.679	0.679	0.424		22.6		
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 12-22
LTE Band 13 Antenna 6 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 13	10	QPSK	6	0745M	1:1	-0.01	782.00	23230	0.0	25.0	24.28	1	25	Back	10	0.337	1.180	0.398	0.549	0.343		29.0		
Body-worn/Hotspot	LTE Band 13	10	QPSK	6	0745M	1:1	0.01	782.00	23230	1.0	24.0	23.23	25	0	Back	10	0.266	1.194	0.318	0.552	0.345		28.9		
Hotspot	LTE Band 13	10	QPSK	6	0745M	1:1	-0.02	782.00	23230	0.0	25.0	24.28	1	25	Front	10	0.420	1.180	0.496	0.684	0.428		28.0		
Hotspot	LTE Band 13	10	QPSK	6	0745M	1:1	0.00	782.00	23230	1.0	24.0	23.23	25	0	Front	10	0.332	1.194	0.396	0.689	0.431		28.0		
Hotspot	LTE Band 13	10	QPSK	6	0745M	1:1	-0.02	782.00	23230	0.0	25.0	24.28	1	25	Top	10	0.494	1.180	0.583	0.805	0.503	A20	27.3	27.2	26.4
Hotspot	LTE Band 13	10	QPSK	6	0745M	1:1	-0.01	782.00	23230	1.0	24.0	23.23	25	0	Top	10	0.396	1.194	0.473	0.822	0.514		27.2		
Hotspot	LTE Band 13	10	QPSK	6	0745M	1:1	-0.09	782.00	23230	0.0	25.0	24.28	1	25	Right	10	0.356	1.180	0.420	0.580	0.363		28.7		
Hotspot	LTE Band 13	10	QPSK	6	0745M	1:1	-0.04	782.00	23230	1.0	24.0	23.23	25	0	Right	10	0.294	1.194	0.351	0.610	0.381		28.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.8 LTE Band 26 (Cell) Standalone SAR

Table 12-23
LTE Band 26 Antenna 0 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 26	10	QPSK	0	0738M	1:1	0.13	831.50	26865	0.0	25.5	23.92	1	0	Right Cheek	0	16	0.076	1.439	0.109	0.275	0.172		35.1		
Head	LTE Band 26	10	QPSK	0	0738M	1:1	0.19	831.50	26865	1.0	24.5	22.92	36	0	Right Cheek	0	16	0.054	1.439	0.078	0.246	0.154		35.5		
Head	LTE Band 26	10	QPSK	0	0738M	1:1	0.11	831.50	26865	0.0	25.5	23.92	1	0	Right Tilt	0	16	0.049	1.439	0.071	0.177	0.111		37.0		
Head	LTE Band 26	10	QPSK	0	0738M	1:1	0.08	831.50	26865	1.0	24.5	22.92	36	0	Right Tilt	0	0	0.034	1.439	0.049	0.155	0.097		37.6		
Head	LTE Band 26	10	QPSK	0	0738M	1:1	0.06	831.50	26865	0.0	25.5	23.92	1	0	Left Cheek	0	0	0.082	1.439	0.118	0.296	0.185		34.7	34.3	29.5
Head	LTE Band 26	10	QPSK	0	0738M	1:1	0.20	831.50	26865	1.0	24.5	22.92	36	0	Left Cheek	0	16	0.072	1.439	0.104	0.328	0.205		34.3		
Head	LTE Band 26	10	QPSK	0	0738M	1:1	0.02	831.50	26865	0.0	25.5	23.92	1	0	Left Tilt	0	16	0.037	1.439	0.053	0.134	0.084		38.2		
Head	LTE Band 26	10	QPSK	0	0738M	1:1	0.04	831.50	26865	1.0	24.5	22.92	36	0	Left Tilt	0	80	0.029	1.439	0.042	0.132	0.083		38.2		
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 12-24
LTE Band 26 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	-0.16	831.50	26865	0.0	25.5	23.92	1	0	Back	10	16	0.408	1.439	0.587	0.722	0.451	A22	27.8		
Body-worn/Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	-0.08	831.50	26865	1.0	24.5	22.92	36	0	Back	10	16	0.330	1.439	0.475	0.735	0.459		27.7		
Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	0.04	831.50	26865	0.0	25.5	23.92	1	0	Front	10	16	0.209	1.439	0.301	0.370	0.231		30.7		
Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	0.01	831.50	26865	1.0	24.5	22.92	36	0	Front	10	16	0.174	1.439	0.250	0.388	0.243		30.5		
Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	-0.08	831.50	26865	0.0	25.5	23.92	1	0	Bottom	10	16	0.104	1.439	0.150	0.184	0.115		33.7		
Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	0.01	831.50	26865	1.0	24.5	22.92	36	0	Bottom	10	16	0.086	1.439	0.124	0.192	0.120		33.5		
Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	-0.13	831.50	26865	0.0	25.5	23.92	1	0	Right	10	16	0.047	1.439	0.068	0.083	0.052		37.1		
Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	0.04	831.50	26865	1.0	24.5	22.92	36	0	Right	10	16	0.036	1.439	0.052	0.080	0.050		37.3		
Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	0.09	831.50	26865	0.0	25.5	23.92	1	0	Left	10	16	0.093	1.439	0.134	0.165	0.103		34.2		
Hotspot	LTE Band 26	15	QPSK	0	0738M	1:1	-0.14	831.50	26865	1.0	24.5	22.92	36	0	Left	10	16	0.093	1.439	0.134	0.207	0.129		33.2		
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 12-25
LTE Band 26 Antenna 6 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 26	10	QPSK	6	0738M	1:1	0.02	831.50	26865	0.0	20.5	19.17	1	36	Right Cheek	0	0.382	1.358	0.519	0.519	0.324		23.3		
Head	LTE Band 26	10	QPSK	6	0738M	1:1	0.00	831.50	26865	0.0	20.5	19.19	36	0	Right Cheek	0	0.390	1.352	0.527	0.527	0.329		23.2		
Head	LTE Band 26	10	QPSK	6	0738M	1:1	0.05	831.50	26865	0.0	20.5	19.17	1	36	Right Tilt	0	0.343	1.358	0.466	0.466	0.291		23.8		
Head	LTE Band 26	10	QPSK	6	0738M	1:1	0.02	831.50	26865	0.0	20.5	19.19	36	0	Right Tilt	0	0.339	1.352	0.458	0.458	0.286		23.8		
Head	LTE Band 26	10	QPSK	6	0738M	1:1	-0.04	831.50	26865	0.0	20.5	19.17	1	36	Left Cheek	0	0.640	1.358	0.869	0.869	0.543	A21	21.1	21.1	19.5
Head	LTE Band 26	10	QPSK	6	0738M	1:1	0.08	831.50	26865	0.0	20.5	19.19	36	0	Left Cheek	0	0.582	1.352	0.787	0.787	0.492		21.5		
Head	LTE Band 26	10	QPSK	6	0738M	1:1	0.06	831.50	26865	0.0	20.5	19.11	75	0	Left Cheek	0	0.584	1.377	0.804	0.804	0.503		21.4		
Head	LTE Band 26	10	QPSK	6	0738M	1:1	0.08	831.50	26865	0.0	20.5	19.17	1	36	Left Tilt	0	0.500	1.358	0.679	0.679	0.424		22.1		
Head	LTE Band 26	10	QPSK	6	0738M	1:1	0.03	831.50	26865	0.0	20.5	19.19	36	0	Left Tilt	0	0.511	1.352	0.691	0.691	0.432		22.1		
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 12-26
LTE Band 26 Antenna 6 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 26	15	QPSK	6	0738M	1:1	-0.04	831.50	26865	0.0	25.5	23.95	1	0	Back	10	0.332	1.429	0.474	0.520	0.325		28.7		
Body-worn/Hotspot	LTE Band 26	15	QPSK	6	0738M	1:1	-0.04	831.50	26865	1.0	24.5	22.94	36	0	Back	10	0.275	1.432	0.394	0.544	0.340		28.5		
Hotspot	LTE Band 26	15	QPSK	6	0738M	1:1	-0.01	831.50	26865	0.0	25.5	23.95	1	0	Front	10	0.407	1.429	0.582	0.638	0.399		27.8		
Hotspot	LTE Band 26	15	QPSK	6	0738M	1:1	-0.02	831.50	26865	1.0	24.5	22.94	36	0	Front	10	0.342	1.432	0.490	0.676	0.423		27.5		
Hotspot	LTE Band 26	15	QPSK	6	0738M	1:1	0.01	831.50	26865	0.0	25.5	23.95	1	0	Top	10	0.451	1.429	0.644	0.707	0.442	A23	27.4	27.2	25.9
Hotspot	LTE Band 26	15	QPSK	6	0738M	1:1	-0.05	831.50	26865	1.0	24.5	22.94	36	0	Top	10	0.374	1.432	0.536	0.739	0.462		27.2		
Hotspot	LTE Band 26	15	QPSK	6	0738M	1:1	-0.07	831.50	26865	0.0	25.5	23.95	1	0	Right	10	0.347	1.429	0.496	0.544	0.340		28.5		
Hotspot	LTE Band 26	15	QPSK	6	0738M	1:1	0.02	831.50	26865	1.0	24.5	22.94	36	0	Right	10	0.287	1.432	0.411	0.567	0.354		28.3		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.9 LTE Band 66 (AWS) Standalone SAR

Table 12-27
LTE Band 66 (AWS) Antenna 0 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 66	20	QPSK	0	0742M	1:1	-0.10	1770.00	132572	0.0	24.0	23.16	1	99	Right Cheek	0	99	0.095	1.213	0.115	0.325	0.203		33.3		
Head	LTE Band 66	20	QPSK	0	0742M	1:1	-0.05	1770.00	132572	1.0	23.0	22.21	50	50	Right Cheek	0	102	0.069	1.199	0.083	0.294	0.184		33.8		
Head	LTE Band 66	20	QPSK	0	0742M	1:1	0.10	1770.00	132572	0.0	24.0	23.16	1	99	Right Tilt	0	102	0.058	1.213	0.070	0.198	0.124		35.5		
Head	LTE Band 66	20	QPSK	0	0742M	1:1	0.03	1770.00	132572	1.0	23.0	22.21	50	50	Right Tilt	0	102	0.043	1.199	0.052	0.183	0.114		35.8		
Head	LTE Band 66	20	QPSK	0	0742M	1:1	-0.21	1770.00	132572	0.0	24.0	23.16	1	99	Left Cheek	0	99	0.068	1.213	0.082	0.233	0.146		34.8	33.3	28.5
Head	LTE Band 66	20	QPSK	0	0742M	1:1	-0.04	1770.00	132572	1.0	23.0	22.21	50	50	Left Cheek	0	99	0.057	1.199	0.068	0.243	0.152		34.6		
Head	LTE Band 66	20	QPSK	0	0742M	1:1	0.20	1770.00	132572	0.0	24.0	23.16	1	99	Left Tilt	0	102	0.069	1.213	0.084	0.236	0.148		34.7		
Head	LTE Band 66	20	QPSK	0	0742M	1:1	-0.02	1770.00	132572	1.0	23.0	22.21	50	50	Left Tilt	0	102	0.054	1.199	0.065	0.230	0.144		34.8		
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 12-28
LTE Band 66 (AWS) Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	-0.02	1720.00	132072	0.0	18.5	17.83	1	50	Back	10	96	0.384	1.167	0.448	0.448	0.280	A25	21.9		
Body-worn/Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	-0.09	1720.00	132072	0.0	18.5	17.82	50	25	Back	10	96	0.383	1.169	0.448	0.448	0.280		21.9		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.06	1720.00	132072	0.0	18.5	17.83	1	50	Front	10	96	0.331	1.167	0.386	0.386	0.241		22.6		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.04	1720.00	132072	0.0	18.5	17.82	50	25	Front	10	96	0.332	1.169	0.388	0.388	0.243		22.6		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.04	1720.00	132072	0.0	18.5	17.83	1	50	Bottom	10	96	0.712	1.167	0.831	0.831	0.519		19.3		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	-0.01	1745.00	132322	0.0	18.5	17.79	1	50	Bottom	10	96	0.726	1.178	0.855	0.855	0.534		19.1		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.00	1770.00	132572	0.0	18.5	17.29	1	50	Bottom	10	99	0.668	1.321	0.882	0.882	0.551		19.0		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.02	1720.00	132072	0.0	18.5	17.82	50	25	Bottom	10	32	0.716	1.169	0.837	0.837	0.523		19.2	19.0	17.5
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.01	1745.00	132322	0.0	18.5	17.69	50	0	Bottom	10	96	0.730	1.205	0.880	0.880	0.550	A26	19.0		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.02	1770.00	132572	0.0	18.5	17.61	50	25	Bottom	10	96	0.678	1.227	0.832	0.832	0.520		19.2		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.02	1720.00	132072	0.0	18.5	17.73	100	0	Bottom	10	96	0.702	1.194	0.838	0.838	0.524		19.2		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	-0.06	1720.00	132072	0.0	18.5	17.83	1	50	Right	10	96	0.069	1.167	0.081	0.081	0.051		29.4		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	-0.03	1720.00	132072	0.0	18.5	17.82	50	25	Right	10	96	0.068	1.169	0.079	0.079	0.049		29.4		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	-0.01	1720.00	132072	0.0	18.5	17.83	1	50	Left	10	96	0.052	1.167	0.061	0.061	0.038		30.6		
Hotspot	LTE Band 66	20	QPSK	0	0742M	1:1	0.01	1720.00	132072	0.0	18.5	17.82	50	25	Left	10	96	0.052	1.169	0.061	0.061	0.038		30.6		
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 12-29
LTE Band 66 (AWS) Antenna 7 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 66	20	QPSK	7	0742M	1:1	-0.09	1720.00	132072	0.0	19.0	18.30	1	0	Right Cheek	0	0.436	1.175	0.512	0.512	0.320		21.9		
Head	LTE Band 66	20	QPSK	7	0742M	1:1	-0.05	1720.00	132072	0.0	19.0	18.40	50	25	Right Cheek	0	0.424	1.148	0.487	0.487	0.304		22.1		
Head	LTE Band 66	20	QPSK	7	0742M	1:1	-0.02	1720.00	132072	0.0	19.0	18.30	1	0	Right Tilt	0	0.564	1.175	0.663	0.663	0.414		20.7		
Head	LTE Band 66	20	QPSK	7	0742M	1:1	0.02	1720.00	132072	0.0	19.0	18.40	50	25	Right Tilt	0	0.581	1.148	0.667	0.667	0.417	A24	20.7	20.7	18.0
Head	LTE Band 66	20	QPSK	7	0742M	1:1	0.00	1720.00	132072	0.0	19.0	18.30	1	0	Left Cheek	0	0.350	1.175	0.411	0.411	0.257		22.8		
Head	LTE Band 66	20	QPSK	7	0742M	1:1	-0.01	1720.00	132072	0.0	19.0	18.40	50	25	Left Cheek	0	0.365	1.148	0.419	0.419	0.262		22.7		
Head	LTE Band 66	20	QPSK	7	0742M	1:1	-0.05	1720.00	132072	0.0	19.0	18.30	1	0	Left Tilt	0	0.459	1.175	0.539	0.539	0.337		21.6		
Head	LTE Band 66	20	QPSK	7	0742M	1:1	0.01	1720.00	132072	0.0	19.0	18.40	50	25	Left Tilt	0	0.490	1.148	0.563	0.563	0.352		21.4		
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 12-30
LTE Band 66 (AWS) Antenna 7 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 66	20	QPSK	7	0742M	1:1	0.05	1770.00	132572	0.0	21.0	19.72	1	50	Back	10	0.186	1.343	0.250	0.250	0.156		27.0		
Body-worn/Hotspot	LTE Band 66	20	QPSK	7	0742M	1:1	0.02	1770.00	132572	0.0	21.0	19.68	50	25	Back	10	0.189	1.355	0.256	0.256	0.160		26.9		
Hotspot	LTE Band 66	20	QPSK	7	0742M	1:1	-0.01	1770.00	132572	0.0	21.0	19.72	1	50	Front	10	0.180	1.343	0.242	0.242	0.151		27.1		
Hotspot	LTE Band 66	20	QPSK	7	0742M	1:1	0.00	1770.00	132572	0.0	21.0	19.68	50	25	Front	10	0.183	1.355	0.248	0.248	0.155		27.0		
Hotspot	LTE Band 66	20	QPSK	7	0742M	1:1	-0.13	1770.00	132572	0.0	21.0	19.72	1	50	Top	10	0.424	1.343	0.569	0.569	0.356		23.4	22.9	20.0
Hotspot	LTE Band 66	20	QPSK	7	0742M	1:1	-0.01	1770.00	132572	0.0	21.0	19.68	50	25	Top	10	0.473	1.355	0.641	0.641	0.401		22.9		
Hotspot	LTE Band 66	20	QPSK	7	0742M	1:1	0.07	1770.00	132572	0.0	21.0	19.72	1	50	Left	10	0.093	1.343	0.125	0.125	0.078		30.0		
Hotspot	LTE Band 66	20	QPSK	7	0742M	1:1	-0.05	1770.00	132572	0.0	21.0	19.68	50	25	Left	10	0.093	1.355	0.126	0.126	0.079		29.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.10 LTE Band 25 (PCS) Standalone SAR

Table 12-31
LTE Band 25 (PCS) Antenna 0 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 25	20	QPSK	0	0732M	1:1	0.06	1905.00	26590	0.0	24.0	23.56	1	99	Right Cheek	0	64	0.047	1.107	0.052	0.217	0.136		36.8		
Head	LTE Band 25	20	QPSK	0	0732M	1:1	0.08	1905.00	26590	1.0	23.0	22.54	50	50	Right Cheek	0	64	0.038	1.112	0.042	0.222	0.139		36.7		
Head	LTE Band 25	20	QPSK	0	0732M	1:1	0.02	1905.00	26590	0.0	24.0	23.56	1	99	Right Tilt	0	64	0.030	1.107	0.033	0.138	0.086		38.7		
Head	LTE Band 25	20	QPSK	0	0732M	1:1	0.09	1905.00	26590	1.0	23.0	22.54	50	50	Right Tilt	0	0	0.016	1.112	0.018	0.093	0.058		40.4		
Head	LTE Band 25	20	QPSK	0	0732M	1:1	0.01	1905.00	26590	0.0	24.0	23.56	1	99	Left Cheek	0	64	0.071	1.107	0.079	0.328	0.205		35.0	35.0	30.2
Head	LTE Band 25	20	QPSK	0	0732M	1:1	-0.09	1905.00	26590	1.0	23.0	22.54	50	50	Left Cheek	0	64	0.053	1.112	0.059	0.309	0.193		35.2		
Head	LTE Band 25	20	QPSK	0	0732M	1:1	0.06	1905.00	26590	0.0	24.0	23.56	1	99	Left Tilt	0	64	0.017	1.107	0.019	0.078	0.049		41.2		
Head	LTE Band 25	20	QPSK	0	0732M	1:1	0.06	1905.00	26590	1.0	23.0	22.54	50	50	Left Tilt	0	64	0.011	1.112	0.012	0.064	0.040		42.1		
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 12-32
LTE Band 25 (PCS) Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.07	1905.00	26590	0.0	18.5	17.72	1	99	Back	10	64	0.315	1.197	0.377	0.377	0.236		22.7		
Body-worn/Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.02	1905.00	26590	0.0	18.5	17.76	50	50	Back	10	64	0.309	1.186	0.366	0.366	0.229		22.8		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	-0.04	1905.00	26590	0.0	18.5	17.72	1	99	Front	10	64	0.302	1.197	0.361	0.361	0.226		22.9		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	-0.01	1905.00	26590	0.0	18.5	17.76	50	50	Front	10	64	0.307	1.186	0.364	0.364	0.228		22.8		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	-0.07	1860.00	26140	0.0	18.5	17.45	1	99	Bottom	10	135	0.847	1.274	1.079	1.079	0.674		18.1		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.00	1882.50	26365	0.0	18.5	17.64	1	50	Bottom	10	96	0.860	1.219	1.048	1.048	0.655		18.2		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	-0.02	1905.00	26590	0.0	18.5	17.72	1	99	Bottom	10	135	0.854	1.197	1.022	1.022	0.639		18.4		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.00	1860.00	26140	0.0	18.5	17.64	50	50	Bottom	10	135	0.844	1.219	1.029	1.029	0.643		18.3	18.1	17.5
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.01	1882.50	26365	0.0	18.5	17.73	50	50	Bottom	10	96	0.867	1.194	1.035	1.035	0.647		18.3		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.01	1905.00	26590	0.0	18.5	17.76	50	50	Bottom	10	135	0.886	1.186	1.051	1.051	0.657		18.2		
Hotspot	LTE Band 25	20	QPSK	0	0737M	1:1	0.00	1905.00	26590	0.0	18.5	17.76	50	50	Bottom	10	135	0.909	1.186	1.078	1.078	0.674	A29	18.1		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.00	1905.00	26590	0.0	18.5	17.71	100	0	Bottom	10	32	0.865	1.199	1.037	1.037	0.648		18.3		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.04	1905.00	26590	0.0	18.5	17.72	1	99	Right	10	99	0.019	1.197	0.023	0.023	0.014		34.9		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	0.03	1905.00	26590	0.0	18.5	17.76	50	50	Right	10	99	0.018	1.186	0.021	0.021	0.013		35.2		
Hotspot	LTE Band 25	20	QPSK	0	0733M	1:1	-0.11	1905.00	26590	0.0	18.5	17.72	1	99	Left	10	64	0.044	1.197	0.053	0.053	0.033		31.2		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram											

Note: Blue entry represents variability measurement

Table 12-33
LTE Band 25 (PCS) Antenna 7 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 25	20	QPSK	7	0733M	1:1	0.00	1905.00	26590	0.0	19.0	18.43	1	99	Right Cheek	0	0.650	1.140	0.741	0.741	0.463		20.3		
Head	LTE Band 25	20	QPSK	7	0733M	1:1	-0.03	1905.00	26590	0.0	19.0	18.49	50	50	Right Cheek	0	0.664	1.125	0.747	0.747	0.467		20.2		
Head	LTE Band 25	20	QPSK	7	0733M	1:1	-0.20	1905.00	26590	0.0	19.0	18.43	1	99	Right Tilt	0	0.670	1.140	0.764	0.764	0.478		20.1		
Head	LTE Band 25	20	QPSK	7	0733M	1:1	0.04	1905.00	26590	0.0	19.0	18.49	50	50	Right Tilt	0	0.702	1.125	0.790	0.790	0.494	A27	20.0	20.0	18.0
Head	LTE Band 25	20	QPSK	7	0733M	1:1	0.06	1905.00	26590	0.0	19.0	18.43	1	99	Left Cheek	0	0.439	1.140	0.500	0.500	0.313		22.0		
Head	LTE Band 25	20	QPSK	7	0733M	1:1	-0.01	1905.00	26590	0.0	19.0	18.49	50	50	Left Cheek	0	0.440	1.125	0.495	0.495	0.309		22.0		
Head	LTE Band 25	20	QPSK	7	0733M	1:1	0.00	1905.00	26590	0.0	19.0	18.43	1	99	Left Tilt	0	0.483	1.140	0.551	0.551	0.344		21.5		
Head	LTE Band 25	20	QPSK	7	0733M	1:1	0.01	1905.00	26590	0.0	19.0	18.49	50	50	Left Tilt	0	0.468	1.125	0.527	0.527	0.329		21.7		
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 12-34
LTE Band 25 (PCS) Antenna 7 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.01	1860.00	26140	0.0	21.5	20.56	1	50	Back	10	0.356	1.242	0.442	0.442	0.276	A28	25.0		
Body-worn/Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.03	1860.00	26140	0.0	21.5	20.58	50	0	Back	10	0.349	1.236	0.431	0.431	0.269		25.1		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.03	1860.00	26140	0.0	21.5	20.56	1	50	Front	10	0.302	1.242	0.375	0.375	0.234		25.7		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.02	1860.00	26140	0.0	21.5	20.58	50	0	Front	10	0.311	1.236	0.384	0.384	0.240		25.6		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	0.05	1860.00	26140	0.0	21.5	20.56	1	50	Top	10	0.682	1.242	0.847	0.847	0.529		22.2		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.03	1882.50	26365	0.0	21.5	20.51	1	0	Top	10	0.760	1.256	0.955	0.955	0.597		21.7		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.04	1905.00	26590	0.0	21.5	20.43	1	50	Top	10	0.689	1.279	0.881	0.881	0.551		22.0	21.4	20.5
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	0.02	1860.00	26140	0.0	21.5	20.58	50	0	Top	10	0.823	1.236	1.017	1.017	0.636		21.4		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.03	1882.50	26365	0.0	21.5	20.44	50	25	Top	10	0.745	1.276	0.951	0.951	0.594		21.7		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.03	1905.00	26590	0.0	21.5	20.43	50	50	Top	10	0.745	1.279	0.953	0.953	0.596		21.7		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.03	1882.50	26365	0.0	21.5	20.40	100	0	Top	10	0.737	1.288	0.949	0.949	0.593		21.7		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.10	1860.00	26140	0.0	21.5	20.56	1	50	Left	10	0.061	1.242	0.076	0.076	0.048		32.7		
Hotspot	LTE Band 25	20	QPSK	7	0733M	1:1	-0.06	1860.00	26140	0.0	21.5	20.58	50	0	Left	10	0.064	1.236	0.079	0.079	0.049		32.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.11 LTE Band 41 Standalone SAR

Table 12-35
LTE Band 41 Antenna 1 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.10	2636.50	41055	0.0	25.0	24.69	1	50	Right Cheek	0	0.128	1.074	0.137	0.315	0.197		31.6		
Head	LTE Band 41	20	QPSK	1	1069M	1:2.31	-0.10	2636.50	41055	0.0	26.0	25.71	1	50	Right Cheek	0	0.104	1.069	0.111	0.292	0.183		31.9		
Head	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.01	2636.50	41055	1.0	24.0	23.62	50	25	Right Cheek	0	0.105	1.091	0.115	0.331	0.207		31.4		
Head	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.05	2636.50	41055	0.0	25.0	24.69	1	50	Right Tilt	0	0.079	1.074	0.085	0.194	0.121		33.7		
Head	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.15	2636.50	41055	1.0	24.0	23.62	50	25	Right Tilt	0	0.057	1.091	0.062	0.179	0.112		34.0	31.4	26.6
Head	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.19	2636.50	41055	0.0	25.0	24.69	1	50	Left Cheek	0	0.058	1.074	0.062	0.143	0.089		35.0		
Head	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.14	2636.50	41055	1.0	24.0	23.62	50	25	Left Cheek	0	0.047	1.091	0.051	0.148	0.093		34.9		
Head	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.05	2636.50	41055	0.0	25.0	24.69	1	50	Left Tilt	0	0.089	1.074	0.096	0.219	0.137		33.2		
Head	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.17	2636.50	41055	1.0	24.0	23.62	50	25	Left Tilt	0	0.065	1.091	0.071	0.205	0.128		33.5		
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: Green entry represents HPUE measurement

Table 12-36
LTE Band 41 Antenna 1 Body-worn/Hotspot

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.02	2506.00	39750	0.0	22.0	21.35	1	50	Back	10	0.446	1.161	0.518	0.518	0.324		22.8		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.01	2549.50	40185	0.0	22.0	21.50	1	50	Back	10	0.505	1.122	0.567	0.567	0.354		22.4		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.02	2593.00	40620	0.0	22.0	21.83	1	50	Back	10	0.523	1.040	0.544	0.544	0.340		22.6		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.00	2636.50	41055	0.0	22.0	21.94	1	50	Back	10	0.615	1.014	0.624	0.624	0.390	A31	22.0		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.02	2680.00	41490	0.0	22.0	21.84	1	50	Back	10	0.586	1.038	0.608	0.608	0.380		22.1		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.03	2506.00	39750	0.0	22.0	21.39	50	25	Back	10	0.448	1.151	0.516	0.516	0.323		22.8		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.01	2549.50	40185	0.0	22.0	21.50	50	25	Back	10	0.505	1.122	0.567	0.567	0.354		22.4		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.04	2593.00	40620	0.0	22.0	21.82	50	25	Back	10	0.527	1.042	0.549	0.549	0.343		22.6		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.06	2636.50	41055	0.0	22.0	21.91	50	25	Back	10	0.567	1.021	0.579	0.579	0.362		22.3		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.03	2680.00	41490	0.0	22.0	21.84	50	25	Back	10	0.587	1.038	0.609	0.609	0.381		22.1		
Body-worn/Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.01	2636.50	41055	0.0	22.0	21.85	100	0	Back	10	0.557	1.035	0.576	0.576	0.360		22.4		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.05	2636.50	41055	0.0	22.0	21.94	1	50	Front	10	0.413	1.014	0.419	0.419	0.262		23.7		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.01	2636.50	41055	0.0	22.0	21.91	50	25	Front	10	0.413	1.021	0.422	0.422	0.264		23.7		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.07	2506.00	39750	0.0	22.0	21.35	1	50	Bottom	10	0.450	1.161	0.522	0.522	0.326		22.8		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.00	2549.50	40185	0.0	22.0	21.50	1	50	Bottom	10	0.618	1.122	0.693	0.693	0.433		21.6		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.02	2593.00	40620	0.0	22.0	21.83	1	50	Bottom	10	0.791	1.040	0.823	0.823	0.514		20.8		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.01	2636.50	41055	0.0	22.0	21.94	1	50	Bottom	10	0.867	1.014	0.879	0.879	0.549	A32	20.5		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:2.31	0.01	2636.50	41055	0.0	23.6	23.57	1	50	Bottom	10	0.802	1.007	0.808	0.808	0.505		20.8	20.5	19.0
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.07	2680.00	41490	0.0	22.0	21.84	1	50	Bottom	10	0.750	1.038	0.779	0.779	0.487		21.1		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.04	2506.00	39750	0.0	22.0	21.39	50	25	Bottom	10	0.453	1.151	0.521	0.521	0.326		22.8		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.02	2549.50	40185	0.0	22.0	21.50	50	25	Bottom	10	0.622	1.122	0.698	0.698	0.436		21.5		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.01	2593.00	40620	0.0	22.0	21.82	50	25	Bottom	10	0.799	1.042	0.833	0.833	0.521		20.8		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.03	2636.50	41055	0.0	22.0	21.91	50	25	Bottom	10	0.843	1.021	0.861	0.861	0.538		20.6		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.01	2680.00	41490	0.0	22.0	21.84	50	25	Bottom	10	0.762	1.038	0.791	0.791	0.494		21.0		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.01	2636.50	41055	0.0	22.0	21.85	100	0	Bottom	10	0.834	1.035	0.863	0.863	0.539		20.6		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.04	2506.00	39750	0.0	22.0	21.35	1	50	Right	10	0.438	1.161	0.509	0.509	0.318		22.9		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.05	2549.50	40185	0.0	22.0	21.50	1	50	Right	10	0.434	1.122	0.487	0.487	0.304		23.1		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.03	2593.00	40620	0.0	22.0	21.83	1	50	Right	10	0.509	1.040	0.529	0.529	0.331		22.7		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.01	2636.50	41055	0.0	22.0	21.94	1	50	Right	10	0.648	1.014	0.657	0.657	0.411		21.8		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.02	2680.00	41490	0.0	22.0	21.84	1	50	Right	10	0.624	1.038	0.648	0.648	0.405		21.9		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	0.03	2506.00	39750	0.0	22.0	21.39	50	25	Right	10	0.438	1.151	0.504	0.504	0.315		22.9		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.03	2549.50	40185	0.0	22.0	21.50	50	25	Right	10	0.438	1.122	0.491	0.491	0.307		23.1		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.04	2593.00	40620	0.0	22.0	21.82	50	25	Right	10	0.516	1.042	0.538	0.538	0.336		22.7		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.01	2636.50	41055	0.0	22.0	21.91	50	25	Right	10	0.653	1.021	0.667	0.667	0.417		21.7		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.01	2680.00	41490	0.0	22.0	21.84	50	25	Right	10	0.614	1.038	0.637	0.637	0.398		21.9		
Hotspot	LTE Band 41	20	QPSK	1	1069M	1:1.58	-0.03	2636.50	41055	0.0	22.0	21.85	100	0	Right	10	0.586	1.035	0.607	0.607	0.379		22.1		
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: Green entry represents HPUE measurement

Table 12-37
LTE Band 41 Antenna 7 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2506.00	39750	0.0	18.0	17.54	1	50	Right Cheek	0	0.752	1.112	0.836	0.836	0.523		16.7		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.00	2549.50	40185	0.0	18.0	17.38	1	50	Right Cheek	0	0.687	1.153	0.792	0.792	0.495		17.0		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.01	2593.00	40620	0.0	18.0	17.75	1	50	Right Cheek	0	0.733	1.059	0.776	0.776	0.485		17.1		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.04	2636.50	41055	0.0	18.0	17.86	1	50	Right Cheek	0	0.808	1.033	0.835	0.835	0.522		16.8		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2680.00	41490	0.0	18.0	17.70	1	50	Right Cheek	0	0.769	1.072	0.824	0.824	0.515		16.8		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.06	2506.00	39750	0.0	18.0	17.62	50	25	Right Cheek	0	0.754	1.091	0.823	0.823	0.514		16.8		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.04	2549.50	40185	0.0	18.0	17.46	50	25	Right Cheek	0	0.692	1.132	0.783	0.783	0.489		17.0		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.02	2593.00	40620	0.0	18.0	17.74	50	25	Right Cheek	0	0.736	1.062	0.782	0.782	0.489		17.0		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.04	2636.50	41055	0.0	18.0	17.91	50	25	Right Cheek	0	0.803	1.021	0.820	0.820	0.513		16.8		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2680.00	41490	0.0	18.0	17.81	50	25	Right Cheek	0	0.781	1.045	0.816	0.816	0.510		16.8		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.01	2636.50	41055	0.0	18.0	17.84	100	0	Right Cheek	0	0.786	1.038	0.816	0.816	0.510		16.9		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.05	2506.00	39750	0.0	18.0	17.54	1	50	Right Tilt	0	0.793	1.112	0.882	0.882	0.551		16.5		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2549.50	40185	0.0	18.0	17.38	1	50	Right Tilt	0	0.712	1.153	0.821	0.821	0.513		16.8		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.08	2593.00	40620	0.0	18.0	17.75	1	50	Right Tilt	0	0.758	1.059	0.803	0.803	0.502		16.9	16.5	15.0
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.05	2636.50	41055	0.0	18.0	17.86	1	50	Right Tilt	0	0.834	1.033	0.862	0.862	0.539		16.6		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.04	2680.00	41490	0.0	18.0	17.70	1	50	Right Tilt	0	0.824	1.072	0.883	0.883	0.552		16.5		
Head	LTE Band 41	20	QPSK	7	1069M	1:2.31	0.04	2680.00	41490	0.0	19.6	19.52	1	50	Right Tilt	0	0.838	1.019	0.854	0.854	0.534	A30	16.6		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.07	2506.00	39750	0.0	18.0	17.62	50	25	Right Tilt	0	0.803	1.091	0.876	0.876	0.548		16.5		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2549.50	40185	0.0	18.0	17.46	50	25	Right Tilt	0	0.714	1.132	0.808	0.808	0.505		16.9		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.04	2593.00	40620	0.0	18.0	17.74	50	25	Right Tilt	0	0.760	1.062	0.807	0.807	0.504		16.9		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.04	2636.50	41055	0.0	18.0	17.91	50	25	Right Tilt	0	0.825	1.021	0.842	0.842	0.526		16.7		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.00	2680.00	41490	0.0	18.0	17.81	50	25	Right Tilt	0	0.825	1.045	0.862	0.862	0.539		16.6		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.03	2636.50	41055	0.0	18.0	17.84	100	0	Right Tilt	0	0.819	1.038	0.850	0.850	0.531		16.7		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.03	2636.50	41055	0.0	18.0	17.86	1	50	Left Cheek	0	0.336	1.033	0.347	0.347	0.217		20.6		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.01	2636.50	41055	0.0	18.0	17.91	50	25	Left Cheek	0	0.334	1.021	0.341	0.341	0.213		20.6		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.02	2636.50	41055	0.0	18.0	17.86	1	50	Left Tilt	0	0.352	1.033	0.364	0.364	0.228		20.4		
Head	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.00	2636.50	41055	0.0	18.0	17.91	50	25	Left Tilt	0	0.351	1.021	0.358	0.358	0.224		20.4		
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: Green entry represents HPUE measurement

Table 12-38
LTE Band 41 Antenna 7 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2636.50	41055	0.0	22.0	21.96	1	50	Back	10	0.245	1.009	0.247	0.247	0.154		26.0		
Body-worn/Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.04	2636.50	41055	0.0	22.0	21.98	50	25	Back	10	0.244	1.005	0.245	0.245	0.153		26.1		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.03	2636.50	41055	0.0	22.0	21.96	1	50	Front	10	0.412	1.009	0.416	0.416	0.260		23.8		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.00	2636.50	41055	0.0	22.0	21.98	50	25	Front	10	0.409	1.005	0.411	0.411	0.257		23.8		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2506.00	39750	0.0	22.0	21.70	1	50	Top	10	0.724	1.072	0.776	0.776	0.485		21.1		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.00	2549.50	40185	0.0	22.0	21.57	1	50	Top	10	0.582	1.104	0.643	0.643	0.402		21.9		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2593.00	40620	0.0	22.0	21.95	1	50	Top	10	0.680	1.012	0.688	0.688	0.430		21.6		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.03	2636.50	41055	0.0	22.0	21.96	1	50	Top	10	0.795	1.009	0.802	0.802	0.501		20.9		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.01	2680.00	41490	0.0	22.0	21.87	1	50	Top	10	0.798	1.030	0.822	0.822	0.514		20.8	20.8	19.0
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:2.31	0.00	2680.00	41490	0.0	23.6	23.43	1	50	Top	10	0.773	1.040	0.804	0.804	0.503		20.9		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.02	2506.00	39750	0.0	22.0	21.80	50	25	Top	10	0.726	1.047	0.760	0.760	0.475		21.2		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.02	2549.50	40185	0.0	22.0	21.71	50	25	Top	10	0.578	1.069	0.618	0.618	0.386		22.1		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.01	2593.00	40620	0.0	22.0	21.95	50	25	Top	10	0.679	1.012	0.687	0.687	0.429		21.6		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.02	2636.50	41055	0.0	22.0	21.98	50	25	Top	10	0.796	1.005	0.800	0.800	0.500		20.9		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	0.01	2680.00	41490	0.0	22.0	21.97	50	25	Top	10	0.800	1.007	0.806	0.806	0.504		20.9		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.02	2636.50	41055	0.0	22.0	21.94	100	0	Top	10	0.790	1.014	0.801	0.801	0.501		20.9		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.14	2636.50	41055	0.0	22.0	21.96	1	50	Left	10	0.069	1.009	0.070	0.070	0.044		31.5		
Hotspot	LTE Band 41	20	QPSK	7	1069M	1:1.58	-0.17	2636.50	41055	0.0	22.0	21.98	50	25	Left	10	0.068	1.005	0.068	0.068	0.043		31.6		
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: Green entry represents HPUE measurement

12.12 NR Band n5 Standalone SAR

Table 12-39
NR Band n5 Antenna 0 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n5	20	QPSK	0	0738M	1:1	-0.11	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Right Cheek	10	16	0.073	1.462	0.107	0.287	0.179		34.7		
Head	NR Band n5	20	QPSK	0	0738M	1:1	-0.10	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Right Cheek	10	16	0.054	1.493	0.081	0.217	0.136		35.9		
Head	NR Band n5	20	QPSK	0	0738M	1:1	0.15	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Right Tilt	10	16	0.047	1.462	0.069	0.185	0.116		36.6		
Head	NR Band n5	20	QPSK	0	0738M	1:1	0.16	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Right Tilt	10	16	0.033	1.493	0.049	0.133	0.083		38.0		
Head	NR Band n5	20	QPSK	0	0738M	1:1	0.07	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Left Cheek	10	37	0.076	1.462	0.111	0.299	0.187		34.5	34.1	29.3
Head	NR Band n5	20	QPSK	0	0738M	1:1	0.13	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Left Cheek	10	37	0.074	1.493	0.110	0.297	0.186		34.5		
Head	NR Band n5	20	QPSK	0	0738M	1:1	0.19	836.50	167300	CP-OFDM	1.5	23.5	21.66	1	1	Left Cheek	10	16	0.056	1.528	0.086	0.325	0.203		34.1		
Head	NR Band n5	20	QPSK	0	0738M	1:1	0.13	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Left Tilt	10	37	0.033	1.462	0.048	0.130	0.081		38.1		
Head	NR Band n5	20	QPSK	0	0738M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Left Tilt	10	37	0.031	1.493	0.046	0.125	0.078		38.3		
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 12-40
NR Band n5 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	0.04	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Back	10	0	0.430	1.462	0.629	0.739	0.462	A34	27.0		
Body-worn/Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Back	10	0	0.404	1.493	0.603	0.709	0.443		27.1		
Body-worn/Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	-0.04	836.50	167300	CP-OFDM	1.5	23.5	21.66	1	1	Back	10	0	0.292	1.528	0.446	0.740	0.463		27.0		
Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Front	10	0	0.201	1.462	0.294	0.345	0.216		30.3		
Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	0.07	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Front	10	0	0.192	1.493	0.287	0.337	0.211		30.4		
Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	-0.02	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Bottom	10	0	0.104	1.462	0.152	0.179	0.112		33.1	27.0	25.7
Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	-0.07	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Bottom	10	0	0.095	1.493	0.142	0.167	0.104		33.4		
Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	-0.14	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Right	10	0	0.051	1.462	0.075	0.088	0.055		36.2		
Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	0.04	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Right	10	0	0.035	1.493	0.052	0.061	0.038		37.8		
Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	0.03	836.50	167300	DFT-s-OFDM	0.0	25.0	23.35	1	1	Left	10	0	0.125	1.462	0.183	0.215	0.134		32.3		
Hotspot	NR Band n5	20	QPSK	0	0738M	1:1	-0.01	836.50	167300	DFT-s-OFDM	0.0	25.0	23.26	50	28	Left	10	0	0.105	1.493	0.157	0.184	0.115		33.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

Table 12-41
NR Band n5 Antenna 6 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.04	836.50	167300	DFT-s-OFDM	0.0	20.5	19.03	1	1	Right Cheek	0	0.465	1.403	0.652	0.652	0.408		22.3		
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.04	836.50	167300	DFT-s-OFDM	0.0	20.5	18.90	50	0	Right Cheek	0	0.444	1.445	0.642	0.642	0.401		22.4		
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.03	836.50	167300	DFT-s-OFDM	0.0	20.5	19.03	1	1	Right Tilt	0	0.373	1.403	0.523	0.523	0.327		23.3		
Head	NR Band n5	20	QPSK	6	0738M	1:1	-0.04	836.50	167300	DFT-s-OFDM	0.0	20.5	18.90	50	0	Right Tilt	0	0.356	1.445	0.514	0.514	0.321		23.3		
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.17	836.50	167300	DFT-s-OFDM	0.0	20.5	19.03	1	1	Left Cheek	0	0.580	1.403	0.814	0.814	0.509		21.3	20.9	19.5
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.08	836.50	167300	DFT-s-OFDM	0.0	20.5	18.90	50	0	Left Cheek	0	0.556	1.445	0.803	0.803	0.502		21.4		
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.08	836.50	167300	DFT-s-OFDM	0.0	20.5	18.89	100	0	Left Cheek	0	0.535	1.449	0.775	0.775	0.484		21.6		
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.05	836.50	167300	CP-OFDM	0.0	20.5	19.16	1	1	Left Cheek	0	0.669	1.361	0.911	0.911	0.569	A33	20.9		
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.17	836.50	167300	DFT-s-OFDM	0.0	20.5	19.03	1	1	Left Tilt	0	0.515	1.403	0.723	0.723	0.452		21.9		
Head	NR Band n5	20	QPSK	6	0738M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	20.5	18.90	50	0	Left Tilt	0	0.501	1.445	0.724	0.724	0.453		21.9		
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 12-42
NR Band n5 Antenna 6 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	-0.01	836.50	167300	DFT-s-OFDM	0.0	25.0	23.27	1	1	Back	10	0.380	1.489	0.566	0.696	0.435		27.4		
Body-worn/Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	0.12	836.50	167300	DFT-s-OFDM	0.0	25.0	23.18	50	28	Back	10	0.362	1.521	0.551	0.677	0.423		27.5		
Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	-0.08	836.50	167300	DFT-s-OFDM	0.0	25.0	23.27	1	1	Front	10	0.489	1.489	0.728	0.896	0.560		26.3		
Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	-0.01	836.50	167300	DFT-s-OFDM	0.0	25.0	23.18	50	28	Front	10	0.483	1.521	0.735	0.904	0.565		26.3		
Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	0.05	836.50	167300	DFT-s-OFDM	0.0	25.0	23.27	1	1	Top	10	0.500	1.489	0.745	0.916	0.573		26.2	25.9	25.9
Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	25.0	23.18	50	28	Top	10	0.502	1.521	0.764	0.939	0.587	A35	26.1		
Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	-0.01	836.50	167300	CP-OFDM	1.5	23.5	21.70	1	1	Top	10	0.372	1.514	0.563	0.978	0.611		25.9		
Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	25.0	23.27	1	1	Right	10	0.361	1.489	0.538	0.661	0.413		27.6		
Hotspot	NR Band n5	20	QPSK	6	0738M	1:1	0.01	836.50	167300	DFT-s-OFDM	0.0	25.0	23.18	50	28	Right	10	0.355	1.521	0.540	0.664	0.415		27.6		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.13 NR Band n66 Standalone SAR

Table 12-43
NR Band n66 Antenna 0 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n66	40	QPSK	0	0744M	1:1	-0.13	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.32	1	1	Right Cheek	0	96	0.115	1.472	0.169	0.330	0.206		31.7		
Head	NR Band n66	40	QPSK	0	0744M	1:1	0.03	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.20	108	54	Right Cheek	0	96	0.105	1.514	0.159	0.310	0.194		31.9		
Head	NR Band n66	40	QPSK	0	0744M	1:1	-0.15	1745.00	349000	CP-OFDM	1.5	22.5	20.70	1	1	Right Cheek	0	96	0.079	1.514	0.120	0.329	0.206		31.7		
Head	NR Band n66	40	QPSK	0	0744M	1:1	0.05	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.32	1	1	Right Tilt	0	96	0.061	1.472	0.090	0.175	0.109		34.4		
Head	NR Band n66	40	QPSK	0	0744M	1:1	0.11	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.20	108	54	Right Tilt	0	96	0.086	1.514	0.130	0.254	0.159		32.8	31.7	26.9
Head	NR Band n66	40	QPSK	0	0744M	1:1	-0.13	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.32	1	1	Left Cheek	0	96	0.090	1.472	0.132	0.258	0.161		32.7		
Head	NR Band n66	40	QPSK	0	0744M	1:1	0.12	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.20	108	54	Left Cheek	0	96	0.069	1.514	0.104	0.204	0.128		33.8		
Head	NR Band n66	40	QPSK	0	0744M	1:1	0.07	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.32	1	1	Left Tilt	0	96	0.085	1.472	0.125	0.244	0.153		33.0		
Head	NR Band n66	40	QPSK	0	0744M	1:1	0.04	1745.00	349000	DFT-s-OFDM	0.0	24.0	22.20	108	54	Left Tilt	0	96	0.080	1.514	0.121	0.236	0.148		33.1		
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 12-44
NR Band n66 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Back	10	96	0.345	1.081	0.373	0.373	0.233	A37	22.2		
Body-worn/Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.53	108	0	Back	10	96	0.329	1.114	0.367	0.367	0.229		22.3		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	-0.08	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Front	10	96	0.286	1.081	0.309	0.309	0.193		23.0		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	-0.05	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.53	108	0	Front	10	96	0.275	1.114	0.306	0.306	0.191		23.1		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Bottom	10	96	0.755	1.081	0.816	0.816	0.510	A38	18.8		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	-0.03	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.53	108	0	Bottom	10	96	0.705	1.114	0.785	0.785	0.491		19.0	18.8	17.0
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.52	216	0	Bottom	10	96	0.688	1.117	0.768	0.768	0.480		19.1		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	-0.06	1745.00	349000	CP-OFDM	0.0	18.0	17.70	1	1	Bottom	10	96	0.747	1.072	0.801	0.801	0.501		18.9		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	0.09	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Right	10	96	0.066	1.081	0.071	0.071	0.044		29.4		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	0.05	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.53	108	0	Right	10	96	0.059	1.114	0.066	0.066	0.041		29.8		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	0.17	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.66	1	1	Left	10	96	0.053	1.081	0.057	0.057	0.036		30.4		
Hotspot	NR Band n66	40	QPSK	0	0744M	1:1	0.02	1745.00	349000	DFT-s-OFDM	0.0	18.0	17.53	108	0	Left	10	96	0.052	1.114	0.058	0.058	0.036		30.3		
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 12-45
NR Band n66 Antenna 7 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n66	40	QPSK	7	0737M	1:1	-0.07	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.27	1	1	Right Cheek	0	0.570	1.183	0.674	0.674	0.421		20.7		
Head	NR Band n66	40	QPSK	7	0737M	1:1	0.04	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.16	108	54	Right Cheek	0	0.548	1.213	0.665	0.665	0.416		20.7		
Head	NR Band n66	40	QPSK	7	0737M	1:1	0.08	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.27	1	1	Right Tilt	0	0.685	1.183	0.810	0.810	0.506		19.9		
Head	NR Band n66	40	QPSK	7	0737M	1:1	-0.03	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.16	108	54	Right Tilt	0	0.654	1.213	0.793	0.793	0.496		20.0		
Head	NR Band n66	40	QPSK	7	0737M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.10	216	0	Right Tilt	0	0.645	1.230	0.793	0.793	0.496		20.0	19.9	18.0
Head	NR Band n66	40	QPSK	7	0737M	1:1	0.09	1745.00	349000	CP-OFDM	0.0	19.0	18.42	1	1	Right Tilt	0	0.696	1.143	0.796	0.796	0.498	A36	19.9		
Head	NR Band n66	40	QPSK	7	0737M	1:1	-0.03	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.27	1	1	Left Cheek	0	0.394	1.183	0.466	0.466	0.291		22.3		
Head	NR Band n66	40	QPSK	7	0737M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.16	108	54	Left Cheek	0	0.415	1.213	0.503	0.503	0.314		21.9		
Head	NR Band n66	40	QPSK	7	0737M	1:1	-0.10	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.27	1	1	Left Tilt	0	0.564	1.183	0.667	0.667	0.417		20.7		
Head	NR Band n66	40	QPSK	7	0737M	1:1	-0.02	1745.00	349000	DFT-s-OFDM	0.0	19.0	18.16	108	54	Left Tilt	0	0.540	1.213	0.655	0.655	0.409		20.8		
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 12-46
NR Band n66 Antenna 7 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	0.13	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.43	1	1	Back	10	0.256	1.140	0.292	0.292	0.183		26.3		
Body-worn/Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	0.00	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.26	108	0	Back	10	0.247	1.186	0.293	0.293	0.183		26.3		
Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	-0.07	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.43	1	1	Front	10	0.200	1.140	0.228	0.228	0.143		27.4		
Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	0.01	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.26	108	0	Front	10	0.190	1.186	0.225	0.225	0.141		27.4		
Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	0.02	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.43	1	1	Top	10	0.719	1.140	0.820	0.820	0.513		21.8	21.8	20.0
Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	0.02	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.26	108	0	Top	10	0.681	1.186	0.808	0.808	0.505		21.9		
Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	-0.08	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.25	216	0	Top	10	0.672	1.189	0.799	0.799	0.499		21.9		
Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	0.00	1745.00	349000	CP-OFDM	0.0	21.0	20.59	1	1	Top	10	0.755	1.099	0.830	0.830	0.519		21.8		
Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	-0.15	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.43	1	1	Left	10	0.118	1.140	0.135	0.135	0.084		29.7		
Hotspot	NR Band n66	40	QPSK	7	0744M	1:1	0.05	1745.00	349000	DFT-s-OFDM	0.0	21.0	20.26	108	0	Left	10	0.109	1.186	0.129	0.129	0.081		29.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.14 NR Band n25 Standalone SAR

Table 12-47
NR Band n25 Antenna 0 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n25	20	QPSK	0	0737M	1:1	0.08	1882.50	376500	DFT-s-OFDM	0.0	24.0	23.05	1	1	Right Cheek	0	96	0.081	1.245	0.101	0.298	0.186		33.9		
Head	NR Band n25	20	QPSK	0	0737M	1:1	0.10	1882.50	376500	DFT-s-OFDM	0	24.0	23.10	50	28	Right Cheek	0	96	0.070	1.230	0.086	0.254	0.159		34.6		
Head	NR Band n25	20	QPSK	0	0737M	1:1	0.02	1882.50	376500	DFT-s-OFDM	0.0	24.0	23.05	1	1	Right Tilt	0	134	0.048	1.245	0.060	0.176	0.110		36.2		
Head	NR Band n25	20	QPSK	0	0737M	1:1	-0.05	1882.50	376500	DFT-s-OFDM	0	24.0	23.10	50	28	Right Tilt	0	134	0.037	1.230	0.046	0.134	0.084		37.4		
Head	NR Band n25	20	QPSK	0	0737M	1:1	0.10	1882.50	376500	DFT-s-OFDM	0.0	24.0	23.05	1	1	Left Cheek	0	0	0.079	1.245	0.098	0.290	0.181		34.0	33.6	28.7
Head	NR Band n25	20	QPSK	0	0737M	1:1	-0.08	1882.50	376500	DFT-s-OFDM	0	24.0	23.10	50	28	Left Cheek	0	0	0.082	1.230	0.101	0.298	0.186		33.9		
Head	NR Band n25	20	QPSK	0	0737M	1:1	0.08	1882.50	376500	CP-OFDM	1.5	22.5	21.53	1	1	Left Cheek	0	0	0.062	1.250	0.078	0.323	0.202		33.6		
Head	NR Band n25	20	QPSK	0	0737M	1:1	0.06	1882.50	376500	DFT-s-OFDM	0.0	24.0	23.05	1	1	Left Tilt	0	0	0.046	1.245	0.057	0.169	0.106		36.4		
Head	NR Band n25	20	QPSK	0	0737M	1:1	0.08	1882.50	376500	DFT-s-OFDM	0	24.0	23.10	50	28	Left Tilt	0	0	0.045	1.230	0.055	0.163	0.102		36.5		
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 12-48
NR Band n25 Antenna 0 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Tune state	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	0.08	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.04	1	1	Back	10	97	0.333	1.112	0.370	0.370	0.231	A40	22.8		
Body-worn/Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.06	50	28	Back	10	97	0.317	1.107	0.351	0.351	0.219		23.0		
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.04	1	1	Front	10	97	0.372	1.112	0.414	0.414	0.259		22.3		
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.06	50	28	Front	10	97	0.368	1.107	0.407	0.407	0.254		22.4		
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	-0.09	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.04	1	1	Bottom	10	134	0.684	1.112	0.761	0.761	0.476		19.6		
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	0.06	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.06	50	28	Bottom	10	134	0.686	1.107	0.759	0.759	0.474		19.6	19.4	17.5
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	0.04	1882.50	376500	CP-OFDM	0.0	18.5	18.03	1	1	Bottom	10	32	0.726	1.114	0.809	0.809	0.506		19.4		
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	-0.05	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.04	1	1	Right	10	96	0.044	1.112	0.049	0.049	0.031		31.6		
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.06	50	28	Right	10	96	0.034	1.107	0.038	0.038	0.024		32.7		
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.04	1	1	Left	10	96	0.048	1.112	0.053	0.053	0.033		31.2		
Hotspot	NR Band n25	20	QPSK	0	0737M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	18.5	18.06	50	28	Left	10	96	0.043	1.107	0.048	0.048	0.030		31.7		
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 12-49
NR Band n25 Antenna 7 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n25	20	QPSK	7	0737M	1:1	-0.05	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.19	1	1	Right Cheek	0	0.608	1.205	0.733	0.733	0.458		20.3		
Head	NR Band n25	20	QPSK	7	0737M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.19	50	28	Right Cheek	0	0.599	1.205	0.722	0.722	0.451		20.4		
Head	NR Band n25	20	QPSK	7	0737M	1:1	-0.11	1860.00	372000	DFT-s-OFDM	0.0	19.0	18.07	1	1	Right Tilt	0	0.763	1.239	0.945	0.945	0.591		19.2		
Head	NR Band n25	20	QPSK	7	0737M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.19	1	1	Right Tilt	0	0.780	1.205	0.940	0.940	0.588		19.2		
Head	NR Band n25	20	QPSK	7	0737M	1:1	0.03	1905.00	381000	DFT-s-OFDM	0.0	19.0	18.16	1	53	Right Tilt	0	0.780	1.213	0.946	0.946	0.591		19.2		
Head	NR Band n25	20	QPSK	7	0737M	1:1	0.01	1860.00	372000	DFT-s-OFDM	0.0	19.0	18.12	50	56	Right Tilt	0	0.767	1.225	0.940	0.940	0.588		19.2		
Head	NR Band n25	20	QPSK	7	0737M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.19	50	28	Right Tilt	0	0.728	1.205	0.877	0.877	0.548		19.5		
Head	NR Band n25	20	QPSK	7	0737M	1:1	0.07	1905.00	381000	DFT-s-OFDM	0.0	19.0	18.18	50	28	Right Tilt	0	0.772	1.208	0.933	0.933	0.583		19.3	19.1	18.0
Head	NR Band n25	20	QPSK	7	0737M	1:1	0.03	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.16	100	0	Right Tilt	0	0.785	1.213	0.952	0.952	0.595		19.2		
Head	NR Band n25	20	QPSK	7	0737M	1:1	0.07	1882.50	376500	CP-OFDM	0.0	19.0	18.35	1	1	Right Tilt	0	0.829	1.161	0.962	0.962	0.601	A39	19.1		
Head	NR Band n25	20	QPSK	7	0737M	1:1	-0.05	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.19	1	1	Left Cheek	0	0.387	1.205	0.466	0.466	0.291		22.3		
Head	NR Band n25	20	QPSK	7	0737M	1:1	-0.16	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.19	50	28	Left Cheek	0	0.384	1.205	0.463	0.463	0.289		22.3		
Head	NR Band n25	20	QPSK	7	0737M	1:1	0.03	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.19	1	1	Left Tilt	0	0.519	1.205	0.625	0.625	0.391		21.0		
Head	NR Band n25	20	QPSK	7	0737M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	19.0	18.19	50	28	Left Tilt	0	0.518	1.205	0.624	0.624	0.390		21.0		
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 12-50
NR Band n25 Antenna 7 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.00	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.89	1	1	Back	10	0.280	1.151	0.322	0.322	0.201		26.4		
Body-worn/Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.84	50	28	Back	10	0.277	1.164	0.322	0.322	0.201		26.4		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	-0.06	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.89	1	1	Front	10	0.267	1.151	0.307	0.307	0.192		26.6		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	-0.01	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.84	50	28	Front	10	0.258	1.164	0.300	0.300	0.188		26.7		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.00	1860.00	372000	DFT-s-OFDM	0.0	21.5	20.85	1	1	Top	10	0.720	1.161	0.836	0.836	0.523		22.2		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.12	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.89	1	1	Top	10	0.782	1.151	0.900	0.900	0.563	A41	21.9		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.01	1905.00	381000	DFT-s-OFDM	0.0	21.5	20.81	1	53	Top	10	0.753	1.172	0.883	0.883	0.552		22.0	21.9	20.5
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	-0.06	1860.00	372000	DFT-s-OFDM	0.0	21.5	20.82	50	28	Top	10	0.743	1.169	0.869	0.869	0.543		22.1		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	-0.04	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.84	50	28	Top	10	0.763	1.164	0.888	0.888	0.555		22.0		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.03	1905.00	381000	DFT-s-OFDM	0.0	21.5	20.80	50	28	Top	10	0.734	1.175	0.862	0.862	0.539		22.1		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.01	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.83	100	0	Top	10	0.729	1.167	0.851	0.851	0.532		22.2		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.00	1882.50	376500	CP-OFDM	0.0	21.5	21.04	1	1	Top	10	0.768	1.112	0.854	0.854	0.534		22.1		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.17	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.89	1	1	Left	10	0.063	1.151	0.073	0.073	0.046		32.8		
Hotspot	NR Band n25	20	QPSK	7	0737M	1:1	0.08	1882.50	376500	DFT-s-OFDM	0.0	21.5	20.84	50	28	Left	10	0.065	1.164	0.076	0.076	0.048		32.7		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.15 NR Band n41 Standalone SAR

Table 12-51
NR Band n41 7 Antenna Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.77	1	137	Right Cheek	0	0.742	1.054	0.782	0.782	0.489		17.0		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.03	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.71	135	69	Right Cheek	0	0.753	1.069	0.805	0.805	0.503		16.9		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.07	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.65	270	0	Right Cheek	0	0.748	1.084	0.811	0.811	0.507		16.9		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.77	1	137	Right Tilt	0	0.911	1.054	0.960	0.960	0.600		16.1		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.71	135	69	Right Tilt	0	0.909	1.069	0.972	0.972	0.608		16.1		
Head	NR Band n41	100	QPSK	7	1062M	1:1	-0.03	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.65	270	0	Right Tilt	0	0.895	1.084	0.970	0.970	0.606		16.1	15.7	15.0
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.01	2592.99	518598	CP-OFDM	0.0	16.0	15.37	1	1	Right Tilt	0	0.914	1.156	1.057	1.057	0.661	A42	15.7		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.04	2592.99	518598	CP-OFDM	0.0	16.0	15.37	1	1	Right Tilt	0	0.895	1.156	1.023	1.023	0.639		15.9		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.02	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.77	1	137	Left Cheek	0	0.388	1.054	0.409	0.409	0.256		19.8		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.71	135	69	Left Cheek	0	0.389	1.069	0.416	0.416	0.260		19.8		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.77	1	137	Left Tilt	0	0.375	1.054	0.395	0.395	0.247		20.0		
Head	NR Band n41	100	QPSK	7	1062M	1:1	0.01	2592.99	518598	DFT-s-OFDM	0.0	16.0	15.71	135	69	Left Tilt	0	0.373	1.069	0.399	0.399	0.249		19.9		
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: Blue entry represents variability measurement

Table 12-52
NR Band n41 Antenna 7 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	0.05	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.71	1	137	Back	10	0.305	1.069	0.326	0.326	0.204		24.8		
Body-worn/Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	0.03	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.69	135	69	Back	10	0.310	1.074	0.333	0.333	0.208		24.7		
Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.71	1	137	Front	10	0.313	1.069	0.335	0.335	0.209		24.7		
Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	-0.01	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.69	135	69	Front	10	0.318	1.074	0.342	0.342	0.214		24.6		
Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	0.04	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.71	1	137	Top	10	0.589	1.069	0.630	0.630	0.394		22.0		
Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	0.00	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.69	135	69	Top	10	0.584	1.074	0.627	0.627	0.392		22.0		
Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	0.03	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.64	270	0	Top	10	0.577	1.086	0.627	0.627	0.392		22.0		
Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	0.00	2592.99	518598	CP-OFDM	0.0	20.0	19.58	1	1	Top	10	0.619	1.102	0.682	0.682	0.426	A44	21.6	21.6	19.0
Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	-0.04	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.71	1	137	Left	10	0.054	1.069	0.058	0.058	0.036		32.3		
Hotspot	NR Band n41	100	QPSK	7	1062M	1:1	0.09	2592.99	518598	DFT-s-OFDM	0.0	20.0	19.69	135	69	Left	10	0.054	1.074	0.058	0.058	0.036		32.3		
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 12-53
NR Band n41 Antenna 1 Antenna Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	1	1062M	1:1	0.11	2592.99	518598	CW/SRS	21.0	20.35	Right Cheek	0	0.073	1.161	0.085	0.085	0.053		31.7		
Head	NR Band n41	100	1	1062M	1:1	-0.07	2592.99	518598	CW/SRS	21.0	20.35	Right Tilt	0	0.031	1.161	0.036	0.036	0.023		35.4	31.7	20.0
Head	NR Band n41	100	1	1062M	1:1	0.05	2592.99	518598	CW/SRS	21.0	20.35	Left Cheek	0	0.067	1.161	0.078	0.078	0.049		32.0		
Head	NR Band n41	100	1	1062M	1:1	0.02	2592.99	518598	CW/SRS	21.0	20.35	Left Tilt	0	0.040	1.161	0.046	0.046	0.029		34.3		
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 12-54
NR Band n41 Antenna 1 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	1	1062M	1:1	0.08	2592.99	518598	CW/SRS	21.0	20.35	Back	10	0.332	1.161	0.385	0.385	0.241	A43	25.1	23.3	20.0
Hotspot	NR Band n41	100	1	1062M	1:1	-0.02	2592.99	518598	CW/SRS	21.0	20.35	Front	10	0.279	1.161	0.324	0.324	0.203		25.8		
Hotspot	NR Band n41	100	1	1062M	1:1	-0.10	2592.99	518598	CW/SRS	21.0	20.35	Bottom	10	0.490	1.161	0.569	0.569	0.356		23.4		
Hotspot	NR Band n41	100	1	1062M	1:1	-0.01	2592.99	518598	CW/SRS	21.0	20.35	Right	10	0.506	1.161	0.587	0.587	0.367		23.3		
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 12-55
NR Band n41 Antenna 6 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	6	1062M	1:1	0.01	2592.99	518598	CW/SRS	18.0	17.42	Right Cheek	0	0.531	1.143	0.607	0.607	0.379		20.1	18.3	17.0
Head	NR Band n41	100	6	1062M	1:1	0.01	2592.99	518598	CW/SRS	18.0	17.42	Right Tilt	0	0.452	1.143	0.517	0.517	0.323		20.8		
Head	NR Band n41	100	6	1062M	1:1	-0.01	2592.99	518598	CW/SRS	18.0	17.42	Left Cheek	0	0.815	1.143	0.932	0.932	0.583		18.3		
Head	NR Band n41	100	6	1062M	1:1	-0.02	2592.99	518598	CW/SRS	18.0	17.42	Left Tilt	0	0.749	1.143	0.856	0.856	0.535		18.6		
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 12-56
NR Band n41 Antenna 6 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	6	1062M	1:1	0.13	2592.99	518598	CW/SRS	21.0	20.42	Back	10	0.237	1.143	0.271	0.271	0.169		26.6	24.8	20.0
Hotspot	NR Band n41	100	6	1062M	1:1	0.02	2592.99	518598	CW/SRS	21.0	20.42	Front	10	0.336	1.143	0.384	0.384	0.240		25.1		
Hotspot	NR Band n41	100	6	1062M	1:1	0.07	2592.99	518598	CW/SRS	21.0	20.42	Top	10	0.357	1.143	0.408	0.408	0.255		24.8		
Hotspot	NR Band n41	100	6	1062M	1:1	-0.01	2592.99	518598	CW/SRS	21.0	20.42	Right	10	0.284	1.143	0.325	0.325	0.203		25.8		
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 12-57
NR Band n41 Antenna 3 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n41	100	3	1062M	1:1	0.20	2592.99	518598	CW/SRS	21.0	20.48	Right Cheek	0	0.012	1.127	0.014	0.014	0.009		39.6	39.6	20.0
Head	NR Band n41	100	3	1062M	1:1	0.03	2592.99	518598	CW/SRS	21.0	20.48	Right Tilt	0	0.003	1.127	0.003	0.003	0.002		45.7		
Head	NR Band n41	100	3	1062M	1:1	-0.08	2592.99	518598	CW/SRS	21.0	20.48	Left Cheek	0	0.012	1.127	0.014	0.014	0.009		39.6		
Head	NR Band n41	100	3	1062M	1:1	0.09	2592.99	518598	CW/SRS	21.0	20.48	Left Tilt	0	0.003	1.127	0.003	0.003	0.002		45.7		
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 12-58
NR Band n41 Antenna 3 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n41	100	3	1062M	1:1	-0.05	2592.99	518598	CW/SRS	21.0	20.48	Back	10	0.320	1.127	0.361	0.361	0.226		25.4	25.4	20.0
Hotspot	NR Band n41	100	3	1062M	1:1	0.03	2592.99	518598	CW/SRS	21.0	20.48	Front	10	0.022	1.127	0.025	0.025	0.016		37.0		
Hotspot	NR Band n41	100	3	1062M	1:1	0.03	2592.99	518598	CW/SRS	21.0	20.48	Bottom	10	0.124	1.127	0.140	0.140	0.088		29.5		
Hotspot	NR Band n41	100	3	1062M	1:1	0.15	2592.99	518598	CW/SRS	21.0	20.48	Left	10	0.018	1.127	0.020	0.020	0.013		37.9		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.16 NR Band n77 Standalone SAR

Table 12-59
NR Band n77 Antenna 7 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.01	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.29	1	1	Right Cheek	0	0.532	1.178	0.627	0.627	0.392		18.0		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.08	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.88	1	1	Right Cheek	0	0.378	1.294	0.489	0.489	0.306		19.1		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.05	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.02	135	0	Right Cheek	0	0.501	1.253	0.628	0.628	0.393		18.0		
Head	NR Band n77	100	QPSK	7	1140M	1:1	0.06	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.87	135	0	Right Cheek	0	0.334	1.297	0.433	0.433	0.271		19.6		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.01	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.80	270	0	Right Cheek	0	0.308	1.318	0.406	0.406	0.254		19.9		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.01	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.29	1	1	Right Tilt	0	0.573	1.178	0.675	0.675	0.422		17.7		
Head	NR Band n77	100	QPSK	7	1140M	1:1	0.03	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.88	1	1	Right Tilt	0	0.371	1.294	0.480	0.480	0.300		19.1		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.02	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.02	135	0	Right Tilt	0	0.539	1.253	0.675	0.675	0.422		17.7		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.04	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.87	135	0	Right Tilt	0	0.327	1.297	0.424	0.424	0.265		19.7		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.80	270	0	Right Tilt	0	0.275	1.318	0.362	0.362	0.226		20.4		
Head	NR Band n77 DoD	100	QPSK	7	1140M	1:1	-0.05	3500.01	633334	CP-OFDM	0.0	16.0	15.11	1	1	Right Tilt	0	0.522	1.227	0.640	0.640	0.400		17.9	17.6	15.0
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.01	3750.00	650000	CP-OFDM	0.0	16.0	15.38	1	1	Right Tilt	0	0.590	1.153	0.680	0.680	0.425		17.6		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.03	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.29	1	1	Left Cheek	0	0.401	1.178	0.472	0.472	0.295		19.2		
Head	NR Band n77	100	QPSK	7	1140M	1:1	0.04	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.88	1	1	Left Cheek	0	0.211	1.294	0.273	0.273	0.171		21.6		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.02	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.02	135	0	Left Cheek	0	0.411	1.253	0.515	0.515	0.322		18.8		
Head	NR Band n77	100	QPSK	7	1140M	1:1	0.02	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.87	135	0	Left Cheek	0	0.219	1.297	0.284	0.284	0.178		21.4		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.80	270	0	Left Cheek	0	0.419	1.318	0.552	0.552	0.345		18.5		
Head	NR Band n77	100	QPSK	7	1140M	1:1	0.00	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.29	1	1	Left Tilt	0	0.464	1.178	0.547	0.547	0.342		18.6		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.01	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.88	1	1	Left Tilt	0	0.244	1.294	0.316	0.316	0.198		21.0		
Head	NR Band n77	100	QPSK	7	1140M	1:1	0.01	3750.00	650000	DFT-s-OFDM	0.0	16.0	15.02	135	0	Left Tilt	0	0.418	1.253	0.524	0.524	0.328		18.8		
Head	NR Band n77	100	QPSK	7	1140M	1:1	-0.05	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.87	135	0	Left Tilt	0	0.237	1.297	0.307	0.307	0.192		21.1		
Head	NR Band n77	100	QPSK	7	1140M	1:1	0.01	3930.00	662000	DFT-s-OFDM	0.0	16.0	14.80	270	0	Left Tilt	0	0.424	1.318	0.559	0.559	0.349		18.5		
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 12-60
NR Band n77 Antenna 7 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	MPR [dB]	Max Allowed Power [dBm]	Conducted Power [dBm]	RB Size	RB Offset	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n77 DoD	100	QPSK	7	1140M	1:1	0.02	3500.01	633334	DFT-s-OFDM	0.0	21.0	20.44	1	1	Back	10	0.366	1.138	0.417	0.417	0.261		24.8		
Body-worn/Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	0.00	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.55	1	1	Back	10	0.579	1.109	0.642	0.642	0.401		22.9		
Body-worn/Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	21.0	20.51	1	1	Back	10	0.750	1.119	0.839	0.839	0.524		21.7		
Body-worn/Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.05	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.49	135	0	Back	10	0.595	1.125	0.669	0.669	0.418		22.7		
Body-worn/Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	21.0	20.48	135	138	Back	10	0.751	1.127	0.846	0.846	0.529	A46	21.7		
Body-worn/Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.01	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.38	270	0	Back	10	0.664	1.153	0.766	0.766	0.479		22.1		
Body-worn/Hotspot	NR Band n77	100	QPSK	7	0744M	1:1	-0.02	3750.00	650000	CP-OFDM	0.0	21.0	20.77	1	1	Back	10	0.570	1.054	0.601	0.601	0.376		23.2		
Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.10	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.55	1	1	Front	10	0.176	1.109	0.195	0.195	0.122		28.0		
Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.06	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.49	135	0	Front	10	0.165	1.125	0.186	0.186	0.116		28.3	21.7	20.0
Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	0.00	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.55	1	1	Top	10	0.479	1.109	0.531	0.531	0.332		23.7		
Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.06	3930.00	662000	DFT-s-OFDM	0.0	21.0	20.51	1	1	Top	10	0.200	1.119	0.224	0.224	0.140		27.4		
Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.08	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.49	135	0	Top	10	0.459	1.125	0.516	0.516	0.323		23.8		
Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	-0.02	3930.00	662000	DFT-s-OFDM	0.0	21.0	20.48	135	138	Top	10	0.220	1.127	0.248	0.248	0.155		27.0		
Hotspot	NR Band n77	100	QPSK	7	1140M	1:1	0.00	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.38	270	0	Top	10	0.436	1.153	0.503	0.503	0.314		23.9		
Hotspot	NR Band n77	100	QPSK	7	0744M	1:1	-0.12	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.55	1	1	Left	10	0.150	1.109	0.166	0.166	0.104		28.7		
Hotspot	NR Band n77	100	QPSK	7	0744M	1:1	-0.05	3750.00	650000	DFT-s-OFDM	0.0	21.0	20.49	135	0	Left	10	0.144	1.125	0.162	0.162	0.101		28.9		
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 12-61
NR Band n77 Antenna 2 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n77 DoD	100	2	1092M	1:1	0.11	3500.01	633334	CW/SRS	20.0	19.41	Right Cheek	0	0.099	1.146	0.113	0.113	0.071		29.4		
Head	NR Band n77	100	2	1092M	1:1	0.15	3750.00	650000	CW/SRS	20.0	19.43	Right Cheek	0	0.094	1.140	0.107	0.107	0.067		29.6		
Head	NR Band n77	100	2	1092M	1:1	-0.06	3750.00	650000	CW/SRS	20.0	19.43	Right Tilt	0	0.031	1.140	0.035	0.035	0.022		34.5	29.4	19.0
Head	NR Band n77	100	2	1092M	1:1	0.02	3750.00	650000	CW/SRS	20.0	19.43	Left Cheek	0	0.061	1.140	0.070	0.070	0.044		31.5		
Head	NR Band n77	100	2	1092M	1:1	0.03	3750.00	650000	CW/SRS	20.0	19.43	Left Tilt	0	0.032	1.140	0.036	0.036	0.023		34.3		
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 12-62
NR Band n77 Antenna 2 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n77 DoD	100	2	1092M	1:1	-0.09	3500.01	633334	CW/SRS	18.0	17.82	Back	10	0.231	1.042	0.241	0.241	0.151		24.1		
Body-worn/Hotspot	NR Band n77	100	2	1092M	1:1	0.03	3750.00	650000	CW/SRS	18.0	17.73	Back	10	0.124	1.064	0.132	0.132	0.083		26.7		
Hotspot	NR Band n77	100	2	1092M	1:1	-0.02	3750.00	650000	CW/SRS	18.0	17.73	Front	10	0.119	1.064	0.127	0.127	0.079		26.9		
Hotspot	NR Band n77	100	2	1092M	1:1	-0.12	3750.00	650000	CW/SRS	18.0	17.73	Bottom	10	0.057	1.064	0.061	0.061	0.038		30.1	21.3	17.0
Hotspot	NR Band n77 DoD	100	2	1092M	1:1	0.02	3500.01	633334	CW/SRS	18.0	17.82	Right	10	0.446	1.042	0.465	0.465	0.291		21.3		
Hotspot	NR Band n77	100	2	1092M	1:1	0.02	3750.00	650000	CW/SRS	18.0	17.73	Right	10	0.268	1.064	0.285	0.285	0.178		23.4		
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 12-63
NR Band n77 Antenna 10 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n77	100	10	1140M	1:1	0.00	3750.00	650000	CW/SRS	19.5	19.42	Right Cheek	0	0.862	1.019	0.878	0.878	0.549		20.0	19.0	18.5
Head	NR Band n77	100	10	1140M	1:1	-0.02	3930.00	662000	CW/SRS	19.5	19.32	Right Cheek	0	0.509	1.042	0.530	0.530	0.331		22.2		
Head	NR Band n77	100	10	1140M	1:1	0.04	3750.00	650000	CW/SRS	19.5	19.42	Right Tilt	0	0.084	1.019	0.086	0.086	0.054		30.1		
Head	NR Band n77 DoD	100	10	1140M	1:1	-0.04	3500.01	633334	CW/SRS	19.5	19.28	Left Cheek	0	0.648	1.052	0.682	0.682	0.426		21.1		
Head	NR Band n77	100	10	1140M	1:1	-0.01	3750.00	650000	CW/SRS	19.5	19.42	Left Cheek	0	1.090	1.019	1.111	1.111	0.694	A45	19.0		
Head	NR Band n77	100	10	1140M	1:1	0.02	3750.00	650000	CW/SRS	19.5	19.42	Left Cheek	0	1.080	1.019	1.101	1.101	0.688		19.0		
Head	NR Band n77	100	10	1140M	1:1	0.04	3930.00	662000	CW/SRS	19.5	19.32	Left Cheek	0	0.538	1.042	0.561	0.561	0.351		22.0		
Head	NR Band n77	100	10	1140M	1:1	-0.03	3750.00	650000	CW/SRS	19.5	19.42	Left Tilt	0	0.150	1.019	0.153	0.153	0.096		27.6		
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: Blue entry represents variability measurement

Table 12-64
NR Band n77 Antenna 10 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n77 DoD	100	10	06468	1:1	-0.15	3500.01	633334	CW/SRS	18.0	17.07	Back	10	0.088	1.239	0.109	0.109	0.068		27.6	24.6	17.0
Body-worn/Hotspot	NR Band n77	100	10	06468	1:1	-0.10	3750.00	650000	CW/SRS	18.0	17.08	Back	10	0.174	1.236	0.215	0.215	0.134		24.6		
Hotspot	NR Band n77	100	10	06468	1:1	-0.07	3750.00	650000	CW/SRS	18.0	17.08	Front	10	0.105	1.236	0.130	0.130	0.081		26.8		
Hotspot	NR Band n77	100	10	06468	1:1	-0.03	3750.00	650000	CW/SRS	18.0	17.08	Top	10	0.002	1.236	0.002	0.002	0.001		44.0		
Hotspot	NR Band n77	100	10	06468	1:1	-0.17	3750.00	650000	CW/SRS	18.0	17.08	Left	10	0.078	1.236	0.096	0.096	0.060		28.1		
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 12-65
NR Band n77 Antenna 3 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	NR Band n77 DoD	100	3	1140M	1:1	0.03	3500.01	633334	CW/SRS	20.0	19.78	Right Cheek	0	0.004	1.052	0.004	0.004	0.003		43.7	37.8	19.0
Head	NR Band n77	100	3	1092M	1:1	0.02	3930.00	662000	CW/SRS	20.0	18.64	Right Cheek	0	0.012	1.368	0.016	0.016	0.010		37.8		
Head	NR Band n77	100	3	1092M	1:1	0.01	3930.00	662000	CW/SRS	20.0	18.64	Right Tilt	0	0.006	1.368	0.008	0.008	0.005		40.8		
Head	NR Band n77	100	3	1140M	1:1	0.01	3930.00	662000	CW/SRS	20.0	18.64	Left Cheek	0	0.004	1.368	0.005	0.005	0.003		42.6		
Head	NR Band n77	100	3	1140M	1:1	0.01	3930.00	662000	CW/SRS	20.0	18.64	Left Tilt	0	0.001	1.368	0.001	0.001	0.001		48.6		
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 12-66
NR Band n77 Antenna 3 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Waveform	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	NR Band n77 DoD	100	3	1092M	1:1	0.00	3500.01	633334	CW/SRS	20.0	19.78	Back	10	0.633	1.052	0.666	0.666	0.416		21.7	21.2	19.0
Body-worn/Hotspot	NR Band n77	100	3	1092M	1:1	0.06	3750.00	650000	CW/SRS	20.0	18.62	Back	10	0.541	1.374	0.743	0.743	0.464		21.2		
Body-worn/Hotspot	NR Band n77	100	3	1092M	1:1	0.04	3930.00	662000	CW/SRS	20.0	18.64	Back	10	0.443	1.368	0.606	0.606	0.379		22.1		
Hotspot	NR Band n77	100	3	1092M	1:1	-0.18	3930.00	662000	CW/SRS	20.0	18.64	Front	10	0.018	1.368	0.025	0.025	0.016		36.0		
Hotspot	NR Band n77	100	3	1092M	1:1	-0.07	3930.00	662000	CW/SRS	20.0	18.64	Bottom	10	0.081	1.368	0.111	0.111	0.069		29.5		
Hotspot	NR Band n77	100	3	1092M	1:1	-0.15	3930.00	662000	CW/SRS	20.0	18.64	Left	10	0.030	1.368	0.041	0.041	0.026		33.8		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram										

12.17 2.4 GHz WIFI SISO Standalone SAR

Table 12-67
DTS SISO WLAN Antenna 9 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	9	1110M	98.88	0.05	2412.00	1	1	17.0	16.61	Right Cheek	0	0.626	1.094	1.011	0.692	0.692	0.433		18.5	18.5	16.0
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	9	1110M	98.88	0.00	2412.00	1	1	17.0	16.61	Right Tilt	0	0.320	1.094	1.011	0.354	0.354	0.221		21.5		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	9	1110M	98.88	0.00	2412.00	1	1	17.0	16.61	Left Cheek	0	0.200	1.094	1.011	0.221	0.221	0.138		23.5		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	9	1110M	98.88	0.07	2412.00	1	1	17.0	16.61	Left Tilt	0	0.126	1.094	1.011	0.139	0.139	0.087		25.5		
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 12-68
DTS SISO WLAN Antenna 9 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	9	1110M	98.88	-0.01	2437.00	6	1	19.0	18.78	Back	10	0.256	1.052	1.011	0.272	0.327	0.204		24.6	21.1	19.8
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	9	1110M	98.88	-0.01	2437.00	6	1	19.0	18.78	Front	10	0.194	1.052	1.011	0.206	0.248	0.155		25.8		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	9	1110M	98.88	-0.03	2437.00	6	1	19.0	18.78	Top	10	0.145	1.052	1.011	0.154	0.185	0.116		27.1		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	9	1110M	98.88	-0.04	2437.00	6	1	19.0	18.78	Left	10	0.578	1.052	1.011	0.615	0.739	0.462		21.1		
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 12-69
DTS SISO WLAN Antenna 11 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	11	1110M	98.85	0.03	2412.00	1	1	17.0	16.53	Right Cheek	0	0.432	1.114	1.012	0.487	0.487	0.304		20.1	19.9	16.0
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	11	1110M	98.85	0.07	2412.00	1	1	17.0	16.53	Right Tilt	0	0.052	1.114	1.012	0.059	0.059	0.037		29.3		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	11	1110M	98.85	-0.11	2412.00	1	1	17.0	16.53	Left Cheek	0	0.449	1.114	1.012	0.506	0.506	0.316		19.9		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	11	1110M	98.85	0.04	2412.00	1	1	17.0	16.53	Left Tilt	0	0.062	1.114	1.012	0.070	0.070	0.044		28.5		
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 12-70
DTS SISO WLAN Antenna 11 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	11	1110M	98.85	-0.05	2462.00	11	1	19.0	18.69	Back	10	0.105	1.074	1.012	0.114	0.238	0.149		28.4	27.1	22.2
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	11	1110M	98.85	-0.01	2462.00	11	1	19.0	18.69	Front	10	0.141	1.074	1.012	0.153	0.320	0.200		27.1		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	11	1110M	98.85	0.06	2462.00	11	1	19.0	18.69	Top	10	0.007	1.074	1.012	0.008	0.016	0.010		40.1		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	11	1110M	98.85	0.05	2462.00	11	1	19.0	18.69	Right	10	0.033	1.074	1.012	0.036	0.075	0.047		33.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population													Body 1.6 W/kg (mW/g) averaged over 1 gram											

12.18 2.4 GHz WIFI MIMO Standalone SAR

Table 12-71
DTS MIMO WLAN Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	0.02	2412.00	1	6.5	17.0	16.67	17.0	16.53	Right Cheek	0	0.663	1.114	1.011	0.747	0.747	0.467		18.2	17.5	16.0
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	0.03	2437.00	6	6.5	17.0	16.65	17.0	16.20	Right Cheek	0	0.662	1.202	1.011	0.804	0.804	0.503		17.9		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	0.02	2462.00	11	6.5	17.0	16.67	17.0	16.51	Right Cheek	0	0.779	1.119	1.011	0.881	0.881	0.551	A47	17.5		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	-0.02	2412.00	1	6.5	17.0	16.67	17.0	16.53	Right Tilt	0	0.355	1.114	1.011	0.400	0.400	0.250		20.9		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	0.02	2412.00	1	6.5	17.0	16.67	17.0	16.53	Left Cheek	0	0.400	1.114	1.011	0.451	0.451	0.282		20.4		
Head	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	0.04	2412.00	1	6.5	17.0	16.67	17.0	16.53	Left Tilt	0	0.121	1.114	1.011	0.136	0.136	0.085		25.6		
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 20 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17 dBm.

Table 12-72
DTS MIMO WLAN Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	-0.02	2412.00	1	6.5	19.0	18.74	19.0	18.39	Back	10	0.419	1.151	1.011	0.488	0.488	0.305	A48	22.1	19.8	18.5
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	-0.02	2412.00	1	6.5	19.0	18.74	19.0	18.39	Front	10	0.375	1.151	1.011	0.436	0.436	0.273		22.6		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	0.01	2412.00	1	6.5	19.0	18.74	19.0	18.39	Top	10	0.105	1.151	1.011	0.122	0.122	0.076		28.1		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	0.02	2412.00	1	6.5	19.0	18.74	19.0	18.39	Right	10	0.149	1.151	1.011	0.173	0.173	0.108		26.6		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	-0.01	2412.00	1	6.5	19.0	18.74	19.0	18.39	Left	10	0.600	1.151	1.011	0.698	0.698	0.436		20.5		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	0.01	2437.00	6	6.5	19.0	18.74	19.0	18.19	Left	10	0.582	1.205	1.011	0.709	0.709	0.443		20.4		
Hotspot	2.4 GHz WIFI/ IEEE 802.11b	20	DSSS	MIMO	1110M	98.87	-0.01	2462.00	11	6.5	19.0	18.61	19.0	18.08	Left	10	0.656	1.236	1.011	0.820	0.820	0.513	A49	19.8		
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 dBm.

12.19 5 GHz WIFI SISO Standalone SAR

Table 12-73
NII SISO WLAN Antenna 9 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.04	5290.00	58	U-NII-2A	29.3	14.0	13.72	Right Cheek	0	0.222	1.067	1.044	0.247	0.247	0.154		20.0		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.06	5530.00	106	U-NII-2C	29.3	14.0	13.75	Right Cheek	0	0.263	1.059	1.044	0.291	0.291	0.182		19.3		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.16	5775.00	155	U-NII-3	29.3	14.0	13.58	Right Cheek	0	0.269	1.102	1.044	0.309	0.309	0.193		19.0		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.02	5855.00	171	U-NII-4	29.3	14.0	13.69	Right Cheek	0	0.266	1.074	1.044	0.298	0.298	0.186		19.2		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.09	5290.00	58	U-NII-2A	29.3	14.0	13.72	Right Tilt	0	0.092	1.067	1.044	0.102	0.102	0.064		23.8		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.08	5530.00	106	U-NII-2C	29.3	14.0	13.75	Right Tilt	0	0.085	1.059	1.044	0.094	0.094	0.059		24.2		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.03	5775.00	155	U-NII-3	29.3	14.0	13.58	Right Tilt	0	0.082	1.102	1.044	0.094	0.094	0.059		24.2		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.06	5855.00	171	U-NII-4	29.3	14.0	13.69	Right Tilt	0	0.093	1.074	1.044	0.104	0.104	0.065		23.8	19.0	13.0
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.04	5290.00	58	U-NII-2A	29.3	14.0	13.72	Left Cheek	0	0.037	1.067	1.044	0.041	0.041	0.026		27.8		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.04	5530.00	106	U-NII-2C	29.3	14.0	13.75	Left Cheek	0	0.032	1.059	1.044	0.035	0.035	0.022		28.5		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.01	5775.00	155	U-NII-3	29.3	14.0	13.58	Left Cheek	0	0.032	1.102	1.044	0.037	0.037	0.023		28.3		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.03	5855.00	171	U-NII-4	29.3	14.0	13.69	Left Cheek	0	0.026	1.074	1.044	0.029	0.029	0.018		29.3		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.01	5290.00	58	U-NII-2A	29.3	14.0	13.72	Left Tilt	0	0.027	1.067	1.044	0.030	0.030	0.019		29.2		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.09	5530.00	106	U-NII-2C	29.3	14.0	13.75	Left Tilt	0	0.017	1.059	1.044	0.019	0.019	0.012		31.2		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.09	5775.00	155	U-NII-3	29.3	14.0	13.58	Left Tilt	0	0.015	1.102	1.044	0.017	0.017	0.011		31.6		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	9	1110M	95.82	0.08	5855.00	171	U-NII-4	29.3	14.0	13.69	Left Tilt	0	0.028	1.074	1.044	0.031	0.031	0.019		29.0		
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 12-74
NII SISO WLAN Antenna 9 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.03	5320.00	64	U-NII-2A	6.5	17.0	16.98	Back	10	0.263	1.005	1.035	0.274	0.274	0.171		22.6		
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.02	5500.00	100	U-NII-2C	6.5	17.0	16.60	Back	10	0.521	1.096	1.035	0.591	0.591	0.369	A51	19.2		
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.04	5845.00	169	U-NII-4	6.5	17.0	16.58	Back	10	0.336	1.102	1.035	0.383	0.383	0.239		21.1		
Body-worn/Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.04	5825.00	165	U-NII-3	6.5	17.0	16.53	Back	10	0.370	1.114	1.035	0.427	0.427	0.267		20.6	19.2	16.0
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.12	5825.00	165	U-NII-3	6.5	17.0	16.53	Front	10	0.152	1.114	1.035	0.175	0.175	0.109		24.5		
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	0.03	5825.00	165	U-NII-3	6.5	17.0	16.53	Top	10	0.153	1.114	1.035	0.176	0.176	0.110		24.5		
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	0.07	5825.00	165	U-NII-3	6.5	17.0	16.53	Left	10	0.510	1.114	1.035	0.588	0.588	0.368	A52	19.3		
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 12-75
NII SISO WLAN Antenna 9 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.07	5320.00	64	U-NII-2A	6.5	17.0	16.98	Back	0	0.428	1.005	1.035	0.445	0.445	0.111		24.4		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.01	5500.00	100	U-NII-2C	6.5	17.0	16.60	Back	0	0.797	1.096	1.035	0.904	0.904	0.226		21.4		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.04	5845.00	169	U-NII-4	6.5	17.0	16.58	Back	0	0.733	1.102	1.035	0.836	0.836	0.209		21.7		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.21	5320.00	64	U-NII-2A	6.5	17.0	16.98	Front	0	0.502	1.005	1.035	0.522	0.522	0.131		23.8		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.11	5500.00	100	U-NII-2C	6.5	17.0	16.60	Front	0	0.759	1.096	1.035	0.861	0.861	0.215		21.6		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.03	5845.00	169	U-NII-4	6.5	17.0	16.58	Front	0	0.602	1.102	1.035	0.687	0.687	0.172		22.6		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.06	5320.00	64	U-NII-2A	6.5	17.0	16.98	Top	0	0.164	1.005	1.035	0.171	0.171	0.043		28.6		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	-0.02	5500.00	100	U-NII-2C	6.5	17.0	16.60	Top	0	0.325	1.096	1.035	0.369	0.369	0.092		25.3	16.6	16.0
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	0.06	5845.00	169	U-NII-4	6.5	17.0	16.58	Top	0	0.263	1.102	1.035	0.300	0.300	0.075		26.2		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	0.05	5320.00	64	U-NII-2A	6.5	17.0	16.98	Left	0	1.200	1.005	1.035	1.248	1.248	0.312		20.0		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	0.05	5500.00	100	U-NII-2C	6.5	17.0	16.60	Left	0	1.870	1.096	1.035	2.121	2.121	0.530		17.7		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	0.07	5720.00	144	U-NII-2C	6.5	17.0	16.04	Left	0	2.100	1.247	1.035	2.710	2.710	0.678		16.6		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	0.14	5845.00	169	U-NII-4	6.5	17.0	16.58	Left	0	1.980	1.102	1.035	2.258	2.258	0.565		17.4		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	9	0735M	96.59	0.11	5865.00	173	U-NII-4	6.5	17.0	16.56	Left	0	1.880	1.107	1.035	2.154	2.154	0.539		17.6		
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 12-76
NII SISO WLAN Antenna 6 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	-0.05	5290.00	58	U-NII-2A	29.3	14.0	13.65	Right Cheek	0	0.125	1.084	1.046	0.142	0.142	0.089		22.4		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	-0.15	5610.00	122	U-NII-2C	29.3	14.0	13.68	Right Cheek	0	0.077	1.076	1.046	0.087	0.087	0.054		24.6		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	-0.06	5775.00	155	U-NII-3	29.3	14.0	13.62	Right Cheek	0	0.056	1.091	1.046	0.064	0.064	0.040		25.9		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.03	5855.00	171	U-NII-4	29.3	14.0	13.43	Right Cheek	0	0.051	1.140	1.046	0.061	0.061	0.038		26.1		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.15	5290.00	58	U-NII-2A	29.3	14.0	13.65	Right Tilt	0	0.129	1.084	1.046	0.146	0.146	0.091		22.3		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.21	5610.00	122	U-NII-2C	29.3	14.0	13.68	Right Tilt	0	0.065	1.076	1.046	0.073	0.073	0.046		25.3		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.09	5775.00	155	U-NII-3	29.3	14.0	13.62	Right Tilt	0	0.044	1.091	1.046	0.050	0.050	0.031		26.9		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.01	5855.00	171	U-NII-4	29.3	14.0	13.43	Right Tilt	0	0.053	1.140	1.046	0.063	0.063	0.039		25.9	19.5	13.0
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.18	5290.00	58	U-NII-2A	29.3	14.0	13.65	Left Cheek	0	0.247	1.084	1.046	0.280	0.280	0.175		19.5		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.04	5610.00	122	U-NII-2C	29.3	14.0	13.68	Left Cheek	0	0.202	1.076	1.046	0.227	0.227	0.142		20.4		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.14	5775.00	155	U-NII-3	29.3	14.0	13.62	Left Cheek	0	0.125	1.091	1.046	0.143	0.143	0.089		22.4		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	-0.05	5855.00	171	U-NII-4	29.3	14.0	13.43	Left Cheek	0	0.169	1.140	1.046	0.202	0.202	0.126		20.9		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.02	5290.00	58	U-NII-2A	29.3	14.0	13.65	Left Tilt	0	0.112	1.084	1.046	0.127	0.127	0.079		22.9		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.04	5610.00	122	U-NII-2C	29.3	14.0	13.68	Left Tilt	0	0.150	1.076	1.046	0.169	0.169	0.106		21.7		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.17	5775.00	155	U-NII-3	29.3	14.0	13.62	Left Tilt	0	0.101	1.091	1.046	0.115	0.115	0.072		23.3		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	6	1110M	95.60	0.01	5855.00	171	U-NII-4	29.3	14.0	13.43	Left Tilt	0	0.098	1.140	1.046	0.117	0.117	0.073		23.3		
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 12-77
NII SISO WLAN Antenna 6 Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.10	5280.00	56	U-NII-2A	6.5	17.0	16.37	Back	10	0.197	1.156	1.036	0.236	0.236	0.148		23.2		
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.07	5720.00	144	U-NII-2C	6.5	17.0	16.57	Back	10	0.320	1.104	1.036	0.366	0.366	0.229		21.3		
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.05	5845.00	169	U-NII-4	6.5	17.0	16.35	Back	10	0.386	1.161	1.036	0.464	0.464	0.290		20.3		
Body-worn/Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.05	5745.00	149	U-NII-3	6.5	17.0	16.78	Back	10	0.348	1.052	1.036	0.379	0.379	0.237		21.2	20.3	16.0
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	0.06	5745.00	149	U-NII-3	6.5	17.0	16.78	Front	10	0.071	1.052	1.036	0.077	0.077	0.048		28.1		
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	0.05	5745.00	149	U-NII-3	6.5	17.0	16.78	Top	10	0.232	1.052	1.036	0.253	0.253	0.158		22.9		
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.17	5745.00	149	U-NII-3	6.5	17.0	16.78	Right	10	0.065	1.052	1.036	0.071	0.071	0.044		28.4		
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 12-78
NII SISO WLAN Antenna 6 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.06	5280.00	56	U-NII-2A	6.5	17.0	16.37	Back	0	0.273	1.156	1.036	0.327	0.327	0.082		25.8		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	0.03	5720.00	144	U-NII-2C	6.5	17.0	16.57	Back	0	0.595	1.104	1.036	0.681	0.681	0.170		22.6		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	0.01	5845.00	169	U-NII-4	6.5	17.0	16.35	Back	0	0.564	1.161	1.036	0.678	0.678	0.170		22.6		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.06	5280.00	56	U-NII-2A	6.5	17.0	16.37	Front	0	0.368	1.156	1.036	0.441	0.441	0.110		24.5		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	0.01	5720.00	144	U-NII-2C	6.5	17.0	16.57	Front	0	0.274	1.104	1.036	0.313	0.313	0.078		26.0		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.06	5845.00	169	U-NII-4	6.5	17.0	16.35	Front	0	0.245	1.161	1.036	0.295	0.295	0.074		26.2	22.6	16.0
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.14	5280.00	56	U-NII-2A	6.5	17.0	16.37	Top	0	0.239	1.156	1.036	0.286	0.286	0.072		26.4		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.04	5720.00	144	U-NII-2C	6.5	17.0	16.57	Top	0	0.263	1.104	1.036	0.301	0.301	0.075		26.1		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	0.04	5845.00	169	U-NII-4	6.5	17.0	16.35	Top	0	0.277	1.161	1.036	0.333	0.333	0.083		25.7		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	-0.10	5280.00	56	U-NII-2A	6.5	17.0	16.37	Right	0	0.094	1.156	1.036	0.113	0.113	0.028		30.4		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	0.09	5720.00	144	U-NII-2C	6.5	17.0	16.57	Right	0	0.112	1.104	1.036	0.128	0.128	0.032		29.9		
Phablet	5 GHz WIFI/ IEEE 802.11a	20	OFDM	6	0735M	96.52	0.09	5845.00	169	U-NII-4	6.5	17.0	16.35	Right	0	0.094	1.161	1.036	0.113	0.113	0.028		30.4		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

12.20 5 GHz WIFI MIMO Standalone SAR

Table 12-79
NII MIMO WLAN Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.04	5290.00	58	U-NII-2A	58.5	14.0	13.60	14.0	13.52	Right Cheek	0	0.315	1.117	1.093	0.385	0.385	0.241	A50	18.1		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	-0.14	5530.00	106	U-NII-2C	58.5	14.0	13.57	14.0	13.65	Right Cheek	0	0.306	1.104	1.093	0.369	0.369	0.231		18.3		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.06	5775.00	155	U-NII-3	58.5	14.0	13.61	14.0	13.58	Right Cheek	0	0.237	1.102	1.093	0.285	0.285	0.178		19.4		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	-0.19	5855.00	171	U-NII-4	58.5	14.0	13.33	14.0	13.41	Right Cheek	0	0.259	1.167	1.093	0.330	0.330	0.206		18.8		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.05	5290.00	58	U-NII-2A	58.5	14.0	13.60	14.0	13.52	Right Tilt	0	0.130	1.117	1.093	0.159	0.159	0.099		21.9		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.09	5530.00	106	U-NII-2C	58.5	14.0	13.57	14.0	13.65	Right Tilt	0	0.106	1.104	1.093	0.128	0.128	0.080		22.9		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.05	5775.00	155	U-NII-3	58.5	14.0	13.61	14.0	13.58	Right Tilt	0	0.113	1.102	1.093	0.136	0.136	0.085		22.6		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.04	5855.00	171	U-NII-4	58.5	14.0	13.33	14.0	13.41	Right Tilt	0	0.143	1.167	1.093	0.182	0.182	0.114		21.3		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.05	5290.00	58	U-NII-2A	58.5	14.0	13.60	14.0	13.52	Left Cheek	0	0.180	1.117	1.093	0.220	0.220	0.138		20.5	18.1	13.0
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.02	5530.00	106	U-NII-2C	58.5	14.0	13.57	14.0	13.65	Left Cheek	0	0.204	1.104	1.093	0.246	0.246	0.154		20.0		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	-0.04	5775.00	155	U-NII-3	58.5	14.0	13.61	14.0	13.58	Left Cheek	0	0.168	1.102	1.093	0.202	0.202	0.126		20.9		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.08	5855.00	171	U-NII-4	58.5	14.0	13.33	14.0	13.41	Left Cheek	0	0.146	1.167	1.093	0.186	0.186	0.116		21.2		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	-0.03	5290.00	58	U-NII-2A	58.5	14.0	13.60	14.0	13.52	Left Tilt	0	0.154	1.117	1.093	0.188	0.188	0.118		21.2		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.19	5530.00	106	U-NII-2C	58.5	14.0	13.57	14.0	13.65	Left Tilt	0	0.133	1.104	1.093	0.160	0.160	0.100		21.9		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.08	5775.00	155	U-NII-3	58.5	14.0	13.61	14.0	13.58	Left Tilt	0	0.112	1.102	1.093	0.135	0.135	0.084		22.7		
Head	5 GHz WIFI/ IEEE 802.11ac	80	OFDM	MIMO	1110M	91.48	0.20	5855.00	171	U-NII-4	58.5	14.0	13.33	14.0	13.41	Left Tilt	0	0.076	1.167	1.093	0.097	0.097	0.061		24.1		
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 17 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 14 dBm.

Table 12-80
NII MIMO WLAN Body-worn/Hotspot SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	0.08	5320.00	64	U-NII-2A	13	17.0	16.98	17.0	16.37	Back	10	0.246	1.156	1.035	0.294	0.294	0.184		22.3		
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	-0.02	5500.00	100	U-NII-2C	13	17.0	16.60	17.0	16.35	Back	10	0.434	1.161	1.035	0.522	0.522	0.326		19.8		
Body-worn	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	-0.03	5845.00	169	U-NII-4	13	17.0	16.58	17.0	16.35	Back	10	0.374	1.161	1.035	0.449	0.449	0.281		20.4		
Body-worn/Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	-0.01	5825.00	165	U-NII-3	13	17.0	16.53	17.0	16.47	Back	10	0.350	1.130	1.035	0.409	0.409	0.256		20.8		
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	0.04	5825.00	165	U-NII-3	13	17.0	16.53	17.0	16.47	Front	10	0.170	1.130	1.035	0.199	0.199	0.124		24.0		
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	0.12	5825.00	165	U-NII-3	13	17.0	16.53	17.0	16.47	Top	10	0.167	1.130	1.035	0.195	0.195	0.122		24.0		
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	-0.21	5825.00	165	U-NII-3	13	17.0	16.53	17.0	16.47	Right	10	0.139	1.130	1.035	0.163	0.163	0.102		24.8		
Hotspot	5 GHz WIFI/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	-0.01	5825.00	165	U-NII-3	13	17.0	16.53	17.0	16.47	Left	10	0.509	1.130	1.035	0.595	0.595	0.372		19.2		
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 20 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 17 dBm.

Table 12-81
NII MIMO WLAN Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	U-NII band	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.00	5320.00	64	U-NII-2A	13	17.0	16.98	17.0	16.37	Back	0	0.633	1.156	1.035	0.757	0.757	0.189		22.1		
Phablet	5 GHz WiFi/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	0.01	5500.00	100	U-NII-2C	13	17.0	16.60	17.0	16.35	Back	0	1.240	1.161	1.035	1.490	1.490	0.373		19.2		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	-0.01	5845.00	169	U-NII-4	13	17.0	16.58	17.0	16.35	Back	0	1.020	1.161	1.035	1.226	1.226	0.307		20.0		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.01	5320.00	64	U-NII-2A	13	17.0	16.98	17.0	16.37	Front	0	0.527	1.156	1.035	0.631	0.631	0.158		22.9		
Phablet	5 GHz WiFi/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	-0.03	5500.00	100	U-NII-2C	13	17.0	16.60	17.0	16.35	Front	0	0.570	1.161	1.035	0.685	0.685	0.171		22.6		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.04	5845.00	169	U-NII-4	13	17.0	16.58	17.0	16.35	Front	0	0.401	1.161	1.035	0.482	0.482	0.121		24.1		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.01	5320.00	64	U-NII-2A	13	17.0	16.98	17.0	16.37	Top	0	0.261	1.156	1.035	0.312	0.312	0.078		26.0		
Phablet	5 GHz WiFi/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	-0.03	5500.00	100	U-NII-2C	13	17.0	16.60	17.0	16.35	Top	0	0.285	1.161	1.035	0.342	0.342	0.086		25.6		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.05	5845.00	169	U-NII-4	13	17.0	16.58	17.0	16.35	Top	0	0.249	1.161	1.035	0.299	0.299	0.075		26.2		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	-0.13	5320.00	64	U-NII-2A	13	17.0	16.98	17.0	16.37	Right	0	0.107	1.156	1.035	0.128	0.128	0.032		29.9	16.4	16.0
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	-0.07	5500.00	100	U-NII-2C	13	17.0	16.60	17.0	16.35	Right	0	0.175	1.161	1.035	0.210	0.210	0.053		27.7		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	-0.09	5845.00	169	U-NII-4	13	17.0	16.58	17.0	16.35	Right	0	0.199	1.161	1.035	0.239	0.239	0.060		27.1		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.08	5320.00	64	U-NII-2A	13	17.0	16.98	17.0	16.37	Left	0	1.460	1.156	1.035	1.747	1.747	0.437		18.5		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	-0.05	5500.00	100	U-NII-2C	13	17.0	16.60	17.0	16.35	Left	0	1.270	1.161	1.035	1.526	1.526	0.382		19.1		
Phablet	5 GHz WiFi/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	0.03	5720.00	144	U-NII-2C	13	17.0	16.04	17.0	16.57	Left	0	2.190	1.247	1.035	2.827	2.827	0.707		16.4		
Phablet	5 GHz WiFi/ IEEE 802.11a	20	OFDM	MIMO	1133M	96.62	0.03	5720.00	144	U-NII-2C	13	17.0	16.04	17.0	16.57	Left	0	2.160	1.247	1.035	2.788	2.788	0.697		16.5		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.02	5845.00	169	U-NII-4	13	17.0	16.58	17.0	16.35	Left	0	2.340	1.161	1.035	2.812	2.812	0.703	AS3	16.4		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.03	5845.00	169	U-NII-4	13	17.0	16.58	17.0	16.35	Left	0	2.300	1.161	1.035	2.764	2.764	0.691		16.5		
Phablet	5 GHz WiFi/ IEEE 802.11n	20	OFDM	MIMO	1133M	96.62	0.03	5885.00	177	U-NII-4	13	17.0	16.53	17.0	16.35	Left	0	2.170	1.161	1.035	2.608	2.608	0.652		16.8		
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

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

12.21 6 GHz WIFI SISO Standalone SAR and APD

Table 12-82
6CD SISO WLAN Antenna 9 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	-0.06	5985.00	7	34	10.0	9.62	Right Cheek	0	0.161	1.091	1.003	0.176	0.176	0.110		17.5		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.09	6305.00	71	34	10.0	9.11	Right Cheek	0	0.129	1.227	1.003	0.159	0.159	0.099		17.9		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.05	6465.00	103	34	10.0	9.53	Right Cheek	0	0.139	1.114	1.003	0.155	0.155	0.097		18.0		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4123M	99.69	-0.01	6705.00	151	34	10.0	9.91	Right Cheek	0	0.149	1.021	1.003	0.153	0.153	0.096		18.1		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	-0.06	7025.00	215	34	10.0	9.92	Right Cheek	0	0.247	1.019	1.003	0.252	0.252	0.158	AS4	15.9	15.9	9.0
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.04	7025.00	215	34	10.0	9.92	Right Tilt	0	0.085	1.019	1.003	0.087	0.087	0.054		20.6		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.07	7025.00	215	34	10.0	9.92	Left Cheek	0	0.030	1.019	1.003	0.031	0.031	0.019		25.1		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.02	7025.00	215	34	10.0	9.92	Left Tilt	0	0.041	1.019	1.003	0.042	0.042	0.026		23.7		
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 12-83
6CD SISO WLAN Antenna 9 Head APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	-0.06	5985.00	7	34	10.0	9.62	Right Cheek	0	0.896	1.091	1.003	0.980	0.049		21.0		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.09	6305.00	71	34	10.0	9.11	Right Cheek	0	0.761	1.227	1.003	0.937	0.047		21.2		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.05	6465.00	103	34	10.0	9.53	Right Cheek	0	0.835	1.114	1.003	0.933	0.047		21.3		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4123M	99.69	-0.01	6705.00	151	34	10.0	9.91	Right Cheek	0	0.871	1.021	1.003	0.892	0.045		21.5		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	-0.06	7025.00	215	34	10.0	9.92	Right Cheek	0	1.380	1.019	1.003	1.410	0.071	A54	19.5	19.5	9.0
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.04	7025.00	215	34	10.0	9.92	Right Tilt	0	0.577	1.019	1.003	0.590	0.030		23.3		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.07	7025.00	215	34	10.0	9.92	Left Cheek	0	0.182	1.019	1.003	0.186	0.009		28.3		
Head	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	4126M	99.69	0.02	7025.00	215	34	10.0	9.92	Left Tilt	0	0.263	1.019	1.003	0.269	0.013		26.7		

Table 12-84
6CD SISO WLAN Antenna 9 Body-worn SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	0.04	7025.00	215	34	10.0	9.92	Back	10	0.048	1.019	1.003	0.049	0.049	0.031		23.0	23.0	9.0
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population																		Body 1.6 W/kg (mW/g) averaged over 1 gram						

Table 12-85
6CD SISO WLAN Antenna 9 Body-worn APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	6 GHz WiFi/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	0.04	7025.00	215	34	10.0	9.92	Back	10	0.335	1.019	1.003	0.342	0.017		25.6	25.6	9.0

Table 12-86
6CD SISO WLAN Antenna 9 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	0.07	7025.00	215	34	10.0	9.92	Back	0	0.093	1.019	1.003	0.095	0.095	0.024		24.2		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.09	7025.00	215	34	10.0	9.92	Front	0	0.103	1.019	1.003	0.105	0.105	0.026		23.7		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	0.01	7025.00	215	34	10.0	9.92	Top	0	0.012	1.019	1.003	0.012	0.012	0.003		33.0		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	0.02	5985.00	7	34	10.0	9.62	Left	0	0.504	1.091	1.003	0.552	0.552	0.138		16.5	16.5	9.0
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.02	6305.00	71	34	10.0	9.11	Left	0	0.342	1.227	1.003	0.421	0.421	0.105		17.7		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.04	6465.00	103	34	10.0	9.53	Left	0	0.260	1.114	1.003	0.291	0.291	0.073		19.3		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.02	6705.00	151	34	10.0	9.91	Left	0	0.436	1.021	1.003	0.446	0.446	0.112		17.4		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.05	7025.00	215	34	10.0	9.92	Left	0	0.297	1.019	1.003	0.304	0.304	0.076		19.1		
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 12-87
6CD SISO WLAN Antenna 9 Phablet APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	0.07	7025.00	215	34	10.0	9.92	Back	0	2.250	1.019	1.003	2.300	0.115		17.3		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.09	7025.00	215	34	10.0	9.92	Front	0	2.450	1.019	1.003	2.504	0.125		17.0		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	0.01	7025.00	215	34	10.0	9.92	Top	0	0.303	1.019	1.003	0.310	0.016		26.0		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	0.02	5985.00	7	34	10.0	9.62	Left	0	12.300	1.091	1.003	13.460	0.673		9.7	9.7	9.0
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.02	6305.00	71	34	10.0	9.11	Left	0	8.290	1.227	1.003	10.202	0.510		10.9		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.04	6465.00	103	34	10.0	9.53	Left	0	6.370	1.114	1.003	7.117	0.356		12.4		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.02	6705.00	151	34	10.0	9.91	Left	0	10.700	1.021	1.003	10.957	0.548		10.6		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	9	1110M	99.69	-0.05	7025.00	215	34	10.0	9.92	Left	0	7.310	1.019	1.003	7.471	0.374		12.2		

Table 12-88
6CD SISO WLAN Antenna 6 Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.04	5985.00	7	34	10.0	9.78	Right Cheek	0	0.028	1.052	1.004	0.030	0.030	0.019		25.2		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.01	6305.00	71	34	10.0	9.78	Right Cheek	0	0.008	1.052	1.004	0.008	0.008	0.005		30.7		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.09	6465.00	103	34	10.0	9.67	Right Cheek	0	0.014	1.079	1.004	0.015	0.015	0.009		28.1		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.02	6705.00	151	34	10.0	9.65	Right Cheek	0	0.012	1.084	1.004	0.013	0.013	0.008		28.8	21.3	9.0
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	-0.18	7025.00	215	34	10.0	9.13	Right Cheek	0	0.060	1.222	1.004	0.074	0.074	0.046		21.3		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.01	6305.00	71	34	10.0	9.78	Right Tilt	0	0.006	1.052	1.004	0.006	0.006	0.004		31.9		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.03	6305.00	71	34	10.0	9.78	Left Cheek	0	0.000	1.052	1.004	0.000	0.000	0.000		49.7		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.04	6305.00	71	34	10.0	9.78	Left Tilt	0	0.000	1.052	1.004	0.000	0.000	0.000		49.7		
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 12-89
6CD SISO WLAN Antenna 6 Head APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.04	5985.00	7	34	10.0	9.78	Right Cheek	0	0.161	1.052	1.004	0.170	0.009		28.7		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.01	6305.00	71	34	10.0	9.78	Right Cheek	0	0.047	1.052	1.004	0.050	0.003		34.0		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.09	6465.00	103	34	10.0	9.67	Right Cheek	0	0.103	1.079	1.004	0.112	0.006		30.5		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.02	6705.00	151	34	10.0	9.65	Right Cheek	0	0.074	1.084	1.004	0.081	0.004		31.9		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	-0.18	7025.00	215	34	10.0	9.13	Right Cheek	0	0.515	1.222	1.004	0.632	0.032		23.0	23.0	9.0
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.01	6305.00	71	34	10.0	9.78	Right Tilt	0	0.063	1.052	1.004	0.067	0.003		32.7		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.03	6305.00	71	34	10.0	9.78	Left Cheek	0	0.000	1.052	1.004	0.000	0.000		60.7		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.04	6305.00	71	34	10.0	9.78	Left Tilt	0	0.002	1.052	1.004	0.002	0.000		47.7		

Table 12-90
6CD SISO WLAN Antenna 6 Body-worn SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.07	5985.00	7	34	10.0	9.78	Back	10	0.085	1.052	1.004	0.090	0.090	0.056		20.4		
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1110M	99.63	0.04	6305.00	71	34	10.0	9.78	Back	10	0.038	1.052	1.004	0.040	0.040	0.025		23.9		
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.05	6465.00	103	34	10.0	9.67	Back	10	0.040	1.079	1.004	0.043	0.043	0.027		23.6	20.4	9.0
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.09	6705.00	151	34	10.0	9.65	Back	10	0.050	1.084	1.004	0.054	0.054	0.034		22.6		
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1110M	99.63	0.08	7025.00	215	34	10.0	9.13	Back	10	0.042	1.222	1.004	0.052	0.052	0.033		22.8		
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 12-91
6CD SISO WLAN Antenna 6 Body-worn APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.07	5985.00	7	34	10.0	9.78	Back	10	0.659	1.052	1.004	0.696	0.035		22.5	22.5	9.0
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1110M	99.63	0.04	6305.00	71	34	10.0	9.78	Back	10	0.279	1.052	1.004	0.295	0.015		26.3		
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.05	6465.00	103	34	10.0	9.67	Back	10	0.294	1.079	1.004	0.318	0.016		25.9		
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	4126M	99.63	0.09	6705.00	151	34	10.0	9.65	Back	10	0.344	1.084	1.004	0.374	0.019		25.2		
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1110M	99.63	0.08	7025.00	215	34	10.0	9.13	Back	10	0.357	1.222	1.004	0.438	0.022		24.5		

Table 12-92
6CD SISO WLAN Antenna 6 Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.04	5985.00	7	34	10.0	9.78	Back	0	0.233	1.052	1.004	0.246	0.246	0.062		20.0		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.10	6305.00	71	34	10.0	9.78	Back	0	0.154	1.052	1.004	0.163	0.163	0.041		21.8		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.08	6465.00	103	34	10.0	9.67	Back	0	0.144	1.079	1.004	0.156	0.156	0.039		22.0		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.07	6705.00	151	34	10.0	9.65	Back	0	0.134	1.084	1.004	0.146	0.146	0.037		22.3		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.02	7025.00	215	34	10.0	9.13	Back	0	0.113	1.222	1.004	0.139	0.139	0.035		22.5		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.08	6305.00	71	34	10.0	9.78	Front	0	0.074	1.052	1.004	0.078	0.078	0.020		25.0		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	0.09	6305.00	71	34	10.0	9.78	Top	0	0.055	1.052	1.004	0.058	0.058	0.015		26.3		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.02	6305.00	71	34	10.0	9.78	Right	0	0.046	1.052	1.004	0.049	0.049	0.012		27.1		
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 12-93
6CD SISO WLAN Antenna 6 Phablet APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.04	5985.00	7	34	10.0	9.78	Back	0	5.500	1.052	1.004	5.809	0.290		13.3		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.10	6305.00	71	34	10.0	9.78	Back	0	3.580	1.052	1.004	3.781	0.189		15.2		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.08	6465.00	103	34	10.0	9.67	Back	0	3.340	1.079	1.004	3.618	0.181		15.4		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.07	6705.00	151	34	10.0	9.65	Back	0	3.110	1.084	1.004	3.385	0.169		15.7		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.02	7025.00	215	34	10.0	9.13	Back	0	2.600	1.222	1.004	3.190	0.160		15.9		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.08	6305.00	71	34	10.0	9.78	Front	0	1.750	1.052	1.004	1.848	0.092		18.3		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	0.09	6305.00	71	34	10.0	9.78	Top	0	1.270	1.052	1.004	1.341	0.067		19.7		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	6	1133M	99.63	-0.02	6305.00	71	34	10.0	9.78	Right	0	1.110	1.052	1.004	1.172	0.059		20.3		

12.22 6 GHz WIFI MIMO Standalone SAR and APD

Table 12-94
6CD MIMO WLAN Head SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.05	5985.00	7	68.1	10.0	9.53	10.0	9.90	Right Cheek	0	0.148	1.114	1.003	0.165	0.165	0.103		17.8		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.20	6305.00	71	68.1	10.0	9.10	10.0	9.22	Right Cheek	0	0.110	1.230	1.003	0.136	0.136	0.085		18.6		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.02	6465.00	103	68.1	10.0	9.53	10.0	9.62	Right Cheek	0	0.108	1.114	1.003	0.121	0.121	0.076		19.1		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.07	6705.00	151	68.1	10.0	9.78	10.0	9.63	Right Cheek	0	0.161	1.089	1.003	0.176	0.176	0.110		17.5		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	-0.12	7025.00	215	68.1	10.0	9.52	10.0	9.11	Right Cheek	0	0.193	1.227	1.003	0.238	0.238	0.149		16.2		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.04	5985.00	7	68.1	10.0	9.53	10.0	9.90	Right Tilt	0	0.070	1.114	1.003	0.078	0.078	0.049		21.0		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	-0.12	5985.00	7	68.1	10.0	9.53	10.0	9.90	Left Cheek	0	0.144	1.114	1.003	0.161	0.161	0.101		17.9		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.07	5985.00	7	68.1	10.0	9.53	10.0	9.90	Left Tilt	0	0.096	1.114	1.003	0.107	0.107	0.067		19.6		
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 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Table 12-95
6CD MIMO WLAN Head APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.05	5985.00	7	68.1	10.0	9.53	10.0	9.90	Right Cheek	0	0.769	1.114	1.003	0.859	0.043		21.6		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.20	6305.00	71	68.1	10.0	9.10	10.0	9.22	Right Cheek	0	0.666	1.230	1.003	0.822	0.041		21.8		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.02	6465.00	103	68.1	10.0	9.53	10.0	9.62	Right Cheek	0	0.666	1.114	1.003	0.744	0.037		22.2		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.07	6705.00	151	68.1	10.0	9.78	10.0	9.63	Right Cheek	0	0.993	1.089	1.003	1.085	0.054		20.6		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	-0.12	7025.00	215	68.1	10.0	9.52	10.0	9.11	Right Cheek	0	1.120	1.227	1.003	1.378	0.069		19.6		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.04	5985.00	7	68.1	10.0	9.53	10.0	9.90	Right Tilt	0	0.321	1.114	1.003	0.359	0.018		25.4		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	-0.12	5985.00	7	68.1	10.0	9.53	10.0	9.90	Left Cheek	0	1.010	1.114	1.003	1.129	0.056		20.4		
Head	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4126M	99.67	0.07	5985.00	7	68.1	10.0	9.53	10.0	9.90	Left Tilt	0	0.686	1.114	1.003	0.766	0.038		22.1		

Note: To achieve the 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Table 12-96
6CD MIMO WLAN Body-worn SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	EFS Plimit [dBm]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1110M	99.67	0.02	5985.00	7	68.1	10.0	9.53	10.0	9.90	Back	10	0.086	1.114	1.003	0.096	0.096	0.060	A55	20.1	9.0
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population															Body 1.6 W/kg (mW/g) averaged over 1 gram										

Note: To achieve the 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Table 12-97
6CD MIMO WLAN Body-worn APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	EFS Plimit [dBm]
Body-worn	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	1110M	99.67	0.02	5985.00	7	68.1	10.0	9.53	10.0	9.90	Back	10	0.578	1.114	1.003	0.646	0.032	A55	22.9	9.0

Note: To achieve the 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Table 12-98
6CD MIMO WLAN Phablet SAR

Exposure	Band / Mode	Bandwidth [MHz]	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.10	5985.00	7	68.1	10.0	9.53	10.0	9.90	Back	0	0.292	1.114	1.003	0.326	0.326	0.082		18.8		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.11	5985.00	7	68.1	10.0	9.53	10.0	9.90	Front	0	0.134	1.114	1.003	0.150	0.150	0.038		22.2		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.02	5985.00	7	68.1	10.0	9.53	10.0	9.90	Top	0	0.055	1.114	1.003	0.061	0.061	0.015		26.0		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.03	5985.00	7	68.1	10.0	9.53	10.0	9.90	Right	0	0.049	1.114	1.003	0.055	0.055	0.014		26.5		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.02	5985.00	7	68.1	10.0	9.53	10.0	9.90	Left	0	0.516	1.114	1.003	0.577	0.577	0.144	AS6	16.3	16.3	9.0
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.02	6305.00	71	68.1	10.0	9.10	10.0	9.22	Left	0	0.265	1.230	1.003	0.327	0.327	0.082		18.8		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.05	6465.00	103	68.1	10.0	9.53	10.0	9.62	Left	0	0.250	1.114	1.003	0.279	0.279	0.070		19.5		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.08	6705.00	151	68.1	10.0	9.78	10.0	9.63	Left	0	0.374	1.089	1.003	0.409	0.409	0.102		17.8		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	0.02	7025.00	215	68.1	10.0	9.52	10.0	9.11	Left	0	0.382	1.227	1.003	0.470	0.470	0.118		17.2		
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 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Table 12-99
6CD MIMO WLAN Phablet APD

Exposure	Band/ Mode	Bandwidth [MHz]	Service/ Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.10	5985.00	7	68.1	10.0	9.53	10.0	9.90	Back	0	6.820	1.114	1.003	7.620	0.381		12.1		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.11	5985.00	7	68.1	10.0	9.53	10.0	9.90	Front	0	3.100	1.114	1.003	3.464	0.173		15.6		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.02	5985.00	7	68.1	10.0	9.53	10.0	9.90	Top	0	1.290	1.114	1.003	1.441	0.072		19.4		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.03	5985.00	7	68.1	10.0	9.53	10.0	9.90	Right	0	1.140	1.114	1.003	1.274	0.064		19.9		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.02	5985.00	7	68.1	10.0	9.53	10.0	9.90	Left	0	12.300	1.114	1.003	13.743	0.687	AS6	9.6	9.6	9.0
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.02	6305.00	71	68.1	10.0	9.10	10.0	9.22	Left	0	6.280	1.230	1.003	7.748	0.387		12.1		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.05	6465.00	103	68.1	10.0	9.53	10.0	9.62	Left	0	5.930	1.114	1.003	6.626	0.331		12.7		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	-0.08	6705.00	151	68.1	10.0	9.78	10.0	9.63	Left	0	8.860	1.089	1.003	9.677	0.484		11.1		
Phablet	6 GHz WIFI/ IEEE 802.11ax	80	OFDM	MIMO	4261M	99.67	0.02	7025.00	215	68.1	10.0	9.52	10.0	9.11	Left	0	9.090	1.227	1.003	11.187	0.559		10.5		

Note: To achieve the 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

12.23 2.4 GHz Bluetooth SISO Standalone SAR

Table 12-100
DSS SISO Antenna 9 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz Bluetooth	FHSS	9	4261M	77.07	-0.01	2441.00	39	1	12.5	12.15	Right Cheek	0	0.489	1.084	1.025	0.543	0.543	0.339	A57	14.1		
Head	2.4 GHz Bluetooth	FHSS	9	4261M	77.07	0.00	2441.00	39	1	12.5	12.15	Right Tilt	0	0.221	1.084	1.025	0.246	0.246	0.154		17.5	14.1	10.5
Head	2.4 GHz Bluetooth	FHSS	9	4261M	77.07	0.09	2441.00	39	1	12.5	12.15	Left Cheek	0	0.215	1.084	1.025	0.239	0.239	0.149		17.6		
Head	2.4 GHz Bluetooth	FHSS	9	4261M	77.07	-0.16	2441.00	39	1	12.5	12.15	Left Tilt	0	0.100	1.084	1.025	0.111	0.111	0.069		21.0		
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 12-101
DSS SISO Antenna 9 Body-worn/Hotspot SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn/Hotspot	2.4 GHz Bluetooth	FHSS	9	1110M	77.07	-0.05	2441.00	39	1	19.0	18.81	Back	10	0.335	1.044	1.025	0.358	0.543	0.339	A58	22.4	20.9	19.8
Hotspot	2.4 GHz Bluetooth	FHSS	9	1110M	77.07	-0.02	2441.00	39	1	19.0	18.81	Front	10	0.203	1.044	1.025	0.217	0.329	0.206		24.6		
Hotspot	2.4 GHz Bluetooth	FHSS	9	1110M	77.07	0.05	2441.00	39	1	19.0	18.81	Top	10	0.103	1.044	1.025	0.110	0.167	0.104		27.5		
Hotspot	2.4 GHz Bluetooth	FHSS	9	1110M	77.07	0.01	2441.00	39	1	19.0	18.81	Left	10	0.468	1.044	1.025	0.501	0.758	0.474	A59	20.9		
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 12-102
DSS SISO Antenna 11 Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz Bluetooth	FHSS	11	4261M	77.07	0.00	2441.00	39	1	12.5	12.00	Right Cheek	0	0.189	1.122	1.025	0.217	0.217	0.136		18.1	17.3	10.5
Head	2.4 GHz Bluetooth	FHSS	11	4261M	77.07	-0.03	2441.00	39	1	12.5	12.00	Right Tilt	0	0.017	1.122	1.025	0.020	0.020	0.013		28.5		
Head	2.4 GHz Bluetooth	FHSS	11	4261M	77.07	0.01	2441.00	39	1	12.5	12.00	Left Cheek	0	0.226	1.122	1.025	0.260	0.260	0.163		17.3		
Head	2.4 GHz Bluetooth	FHSS	11	4261M	77.07	-0.05	2441.00	39	1	12.5	12.00	Left Tilt	0	0.025	1.122	1.025	0.029	0.029	0.018		26.8		
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 12-103
DSS SISO Antenna 11 Body-worn SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	2.4 GHz Bluetooth	FHSS	11	1110M	77.07	-0.06	2441.00	39	1	19.5	19.24	Back	10	0.087	1.061	1.025	0.095	0.336	0.210		28.7	28.7	24.0
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Body 1.6 W/kg (mW/g) averaged over 1 gram											

Table 12-104
DSS SISO Antenna 11 Phablet SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	2.4 GHz Bluetooth	FHSS	11	1110M	77.07	-0.02	2441.00	39	1	19.5	19.24	Back	0	0.357	1.061	1.025	0.388	1.377	0.344		26.5	25.3	24.0
Phablet	2.4 GHz Bluetooth	FHSS	11	1110M	77.07	0.11	2441.00	39	1	19.5	19.24	Front	0	0.474	1.061	1.025	0.515	1.829	0.457	A60	25.3		
Phablet	2.4 GHz Bluetooth	FHSS	11	1110M	77.07	0.05	2441.00	39	1	19.5	19.24	Top	0	0.005	1.061	1.025	0.005	0.019	0.005		45.1		
Phablet	2.4 GHz Bluetooth	FHSS	11	1110M	77.07	-0.09	2441.00	39	1	19.5	19.24	Right	0	0.141	1.061	1.025	0.153	0.544	0.136		30.5		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population												Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

12.24 2.4 GHz Bluetooth MIMO Standalone SAR

Table 12-105
DSS MIMO Head SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Head	2.4 GHz Bluetooth	FHSS	MIMO	4261M	77.07	-0.01	2441.00	39	1	10.0	9.94	10.0	9.58	Right Cheek	0	0.217	1.103	1.025	0.245	0.245	0.153		15.0	15.0	8.0
Head	2.4 GHz Bluetooth	FHSS	MIMO	4261M	77.07	0.03	2441.00	39	1	10.0	9.94	10.0	9.58	Right Tilt	0	0.123	1.103	1.025	0.139	0.139	0.087		17.5		
Head	2.4 GHz Bluetooth	FHSS	MIMO	4261M	77.07	-0.03	2441.00	39	1	10.0	9.94	10.0	9.58	Left Cheek	0	0.169	1.103	1.025	0.191	0.191	0.119		16.1		
Head	2.4 GHz Bluetooth	FHSS	MIMO	4261M	77.07	-0.08	2441.00	39	1	10.0	9.94	10.0	9.58	Left Tilt	0	0.029	1.103	1.025	0.033	0.033	0.021		23.8		
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 13 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 10 dBm.

Table 12-106
DSS MIMO Body-worn SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 1g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 1g SAR [W/kg]	Adjusted 1g SAR [W/kg]	Exposure Ratio (1g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Body-worn	2.4 GHz Bluetooth	FHSS	MIMO	1110M	77.07	0.16	2441.00	39	1	15.0	14.52	15.0	13.26	Back	10	0.067	1.494	1.025	0.103	0.332	0.208		23.8	23.8	19.1
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 18 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 15 dBm.

Table 12-107
DSS MIMO Phablet SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle [%]	Power Drift [dB]	Frequency [MHz]	Channel #	Data Rate [Mbps]	Max Allowed Power [dBm]	Conducted Power [dBm]	Max Allowed Power (2nd ant) [dBm]	Conducted Power (2nd ant) [dBm]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Power Scaling Factor	Duty Cycle Scaling Factor	Reported 10g SAR [W/kg]	Adjusted 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #	Plimit [dBm]	Overall Plimit [dBm]	EFS Plimit [dBm]
Phablet	2.4 GHz Bluetooth	FHSS	MIMO	1110M	77.07	0.00	2441.00	39	1	15.0	14.52	15.0	13.26	Back	0	0.318	1.494	1.025	0.487	1.576	0.394		21.0		
Phablet	2.4 GHz Bluetooth	FHSS	MIMO	1110M	77.07	-0.01	2441.00	39	1	15.0	14.52	15.0	13.26	Front	0	0.437	1.494	1.025	0.669	2.165	0.541		19.7		
Phablet	2.4 GHz Bluetooth	FHSS	MIMO	1110M	77.07	0.09	2441.00	39	1	15.0	14.52	15.0	13.26	Top	0	0.009	1.494	1.025	0.014	0.045	0.011		36.5	19.7	19.1
Phablet	2.4 GHz Bluetooth	FHSS	MIMO	1110M	77.07	-0.10	2441.00	39	1	15.0	14.52	15.0	13.26	Right	0	0.152	1.494	1.025	0.233	0.753	0.188		24.2		
Phablet	2.4 GHz Bluetooth	FHSS	MIMO	1110M	77.07	0.05	2441.00	39	1	15.0	14.52	15.0	13.26	Left	0	0.008	1.494	1.025	0.012	0.040	0.010		37.0		
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population														Phablet 4.0 W/kg (mW/g) averaged over 10 grams											

Note: To achieve the 18 dBm maximum allowed MIMO power shown in the documentation, each antenna transmits at a maximum allowed power of 15 dBm.

12.25 UWB Standalone SAR

Table 12-108
UWB Phablet SAR

Exposure	Band / Mode	Service / Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Phablet	UWB	CW	UWB	1140M	1:1	0.05	6489.60	5	Back	0	0.003	0.001	
Phablet	UWB	CW	UWB	1140M	1:1	0.08	7987.20	9	Back	0	0.003	0.001	
Phablet	UWB	CW	UWB	1140M	1:1	0.05	6489.60	5	Front	0	0.002	0.001	
Phablet	UWB	CW	UWB	1140M	1:1	0.09	7987.20	9	Front	0	0.004	0.001	A62
Phablet	UWB	CW	UWB	1140M	1:1	0.09	6489.60	5	Top	0	0.002	0.001	
Phablet	UWB	CW	UWB	1140M	1:1	0.06	7987.20	9	Top	0	0.002	0.001	
Phablet	UWB	CW	UWB	1140M	1:1	0.03	6489.60	5	Left	0	0.001	0.000	
Phablet	UWB	CW	UWB	1140M	1:1	0.06	7987.20	9	Left	0	0.000	0.000	
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 12-109
UWB Phablet APD

Exposure	Band/ Mode	Service/ Modulation	Ant.	Serial Number	Duty Cycle	Power Drift [dB]	Frequency [MHz]	Channel #	Test Position	Spacing [mm]	Measured APD [W/m² (4cm²)]	APD Exposure Ratio	Plot #
Phablet	UWB	CW	UWB	1140M	1:1	0.05	6489.60	5	Back	0	0.066	0.003	
Phablet	UWB	CW	UWB	1140M	1:1	0.08	7987.20	9	Back	0	0.055	0.003	
Phablet	UWB	CW	UWB	1140M	1:1	0.05	6489.60	5	Front	0	0.038	0.002	
Phablet	UWB	CW	UWB	1140M	1:1	0.09	7987.20	9	Front	0	0.095	0.005	A62
Phablet	UWB	CW	UWB	1140M	1:1	0.09	6489.60	5	Top	0	0.034	0.002	
Phablet	UWB	CW	UWB	1140M	1:1	0.06	7987.20	9	Top	0	0.040	0.002	
Phablet	UWB	CW	UWB	1140M	1:1	0.03	6489.60	5	Left	0	0.027	0.001	
Phablet	UWB	CW	UWB	1140M	1:1	0.06	7987.20	9	Left	0	0.017	0.001	

12.26 NFC Standalone SAR

Table 12-110
NFC Phablet SAR

Exposure	Band / Mode	Signal Type	Ant.	Serial Number	Power Drift [dB]	Frequency [MHz]	Test Position	Spacing [mm]	Measured 10g SAR [W/kg]	Exposure Ratio (10g SAR)	Plot #
Phablet	NFC	B	NFC	1133M	-0.12	13.60	Back	0	0.010	0.003	A61
Phablet	NFC	B	NFC	1133M	0.01	13.60	Front	0	0.000	0.000	
Phablet	NFC	B	NFC	1133M	0.08	13.60	Top	0	0.000	0.000	
Phablet	NFC	B	NFC	1133M	0.02	13.60	Left	0	0.000	0.000	
ANSI/IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							Phablet 4.0 W/kg (mW/g) averaged over 10 grams				

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 10 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 D01v06r03, 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 14 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 7.7 for more details).
10. Per FCC KDB Publication 648474 D01v06r03, this device is considered a "phablet" since the display diagonal dimension is > 150 mm and < 200 mm. Therefore, phablet SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR > 1.2 W/kg.
11. This device 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 15 for supplemental data.
12. Unless otherwise noted, when 10g SAR measurement is considered, a factor of 2.5 is applied to the 1g thresholds for the equivalent test cases.
13. This device uses Qualcomm Smart Transmit for WWAN/WLAN/BT operations to control and manage transmitting power in real time to ensure RF Exposure compliance. Per FCC Guidance, compliance for was assessed at the minimum of the time averaged power and the maximum output power for each band/mode/exposure condition (DSI).
14. Per October 2020 TCB Workshop notes, absorbed power density (APD) using a 4cm2 averaging area is reported based on SAR measurements.

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 9.5.4.
2. MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.
3. A-MPR was disabled for all SAR tests by setting NS=01 and MCC=001 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).
4. Per FCC KDB Publication 447498 D01v06, when the reported 1g SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for LTE B41/48, 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 15 for linearity results.

NR Notes:

1. NR implementation supports SA and NSA mode. In EN-DC mode, NR operates with the LTE Bands shown in the NR FR1 checklist acting as anchor bands. Per FCC guidance, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.
2. Due to test setup limitations, SAR testing for NR TDD was performed using test mode software to establish the connection.
3. Simultaneous transmission analysis for EN-DC operations is addressed in the Part 2 Test Report (Serial Number can be found in the bibliography).
4. This device additionally supports some EN-DC conditions where additional LTE carriers are added on the downlink only.
5. 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.
6. Per FCC KDB Publication 447498 D01v06, when the reported NR Band n77 C-Band SAR measured at the highest output power channel in a given a test configuration was > 0.4 W/kg for 1g evaluations and > 1 W/kg for 10g evaluation, testing at the other channels was required for such test configurations.
7. Per FCC KDB Publication 447498 D01v06, when the reported NR Band n41 SAR measured at the highest output power channel in a given a test configuration was > 0.6 W/kg for 1g evaluations and > 1.5 W/kg for 10g evaluation, testing at the other channels was required for such test configurations.

8. SRS was tested with CW signal per Qualcomm guidance in 80-w2112-4.
9. For final implementation, NR Band n41 and n77 slot configuration is synchronized using maximum duty cycle of 100%. SAR testing was performed using FTM mode with a 100% duty cycle applied to match final duty cycle.
10. Per FCC Guidance, C-Band for NR n77 (3705 – 3975 MHz) was fully tested according to FCC procedures. For each exposure condition and antenna, the worst-case position was additionally evaluated for the NR n77 DoD (3455.01 – 3544.98 MHz).

WLAN Notes:

1. For held-to-ear, hotspot, and phablet operations, the initial test position procedures were applied. The test position with the highest extrapolated peak SAR will be used as the initial test position. When reported SAR for the initial test position is ≤ 0.4 W/kg for 1g evaluations, no additional testing for the remaining test positions was required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is ≤ 0.8 W/kg or all test positions are measured.
2. Justification for test configurations for WLAN per KDB Publication 248227 D01v02r02 for 2.4 GHz WIFI single transmission chain operations, the highest measured maximum output power channel for DSSS was selected for SAR measurement. SAR for OFDM modes (2.4 GHz 802.11g/n/ax) was not required due to the maximum allowed powers and the highest reported DSSS SAR. See Section 9.6.5 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 9.6.6 for more information.
4. Per KDB Publication 248227 D01v02r02, SAR for MIMO was evaluated by following the simultaneous SAR provisions from KDB Publication 447498 D01v06 by either evaluating the sum of the 1g SAR values of each antenna transmitting independently or making a SAR measurement with both antennas transmitting simultaneously. Please see Multi-TX and Antenna SAR Considerations Appendix for complete analysis.
5. When the maximum reported 1g averaged SAR is ≤0.8 W/kg, SAR testing on additional channels was not required. Otherwise, SAR for the next highest output power channel was required until the reported SAR result was ≤ 1.20 W/kg for 1g evaluations or all test channels were measured.
6. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools. The reported SAR was scaled to the 100% transmission duty factor to determine compliance. Procedures used to measure the duty factor are identical to that in the associated EMC test reports.
7. When 10g SAR measurement is considered, a factor of 2.5 is applied to the thresholds above.
8. Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factor for WIFI 6E. Per October 2020 TCB Workshop notes, 5 channels were tested for WIFI 6E.

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 79% transmission duty factor for Bluetooth to determine compliance. See RF Conducted Power Section for the time domain plot and calculation for the duty factor of the device.
2. Head and Hotspot Bluetooth SAR were evaluated for BT BDR tethering applications.
3. The highest frame average power configurations for Bluetooth were evaluated for SAR. The worst case configuration was used for the remaining test positions as the most conservative scenario.

UWB Notes:

1. UWB was evaluated for phablet based on expected usage conditions.
2. Per FCC guidance, SAR was performed using 6.5 GHz/8GHz probe calibration factor for UWB.

13 POWER DENSITY DATA SUMMARY

13.1 6 GHz WIFI Power Density Results

Table 13-1

MEASUREMENT RESULTS																									
Frequency (MHz)	Channel	Mode	Service	Bandwidth [MHz]	Maximum Allowed Power (Ant 9) [dBm]	Conducted Power (Ant 9) [dBm]	Maximum Allowed Power (Ant 6) [dBm]	Conducted Power (Ant 6) [dBm]	Power Drift (dB)	Spacing (mm)	Antenna Config.	DUT Serial Number	Data Rate (Mbps)	Side	Duty Cycle (%)	Grid Step (λ)	IPD (W/m²)	Scaling Factor for Measurement Uncertainty per IEC 62479	Scaling Factor (Power)	Scaling Factor (Duty Cycle)	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
5985.00	7	802.11ax	OFDM	80	10.00	9.53	10.00	9.90	-0.08	2	MIMO	WHU0735M	68.1	Back	99.67	0.125	-	1.554	1.094	1.003	1.830	3.120	2.170	3.700	
5985.00	7	802.11ax	OFDM	80	10.00	9.53	10.00	9.90	0.00	2	MIMO	WHU0735M	68.1	Front	99.67	0.125	-	1.554	1.094	1.003	1.850	3.155	2.090	3.564	
5985.00	7	802.11ax	OFDM	80	10.00	9.53	10.00	9.90	0.18	2	MIMO	WHU0735M	68.1	Top	99.67	0.125	-	1.554	1.114	1.003	1.680	2.917	1.940	3.369	
5985.00	7	802.11ax	OFDM	80	10.00	9.53	10.00	9.90	-0.04	2	MIMO	WHU0735M	68.1	Right	99.67	0.125	-	1.554	1.114	1.003	3.640	6.320	4.130	7.171	
6465.00	103	802.11ax	OFDM	80	10.00	9.53	10.00	9.62	-0.20	2	MIMO	WIM1133M	68.1	Left	99.67	0.125	2.170	1.554	1.114	1.003	2.310	4.011	2.840	4.931	
5985.00	7	802.11ax	OFDM	80	10.00	9.53	10.00	9.90	-0.01	2	MIMO	WIM1133M	68.1	Left	99.67	0.125	-	1.554	1.114	1.003	3.130	5.435	4.250	7.379	
6305.00	71	802.11ax	OFDM	80	10.00	9.10	10.00	9.22	0.14	2	MIMO	WIM1133M	68.1	Left	99.67	0.125	-	1.554	1.230	1.003	2.230	4.275	2.850	5.464	
6705.00	151	802.11ax	OFDM	80	10.00	9.78	10.00	9.63	-0.01	2	MIMO	WIM1133M	68.1	Left	99.67	0.125	-	1.554	1.089	1.003	3.530	5.992	4.350	7.384	
7025.00	215	802.11ax	OFDM	80	10.00	9.52	10.00	9.11	-0.10	2	MIMO	WIM1133M	68.1	Left	99.67	0.125	-	1.554	1.227	1.003	2.000	3.825	2.620	5.011	
6465.00	103	802.11ax	OFDM	80	10.00	9.53	10.00	9.62	-0.06	9.27	MIMO	WHU0735M	68.1	Left	99.67	0.125	2.000	1.554	1.114	1.003	1.590	2.761	1.730	3.004	
7025.00	215	802.11ax	OFDM	80	10.00	9.92	-	-	-0.09	2	1	WHU0735M	34	Back	99.69	0.125	-	1.554	1.019	1.003	1.160	1.842	1.510	2.398	
7025.00	215	802.11ax	OFDM	80	10.00	9.92	-	-	0.20	2	1	WHU0735M	34	Front	99.69	0.125	-	1.554	1.019	1.003	2.060	3.272	2.260	3.590	
7025.00	215	802.11ax	OFDM	80	10.00	9.92	-	-	0.12	2	1	WHU0735M	34	Top	99.69	0.125	-	1.554	1.019	1.003	1.010	1.604	1.240	1.969	
6465.00	103	802.11ax	OFDM	80	10.00	9.53	-	-	-0.20	2	1	WIM1133M	34	Left	99.69	0.125	1.560	1.554	1.114	1.003	3.100	5.383	4.090	7.102	
5985.00	7	802.11ax	OFDM	80	10.00	9.62	-	-	0.10	2	1	WIM1133M	34	Left	99.69	0.125	-	1.554	1.091	1.003	3.510	5.969	4.120	7.006	
6305.00	71	802.11ax	OFDM	80	10.00	9.11	-	-	0.14	2	1	WIM1133M	34	Left	99.69	0.125	-	1.554	1.227	1.003	2.520	4.819	3.320	6.349	
6705.00	151	802.11ax	OFDM	80	10.00	9.91	-	-	-0.08	2	1	WIM1133M	34	Left	99.69	0.125	-	1.554	1.021	1.003	3.350	5.331	4.670	7.432	Att3
7025.00	215	802.11ax	OFDM	80	10.00	9.92	-	-	0.13	2	1	WIM1133M	34	Left	99.69	0.125	-	1.554	1.019	1.003	2.670	4.241	3.570	5.670	
6465.00	103	802.11ax	OFDM	80	10.00	9.53	-	-	-0.03	9.27	1	WIM1133M	34	Left	99.69	0.125	1.030	1.554	1.114	1.003	1.230	2.136	1.390	2.414	
6305.00	71	802.11ax	OFDM	80	-	-	10.00	9.78	0.02	2	2	WHU0735M	34	Back	99.63	0.125	1.570	1.554	1.052	1.004	2.220	3.644	4.520	7.419	
6305.00	71	802.11ax	OFDM	80	-	-	10.00	9.78	-0.03	2	2	WHU0735M	34	Front	99.63	0.125	-	1.554	1.052	1.004	1.250	2.052	2.000	3.283	
6305.00	71	802.11ax	OFDM	80	-	-	10.00	9.78	-0.20	2	2	WHU0735M	34	Top	99.63	0.125	-	1.554	1.052	1.004	0.304	0.499	0.556	0.913	
6305.00	71	802.11ax	OFDM	80	-	-	10.00	9.78	-0.04	2	2	WHU0735M	34	Right	99.63	0.125	-	1.554	1.052	1.004	2.000	3.283	2.280	3.742	
5985.00	7	802.11ax	OFDM	80	-	-	10.00	9.78	0.12	2	2	WIM1133M	34	Back	99.63	0.125	-	1.554	1.052	1.004	3.610	5.925	4.030	6.615	
6465.00	103	802.11ax	OFDM	80	-	-	10.00	9.67	0.16	2	2	WIM1133M	34	Back	99.63	0.125	-	1.554	1.079	1.004	1.870	3.148	2.250	3.788	
6705.00	151	802.11ax	OFDM	80	-	-	10.00	9.65	-0.13	2	2	WHU0735M	34	Back	99.63	0.125	-	1.554	1.084	1.004	1.450	2.452	2.140	3.619	
7025.00	215	802.11ax	OFDM	80	-	-	10.00	9.13	-0.10	2	2	WHU0735M	34	Back	99.63	0.125	-	1.554	1.222	1.004	1.030	1.964	1.470	2.803	
6305.00	71	802.11ax	OFDM	80	-	-	10.00	9.78	0.13	9.51	2	WIM1133M	34	Back	99.63	0.125	0.830	1.554	1.052	1.004	0.907	1.489	1.350	2.216	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population																			Power Density 10 W/m² averaged over 4 cm²						

13.2 UWB Power Density Results

Table 13-2

MEASUREMENT RESULTS															
Frequency (MHz)	Channel	Mode	Power Drift (dB)	Spacing (mm)	Antenna Config.	DUT Serial Number	Side	Grid Step (λ)	iPD (W/m²)	Scaling Factor for Measurement Uncertainty per IEC 62479	Normal psPD (W/m²)	Scaled Normal psPD (W/m²)	Total psPD (W/m²)	Scaled Total psPD (W/m²)	Plot #
6489.60	5	CW	0.11	2	UWB	WIM1054M	Back	0.125	-	1.554	0.153	0.238	0.160	0.249	
6489.60	5	CW	0.03	2	UWB	WIM1054M	Front	0.125	-	1.554	0.069	0.107	0.097	0.151	
6489.60	5	CW	0.06	2	UWB	WIM1054M	Left	0.125	0.304	1.554	0.128	0.199	0.132	0.205	
7987.20	9	CW	0.08	2	UWB	WIM1054M	Back	0.125	-	1.554	0.128	0.199	0.132	0.205	
7987.20	9	CW	0.16	2	UWB	WIM1054M	Front	0.125	-	1.554	0.202	0.314	0.211	0.328	A64
7987.20	9	CW	-0.18	2	UWB	WIM1054M	Left	0.125	-	1.554	0.179	0.278	0.188	0.292	
6489.60	5	CW	-0.08	9.24	UWB	WIM1054M	Left	0.125	0.264	1.554	0.144	0.224	0.148	0.230	
47 CFR §1.1310 - SAFETY LIMIT Spatial Average Uncontrolled Exposure / General Population						Power Density 10 W/m² averaged over 4 cm²									

Power Density General Notes

1. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
2. Batteries are fully charged at the beginning of the measurements. The DUT was connected to a wall charger for some measurements due to the test duration. It was confirmed that the charger plugged into this DUT did not impact the near-field PD test results.
3. Power density was calculated by repeated E-field measurements on two measurement planes separated by λ/4.
4. 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.
5. Per FCC guidance and equipment manufacturer guidance, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.68 dB (85.4%) was used to determine the psPD measurement scaling factor.
6. Per equipment manufacturer guidance, power density was measured at d=2mm and d=λ/5mm using the same grid size and grid step size for some frequencies and surfaces. The integrated Power Density (iPD) was calculated based on these measurements. Since iPD ratio between the two distances is ≥ -1dB, the grid step was sufficient for determining compliance at d=2mm.
7. psPD for MIMO was evaluated by making a measurement with both antennas transmitting simultaneously.
8. PTP-PR algorithm was used during psPD measurement and calculations.
9. PD results were scaled to the maximum allowed power to demonstrate compliance per FCC KDB Publication 447498 D04.

14 SAR MEASUREMENT VARIABILITY

14.1 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 14-1
Head SAR Measurement Variability Results

HEAD VARIABILITY RESULTS													
Band	FREQUENCY		Mode	Service	Test Position	Antenna Config	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)	
750	707.50	23095	LTE Band 12, 10 MHz Bandwidth	QPSK, 25 RB, 25 RB Offset	Left Cheek	6	0.825	0.819	1.01	N/A	N/A	N/A	N/A
2600	2592.99	518598	NR Band n41, 100 MHz Bandwidth	CP-OFDM, 1 RB, 1 RB Offset	Right Tilt	7	0.914	0.885	1.03	N/A	N/A	N/A	N/A
3750	3750.00	650000	NR Band n77, 100 MHz Bandwidth	CW/SRS	Left Cheek	10	1.090	1.080	1.01	N/A	N/A	N/A	N/A
Spatial Peak **Uncontrolled Exposure/General Population**					**Head** **1.6 W/kg (mW/g)** averaged over 1 gram								

Table 14-2
Body SAR Measurement Variability Results

BODY VARIABILITY RESULTS														
Band	FREQUENCY		Mode	Service	Test Position	Spacing	Antenna Config	Measured SAR (1g)	1st Repeated SAR (1g)	Ratio	2nd Repeated SAR (1g)	Ratio	3rd Repeated SAR (1g)	Ratio
	MHz	Ch.						(W/kg)	(W/kg)		(W/kg)		(W/kg)	
1900	1905.00	26590	LTE Band 25, 20 MHz Bandwidth	QPSK, 50 RB, 50 RB Offset	Bottom Edge	10 mm	0	0.886	0.909	1.03	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 14-3
Phablet SAR Measurement Variability Results

PHABLET VARIABILITY RESULTS															
Band	FREQUENCY		Mode	Service	Data Rate (Mbps)	Test Position	Spacing	Antenna Config	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)	
5750	5720.00	144	5 GHz WIFI / IEE 802.11n, 20 MHz Bandwidth	OFDM	13	Left Edge	0 mm	MIMO	2.190	2.160	1.01	N/A	N/A	N/A	N/A
5800	5845.00	169	5 GHz WIFI / IEE 802.11n, 20 MHz Bandwidth	OFDM	13	Left Edge	0 mm	MIMO	2.340	2.300	1.02	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						

14.2 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.

15 ADDITIONAL TESTING PER FCC GUIDANCE

15.1 Tuner Testing

Per April 2019 TCB Workshop Notes, the following test procedures were followed to demonstrate that the SAR results in Section 11 represented the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR was measured according to the required FCC SAR test procedures with the dynamic tuner active to allow the device to automatically tune to the antenna state for the respective RF exposure test configurations. Additional single point SAR time-sweep measurements were evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values. The additional tuner hardware has no influence on the antenna characteristics, other than impedance matching.

To evaluate all the tuner states, the 144 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 measured 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 144 states.

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

Table 15-1
UMTS Supplemental Head SAR Data

Supplemental Head SAR Data					
UMTS B5		UMTS B4		UMTS B2	
RMC		RMC		RMC	
Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	826.40	Frequency (MHz)	1712.40	Frequency (MHz)	1907.60
Channel	4132	Channel	1312	Channel	9538
Measured 1g SAR (W/kg)	0.083	Measured 1g SAR (W/kg)	0.114	Measured 1g SAR (W/kg)	0.096
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 16)	0.119	Auto-tune (State 96)	0.127	Auto-tune (State 64)	0.108
Default (State 0)	0.080	Default (State 32)	0.113	Default (State 0)	0.107
State 0	0.080	State 1	0.081	State 2	0.103
State 7	0.059	State 8	0.067	State 9	0.086
State 16	0.087	State 62	0.004	State 61	0.009
State 37	0.109	State 65	0.101	State 64	0.103
State 63	0.003	State 96	0.126	State 66	0.107
State 64	0.069	State 113	0.043	State 114	0.047
State 112	0.048	State 126	0.009	State 125	0.013
State 127	0.001	State 129	0.113	State 130	0.109
State 128	0.080				

Table 15-2
LTE Supplemental Head SAR Data

Supplemental Body 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, 0 RB Offset		QPSK, 15 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 50 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 50 RB, 50 RB Offset	
Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
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)	0.243	Measured 1g SAR (W/kg)	0.440	Measured 1g SAR (W/kg)	0.408	Measured 1g SAR (W/kg)	0.730	Measured 1g SAR (W/kg)	0.886
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 132)	0.393	Auto-tune (State 132)	0.691	Auto-tune (State 16)	0.709	Auto-tune (State 99)	0.831	Auto-tune (State 135)	0.985
Default (State 0)	0.394	Default (State 0)	0.720	Default (State 0)	0.674	Default (State 32)	0.783	Default (State 0)	0.875
State 0	0.394	State 1	0.707	State 16	0.655	State 25	0.093	State 26	0.118
State 20	0.248	State 21	0.424	State 24	0.247	State 32	0.783	State 32	1.040
State 27	0.111	State 28	0.096	State 39	0.573	State 38	0.729	State 35	0.952
State 43	0.046	State 42	0.176	State 88	0.219	State 89	0.125	State 37	0.936
State 84	0.334	State 85	0.466	State 103	0.607	State 96	0.825	State 64	1.02
State 107	0.064	State 106	0.237	State 134	0.565	State 99	0.81	State 90	0.156
State 132	0.393	State 132	0.721			State 102	0.793	State 96	1.02
State 138	0.336	State 133	0.323			State 137	0.277	State 99	0.956
		State 137	0.431			State 139	0.313	State 100	0.977
								State 101	0.975
								State 115	0.338
								State 119	0.318
								State 135	0.989

Table 15-3
NR Supplemental Head SAR Data

Supplemental Head SAR Data					
NR Band n5		NR Band n66		NR Band n25	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 1 RB Offset		DFT-s-OFDM QPSK, 40 MHz Bandwidth, 1 RB, 1 RB Offset		DFT-s-OFDM QPSK, 20 MHz Bandwidth, 50 RB, 28 RB Offset	
Test Position	Left Cheek	Test Position	Right Cheek	Test Position	Left Cheek
Frequency (MHz)	836.50	Frequency (MHz)	1745.00	Frequency (MHz)	1882.50
Channel	167300	Channel	349000	Channel	376500
Measured 1g SAR (W/kg)	0.076	Measured 1g SAR (W/kg)	0.115	Measured 1g SAR (W/kg)	0.082
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 37)	0.111	Auto-tune (State 96)	0.121	Auto-tune (State 0)	0.090
Default (State 0)	0.118	Default (State 32)	0.083	Default (State 0)	0.092
State 13	0.014	State 14	0.017	State 0	0.092
State 16	0.115	State 21	0.014	State 3	0.085
State 37	0.108	State 49	0.030	State 15	0.017
State 50	0.111	State 78	0.025	State 22	0.015
State 77	0.011	State 96	0.190	State 48	0.039
State 114	0.095	State 113	0.037	State 71	0.086
State 141	0.084	State 126	0.007	State 79	0.021
		State 142	0.029	State 96	0.090
				State 131	0.089
				State 134	0.098
				State 143	0.042

Table 15-4
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	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	0
Frequency (MHz)	826.40	Frequency (MHz)	1752.60	Frequency (MHz)	1907.60
Channel	4132	Channel	1513	Channel	9538
Measured 1g SAR (W/kg)	0.448	Measured 1g SAR (W/kg)	0.656	Measured 1g SAR (W/kg)	0.894
Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)		Average Value of Time Sweep (W/kg)	
Auto-tune (State 37)	0.739	Auto-tune (State 102)	0.725	Auto-tune (State 135)	0.988
Default (State 0)	0.742	Default (State 32)	0.693	Default (State 0)	0.885
State 16	0.760	State 17	0.129	State 18	0.181
State 23	0.201	State 40	0.626	State 41	0.889
State 37	0.763	State 46	0.283	State 45	0.582
State 47	0.017	State 75	0.456	State 67	0.942
State 80	0.742	State 81	0.153	State 82	0.205
State 111	0.011	State 96	0.739	State 109	0.723
State 128	0.741	State 99	0.729	State 130	0.978
State 142	0.737	State 102	0.706	State 135	1.000
		State 110	0.386	State 140	0.200
		State 129	0.698		

Table 15-5
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, 0 RB Offset		QPSK, 10 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 15 MHz Bandwidth, 1 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 50 RB, 0 RB Offset		QPSK, 20 MHz Bandwidth, 50 RB, 50 RB Offset	
Test Position	Back	Test Position	Back	Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
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)	0.243	Measured 1g SAR (W/kg)	0.440	Measured 1g SAR (W/kg)	0.408	Measured 1g SAR (W/kg)	0.730	Measured 1g SAR (W/kg)	0.886
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 132)	0.393	Auto-tune (State 132)	0.691	Auto-tune (State 16)	0.709	Auto-tune (State 99)	0.831	Auto-tune (State 135)	0.985
Default (State 0)	0.394	Default (State 0)	0.720	Default (State 0)	0.674	Default (State 32)	0.783	Default (State 0)	0.875
State 0	0.394	State 1	0.707	State 16	0.655	State 25	0.093	State 26	0.118
State 20	0.248	State 21	0.424	State 24	0.247	State 32	0.783	State 35	0.952
State 27	0.111	State 28	0.096	State 39	0.573	State 38	0.729	State 37	0.936
State 43	0.046	State 42	0.176	State 88	0.219	State 89	0.125	State 90	0.156
State 84	0.334	State 85	0.466	State 103	0.607	State 96	0.825	State 100	0.977
State 107	0.064	State 106	0.237	State 134	0.565	State 99	0.81	State 101	0.975
State 132	0.393	State 132	0.721			State 102	0.793	State 115	0.338
State 138	0.336	State 133	0.323			State 137	0.277	State 119	0.318
		State 137	0.431			State 139	0.313	State 135	0.989

Table 15-6
NR Supplemental Body SAR Data

Supplemental Body SAR Data					
NR Band n5		NR Band n66		NR Band n25	
DFT-s-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 1 RB Offset		Dft-s-OFDM QPSK,40 MHz Bandwidth, 1 RB, 1 RB Offset		CP-OFDM QPSK, 20 MHz Bandwidth, 1 RB, 1 RB Offset	
Test Position	Back	Test Position	Bottom	Test Position	Bottom
Spacing	10 mm	Spacing	10 mm	Spacing	10 mm
Frequency (MHz)	836.50	Frequency (MHz)	1745.00	Frequency (MHz)	1882.50
Channel	167300	Channel	349000	Channel	376500
Measured 1g SAR (W/kg)	0.430	Measured 1g SAR (W/kg)	0.755	Measured 1g SAR (W/kg)	0.726
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)	0.694	Auto-tune (State 96)	0.865	Auto-tune (State 96)	0.882
Default (State 0)	0.653	Default (State 32)	0.928	Default (State 0)	0.819
State 29	0.000	State 30	0.039	State 31	0.024
State 34	0.535	State 33	0.888	State 32	0.943
State 93	0.030	State 44	0.540	State 52	0.257
State 98	0.483	State 76	0.722	State 60	0.119
State 129	0.380	State 87	0.167	State 95	0.040
		State 94	0.076	State 96	0.932
		State 96	0.878	State 105	0.920
		State 97	0.780	State 136	0.178
		State 104	0.768		

15.2 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 15-7
LTE Band 41 Head Linearity Data – Antenna 1

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	25.00	26.00
Measured Output Power (dBm)	24.69	25.71
Measured SAR (W/kg)	0.128	0.104
Measured Power (mW)	294.44	372.39
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	186.38	161.25
% deviation from expected linearity		-6.08%

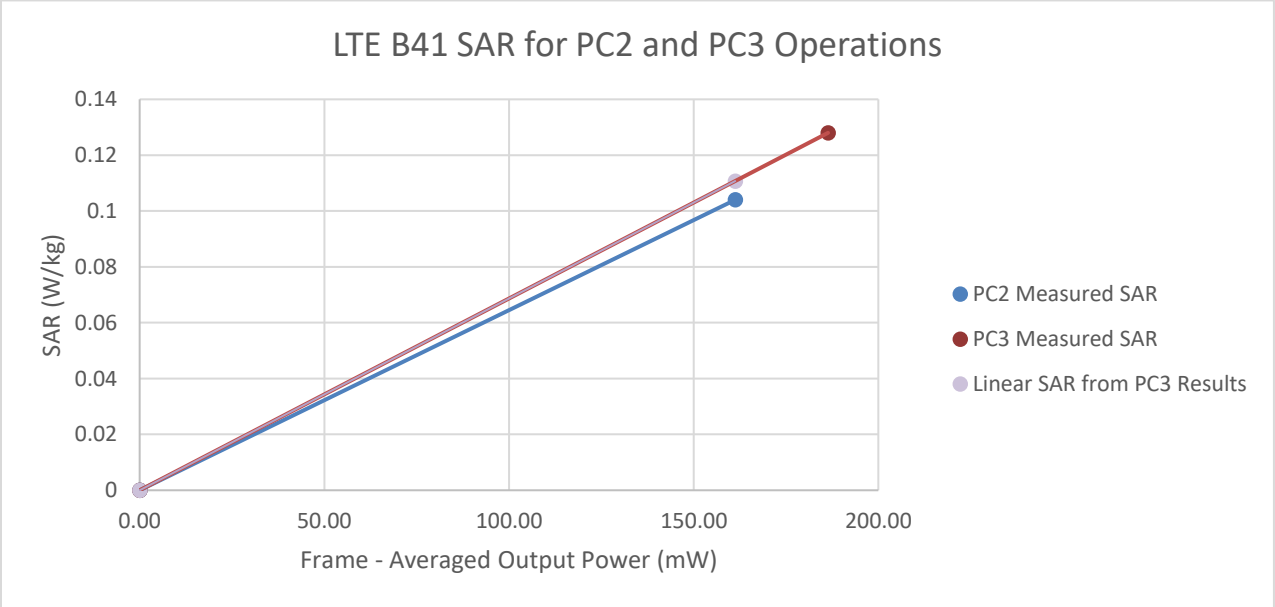


Figure 15-1
LTE Band 41 Head Linearity - Antenna 1

Table 15-8
LTE Band 41 Head Linearity Data – Antenna 7

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	18.00	19.60
Measured Output Power (dBm)	17.70	19.52
Measured SAR (W/kg)	0.824	0.838
Measured Power (mW)	58.88	89.54
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	37.27	38.77
% deviation from expected linearity		-2.22%

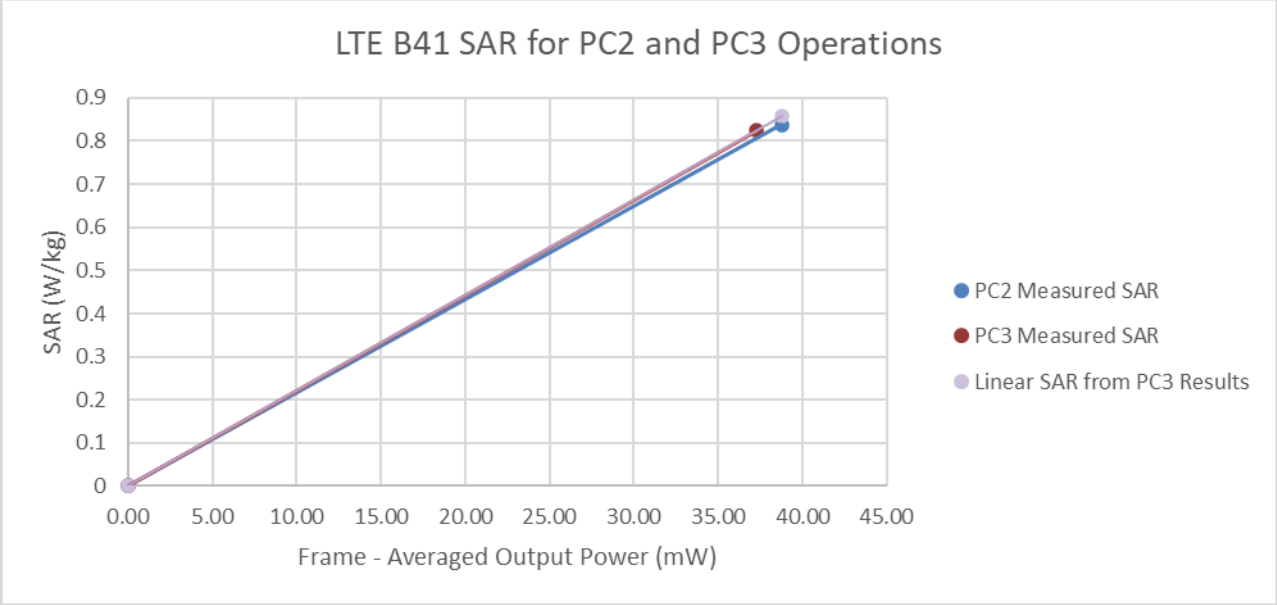


Figure 15-2
LTE Band 41 Head Linearity - Antenna 7

Table 15-9
LTE Band 41 Body-Worn/Hotspot Linearity Data – Antenna 1

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	22.00	23.60
Measured Output Power (dBm)	21.94	23.57
Measured SAR (W/kg)	0.867	0.802
Measured Power (mW)	156.31	227.51
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	98.95	98.51
% deviation from expected linearity		-7.09%

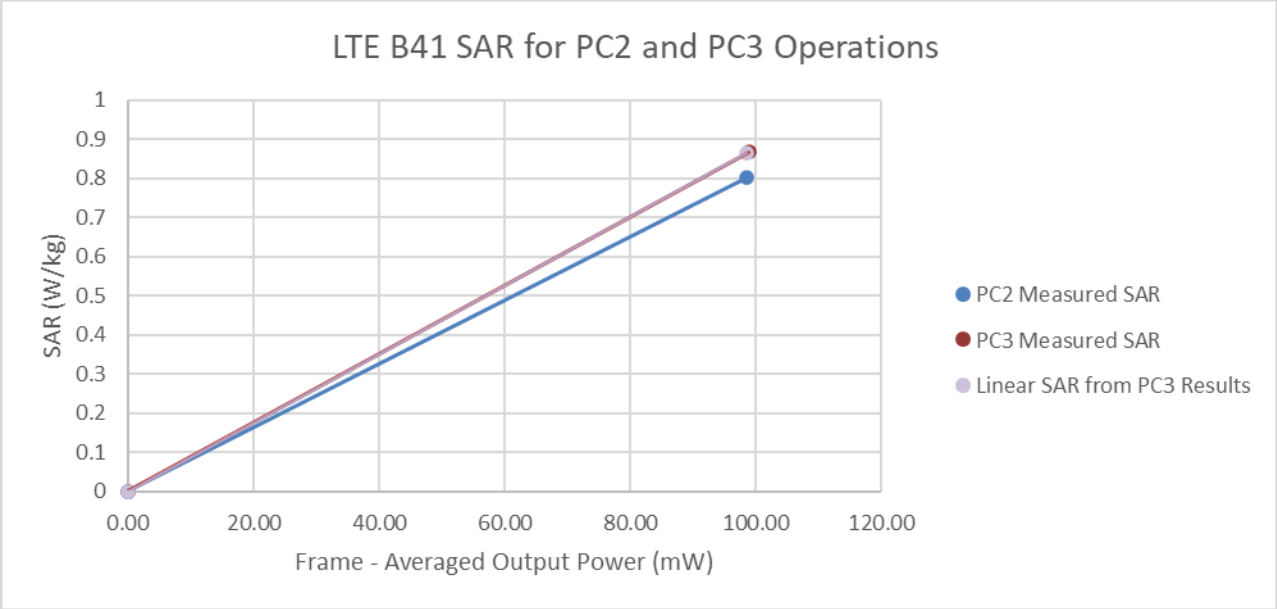


Figure 15-3
LTE Band 41 Body-Worn/Hotspot Linearity – Antenna 1

Table 15-10
LTE Band 41 Body-Worn/Hotspot Linearity Data – Antenna 7

	LTE Band 41 PC3	LTE Band 41 PC2
Maximum Allowed Output Power (dBm)	22.00	23.60
Measured Output Power (dBm)	21.87	23.43
Measured SAR (W/kg)	0.798	0.773
Measured Power (mW)	153.82	220.29
Duty Cycle	63.3%	43.3%
Frame Averaged Output Power (mW)	97.37	95.39
% deviation from expected linearity		-1.12%

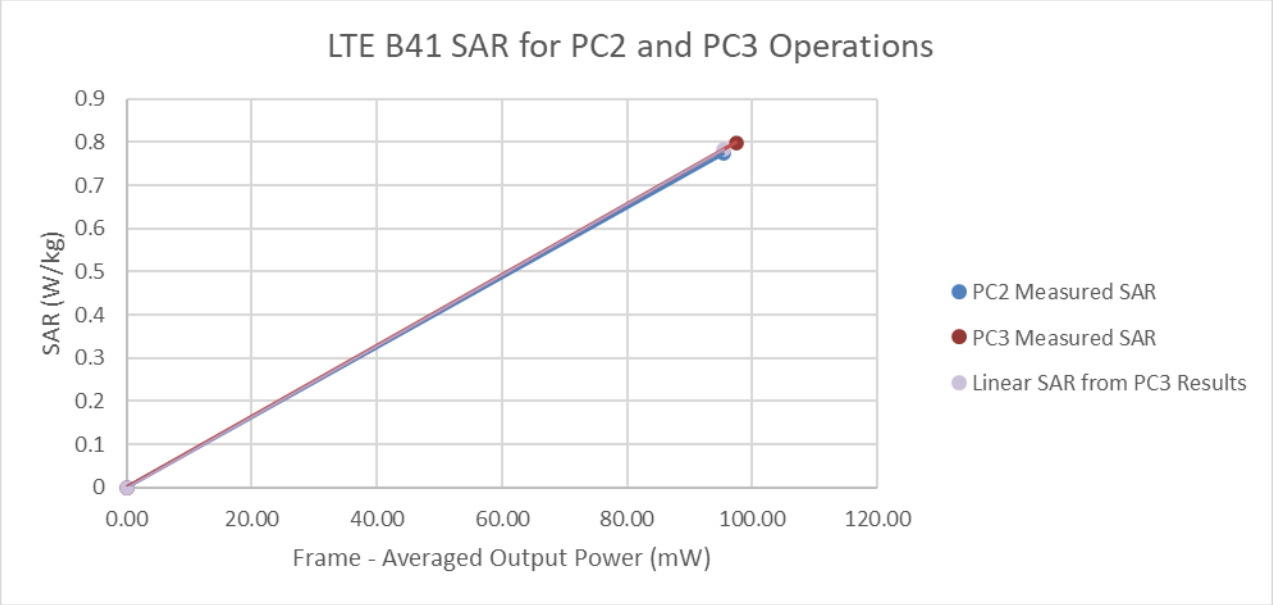


Figure 15-4
LTE Band 41 Body-Worn/Hotspot Linearity – Antenna 7

16 EQUIPMENT LIST

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
Agilent	E4404B	Spectrum Analyzer	N/A	N/A	N/A	MY45113242
Agilent	E4438C	ESG Vector Signal Generator	11/17/2022	Annual	11/17/2023	MY45093852
Agilent	E4438C	ESG Vector Signal Generator	11/17/2022	Annual	11/17/2023	MY45092078
Agilent	N5182A	MXG Vector Signal Generator	7/4/2023	Annual	7/4/2024	MY48180366
Agilent	N5182A	MXG Vector Signal Generator	11/30/2022	Annual	11/30/2023	MY47420603
Agilent	8753ES	S-Parameter Vector Network Analyzer	1/12/2023	Annual	1/12/2024	MY40001472
Agilent	8753ES	S-Parameter Vector Network Analyzer	6/2/2023	Annual	6/2/2024	MY40003841
Agilent	E5515C	Wireless Communications Test Set	CBT	N/A	CBT	US41140256
Agilent	E5515C	Wireless Communications Test Set	4/19/2022	Biennial	4/19/2024	GB43193591
Agilent	N4010A	Wireless Connectivity Test Set	N/A	N/A	N/A	GB46170464
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433973
Amplifier Research	15S1G6	Amplifier	CBT	N/A	CBT	433974
Amplifier Research	150A100C	Amplifier	CBT	N/A	CBT	350132
Anritsu	MN8110B	I/O Adaptor	CBT	N/A	CBT	6261747881
Anritsu	ML2496A	Power Meter	6/15/2023	Annual	6/15/2024	1138001
Anritsu	ML2495A	Power Meter	6/13/2023	Annual	6/13/2024	1039008
Anritsu	MA2411B	Pulse Power Sensor	8/22/2023	Annual	8/22/2024	1726262
Anritsu	MA2411B	Pulse Power Sensor	1/10/2023	Annual	1/10/2024	1339026
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	1/10/2023	Annual	1/10/2024	6201524637
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	11/28/2022	Annual	11/28/2023	6262150047
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	7/7/2023	Annual	7/7/2024	6262044715
Anritsu	MT8821C	Radio Communication Analyzer MT8821C	1/20/2023	Annual	1/20/2024	6201144419
Anritsu	MT8000A	Radio Communication Test Station	3/21/2023	Annual	3/21/2024	6261987983
Anritsu	MT8000A	Radio Communication Test Station	1/5/2023	Annual	1/5/2024	6272337436
Anritsu	MT8000A	Radio Communication Test Station	4/6/2023	Annual	4/6/2024	6272337439
Anritsu	MA24106A	USB Power Sensor	6/15/2023	Annual	6/15/2024	1827530
Anritsu	MA24106A	USB Power Sensor	4/21/2023	Annual	4/21/2024	1344554
Mini-Circuits	PWR-4GHS	USB Power Sensor	11/11/2022	Annual	11/11/2023	11710030063
Traceable	4040 90080-06	Therm./ Clock/ Humidity Monitor	5/11/2022	Biennial	5/11/2024	221514974
Traceable	4040 90080-06	Therm./ Clock/ Humidity Monitor	5/11/2022	Biennial	5/11/2024	221514925
Control Company	4040	Therm./ Clock/ Humidity Monitor	1/17/2023	Annual	1/17/2024	160574418
Control Company	4353	Long Stem Thermometer	11/12/2021	Biennial	11/12/2023	210974908
Control Company	4353	Long Stem Thermometer	10/21/2022	Annual	10/21/2023	200645912
Control Company	4353	Long Stem Thermometer	9/15/2022	Biennial	9/15/2024	221767767
Mitutoyo	500-196-30	CD-6"ASX 6Inch Digital Caliper	2/16/2022	Triennial	2/16/2025	A20238413
Keysight Technologies	N6705B	DC Power Analyzer	5/5/2021	Triennial	5/5/2024	MY53004059
Keysight Technologies	N9020A	MXA Signal Analyzer	4/6/2023	Annual	4/6/2024	MY48010233
Agilent	N9020A	MXA Signal Analyzer	4/26/2022	Biennial	4/26/2024	MY56470202
MCL	BW-N6W5+	6dB Attenuator	CBT	N/A	CBT	1139
Mini-Circuits	VLF-6000+	Low Pass Filter DC to 6000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	VLF-6000+	Low Pass Filter DC to 6000 MHz	7/5/2023	Annual	7/5/2024	31634
Mini-Circuits	BW-N20W5+	DC to 18 GHz Precision Fixed 20 dB Attenuator	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-1200+	Low Pass Filter DC to 1000 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	NLP-2950+	Low Pass Filter DC to 2700 MHz	CBT	N/A	CBT	N/A
Mini-Circuits	BW-N20W5	Power Attenuator	CBT	N/A	CBT	1226
Mini-Circuits	ZUDC10-83-S+	Directional Coupler	CBT	N/A	CBT	2050
Narda	4772-3	Attenuator (3dB)	CBT	N/A	CBT	9406
Narda	BW-S3W2	Attenuator (3dB)	CBT	N/A	CBT	120
Seekonk	TSF-100	Torque Wrench	6/30/2023	Annual	6/30/2024	47639-29
Huber + Suhner	74Z-0-0-21	Torque Wrench	11/29/2022	Biennial	11/29/2024	94722
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/12/2023	Annual	1/12/2024	131453
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	7/4/2023	Annual	7/4/2024	166818
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	2/9/2023	Annual	2/9/2024	161617
Rohde & Schwarz	CMW500	Wideband Radio Communication Tester	1/17/2023	Annual	1/17/2024	151849
SPEAG	DAK-3.5	Dielectric Assessment Kit	11/14/2022	Annual	11/14/2023	1277
SPEAG	DAKS-3.5	Portable Dielectric Assessment Kit	8/14/2023	Annual	8/14/2024	1041
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1237
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1331
SPEAG	MAIA	Modulation and Audio Interference Analyzer	N/A	N/A	N/A	1390
SPEAG	DAK-12	Dielectric Assessment Kit (4MHz - 3GHz)	3/13/2023	Annual	3/13/2024	1102

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
SPEAG	CLA-13	Confined Loop Antenna	9/12/2023	Annual	9/12/2024	1002
SPEAG	D750V3	750 MHz SAR Dipole	2/13/2023	Annual	2/13/2024	1046
SPEAG	D750V3	750 MHz SAR Dipole	5/11/2023	Annual	5/11/2024	1003
SPEAG	D835V2	835 MHz SAR Dipole	4/13/2023	Annual	4/13/2024	4d119
SPEAG	D835V2	835 MHz SAR Dipole	5/11/2023	Annual	5/11/2024	4d180
SPEAG	D1750V2	1750 MHz SAR Dipole	10/22/2021	Biennial	10/22/2023	1150
SPEAG	D1750V2	1750 MHz SAR Dipole	4/19/2023	Annual	4/19/2024	1051
SPEAG	D1750V2	1750 MHz SAR Dipole	5/17/2023	Annual	5/17/2024	1092
SPEAG	D1765V2	1750 MHz SAR Dipole	5/14/2021	Triennial	5/14/2024	1008
SPEAG	D1900V2	1900 MHz SAR Dipole	11/16/2022	Annual	11/16/2023	5d131
SPEAG	D1900V2	1900 MHz SAR Dipole	8/8/2023	Annual	8/8/2024	5d180
SPEAG	D1900V2	1900 MHz SAR Dipole	2/21/2022	Biennial	2/21/2024	5d148
SPEAG	D2450V2	2450 MHz SAR Dipole	5/11/2023	Annual	5/11/2024	945
SPEAG	D2450V2	2450 MHz SAR Dipole	11/25/2021	Biennial	11/25/2023	981
SPEAG	D2600V2	2600 MHz SAR Dipole	8/10/2023	Annual	8/10/2024	1126
SPEAG	D2600V2	2600 MHz SAR Dipole	6/12/2023	Annual	6/12/2024	1009
SPEAG	D3500V2	3500 MHz SAR Dipole	6/9/2021	Triennial	6/9/2024	1126
SPEAG	D3700V2	3700 MHz SAR Dipole	6/9/2021	Triennial	6/9/2024	1097
SPEAG	D3900V2	3900 MHz SAR Dipole	11/13/2020	Triennial	11/13/2023	1062
SPEAG	D5GHzV2	5 GHz SAR Dipole	1/18/2023	Annual	1/18/2024	1191
SPEAG	D6.5GHzV2	6.5 GHz SAR Dipole	12/7/2022	Annual	12/7/2023	1018
SPEAG	D6.5GHzV2	6.5 GHz SAR Dipole	1/12/2023	Annual	1/12/2024	1020
SPEAG	D8GHzV2	8GHz SAR Dipole	5/11/2023	Annual	5/11/2024	1006
SPEAG	5G Verification Source 10GHz	10GHz System Verification Antenna	8/11/2023	Annual	8/11/2024	1004
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/17/2023	Annual	1/17/2024	1558
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/14/2023	Annual	4/14/2024	501
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/15/2023	Annual	3/15/2024	604
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/14/2023	Annual	4/14/2024	1368
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/20/2023	Annual	1/20/2024	1466
SPEAG	DAE4	Dasy Data Acquisition Electronics	4/14/2023	Annual	4/14/2024	1407
SPEAG	DAE4	Dasy Data Acquisition Electronics	12/13/2022	Annual	12/13/2023	1644
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/15/2023	Annual	2/15/2024	665
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/16/2023	Annual	3/16/2024	1652
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/16/2023	Annual	2/16/2024	1645
SPEAG	DAE4	Dasy Data Acquisition Electronics	3/13/2023	Annual	3/13/2024	1408
SPEAG	DAE4	Dasy Data Acquisition Electronics	6/27/2023	Annual	6/27/2024	1502
SPEAG	DAE4	Dasy Data Acquisition Electronics	1/18/2023	Annual	1/18/2024	1530
SPEAG	DAE4	Dasy Data Acquisition Electronics	10/17/2022	Annual	10/17/2023	1322
SPEAG	DAE4	Dasy Data Acquisition Electronics	2/15/2023	Annual	2/15/2024	1415
SPEAG	DAE4ip	Dasy Data Acquisition Electronics	11/16/2022	Annual	11/16/2023	1639
SPEAG	EX3DV4	SAR Probe	1/12/2023	Annual	1/12/2024	7565
SPEAG	EX3DV4	SAR Probe	3/16/2023	Annual	3/16/2024	7421
SPEAG	EX3DV4	SAR Probe	4/18/2023	Annual	4/18/2024	7532
SPEAG	EX3DV4	SAR Probe	1/11/2023	Annual	1/11/2024	7713
SPEAG	EX3DV4	SAR Probe	5/10/2023	Annual	5/10/2024	7402
SPEAG	EX3DV4	SAR Probe	3/16/2023	Annual	3/16/2024	7638
SPEAG	EX3DV4	SAR Probe	3/16/2023	Annual	3/16/2024	7637
SPEAG	EX3DV4	SAR Probe	4/14/2023	Annual	4/14/2024	7659
SPEAG	EX3DV4	SAR Probe	4/18/2023	Annual	4/18/2024	7718
SPEAG	EX3DV4	SAR Probe	2/8/2023	Annual	2/8/2024	7417
SPEAG	EX3DV4	SAR Probe	2/10/2023	Annual	2/10/2024	7640
SPEAG	EX3DV4	SAR Probe	1/11/2023	Annual	1/11/2024	7570
SPEAG	EX3DV4	SAR Probe	12/9/2022	Annual	12/9/2023	7490
SPEAG	EX3DV4	SAR Probe	10/19/2022	Annual	10/19/2023	7547
SPEAG	EUmmWV4	EUmmWV4 Probe	2/15/2023	Annual	2/15/2024	9622
SPEAG	EUmmWV4	EUmmWV4 Probe	5/19/2023	Annual	5/19/2024	9541

Note: 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.
Note: All equipment was used solely within its respective calibration period.

17 MEASUREMENT UNCERTAINTIES

Applicable for SAR measurements < 6GHz:

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

Applicable for SAR measurements > 6GHz:

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	9.3	N	1	1	1	9.3	9.3	∞
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				13.8	13.6	191
Expanded Uncertainty (95% CONFIDENCE LEVEL)			k=2				27.6	27.1	

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

Applicable for Power Density Measurements:

a	b	c	d	e	f = c x f/e	g
Uncertainty Component	Unc. (± dB)	Prob. Dist.	Div.	c_i	u_i (± dB)	v_i
Measurement System						
Calibration	0.49	N	1	1	0.49	∞
Probe Correction	0.00	R	1.73	1	0.00	∞
Frequency Response	0.20	R	1.73	1	0.12	∞
Sensor Cross Coupling	0.00	R	1.73	1	0.00	∞
Isotropy	0.50	R	1.73	1	0.29	∞
Linearity	0.20	R	1.73	1	0.12	∞
Probe Scattering	0.00	R	1.73	1	0.00	∞
Probe Positioning offset	0.30	R	1.73	1	0.17	∞
Probe Positioning Repeatability	0.04	R	1.73	1	0.02	∞
Sensor MechanicalOffset	0.00	R	1.73	1	0.00	∞
Probe Spatial Resolution	0.00	R	1.73	1	0.00	∞
Field Impedence Dependance	0.00	R	1.73	1	0.00	∞
Amplitude and Phase Drift	0.00	R	1.73	1	0.00	∞
Amplitude and Phase Noise	0.04	R	1.73	1	0.02	∞
Measurement Area Truncation	0.00	R	1.73	1	0.00	∞
Data Acquisition	0.03	N	1	1	0.03	∞
Sampling	0.00	R	1.73	1	0.00	∞
Field Reconstruction	2.00	R	1.73	1	1.15	∞
Forward Transformation	0.00	R	1.73	1	0.00	∞
Power Density Scaling	0.00	R	1.73	1	0.00	∞
Spatial Averaging	0.10	R	1.73	1	0.06	∞
System Detection Limit	0.04	R	1.73	1	0.02	∞
Test Sample Related						
Probe Coupling with DUT	0.00	R	1.73	1	0.00	∞
Modulation Response	0.40	R	1.73	1	0.23	∞
Integration Time	0.00	R	1.73	1	0.00	∞
Response Time	0.00	R	1.73	1	0.00	∞
Device Holder Influence	0.10	R	1.73	1	0.06	∞
DUT alignment	0.00	R	1.73	1	0.00	∞
RF Ambient Conditions	0.04	R	1.73	1	0.02	∞
Ambient Reflections	0.04	R	1.73	1	0.02	∞
Immunity/Secondary Reception	0.00	R	1.73	1	0.00	∞
Drift of DUT	0.21	R	1.73	1	0.12	∞
Combined Standard Uncertainty (k=1)		RSS			1.34	∞
Expanded Uncertainty (95% CONFIDENCE LEVEL)		k=2			2.68	

18 CONCLUSION

18.1 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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