FCC SAR TEST REPORT

FCC ID	: 2ABZ2-EE149
Equipment	: Smart Phone
Brand Name	: ONEPLUS
Model Name	: IN2019
Applicant	: OnePlus Technology (Shenzhen) Co., Ltd 18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen
Manufacturer	: OnePlus Technology (Shenzhen) Co., Ltd 18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen
Standard	: FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

The product was received on Jan. 06, 2020 and testing was started from Jan. 18, 2020 and completed on Feb. 26, 2020. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
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History of this test report

Report No.	Version	Description	Issued Date
FA9D0701A	01	Initial issue of report	Mar. 06, 2020

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for OnePlus Technology (Shenzhen) Co., Ltd, Smart Phone, IN2019, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary				Highest Simultaneous Transmission 1g SAR (W/kg)
		Head (Separation 0mm)	Body-worn (Separation 15mm)	Hotspot (Separation 10mm)	Product Specific (Separation 0mm)	
		1g SAR (W/kg)			10g SAR (W/kg)	
Licensed	GSM850	1.05	0.28	0.74		1.50
	GSM1900	1.03	0.41	0.71		
	WCDMA II	1.03	0.51	0.67	3.77	
	WCDMA IV	0.95	0.70	0.65	2.61	
	WCDMA V	0.94	0.32	0.59		
	LTE Band 5	0.70	0.47	0.70		
	LTE Band 7	1.03	0.41	0.97	2.79	
	LTE Band 12 / 17	0.38	0.15	0.28		
	LTE Band 13	1.09	0.46	0.59		
	LTE Band 2 / 25	0.98	0.44	0.84	3.73	
	LTE Band 26	0.76	0.39	0.60		
	LTE Band 30	1.10	0.52	0.86	3.70	
	LTE Band 38 / 41	1.10	0.28	0.68		
	LTE Band 48	1.07	0.90	0.36		
	LTE Band 4 / 66	1.10	0.55	1.10	3.40	
	LTE Band 71	0.23	0.21	0.29		
	5G FR1 n2	1.03	0.40	0.72	3.42	
	5G FR1 n5	0.89	0.37	0.55		
	5G FR1 n66	1.10	0.51	1.08	3.23	
DTS	2.4GHz WLAN	1.09	0.19	0.13		1.50
NII	5GHz WLAN	0.19	0.51	0.43	1.94	1.50
DSS	Bluetooth	0.19	0.02	0.04		1.41
Date of Testing:		2020/1/18 ~ 2020/2/26				

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang
Report Producer: Wan Liu

2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Smart Phone
Brand Name	ONEPLUS
Model Name	IN2019
FCC ID	2ABZ2-EE149
IMEI Code	869904040051693
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 48: 3552.5 MHz ~ 3697.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz 5G NR n2 : 1852.5 MHz ~ 1907.5 MHz 5G NR n5 : 826.5 MHz ~ 846.5 MHz 5G NR n66 : 1712.5 MHz ~ 1777.5 MHz 5G NR n260: 37GHz~40GHz 5G NR n261: 27.5GHz~28.35GHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM 5GNR: DFT-s-OFDM/CP-OFDM, QPSK / 16QAM / 64QAM / 256QAM WLAN: 802.11a/b/g/n/ac/ax HT20 / HT40 / VHT20 / VHT40 / VHT80 / VHT160 / HE20 / HE40 / HE80 Bluetooth BR/EDR/LE NFC:ASK

HW Version	15
SW Version	Oxygen OS 10.5.IN67CD
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:
1. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications.
2. This device has two antennas. The Primary Cellular Antenna (LAT) is location on the bottom edge of the device and the Secondary Cellular Antenna (UAT) is location on the top edge of the device.
3. The device implements the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the smart transmit will manage to ensure the averaged power level not exceeding the associated power table. Proximity sensors are used to detect the exposure conditions and the verification is illustrated in section 5. Details about the power management decision are provided in the operational description.

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	2ABZ2-EE149
Equipment Name	Smart Phone
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 48: 3552.5 MHz ~ 3697.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz
Channel Bandwidth	LTE Band 02:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 04:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 05:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 07: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK, 16QAM, 64QAM
LTE Voice / Data requirements	Voice and Data
LTE MPR permanently built-in by design	**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3**

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
256 QAM	≥ 1						≤ 5

LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the

	SAR report.
Power reduction applied to satisfy SAR compliance	Yes, when operating in hotspot mode that power reduction applied to satisfy SAR compliance.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 14.
LTE Carrier Aggregation Additional Information	This device supports maximum of 7 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

Transmission (H, M, L) channel numbers and frequencies in each LTE band

LTE Band 2

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

LTE Band 4

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

LTE Band 5

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844

LTE Band 7

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560

LTE Band 12

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711

LTE Band 13

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		

LTE Band 17

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711

LTE Band 25

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880

H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

LTE Band 26

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5

LTE Band 30

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	27685	2307.5	27710	2310
M	27710	2310		
H	27735	2312.5		

LTE Band 38

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610

LTE Band 41

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
L M	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
H M	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

LTE Band 66

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

LTE Band 71

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5
H	133447	695.5	133422	693	133397	690.5	133372	688

LTE Band 48

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560
L M	55810	3607	55815	3607.5	55820	3608	55830	3609
M H	56170	3643	56165	3642.5	56160	3642	56150	3641
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690

4. Smart Transmit feature for RF Exposure compliance

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., input.power.limit for 5G mmW NR), for each characterized technology and band (refer to RF exposure part0 report)

Smart Transmit allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit. Below table shows Plimit EFS settings and maximum tune up output power Pmax configured for this EUT for various transmit conditions (Device State Index DSI).

<P_{limit} for supported technologies and bands (P_{limit} in EFS file)>

Exposure Scenario:			Head Standalone	Head Sim-Tx	Hotspot	Body-worn	Extremity	Pmax*
Averaging Volume:			1g	1g	1g	1g	10g	
Spacing:			0	0	10	15	0	
DSI			2	3	4	0	1	
Band	Antenna		Plimit corresponding to SAR design target					
LTE B12/17	UAT	0	29.3	29.3	28.4	33.9	33.9	23.8
LTE B13	UAT	0	25.8	20.5	25.7	29.7	29.7	24.8
LTE B71	UAT	0	30.1	30.1	29.9	35.3	35.3	23.8
GSM850	UAT	0	24.5	22.7	22.7	28.3	28.3	26.2
WCDMA V	UAT	0	23.7	21.0	22.8	27.4	27.4	23.8
LTE B5	UAT	0	22.6	22.6	22.5	26.3	26.3	24.8
LTE B26	UAT	0	23.9	21.5	22.8	27.4	27.4	23.8
Sub NR B5	UAT	0	23.7	22.2	23.2	27.6	27.6	23.8
GSM1900	UAT	3	16.7	16.7	19.7	29.4	28.2	23.0
WCDMA II	UAT	3	16.7	16.7	18.0	25.1	20.7	23.5
LTE B25/2	UAT	3	16.7	16.7	17.0	24.9	20.8	23.3
Sub NR B2	UAT	3	17.2	15.0	18.5	25.4	21.2	23.8
WCDMA IV	UAT	3	16.1	16.1	17.5	24.0	21.5	23.3
LTE B66/4	UAT	3	16.1	16.1	17.0	23.6	20.6	23.3
Sub NR B66	UAT	3	16.5	14.5	18.1	24.4	21.4	23.8
LTE B30	UAT	3	17.1	15.0	17.0	25.2	20.7	23.8
LTE B7	UAT	3	15.5	15.5	17.0	25.0	18.8	22.8
LTE B41/38	UAT	3	15.0	15.0	17.5	26.1	26.1	21.8
LTE B48	UAT	3	13.2	13.2	16.0	23.6	23.6	22.0
LTE B48	UAT	6	22.7	22.7	22.7	28.9	28.9	23.7

Exposure Scenario:			Head	Hotspot	Body-worn	Extremity	Pmax*
Averaging Volume:			1g	1g	1g	10g	
Spacing:			0	10	15	0	
DSI			5	7	5	6	
Band	Antenna		Plimit corresponding to SAR design target				
LTE B12/17	LAT	1	30.5	29.7	30.5	30.5	23.8
LTE B13	LAT	1	27.1	27.1	27.1	27.1	24.8
LTE B71	LAT	1	30.8	29.4	30.8	30.8	23.8
GSM850	LAT	1	28.3	26.5	28.3	28.3	26.2
WCDMA V	LAT	1	27.7	26.2	27.7	27.7	23.5
LTE B5	LAT	1	27.0	25.0	27.0	27.0	24.8
LTE B26	LAT	1	28.1	26.1	28.1	28.1	23.8
Sub NR B5	LAT	1	27.5	25.8	27.5	27.5	23.8
GSM1900	LAT	2	28.5	25.3	28.5	28.5	21.0
WCDMA II	LAT	2	25.9	21.7	25.9	25.9	21.5
LTE B2	LAT	2	26.1	23.2	26.1	26.1	24.2
LTE B25	LAT	2	26.1	23.1	26.1	26.1	24.2
Sub NR B2	LAT	2	25.7	23.2	25.7	25.7	22.4
WCDMA IV	LAT	2	26.4	22.9	26.4	26.4	21.5
LTE B66/4	LAT	2	26.2	22.2	26.2	23.8	24.8
Sub NR B66	LAT	2	27.4	22.9	27.4	27.4	23.8
LTE B30	LAT	2	26.5	22.3	26.5	26.5	21.8
LTE B7	LAT	2	24.2	21.2	24.2	24.2	21.8
LTE B41/38	LAT	2	26.2	20.8	26.2	26.2	19.8

*P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + 1dB uncertainty.

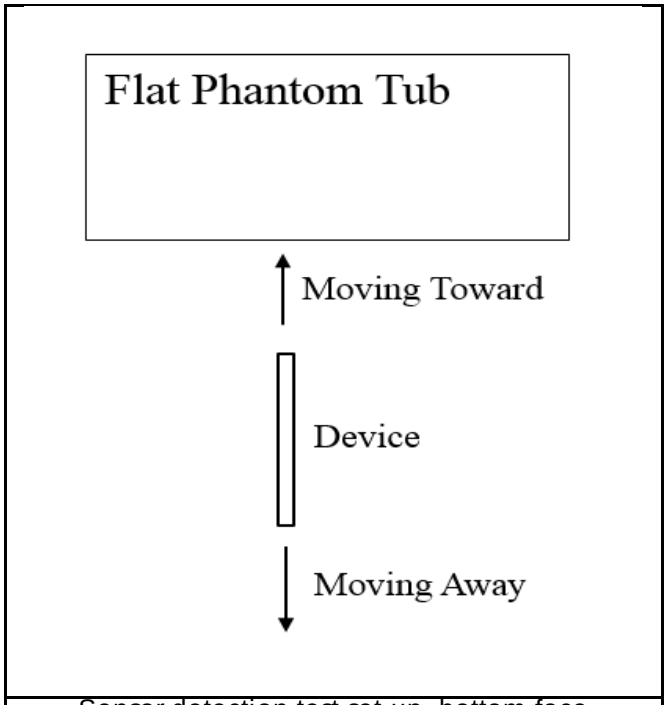
**All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).

The max allowed output power is the P_{limit} + 1dB device uncertainty, and if P_{limit} is higher than P_{max}, the device output power will be P_{max} instead.

5. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (3700MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's hand at the Top and bottom of the device, detail sensor verify result refer to operation description.
3. When the sensor is active, the device will reduce maximum output powers on the WCDMA B2/B4 and LTE B2 / B4 / B7 / B30 / B66 transmitter.
4. Extremity SAR was tested at 0mm separation, at the reduced power level in each associated power table. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1 was performed:
   a. For Extremity:
      Top: 1 mm
      Bottom: 8 mm



Sensor detection test set-up, bottom face

Top Proximity Sensor Trigger Distance (mm)		
Position	Top	
Position	Moving towards	Moving away
Minimum	2	2

Bottom Proximity Sensor Trigger Distance (mm)		
Position	Bottom	
Position	Moving towards	Moving away
Minimum	10	9

6. Maximum Output Power

<Proximity Sensor Triggering Distance>:

1. The device implements the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) by DSI and the smart transmit will manage to ensure the averaged power level not exceeding the associated power table. Details about the power management decision are provided in the operational description.
2. Below table shows maximum tune up output power configured for this EUT for various transmit conditions (Device State Index DSI) by manufacturer, and the detail power measurement and tune-up limit refer to appendix D
3. In the table below which the DSI may have difference output power level. If some DSI output power measurement was not include in the appendix D, because the same output power level has been presented within other DSI and use the same level to doing SAR tested.
4. For WLAN implements the power management for SAR compliance at different exposure conditions, the difference conditions power table are list below, and the detail power measurement and tune-up limit refer to appendix D.
   a. Power Table 1 is set for standalone 2.4GHz body-worn condition and for standalone 5GHz WLAN head and body-worn conditions
   b. Power Table 2 is set for standalone 2.4GHz head condition
   c. Power Table 3 is set for WWAN Sim-Tx with 2.4GHz or 5GHz WLAN at head
   d. Power Table 4 is set for WWAN Sim-Tx with 2.4GHz or 5GHz WLAN at Hotspot and body-worn

Exposure Scenario:			Head Standalone	Head Sim-Tx	Hotspot	Body-worn	Extremity	Maximum Tune-up Output Power
Averaging Volume:			1g	1g	1g	1g	10g	
Spacing:			0	0	10	15	0	
DSI			2	3	4	0	1	
Band	Antenna		Maximum Tune-up Limit (dBm)					
LTE B12/17	UAT	0	23.8	23.8	23.8	23.8	23.8	23.8
LTE B13	UAT	0	24.8	21.5	24.8	24.8	24.8	24.8
LTE B71	UAT	0	23.8	23.8	23.8	23.8	23.8	23.8
GSM850	UAT	0	29.8	28.0	28.0	30.5	30.5	30.5
WCDMA V	UAT	0	23.8	22.0	23.8	23.8	23.8	23.8
LTE B5	UAT	0	23.6	23.6	23.5	24.8	24.8	24.8
LTE B26	UAT	0	23.8	22.5	23.8	23.8	23.8	23.8
Sub NR B5	UAT	0	23.8	23.2	23.8	23.8	23.8	23.8
GSM1900	UAT	3	22.0	22.0	25.0	26.0	26.0	26.0
WCDMA II	UAT	3	17.7	17.7	19.0	23.5	21.7	23.5
LTE B25/2	UAT	3	17.7	17.7	18.0	23.2	21.8	23.3
Sub NR B2	UAT	3	18.2	16.0	19.5	23.8	22.2	23.8
WCDMA IV	UAT	3	17.1	17.1	18.5	23.3	22.5	23.3
LTE B66/4	UAT	3	17.1	17.1	18.0	23.3	21.6	23.3
Sub NR B66	UAT	3	17.5	15.5	19.1	23.8	22.4	23.8
LTE B30	UAT	3	18.1	16.0	18.0	23.8	21.7	23.8
LTE B7	UAT	3	16.5	16.5	18.0	22.8	19.8	22.8
LTE B41/38	UAT	3	18.0	18.0	20.5	23.8	23.8	23.8
LTE B48	UAT	3	16.2	16.2	19.0	24.0	24.0	24.0
LTE B48	UAT	6	25.7	25.7	25.7	25.7	25.7	25.7

Exposure Scenario:			Head	Hotspot	Body-worn	Extremity	Maximum Tune-up Output Power
Averaging Volume:			1g	1g	1g	10g	
Spacing:			0	10	15	0	
DSI			5	7	5	6	
Band	Antenna		Maximum Tune-up Limit (dBm)				
LTE B12/17	LAT	1	23.8	23.8	23.8	23.8	23.8
LTE B13	LAT	1	24.8	24.8	24.8	24.8	24.8
LTE B71	LAT	1	23.8	23.8	23.8	23.8	23.8
GSM850	LAT	1	30.5	30.5	30.5	30.5	30.5
WCDMA V	LAT	1	23.5	23.5	23.5	23.5	23.5
LTE B5	LAT	1	24.8	24.8	24.8	24.8	24.8
LTE B26	LAT	1	23.8	23.8	23.8	23.8	23.8
Sub NR B5	LAT	1	23.8	23.8	23.8	23.8	23.8
GSM1900	LAT	2	24.0	24.0	24.0	24.0	24.0
WCDMA II	LAT	2	21.5	21.5	21.5	21.5	21.5
LTE B2	LAT	2	24.2	24.2	24.2	24.2	24.2
LTE B25	LAT	2	24.2	24.1	24.2	24.2	24.2
Sub NR B2	LAT	2	22.4	22.4	22.4	22.4	22.4
WCDMA IV	LAT	2	21.5	21.5	21.5	21.5	21.5
LTE B66/4	LAT	2	24.8	23.2	24.8	24.8	24.8
Sub NR B66	LAT	2	23.8	23.8	23.8	23.8	23.8
LTE B30	LAT	2	21.8	21.8	21.8	21.8	21.8
LTE B7	LAT	2	21.8	21.8	21.8	21.8	21.8
LTE B41/38	LAT	2	21.8	21.8	21.8	21.8	21.8

7. RF Exposure Limits

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The 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.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

8. Specific Absorption Rate (SAR)

8.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

8.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

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

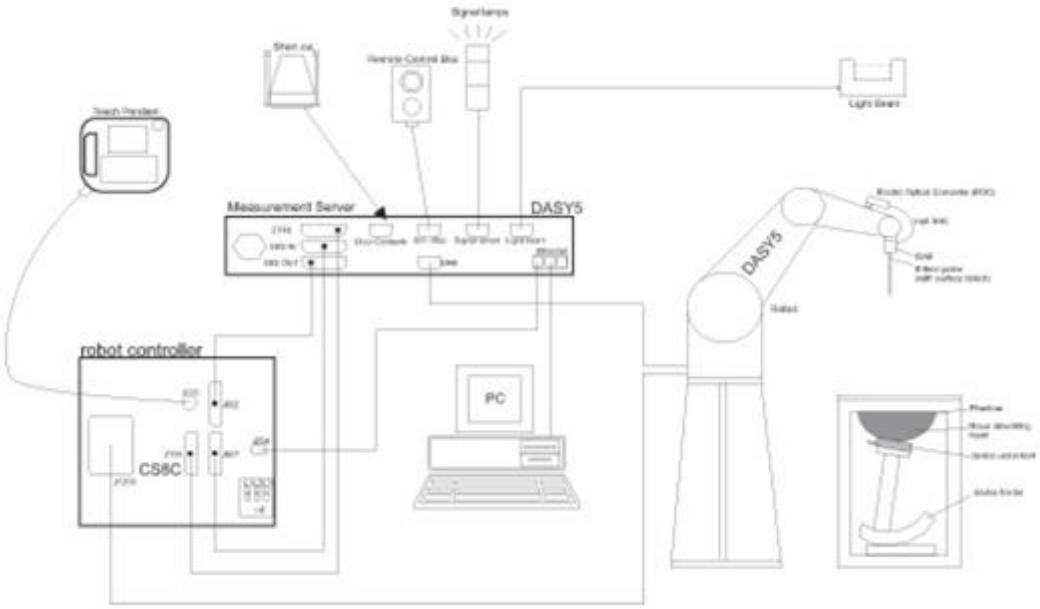
SAR is expressed in units of Watts per kilogram (W/kg)

$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}|\mathbf{E}|^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

9. System Description and Setup

The DASY system used for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

9.1 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG).The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – 4 GHz; Linearity : ±0.2 dB (30 MHz – 4 GHz)	
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 µW/g – >100 mW/g; Linearity : ±0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body : 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – >6 GHz Linearity : ±0.2 dB (30 MHz – 6 GHz)	
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 µW/g – >100 mW/g Linearity : ±0.2 dB (noise: typically <1 µW/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body : 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

9.2 Data Acquisition Electronics (DAE)

The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information as well as an optical uplink for commands and the clock.

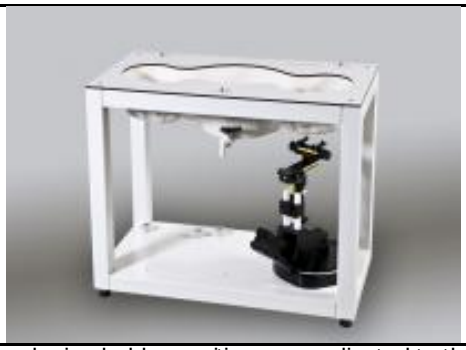
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Fig 5.1 Photo of DAE

9.3 Phantom

<SAM Twin Phantom>

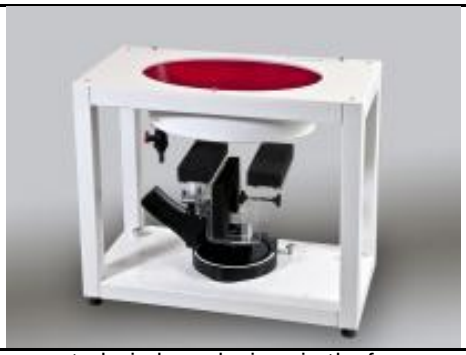
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)
Filling Volume	Approx. 30 liters
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm



The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

9.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.

Mounting Device for Laptops

10. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>
(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
(b) Read the WWAN RF power level from the base station simulator.
(c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>
(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

10.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

10.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

10.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

10.4 Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

10.5 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

10.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

11. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1107	Mar. 08, 2019	Mar. 07, 2020
SPEAG	835MHz System Validation Kit	D835V2	4d167	Nov. 25, 2019	Nov. 24, 2020
SPEAG	1750MHz System Validation Kit	D1750V2	1112	Mar. 07, 2019	Mar. 06, 2020
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Sep. 11, 2018	Sep. 09, 2020
SPEAG	2300MHz System Validation Kit	D2300V2	1006	Jan. 28, 2019	Jan. 26, 2021
SPEAG	2450MHz System Validation Kit	D2450V2	736	Aug. 31, 2018	Aug. 29, 2020
SPEAG	2450MHz System Validation Kit	D2450V2	929	Nov. 21, 2019	Nov. 20, 2020
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 31, 2018	Aug. 29, 2020
SPEAG	2600MHz System Validation Kit	D2600V2	1078	Mar. 06, 2019	Mar. 05, 2020
SPEAG	3500MHz System Validation Kit	D3500V2	1014	Jan. 29, 2019	Jan. 27, 2021
SPEAG	3700MHz System Validation Kit	D3700V2	1006	Mar. 05, 2019	Mar. 04, 2020
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 27, 2018	Sep. 25, 2020
SPEAG	5GHz System Validation Kit	D5GHzV2	1128	Dec. 16, 2019	Dec. 15, 2020
SPEAG	Data Acquisition Electronics	DAE4	1338	Nov. 20, 2019	Nov. 19, 2020
SPEAG	Data Acquisition Electronics	DAE4	1210	Jul. 23, 2019	Jul. 22, 2020
SPEAG	Data Acquisition Electronics	DAE4	853	Jul. 18, 2019	Jul. 17, 2020
SPEAG	Data Acquisition Electronics	DAE4	854	May. 21, 2019	May. 20, 2020
SPEAG	Data Acquisition Electronics	DAE4	1305	Apr. 30, 2019	Apr. 29, 2020
SPEAG	Dosimetric E-Field Probe	ES3DV3	3293	Nov. 25, 2019	Nov. 24, 2020
SPEAG	Dosimetric E-Field Probe	ES3DV3	3184	Sep. 25, 2019	Sep. 24, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	May. 27, 2019	May. 26, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	3642	Apr. 29, 2019	Apr. 28, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	7346	Apr. 25, 2019	Apr. 24, 2020
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2019	Nov. 11, 2020
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 12, 2019	Nov. 11, 2020
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Oct. 31, 2019	Oct. 30, 2020
Agilent	Wireless Communication Test Set	E5515C	MY50267236	Apr. 01, 2019	Mar. 31, 2020
R&S	BT Base Station	CBT32	100522	Mar. 18, 2019	Mar. 17, 2020
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Nov. 20, 2019	Nov. 19, 2020
Agilent	ENA Network Analyzer	E5071C	MY46104758	Sep. 06, 2019	Sep. 05, 2020
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 18, 2019	Sep. 17, 2020
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3169	Sep. 10, 2019	Sep. 09, 2020
Anritsu	Power Meter	ML2495A	1036004	Aug. 08, 2019	Aug. 07, 2020
Anritsu	Power Sensor	MA2411B	1027253	Aug. 08, 2019	Aug. 07, 2020
Anritsu	Power Meter	ML2495A	1419002	May. 29, 2019	May. 28, 2020
Anritsu	Power Sensor	MA2411B	1339124	May. 29, 2019	May. 28, 2020
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 27, 2019	Aug. 26, 2020
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 27, 2019	Jun. 26, 2020
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 16, 2019	Oct. 15, 2020
Mini-Circuits	Power Amplifier	ZVE-8G+	6382	Aug. 12, 2019	Aug. 11, 2020
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole D1900V2, SN: 5d041, D2450V2, SN: 736, D2600V2, SN: 1008, D5GHzV2, SN:1006 can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

12. System Verification

12.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.

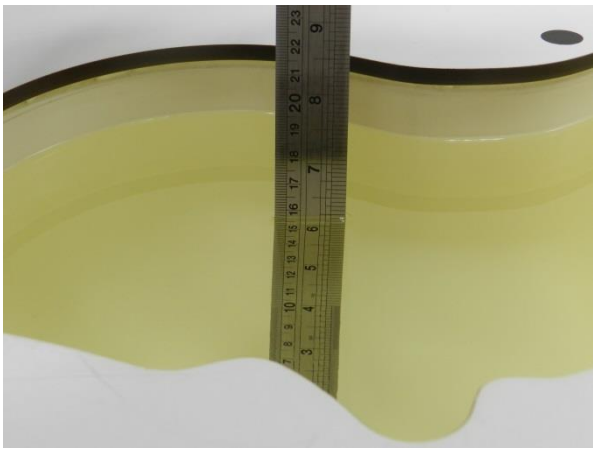


Fig 10.1Photo of Liquid Height for Head SAR

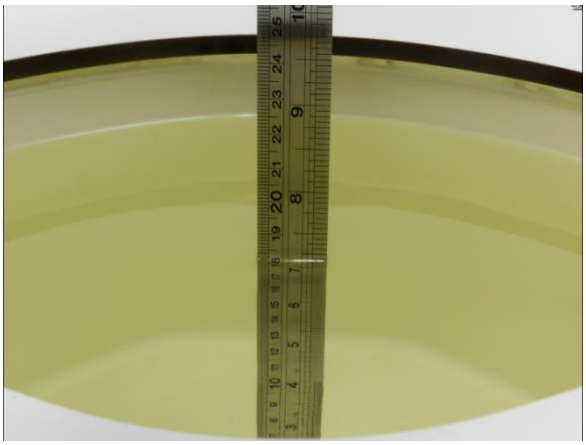


Fig 10.2 Photo of Liquid Height for Body SAR

12.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	22.1	0.913	41.797	0.89	41.90	2.58	-0.25	±5	2020/1/20
750	22.5	0.906	41.507	0.89	41.90	1.80	-0.94	±5	2020/1/21
750	22.6	0.917	41.897	0.89	41.90	3.03	-0.01	±5	2020/1/22
750	22.4	0.907	41.510	0.89	41.90	1.91	-0.93	±5	2020/1/23
750	22.5	0.908	40.927	0.89	41.90	2.02	-2.32	±5	2020/2/12
750	22.2	0.903	43.070	0.89	41.90	1.46	2.79	±5	2020/2/17
835	22.8	0.912	41.418	0.90	41.50	1.33	-0.20	±5	2020/1/19
835	22.6	0.872	41.898	0.90	41.50	-3.11	0.96	±5	2020/1/20
835	22.2	0.918	41.502	0.90	41.50	2.00	0.00	±5	2020/1/21
835	22.4	0.896	40.819	0.90	41.50	-0.44	-1.64	±5	2020/1/23
835	22.2	0.873	42.953	0.90	41.50	-3.00	3.50	±5	2020/2/10
835	22.2	0.870	42.358	0.90	41.50	-3.33	2.07	±5	2020/2/17
835	22.7	0.910	41.745	0.90	41.50	1.11	0.59	±5	2020/2/18
1750	22.3	1.361	41.624	1.37	40.10	-0.66	3.80	±5	2020/1/19
1750	22.7	1.386	39.136	1.37	40.10	1.17	-2.40	±5	2020/1/24
1750	22.5	1.352	39.084	1.37	40.10	-1.31	-2.53	±5	2020/2/3
1750	22.3	1.378	39.676	1.37	40.10	0.58	-1.06	±5	2020/2/15
1750	22.7	1.342	41.788	1.37	40.10	-2.04	4.21	±5	2020/2/18
1750	22.8	1.368	41.289	1.37	40.10	-0.15	2.97	±5	2020/2/20
1750	22.5	1.374	40.963	1.37	40.10	0.29	2.15	±5	2020/2/25
1750	22.5	1.366	39.717	1.37	40.10	-0.29	-0.96	±5	2020/2/26
1750	22.4	1.368	41.289	1.37	40.10	-0.15	2.97	±5	2020/2/27

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
1900	22.3	1.421	40.820	1.40	40.00	1.50	2.05	±5	2020/1/18
1900	22.7	1.430	40.051	1.40	40.00	2.14	0.13	±5	2020/1/24
1900	22.5	1.408	40.353	1.40	40.00	0.57	0.88	±5	2020/2/2
1900	22.4	1.419	40.441	1.40	40.00	1.36	1.10	±5	2020/2/11
1900	22.6	1.419	40.831	1.40	40.00	1.36	2.08	±5	2020/2/16
1900	22.7	1.352	40.019	1.40	40.00	-3.43	0.05	±5	2020/2/18
1900	22.6	1.459	40.235	1.40	40.00	4.21	0.59	±5	2020/2/19
1900	22.9	1.360	40.139	1.40	40.00	-2.86	0.35	±5	2020/2/21
1900	22.4	1.414	39.174	1.40	40.00	1.00	-2.07	±5	2020/2/27
2300	22.5	1.607	39.401	1.67	39.50	-3.77	-0.25	±5	2020/1/25
2300	22.5	1.702	39.673	1.67	39.50	1.92	0.44	±5	2020/1/25
2300	22.2	1.697	40.060	1.67	39.50	1.62	1.42	±5	2020/2/14
2300	22.4	1.599	40.407	1.67	39.50	-4.25	2.30	±5	2020/2/27
2450	22.8	1.796	40.869	1.80	39.20	-0.22	4.26	±5	2020/2/20
2450	22.6	1.816	39.867	1.80	39.20	0.89	1.70	±5	2020/2/22
2450	22.7	1.860	38.535	1.80	39.20	3.33	-1.70	±5	2020/2/22
2600	22.3	1.974	39.394	1.96	39.00	0.71	1.01	±5	2020/1/20
2600	22.6	1.918	37.852	1.96	39.00	-2.14	-2.94	±5	2020/1/22
2600	22.5	1.926	39.104	1.96	39.00	-1.73	0.27	±5	2020/1/24
2600	22.5	2.025	38.406	1.96	39.00	3.32	-1.52	±5	2020/1/25
2600	22.6	1.977	38.677	1.96	39.00	0.87	-0.83	±5	2020/2/3
2600	22.2	2.016	38.814	1.96	39.00	2.86	-0.48	±5	2020/2/14
2600	22.2	1.973	38.714	1.96	39.00	0.66	-0.73	±5	2020/2/17
2600	22.4	1.958	39.335	1.96	39.00	-0.10	0.86	±5	2020/2/27
3500	22.4	3.005	38.793	2.91	37.90	3.26	2.36	±5	2020/1/25
3500	22.3	2.965	38.964	2.91	37.90	1.89	2.81	±5	2020/2/4
3500	22.8	2.959	38.912	2.91	37.90	1.68	2.67	±5	2020/2/14
3700	22.4	3.159	38.523	3.12	37.70	1.25	2.18	±5	2020/1/25
3700	22.3	3.123	38.747	3.12	37.70	0.10	2.78	±5	2020/2/4
3700	22.8	3.116	38.695	3.12	37.70	-0.13	2.64	±5	2020/2/14
5250	22.6	4.594	37.020	4.71	35.95	-2.46	2.98	±5	2020/2/21
5250	22.6	4.646	36.561	4.71	35.95	-1.36	1.70	±5	2020/2/21
5600	22.6	4.950	36.492	5.07	35.50	-2.37	2.79	±5	2020/2/21
5600	22.8	5.004	36.061	5.07	35.50	-1.30	1.58	±5	2020/2/21
5750	22.6	5.107	36.358	5.22	35.35	-2.16	2.85	±5	2020/2/21
5750	22.9	5.160	35.846	5.22	35.35	-1.15	1.40	±5	2020/2/23

12.3 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2020/1/20	750	250	D750V3-1107	ES3DV3 - SN3184	DAE4 Sn1305	2.04	8.32	8.16	-1.92
2020/1/21	750	250	D750V3-1107	ES3DV3 - SN3184	DAE4 Sn1305	2.03	8.32	8.12	-2.40
2020/1/22	750	250	D750V3-1107	ES3DV3 - SN3184	DAE4 Sn1305	2.06	8.32	8.24	-0.96
2020/1/23	750	250	D750V3-1107	ES3DV3 - SN3184	DAE4 Sn1305	2.03	8.32	8.12	-2.40
2020/2/12	750	250	D750V3-1107	EX3DV4 - SN7346	DAE4 Sn853	2.17	8.32	8.68	4.33
2020/2/17	750	250	D750V3-1107	EX3DV4 - SN7346	DAE4 Sn853	2.24	8.32	8.96	7.69
2020/1/19	835	250	D835V2-4d167	ES3DV3 - SN3184	DAE4 Sn1305	2.24	9.55	8.96	-6.18
2020/1/20	835	250	D835V2-4d167	EX3DV4 - SN7346	DAE4 Sn853	2.37	9.55	9.48	-0.73
2020/1/21	835	250	D835V2-4d167	ES3DV3 - SN3184	DAE4 Sn1305	2.38	9.55	9.52	-0.31
2020/1/23	835	250	D835V2-4d167	ES3DV3 - SN3184	DAE4 Sn1305	2.20	9.55	8.8	-7.85
2020/2/10	835	250	D835V2-4d167	EX3DV4 - SN7346	DAE4 Sn853	2.37	9.55	9.48	-0.73
2020/2/17	835	250	D835V2-4d167	EX3DV4 - SN7346	DAE4 Sn853	2.41	9.55	9.64	0.94
2020/2/18	835	250	D835V2-4d167	ES3DV3 - SN3184	DAE4 Sn1305	2.24	9.55	8.96	-6.18
2020/1/19	1750	250	D1750V2-1112	ES3DV3 - SN3184	DAE4 Sn1305	8.76	36.70	35.04	-4.52
2020/1/24	1750	250	D1750V2-1112	ES3DV3 - SN3184	DAE4 Sn1305	8.92	36.70	35.68	-2.78
2020/2/3	1750	250	D1750V2-1112	ES3DV3 - SN3184	DAE4 Sn1305	8.70	36.70	34.8	-5.18
2020/2/15	1750	250	D1750V2-1112	EX3DV4 - SN7346	DAE4 Sn853	9.13	36.70	36.52	-0.49
2020/2/18	1750	250	D1750V2-1112	ES3DV3 - SN3184	DAE4 Sn1305	8.64	36.70	34.56	-5.83
2020/2/20	1750	250	D1750V2-1112	EX3DV4 - SN7346	DAE4 Sn853	9.61	36.70	38.44	4.74
2020/2/26	1750	250	D1750V2-1112	EX3DV4 - SN7346	DAE4 Sn853	8.77	36.70	35.08	-4.41
2020/1/18	1900	250	D1900V2-5d041	ES3DV3 - SN3184	DAE4 Sn1305	9.65	40.20	38.6	-3.98
2020/1/24	1900	250	D1900V2-5d041	ES3DV3 - SN3184	DAE4 Sn1305	10.40	40.20	41.6	3.48
2020/2/2	1900	250	D1900V2-5d041	ES3DV3 - SN3184	DAE4 Sn1305	10.20	40.20	40.8	1.49
2020/2/11	1900	250	D1900V2-5d041	EX3DV4 - SN7346	DAE4 Sn853	9.38	40.20	37.52	-6.67
2020/2/16	1900	250	D1900V2-5d041	EX3DV4 - SN7346	DAE4 Sn853	10.50	40.20	42	4.48
2020/2/18	1900	250	D1900V2-5d041	ES3DV3 - SN3184	DAE4 Sn1305	9.18	40.20	36.72	-8.66
2020/2/19	1900	250	D1900V2-5d041	EX3DV4 - SN7346	DAE4 Sn853	9.65	40.20	38.6	-3.98
2020/2/21	1900	250	D1900V2-5d041	ES3DV3 - SN3184	DAE4 Sn1305	9.24	40.20	36.96	-8.06
2020/1/25	2300	250	D2300V2-1006	EX3DV4 - SN7346	DAE4 Sn853	11.20	48.70	44.8	-8.01
2020/1/25	2300	250	D2300V2-1006	ES3DV3 - SN3184	DAE4 Sn1305	11.50	48.70	46	-5.54
2020/2/14	2300	250	D2300V2-1006	EX3DV4 - SN7346	DAE4 Sn853	11.30	48.70	45.2	-7.19
2020/2/20	2450	250	D2450V2-929	ES3DV3 - SN3293	DAE4 Sn1338	13.20	53.10	52.8	-0.56
2020/2/22	2450	250	D2450V2-736	EX3DV4 - SN7346	DAE4 Sn853	12.60	52.70	50.4	-4.36
2020/2/22	2450	250	D2450V2-929	EX3DV4 - SN3857	DAE4 Sn1210	12.40	53.10	49.6	-6.59
2020/1/20	2600	250	D2600V2-1078	EX3DV4 - SN3642	DAE4 Sn854	14.20	57.60	56.8	-1.39
2020/1/22	2600	250	D2600V2-1008	EX3DV4 - SN7346	DAE4 Sn853	14.10	56.40	56.4	0.00
2020/1/24	2600	250	D2600V2-1008	EX3DV4 - SN7346	DAE4 Sn853	14.20	56.40	56.8	0.71
2020/1/25	2600	250	D2600V2-1008	ES3DV3 - SN3184	DAE4 Sn1305	13.90	56.40	55.6	-1.42
2020/2/3	2600	250	D2600V2-1008	EX3DV4 - SN3642	DAE4 Sn854	15.10	56.40	60.4	7.09
2020/2/14	2600	250	D2600V2-1008	EX3DV4 - SN7346	DAE4 Sn853	14.90	56.40	59.6	5.67
2020/2/17	2600	250	D2600V2-1008	EX3DV4 - SN7346	DAE4 Sn853	13.20	56.40	52.8	-6.38

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2020/1/25	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn854	6.82	67.90	68.2	0.44
2020/2/4	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn854	6.73	67.90	67.3	-0.88
2020/2/14	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn854	6.72	67.90	67.2	-1.03
2020/1/25	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn854	7.09	67.30	70.9	5.35
2020/2/4	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn854	7.01	67.30	70.1	4.16
2020/2/14	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn854	6.67	67.30	66.7	-0.89
2020/2/21	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN7346	DAE4 Sn853	8.10	80.70	81	0.37
2020/2/21	5250	100	D5GHzV2-1128-5250	EX3DV4 - SN3857	DAE4 Sn1210	7.86	80.00	78.6	-1.75
2020/2/21	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN7346	DAE4 Sn853	8.51	83.30	85.1	2.16
2020/2/21	5600	100	D5GHzV2-1128-5600	EX3DV4 - SN3857	DAE4 Sn1210	7.97	82.40	79.7	-3.28
2020/2/21	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN7346	DAE4 Sn853	7.81	80.40	78.1	-2.86
2020/2/23	5750	100	D5GHzV2-1128-5750	EX3DV4 - SN3857	DAE4 Sn1210	7.32	79.10	73.2	-7.46

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2020/2/15	1750	250	D1750V2-1112	EX3DV4 - SN7346	DAE4 Sn853	4.81	19.40	19.24	-0.82
2020/2/25	1750	250	D1750V2-1112	EX3DV4 - SN7346	DAE4 Sn853	4.79	19.40	19.16	-1.24
2020/2/27	1750	250	D1750V2-1112	EX3DV4 - SN7346	DAE4 Sn853	4.51	19.40	18.04	-7.01
2020/2/16	1900	250	D1900V2-5d041	EX3DV4 - SN7346	DAE4 Sn853	5.41	21.20	21.64	2.08
2020/2/27	1900	250	D1900V2-5d041	EX3DV4 - SN7346	DAE4 Sn853	5.21	21.20	20.84	-1.70
2020/2/14	2300	250	D2300V2-1006	EX3DV4 - SN7346	DAE4 Sn853	5.35	23.20	21.4	-7.76
2020/2/27	2300	250	D2300V2-1006	EX3DV4 - SN7346	DAE4 Sn853	5.32	23.20	21.28	-8.28
2020/2/14	2600	250	D2600V2-1008	EX3DV4 - SN7346	DAE4 Sn853	6.62	25.30	26.48	4.66
2020/2/27	2600	250	D2600V2-1008	EX3DV4 - SN7346	DAE4 Sn853	5.98	25.30	23.92	-5.45
2020/2/21	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN7346	DAE4 Sn853	2.30	23.20	23	-0.86
2020/2/21	5250	100	D5GHzV2-1128-5250	EX3DV4 - SN3857	DAE4 Sn1210	2.29	22.90	22.9	0.00
2020/2/21	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN7346	DAE4 Sn853	2.35	23.80	23.5	-1.26
2020/2/21	5600	100	D5GHzV2-1128-5600	EX3DV4 - SN3857	DAE4 Sn1210	2.32	23.60	23.2	-1.69

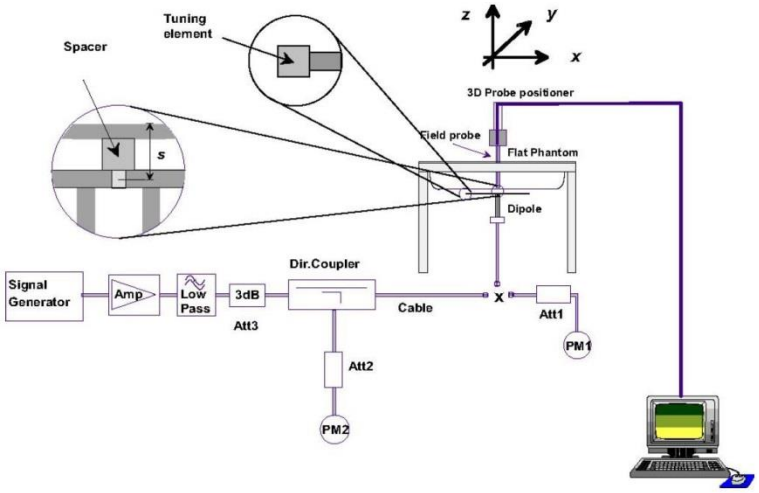


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

Figure 9.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled "M," the left ear reference point (ERP) is marked "LE," and the right ERP is marked "RE." Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

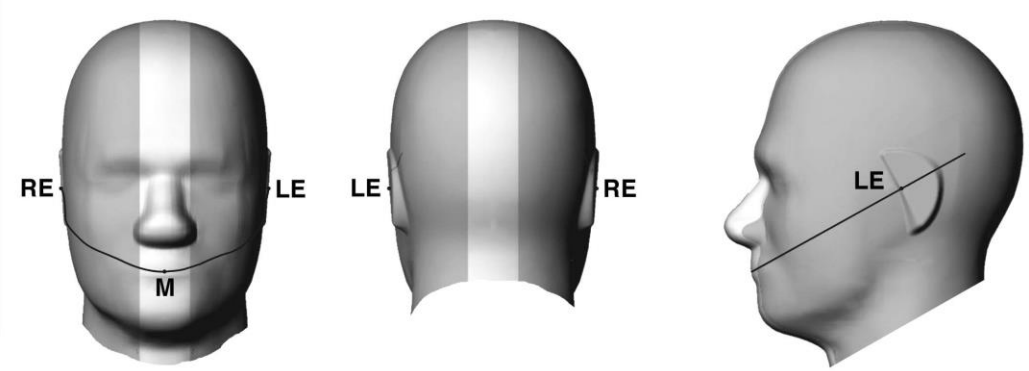


Fig 9.1.1 Front, back, and side views of SAM twin phantom

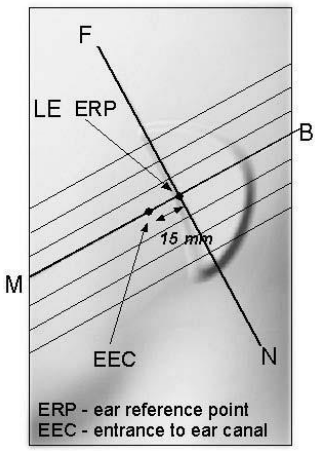


Fig 9.1.2 Close-up side view of phantom showing the ear region.

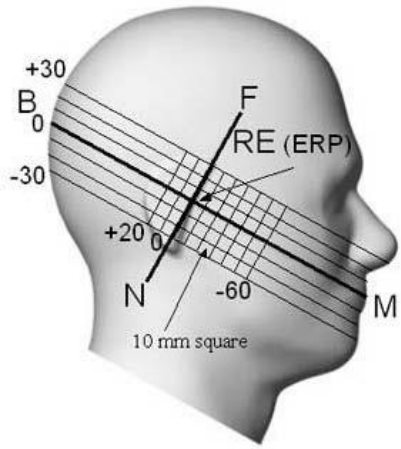


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

13.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width wb of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly -shaped handsets.
3. Position the handset 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 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.

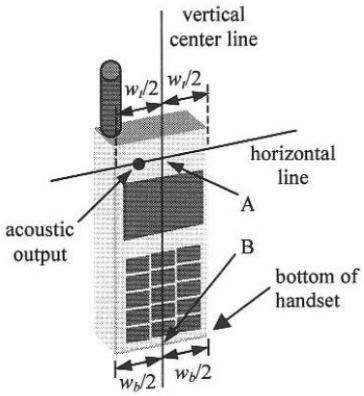


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

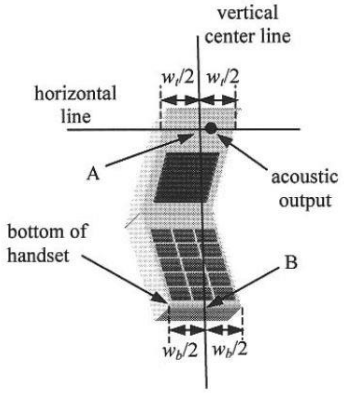


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

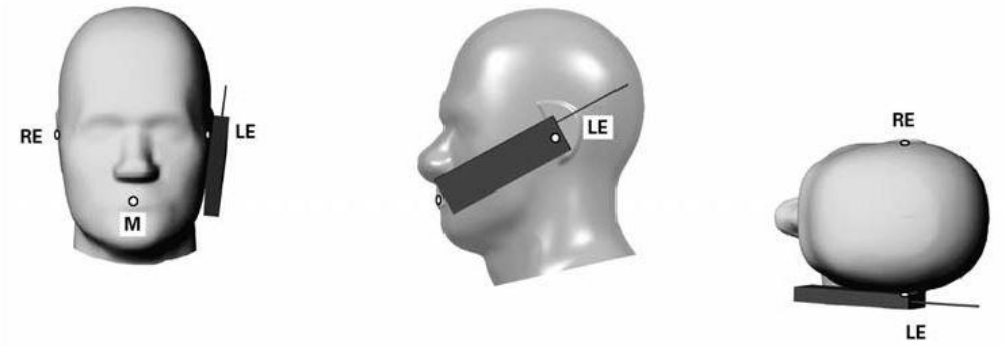


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

13.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

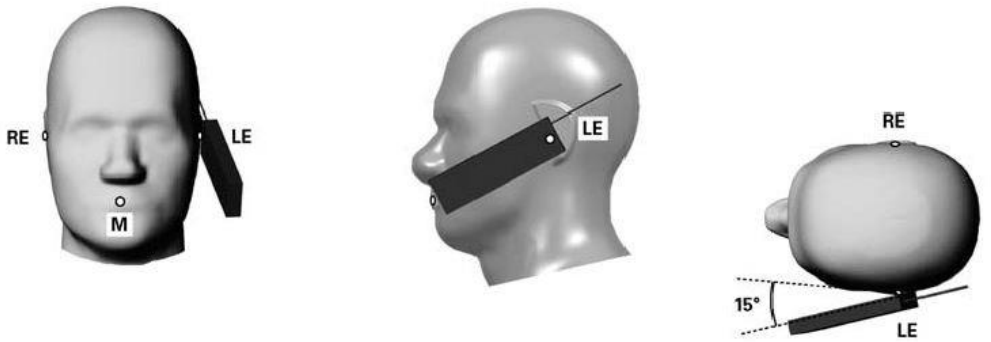


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

13.4 Body Worn Accessory

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 9.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 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 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 handset attached to the handset.

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

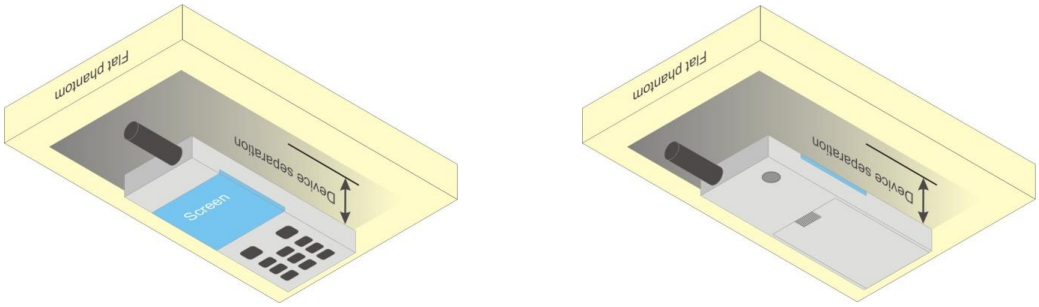


Fig 9.4 Body Worn Position

13.5 Product Specific Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm 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, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

13.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined form 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 publication 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.

14. DL/UL carrier aggregation

<DL Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.
3. LTE Band 29A is limited to Scell.

2CC Downlink Carrier Aggregation					3CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_2A-4A	2A, 4A, 2A-4A		3CC-20	1	CA_2A-46A-46A	2A	B46 SCC Only	4CC-28
2	CA_2A-5A	2A		3CC-9	2	CA_2A-46C	2A	B46 SCC Only	4CC-28
3	CA_2A-13A	2A		3CC-18	3	CA_4A-46A-46A	4A	B46 SCC Only	4CC-30
4	CA_2A-66A	2A, 66A, 2A-66A		3CC-11	4	CA_4A-46C	4A	B46 SCC Only	4CC-31
5	CA_4A-13A	4A		3CC-31	5	CA_5A-46C		B46 SCC Only	4CC-32
6	CA_4A-5A	4A		3CC-25	6	CA_13A-46C		B46 SCC Only	4CC-37
7	CA_5A-66A	66A		3CC-37	7	CA_46A-46A-66A	66A	B46 SCC Only	4CC-34
8	CA_13A-66A	66A		3CC-15	8	CA_46C-66A	66A	B46 SCC Only	4CC-39
9	CA_2A-46A	2A	B46 SCC Only	3CC-1	9	CA_2A-5A-46A	2A	B46 SCC Only	4CC-36
10	CA_4A-46A	4A	B46 SCC Only	3CC-3	10	CA_2A-13A-46A	2A	B46 SCC Only	4CC-37
11	CA_5A-46A		B46 SCC Only	3CC-5	11	CA_2A-46A-66A	2A, 66A, 2A-66A	B46 SCC Only	4CC-38
12	CA_13A-46A		B46 SCC Only	3CC-6	12	CA_5A-46A-66A	66A	B46 SCC Only	4CC-39
13	CA_46A-66A	66A	B46 SCC Only	3CC-7	13	CA_13A-46A-66A	66A	B46 SCC Only	4CC-40
14	CA_13A-48A	48A		3CC-40	14	CA_5B-46A		B46 SCC Only	4CC-42
15	CA_2A-48A	2A		3CC-45	15	CA_13A-66A-66A	66A, 66A-66A		4CC-60
16	CA_48A-66A	48A, 66A, 48A-66A		3CC-41	16	CA_13A-66B	66B		4CC-59
17	CA_4A-48A	4A, 48A, 4A-48A		3CC-51	17	CA_13A-66C	66C		4CC-60
18	CA_5A-48A	48A		3CC-54	18	CA_2A-13A-66A	2A, 66A, 2A-66A		4CC-62
19	CA_2A-2A	2A, 2A-2A		3CC-19	19	CA_2A-2A-13A	2A, 2A-2A		4CC-4
20	CA_5A-5A			4CC-20	20	CA_2A-2A-4A	2A, 4A, 2A-2A, 2A-4A, 2A-2A-4A		4CC-2
21	CA_5B			3CC-38	21	CA_2A-2A-5A	2A, 2A-2A		4CC-3
22	CA_66A-66A	66A, 66A-66A		3CC-35	22	CA_2A-2A-66A	2A, 66A, 2A-2A, 2A-66A, 2A-2A-66A		4CC-59
23	CA_66B	66B		3CC-36	23	CA_2A-4A-13A	2A, 4A, 2A-4A		4CC-24
24	CA_66C	66C		3CC-37	24	CA_2A-4A-4A	2A, 4A, 2A-4A, 4A-4A, 2A-4A-4A		4CC-25
25	CA_48C	48C		3CC-45	25	CA_2A-4A-5A	2A, 4A, 2A-4A		4CC-2
26	CA_4A-4A	4A, 4A-4A		3CC-32	26	CA_2A-5A-66A	2A, 66A, 2A-66A		4CC-3
27	CA_48A-48A	48A, 48A-48A		3CC-58	27	CA_2A-5B	2A		4CC-13
28	CA_7A-12A				28	CA_2A-66A-66A	2A ,66A, 2A-66A, 66A-66A, 2A-66A-66A		4CC-14
29	CA_7A-7A				29	CA_2A-66B	2A ,66B, 2A-66B		4CC-15
30	CA_7C				30	CA_2A-66C	2A, 66C, 2A-66C		4CC-16
31	CA_7A-46A				31	CA_4A-4A-13A	4A, 4A-4A		4CC-25
					32	CA_4A-4A-5A	4A, 4A-4A		4CC-8
					33	CA_4A-5B	4A		4CC-9
					34	CA_5A-5A-66A	66A		4CC-18
					35	CA_5A-66A-66A	66A, 66A-66A		4CC-10
					36	CA_5A-66B	66B		4CC-11
					37	CA_5A-66C	66C		4CC-12
					38	CA_5B-66A	66A		4CC-13
					39	CA_66A-66A-66A	66A, 66A-66A, 66A-66A-66A		4CC-26
					40	CA_13A-48A-48A	48A, 48A-48A		4CC-45
					41	CA_13A-48A-66A	48A, 66A, 48A-66A		4CC-46
					42	CA_13A-48C	48C		4CC-45

					43	CA_2A-48A-48A	2A		4CC-49
					44	CA_2A-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-66A, 2A-48A-66A		4CC-50
					45	CA_2A-48C	2A		4CC-50
					46	CA_48A-48A-66A	48A, 66A, 48A-66A, 48A-48A-66A		4CC-52
					47	CA_48A-66A-66A	66A, 66A-66A		4CC-52
					48	CA_48A-66B	66B		4CC-53
					49	CA_48A-66C	48A, 66C, 48A-66C		4CC-54
					50	CA_48C-66A	48C, 66A, 48C-66A		4CC-55
					51	CA_4A-48C	4A, 48C, 4A-48C		4CC-58
					52	CA_2A-13A-48A	2A, 48A, 2A-48A		4CC-62
					53	CA_2A-5A-48A	2A, 48A, 2A-48A		4CC-67
					54	CA_5A-48A-48A	48A, 48A-48A		4CC-67
					55	CA_5A-48A-66A	48A, 66A, 48A-66A		4CC-68
					56	CA_5A-48C	48C		4CC-70
					57	CA_66A-66C	66A, 66C, 66A-66C		5CC-29
					58	CA_48A-48C	48A, 48C, 48A-48C		4CC-74
					59	CA_48D	48D		4CC-73

4CC Downlink Carrier Aggregation					5CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_2A-2A-4A-4A	2A, 4A, 2A-2A, 2A-4A, 2A-2A-4A, 2A-4A-4A		5CC-6	1	CA_2A-2A-5A-66A-66A	2A, 66A, 2A-2A, 2A-66A, 66A-66A		7CC-10
2	CA_2A-2A-4A-5A	2A, 4A, 2A-2A, 2A-4A, 2A-2A-4A		5CC-6	2	CA_2A-2A-5A-66B	2A, 66B, 2A-2A, 2A-66B, 2A-2A-66B		7CC-10
3	CA_2A-2A-5A-66A	2A, 66A, 2A-2A, 2A-66A, 2A-2A-66A		5CC-1	3	CA_2A-2A-5A-66C	2A, 66C, 2A-2A, 2A-66C, 2A-2A-66C		7CC-10
4	CA_2A-2A-13A-66A	2A, 66A, 2A-2A, 2A-66A, 2A-2A-66A		5CC-9	4	CA_2A-5B-66B	2A, 66B, 2A-66B		7CC-10
5	CA_2A-2A-66A-66A	2A, 66A, 2A-2A, 2A-66A, 2A-2A-66A, 2A-66A-66A		5CC-9	5	CA_2A-5B-66C	2A, 66C, 2A-66C		7CC-10
6	CA_2A-2A-66B	2A, 66B, 2A-2A, 2A-66B, 2A-2A-66B		5CC-2	6	CA_2A-2A-4A-4A-5A	2A, 4A, 2A-2A, 2A-4A, 4A-4A		5CC-10
7	CA_2A-2A-66C	2A, 66C, 2A-2A, 2A-66C, 2A-2A-66C		5CC-3	7	CA_2A-2A-4A-4A-13A	2A, 4A, 2A-2A, 2A-4A, 4A-4A		
8	CA_2A-4A-4A-5A	2A, 4A, 2A-4A, 2A-4A-4A		5CC-6	8	CA_2A-2A-4A-5B	2A, 4A, 2A-2A, 2A-4A, 2A-2A-4A		5CC-10
9	CA_2A-4A-5B	2A, 4A, 2A-4A		5CC-8	9	CA_2A-2A-13A-66A-66A	2A, 66A, 2A-2A, 2A-66A, 66A-66A		7CC-9
10	CA_2A-5A-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A		5CC-1	10	CA_2A-4A-4A-5B	2A, 4A, 2A-4A, 4A-4A, 2A-4A-4A		
11	CA_2A-5A-66B	2A, 66B, 2A-66B		5CC-2	11	CA_2A-5B-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A		7CC-11
12	CA_2A-5A-66C	2A, 66C, 2A-66C		5CC-3	12	CA_2A-46A-46D	2A	B46 SCC Only	7CC-7
13	CA_2A-5B-66A	2A, 66A, 2A-66A		5CC-5	13	CA_2A-46E	2A	B46 SCC Only	7CC-7
14	CA_2A-13A-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A		5CC-9	14	CA_4A-46A-46D	4A	B46 SCC Only	5CC-15
15	CA_2A-13A-66B	2A, 66B, 2A-66B		5CC-31	15	CA_4A-46E	4A	B46 SCC Only	
16	CA_2A-13A-66C	2A, 66C, 2A-66C		5CC-9	16	CA_5A-46E		B46 SCC Only	7CC-11
17	CA_4A-4A-5B	4A, 4A-4A		5CC-10	17	CA_13A-46E		B46 SCC Only	7CC-9
18	CA_5A-5A-66A-66A	66A, 66A-66A		5CC-11	18	CA_46A-46D-66A	66A	B46 SCC Only	7CC-12
19	CA_5A-5A-66B	66B		5CC-4	19	CA_46E-66A	66A	B46 SCC Only	7CC-12
20	CA_5A-5A-66C	66C		5CC-5	20	CA_2A-5A-46D	2A	B46 SCC Only	7CC-10
21	CA_5B-66A-66A	66A, 66A-66A		5CC-11	21	CA_2A-13A-46D	2A	B46 SCC Only	7CC-9
22	CA_5B-66B	66B		5CC-4	22	CA_2A-46D-66A	2A, 66A, 2A-66A	B46 SCC Only	7CC-10
23	CA_5B-66C	66C		5CC-5	23	CA_5A-46D-66A	66A	B46 SCC Only	7CC-10
24	CA_2A-2A-4A-13A	2A, 4A, 2A-2A, 2A-4A, 2A-2A-4A		5CC-7	24	CA_13A-46D-66A	66A	B46 SCC Only	7CC-9
25	CA_2A-4A-4A-13A	2A, 4A, 2A-4A, 2A-4A-4A		5CC-7	25	CA_46D-66A-66A	66A, 66A-66A	B46 SCC Only	7CC-12
26	CA_2A-66A-66A-66A	2A-66A, 2A-66A, 66A-66A, 2A-66A-66A, 66A-66A-66A		7CC-9	26	CA_2A-2A-46D	2A, 2A-2A	B46 SCC Only	7CC-1
27	CA_13A-66A-66A-66A	66A, 66A-66A, 66A-66A-66A		7CC-9	27	CA_2A-46C-46C	2A	B46 SCC Only	7CC-4
28	CA_2A-46A-46C	2A	B46 SCC Only	6CC-7	28	CA_46C-46C-66A	66A	B46 SCC Only	7CC-12
29	CA_2A-46D	2A	B46 SCC Only	6CC-13	29	CA_46C-66A-66A-66A	66A, 66A-66A, 66A-66A-66A	B46 SCC Only	7CC-12
30	CA_4A-46A-46C	4A	B46 SCC Only	5CC-14	30	CA_5B-46D		B46 SCC Only	7CC-12
31	CA_4A-46D	4A	B46 SCC Only	5CC-14	31	CA_2A-2A-13A-66B	2A, 66B, 2A-2A, 2A-66B, 2A-2A-66B		7CC-9
32	CA_5A-46D		B46 SCC Only	5CC-16	32	CA_13A-48A-48C-66A	48A, 48C, 66A, 48A-48C, 48A-66A, 48C-66A, 48A-48C-66A		6CC-16
33	CA_13A-46D		B46 SCC Only	5CC-17	33	CA_13A-48A-48D	48A, 48D, 48A-48D		6CC-16
34	CA_46A-46C-66A	66A	B46 SCC Only	5CC-18	34	CA_13A-48C-48C	48C, 48C-48C		6CC-16
35	CA_46D-66A	66A	B46 SCC Only	5CC-18	35	CA_13A-48D-66A	48D, 66A, 48D-66A		6CC-16

36	CA_2A-5A-46C	2A	B46 SCC Only	5CC-20	36	CA_13A-48E			6CC-16
37	CA_2A-13A-46C	2A	B46 SCC Only	5CC-21	37	CA_2A-48E	2A		6CC-14
38	CA_2A-46C-66A	2A, 66A, 2A-66A	B46 SCC Only	5CC-22	38	CA_48A-48C-66B	48A, 48C, 66B, 48A-48C, 48A-66B, 48C-66B, 48A-48C-66B		7CC-7
39	CA_5A-46C-66A	66A	B46 SCC Only	5CC-23	39	CA_48A-48C-66C	48A, 48C, 66C, 48A-48C, 48A-66C, 48C-66C, 48A-48C-66C		7CC-7
40	CA_13A-46C-66A	66A	B46 SCC Only	5CC-24	40	CA_48A-48D-66A	48A, 48D, 66A, 48A-48D, 48A-66A, 48D-66A, 48A-48D-66A		7CC-7
41	CA_2A-2A-46C	2A, 2A-2A	B46 SCC Only	5CC-26	41	CA_48C-48C-66A	48C, 66A, 48C-48C, 48C-66A, 48C-48C-66A		7CC-7
42	CA_5B-46C		B46 SCC Only	5CC-30	42	CA_48C-66A-66A-66A	48C, 66A, 48C-66A, 66A-66A, 48C-66A-66A, 66A-66A-66A		7CC-7
43	CA_46A-66A-66A-66A	66A, 66A-66A, 66A-66A-66A	B46 SCC Only	5CC-29	43	CA_48E-66A	48E, 66A, 48E-66A		7CC-7
44	CA_13A-48A-48A-66A	48A, 66A, 48A-48A, 48A-66A, 48A-48A-66A		5CC-32	44	CA_4A-48E	4A, 48E, 4A-48E		
45	CA_13A-48A-48C	48A, 48C, 48A-48C		5CC-32	45	CA_2A-13A-48A-48A-66A	2A, 48A, 2A-48A, 48A-48A		
46	CA_13A-48C-66A	48C, 66A, 48C-66A		5CC-32	46	CA_2A-13A-48A-48C	2A, 48A, 48C, 2A-48A, 2A-48C, 48A-48C, 2A-48A-48C		5CC-45
47	CA_13A-48D	48D		5CC-33	47	CA_2A-13A-48C-66A	2A, 48C, 66A, 2A-48C, 2A-66A, 48C-66A, 2A-48C-66A		5CC-45
48	CA_2A-48A-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-48A, 48A-66A, 2A-48A-66A		5CC-32	48	CA_2A-13A-48D	2A, 48D, 2A-48D		5CC-45
49	CA_2A-48A-48C	2A, 48A, 48C, 2A-48A, 2A-48C, 48A-48C, 2A-48A-48C		5CC-46	49	CA_2A-48A-48C-66A	2A, 48A, 48C, 2A-48A, 2A-48C, 2A-66A, 48A-48C, 48C-66A, 2A-48A-66A, 48A-48C-66A		5CC-45
50	CA_2A-48C-66A	2A, 48C, 66A, 2A-48C, 2A-66A, 48C-66A, 2A-48C-66A		5CC-47	50	CA_2A-48A-48D	2A, 48A, 48D, 2A-48A, 2A-48D, 48A-48D, 2A-48A-48D		7CC-2
51	CA_2A-48D	2A		5CC-37	51	CA_2A-48C-48C	2A, 48C, 2A-48C, 48C-48C, 2A-48C-48C		7CC-2
52	CA_48A-48A-66A-66A	48A, 66A, 48A-48A, 48A-66A, 66A-66A, 48A-48A-66A, 48A-66A-66A		5CC-42	52	CA_2A-48D-66A	2A, 48D, 66A, 2A-48D, 2A-66A, 48D-66A, 2A-66A-48D		6CC-14
53	CA_48A-48A-66B	48A, 66B, 48A-48A, 48A-66B, 48A-48A-66B		5CC-38	53	CA_2A-5A-48A-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-48A, 48A-66A		
54	CA_48A-48A-66C	48A, 66C, 48A-48A, 48A-66C, 48A-48A-66C		5CC-39	54	CA_2A-5A-48A-48C	2A, 48A, 48C, 2A-48A, 2A-48C, 48A-48C, 2A-48A-48C		5CC-53
55	CA_48A-48C-66A	48A, 48C, 66A, 48A-48C, 48A-66A, 48C-66A, 48A-48C-66A		5CC-41	55	CA_2A-5A-48C-66A	2A, 48C, 66A, 2A-48C, 2A-66A, 48C-66A, 2A-48C-66A		5CC-53
56	CA_48A-66A-66A-66A	48A, 66A, 48A-66A, 66A-66A, 48A-66A-66A, 66A-66A-66A		5CC-42	56	CA_2A-5A-48D	2A, 48D, 2A-48D		5CC-53
57	CA_48D-66A	48D, 66A, 48D-66A		5CC-43	57	CA_5A-48A-48C-66A	48A, 48C, 66A, 48A-48C, 48A-66A, 48C-66A, 48A-48C-66A		5CC-53
58	CA_4A-48D	4A, 48D, 4A-48D		5CC-44	58	CA_5A-48A-48D			5CC-53
59	CA_13A-48A-66B	48A, 66B, 48A-66B		5CC-62	59	CA_5A-48C-48C	48C, 48C-48C		5CC-53
60	CA_13A-48A-66C	48A, 66C, 48A-66C		5CC-63	60	CA_5A-48D-66A			5CC-53
61	CA_2A-13A-48A-48A	2A, 48A, 2A-48A, 48A-48A, 2A-48A-48A		5CC-45	61	CA_5A-48E	48E		5CC-53
62	CA_2A-13A-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-66A, 2A-48A-66A		5CC-47	62	CA_13A-48C-66B	48C, 66B, 48C-66B		6CC-16
63	CA_2A-13A-48C	2A, 48C, 2A-48C		5CC-46	63	CA_13A-48C-66C	48C, 66C, 48C-66C		6CC-16
64	CA_48C-66A-66A	48C, 66A, 48C-66A, 66A-66A, 48C-66A-66A		5CC-39	64	CA_2A-13A-66A-66B	2A, 66A, 66B, 2A-66A, 2A-66B, 66A-66B, 2A-66A-66B		7CC-9
65	CA_48C-66B	48C, 66B, 48C-66B		5CC-62	65	CA_5A-48A-48D	48A, 48D, 48A-48D		5CC-53
66	CA_48C-66C	48C, 66C, 48C-66C		5CC-63	66	CA_5A-48D-66A	48D, 66A, 48D-66A		5CC-53
67	CA_2A-5A-48A-48A	2A, 48A, 2A-48A, 48A-48A, 2A-48A-48A		5CC-54	67	CA_48C-48D	48C, 48D, 48C-48D		7CC-2
68	CA_2A-5A-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-66A, 2A-48A-66A		5CC-55					
69	CA_2A-5A-48C	2A, 48C, 2A-48C		5CC-55					
70	CA_5A-48C-66A	48C, 66A, 48C-66A		5CC-60					
71	CA_5A-48A-48C	48A, 48C, 48A-48C		5CC-59					
72	CA_5A-48D	48D		5CC-61					
73	CA_48A-48D	48A, 48D, 48A-48D		5CC-67					
74	CA_48C-48C	48C, 48C-48C		5CC-67					
75	CA_48E	48E		5CC-61					

6CC Downlink Carrier Aggregation					7CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_2A-46A-48D-66A	2A, 48D, 66A, 2A-48D, 2A-66A, 48D-66A	B46 SCC Only	7CC-1	1	CA_2A-46C-48D-66A	2A, 48D, 66A, 2A-66A	B46 SCC Only	
2	CA_2A-46C-48C-66A	2A, 48C, 66A, 2A-48C, 2A-66A, 48C-66A, 2A-48C-66A	B46 SCC Only	7CC-1	2	CA_2A-46C-48E	2A	B46 SCC Only	7CC-1
3	CA_2A-46D-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-66A, 2A-48A-66A	B46 SCC Only	7CC-1	3	CA_2A-46D-48C-66A	2A, 48C, 66A, 2A-48C, 2A-66A, 48C-66A, 2A-48C-66A	B46 SCC Only	7CC-1
4	CA_13A-46D-66A-66A	66A, 66A-66A	B46 SCC Only	7CC-9	4	CA_2A-46E-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-66A, 2A-48A-66A	B46 SCC Only	7CC-1
5	CA_13A-46E-66A	66A	B46 SCC Only	7CC-9	5	CA_2A-46E-48C	2A, 48C, 2A-48C	B46 SCC Only	7CC-1
6	CA_2A-13A-46D-66A	2A, 66A, 2A-66A	B46 SCC Only	7CC-9	6	CA_46C-48E-66A	66A	B46 SCC Only	7CC-1
7	CA_2A-13A-46E	2A	B46 SCC Only	7CC-9	7	CA_46E-48C-66A	66A, 48C, 66A-48C	B46 SCC Only	7CC-1
8	CA_2A-46D-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A	B46 SCC Only	7CC-8	8	CA_2A-46E-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A	B46 SCC Only	7CC-1
9	CA_2A-5A-46D-66A	2A, 66A, 2A-66A	B46 SCC Only	7CC-11	9	CA_2A-13A-46D-66A-66A	2A-66A-66A	B46 SCC Only	
10	CA_2A-5A-46E	2A	B46 SCC Only	7CC-11	10	CA_2A-5A-46D-66A-66A	2A-66A-66A	B46 SCC Only	
11	CA_46E-66A-66A	66A, 66A-66A	B46 SCC Only	7CC-12	11	CA_2A-5A-46E-66A	2A-66A	B46 SCC Only	
12	CA_5A-46D-66A-66A	66A, 66A-66A	B46 SCC Only	7CC-12	12	CA_5A-46E-66A-66A	66A-66A	B46 SCC Only	
13	CA_5A-46E-66A	66A	B46 SCC Only	7CC-12					
14	CA_2A-48E-66A	2A, 66A, 2A-66A		7CC-3					
15	CA_2A-46E-66A	2A, 66A, 2A-66A	B46 SCC Only	7CC-4					
16	CA_13A-48E-66A	66A							

<Power verification when DL Carrier Aggregation Active>

General Note:

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

iii. The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.

vi. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 0.1\left|BW_{Channel(1)} - BW_{Channel(2)}\right|}{0.6} \right\rfloor 0.3 \ \ [\text{MHz}]$$

<Two Carrier power verification>

Configure		CA Configuration (BCS)	PCC							SCC				Power	
			LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band		CA_7A-12A	7	20	2560	21350	QPSK	1	99	12	10	737.5	5095	22.30	22.24
		CA_7A-46A	7	20	2560	21350	QPSK	1	99	46	20	5537.5	50665	22.21	22.24
Intra-Band	Non-Contiguous	CA_7A-7A	7	20	2560	21350	QPSK	1	99	7	5	2622.5	2775	22.23	22.24
	Contiguous	CA_7C	7	20	2560	21350	QPSK	1	99	7	20	2660.2	3152	22.22	22.24

<Five Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				SCC3				SCC4				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	CA_2A-2A-4A-4A-13A	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	4	20	2132.5	2175	4	5	2144.2	2292	13	10	751	5230	23.34	23.41
	CA_2A-4A-4A-5B	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	4	5	2144.2	2292	5	10	876.6	2476	5	10	886.5	2575	23.31	23.41
	CA_4A-46E	4	20	1732.5	20175	QPSK	1	49	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	23.73	23.77
	CA_4A-48E	4	20	1732.5	20175	QPSK	1	49	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	48	20	3668.4	56424	23.68	23.77
	CA_2A-13A-48A-48A-66A	2	20	1860	18700	QPSK	1	0	13	10	751	5230	48	20	3625	55990	48	5	3697.5	56715	66	20	2155	66886	23.32	23.41
	CA_2A-5A-48A-48A-66A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	48	20	3625	55990	48	5	3697.5	56715	66	20	2155	66886	23.35	23.41

<Six Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				SCC3				SCC4				SCC5				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	CA_13A-48E-66A	13	10	782	23230	QPSK	1	25	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	48	20	3668.4	56424	66	20	2155	66886	23.86	23.90

<Seven Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				SCC3				SCC4				SCC5				SCC6				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	CA_2A-46C-48D-66A	2	20	1860	18700	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	66	20	2155	66886	23.36	23.41
	CA_2A-13A-46D-66A-66A	2	20	1860	18700	QPSK	1	0	13	10	751	5230	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	66	20	2155	66886	66	5	2197.5	67311	23.38	23.41
	CA_2A-5A-46D-66A-66A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	66	20	2155	66886	66	5	2197.5	67311	23.37	23.41
	CA_2A-5A-46E-66A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	66	20	2155	66886	23.35	23.41
	CA_5A-46E-66A-66A	5	10	829	20450	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	66	20	2155	66886	66	5	2197.5	67311	23.79	23.80

<Intra-band UL Carrier Aggregation combinations>

<DSI 0_UL CA Power>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	22.84	24.8
20575	20476	QPSK	1	0	1	49	2	0	23.03	24.8
20600	20501	QPSK	1	0	1	49	2	0	22.92	24.8

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	21.65	23.3
132322	132229	QPSK	1	0	1	24	2	0	22.57	23.3
132597	132504	QPSK	1	0	1	24	2	0	22.7	23.3

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	22.02	23.3
132322	132124	QPSK	1	0	1	99	2	0	22.63	23.3
132572	132374	QPSK	1	0	1	99	2	0	22.72	23.3

CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	22.51	24
55830	55632	QPSK	1	0	1	99	2	0	23.49	24
56150	55952	QPSK	1	0	1	99	2	0	23.99	24
56640	56442	QPSK	1	0	1	99	2	0	23.84	24

CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	24.81	25.7
55830	55632	QPSK	1	0	1	99	2	0	25.14	25.7
56150	55952	QPSK	1	0	1	99	2	0	25.31	25.7
56640	56442	QPSK	1	0	1	99	2	0	24.99	25.7

<DSI 2_ UL CA Power>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	19.72	22
20575	20476	QPSK	1	0	1	49	2	0	20.41	22
20600	20501	QPSK	1	0	1	49	2	0	20.45	22

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	12.71	15.5
132322	132229	QPSK	1	0	1	24	2	0	13.79	15.5
132597	132504	QPSK	1	0	1	24	2	0	13.66	15.5

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	13.21	15.5
132322	132124	QPSK	1	0	1	99	2	0	14.19	15.5
132572	132374	QPSK	1	0	1	99	2	0	14.14	15.5

CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	5.91	9.5
55830	55632	QPSK	1	0	1	99	2	0	7.48	9.5
56150	55952	QPSK	1	0	1	99	2	0	7.92	9.5
56640	56442	QPSK	1	0	1	99	2	0	7.82	9.5

<DSI 4_UL CA Power>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	19.62	22
20575	20476	QPSK	1	0	1	49	2	0	20.37	22
20600	20501	QPSK	1	0	1	49	2	0	20.38	22

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	13.81	16.5
132322	132229	QPSK	1	0	1	24	2	0	14.82	16.5
132597	132504	QPSK	1	0	1	24	2	0	14.85	16.5

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	14.29	16.5
132322	132124	QPSK	1	0	1	99	2	0	15.18	16.5
132572	132374	QPSK	1	0	1	99	2	0	15.22	16.5

CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	5.92	9.5
55830	55632	QPSK	1	0	1	99	2	0	7.57	9.5
56150	55952	QPSK	1	0	1	99	2	0	7.88	9.5
56640	56442	QPSK	1	0	1	99	2	0	7.81	9.5

<DSI 1_UL CA Power>

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	17.29	20.5
132322	132229	QPSK	1	0	1	24	2	0	18.31	20.5
132597	132504	QPSK	1	0	1	24	2	0	18.24	20.5

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	17.61	20.5
132322	132124	QPSK	1	0	1	99	2	0	18.72	20.5
132572	132374	QPSK	1	0	1	99	2	0	18.74	20.5

<DSI 5_UL CA Power>

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	22.81	24.8
20575	20476	QPSK	1	0	1	49	2	0	22.96	24.8
20600	20501	QPSK	1	0	1	49	2	0	22.93	24.8

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	22.83	24.8
132322	132229	QPSK	1	0	1	24	2	0	23.47	24.8
132597	132504	QPSK	1	0	1	24	2	0	23.66	24.8

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	22.94	24.8
132322	132124	QPSK	1	0	1	99	2	0	23.87	24.8
132572	132374	QPSK	1	0	1	99	2	0	24.04	24.8

<DSI 7_UL CA Power>

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	19.65	22
132322	132229	QPSK	1	0	1	24	2	0	20.46	22
132597	132504	QPSK	1	0	1	24	2	0	20.56	22

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	19.61	22
132322	132124	QPSK	1	0	1	99	2	0	20.68	22
132572	132374	QPSK	1	0	1	99	2	0	20.72	22

<DSI 6_UL CA Power>

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	18.55	21
132322	132229	QPSK	1	0	1	24	2	0	19.45	21
132597	132504	QPSK	1	0	1	24	2	0	19.59	21

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	18.88	22
132322	132124	QPSK	1	0	1	99	2	0	20.12	22
132572	132374	QPSK	1	0	1	99	2	0	20.31	22

<Inter-band UL Carrier Aggregation combinations>

2CC Uplink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
4	2A-12A	2A		
5	2A-13A	2A		
6	4A-12A	4A		
7	4A-13A	4A		
8	12A-66A	66A		
9	13A-66A	66A		

General Note:

1. According to October 2018 TCB workshop, uplink CA SAR test guidance as follows:
   a. Provide the single uplink SAR values you have obtained for the relevant SAR configuration and frequency bands that employ inter-band uplink carrier aggregation.
   b. If the single uplink 1g SAR values for each band are both less than 0.8W/kg and the algebraic summation of the 1g SAR values are less than 1.45W/kg no additional measurements need to be performed.
   c. If one on the single uplink 1g SAR values is greater than 0.8W/kg, instead of algebraically summing the 1g SAR values, sum up the SAR distributions, similar to the enlarged zoom scan (volume scan) procedures found in FCC KDB publication 865664 D01 SAR measurement 100MHz to 6GHz V01r04
   d. If the algebraic sum of the 1g SAR values is > 1.45W/kg additional measurements may have to be made. Submit a KDB inquiry for additional guidance.
2. Test positions and test channels used for the testing below are based on the standalone SAR result. When the UL CA active reduced by 3dB for each frequency bands, therefore power and SAR was estimated based on standalone results to performed sim-Tx analysis with WiFi and Bluetooth.
3. The single uplink 1g SAR values for each band are both less than 0.8W/kg and the algebraic summation of the 1g SAR value are less than 1.45W/kg, additional measurements are not required

<Inter-band uplink CA Sim-Tx analysis>

<UAT antenna>

Head		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	CC1 WWAN 1g SAR (W/kg)	CC2 LTE B5 1g SAR (W/kg)	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	1 WWAN 1g SAR (W/kg)	5 LTE B5 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	3 5GHz WLAN Ant 1+2 1g SAR (W/kg)	4 Bluetooth Ant 1 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
LTE Band 2_UAT	Right Cheek	17.70	23.60	0.983	0.699	14.70	20.60	0.492	0.350	0.165	0.033	0.059	**1.006**	**0.874**	**1.039**	**0.933**
	Right Tilted	17.70	23.60	0.933	0.172	14.70	20.60	0.467	0.086	0.128	0.047	0.038	**0.681**	**0.600**	**0.728**	**0.638**
	Left Cheek	17.70	23.60	0.623	0.668	14.70	20.60	0.312	0.334	0.508	0.098	0.194	**1.154**	**0.744**	**1.252**	**0.938**
	Left Tilted	17.70	23.60	0.911	0.134	14.70	20.60	0.456	0.067	0.344	0.039	0.137	**0.867**	**0.562**	**0.906**	**0.699**
LTE Band 4_UAT	Right Cheek	17.10	23.60	1.098	0.699	14.10	20.60	0.549	0.350	0.165	0.033	0.059	**1.064**	**0.932**	**1.097**	**0.991**
	Right Tilted	17.10	23.60	1.063	0.172	14.10	20.60	0.532	0.086	0.128	0.047	0.038	**0.746**	**0.665**	**0.793**	**0.703**
	Left Cheek	17.10	23.60	0.684	0.668	14.10	20.60	0.342	0.334	0.508	0.098	0.194	**1.184**	**0.774**	**1.282**	**0.968**
	Left Tilted	17.10	23.60	0.915	0.134	14.10	20.60	0.458	0.067	0.344	0.039	0.137	**0.869**	**0.564**	**0.908**	**0.701**

Head		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	CC1 WWAN 1g SAR (W/kg)	CC2 LTE B13 1g SAR (W/kg)	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	1 WWAN 1g SAR (W/kg)	5 LTE B13 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	3 5GHz WLAN Ant 1+2 1g SAR (W/kg)	4 Bluetooth Ant 1 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
LTE Band 2_UAT	Right Cheek	17.70	21.50	0.983	0.530	14.70	18.50	0.492	0.265	0.165	0.033	0.059	**0.922**	**0.790**	**0.955**	**0.849**
	Right Tilted	17.70	21.50	0.933	0.137	14.70	18.50	0.467	0.069	0.128	0.047	0.038	**0.663**	**0.582**	**0.710**	**0.620**
	Left Cheek	17.70	21.50	0.623	0.571	14.70	18.50	0.312	0.286	0.508	0.098	0.194	**1.105**	**0.695**	**1.203**	**0.889**
	Left Tilted	17.70	21.50	0.911	0.124	14.70	18.50	0.456	0.062	0.344	0.039	0.137	**0.862**	**0.557**	**0.901**	**0.694**
LTE Band 4_UAT	Right Cheek	17.10	21.50	1.098	0.530	14.10	18.50	0.549	0.265	0.165	0.033	0.059	**0.979**	**0.847**	**1.012**	**0.906**
	Right Tilted	17.10	21.50	1.063	0.137	14.10	18.50	0.532	0.069	0.128	0.047	0.038	**0.728**	**0.647**	**0.775**	**0.685**
	Left Cheek	17.10	21.50	0.684	0.571	14.10	18.50	0.342	0.286	0.508	0.098	0.194	**1.136**	**0.726**	**1.234**	**0.920**
	Left Tilted	17.10	21.50	0.915	0.124	14.10	18.50	0.458	0.062	0.344	0.039	0.137	**0.864**	**0.559**	**0.903**	**0.696**

Head		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	CC1 WWAN 1g SAR (W/kg)	CC2 LTE B66 1g SAR (W/kg)	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	1 WWAN 1g SAR (W/kg)	5 LTE B66 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	3 5GHz WLAN Ant 1+2 1g SAR (W/kg)	4 Bluetooth Ant 1 1g SAR (W/kg)	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
LTE Band 5_UAT	Right Cheek	23.60	17.10	0.699	1.098	20.60	14.10	0.350	0.549	0.165	0.033	0.059	**1.064**	**0.932**	**1.097**	**0.991**
	Right Tilted	23.60	17.10	0.172	1.063	20.60	14.10	0.086	0.532	0.128	0.047	0.038	**0.746**	**0.665**	**0.793**	**0.703**
	Left Cheek	23.60	17.10	0.668	0.684	20.60	14.10	0.334	0.342	0.508	0.098	0.194	**1.184**	**0.774**	**1.282**	**0.968**
	Left Tilted	23.60	17.10	0.134	0.915	20.60	14.10	0.067	0.458	0.344	0.039	0.137	**0.869**	**0.564**	**0.908**	**0.701**

LTE Band 13_UAT	Right Cheek	21.50	17.10	0.530	1.098	18.50	14.10	0.265	0.549	0.165	0.033	0.059	**0.979**	**0.847**	**1.012**	**0.906**
	Right Tilted	21.50	17.10	0.137	1.063	18.50	14.10	0.069	0.532	0.128	0.047	0.038	**0.728**	**0.647**	**0.775**	**0.685**
	Left Cheek	21.50	17.10	0.571	0.684	18.50	14.10	0.286	0.342	0.508	0.098	0.194	**1.136**	**0.726**	**1.234**	**0.920**
	Left Tilted	21.50	17.10	0.124	0.915	18.50	14.10	0.062	0.458	0.344	0.039	0.137	**0.864**	**0.559**	**0.903**	**0.696**

Hotspot		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	**1+2+5 Summed 1g SAR (W/kg)**	**1+3+5 Summed 1g SAR (W/kg)**	**1+2+3+5 Summed 1g SAR (W/kg)**	**1+3+4+5 Summed 1g SAR (W/kg)**
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B5 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B5 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 2_UAT	Front	18.00	23.50	0.198	0.363	15.00	20.50	0.099	0.182	0.116	0.001	0.033	**0.397**	**0.282**	**0.398**	**0.315**
	Back	18.00	23.50	0.222	0.513	15.00	20.50	0.111	0.257	0.134	0.427	0.044	**0.502**	**0.795**	**0.929**	**0.839**
	Left side	18.00	23.50	0.102	0.563	15.00	20.50	0.051	0.282				**0.333**	**0.333**	**0.333**	**0.333**
	Right side	18.00	23.50	0.059	0.015	15.00	20.50	0.030	0.008	0.100	0.074	0.035	**0.137**	**0.111**	**0.211**	**0.146**
	Top side	18.00	23.50	0.458	0.026			0.229	0.013	0.065	0.100	0.013	**0.307**	**0.342**	**0.407**	**0.355**
	Bottom side					-3.00	-3.00						**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 4_UAT	Front	18.00	23.50	0.309	0.363	15.00	20.50	0.155	0.182	0.116	0.001	0.033	**0.452**	**0.337**	**0.453**	**0.370**
	Back	18.00	23.50	0.322	0.513	15.00	20.50	0.161	0.257	0.134	0.427	0.044	**0.552**	**0.845**	**0.979**	**0.889**
	Left side	18.00	23.50	0.147	0.563	15.00	20.50	0.074	0.282				**0.355**	**0.355**	**0.355**	**0.355**
	Right side	18.00	23.50	0.067	0.015	15.00	20.50	0.034	0.008	0.100	0.074	0.035	**0.141**	**0.115**	**0.215**	**0.150**
	Top side	18.00	23.50	0.548	0.026			0.274	0.013	0.065	0.100	0.013	**0.352**	**0.387**	**0.452**	**0.400**
	Bottom side					-3.00	-3.00						**0.000**	**0.000**	**0.000**	**0.000**

Hotspot		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	**1+2+5 Summed 1g SAR (W/kg)**	**1+3+5 Summed 1g SAR (W/kg)**	**1+2+3+5 Summed 1g SAR (W/kg)**	**1+3+4+5 Summed 1g SAR (W/kg)**
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B13 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B13 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 2_UAT	Front	18.00	24.80	0.198	0.412	15.00	21.80	0.099	0.206	0.116	0.001	0.033	**0.421**	**0.306**	**0.422**	**0.339**
	Back	18.00	24.80	0.222	0.586	15.00	21.80	0.111	0.293	0.134	0.427	0.044	**0.538**	**0.831**	**0.965**	**0.875**
	Left side	18.00	24.80	0.102	0.588	15.00	21.80	0.051	0.294				**0.345**	**0.345**	**0.345**	**0.345**
	Right side	18.00	24.80	0.059	0.022	15.00	21.80	0.030	0.011	0.100	0.074	0.035	**0.141**	**0.115**	**0.215**	**0.150**
	Top side	18.00	24.80	0.458	0.022			0.229	0.011	0.065	0.100	0.013	**0.305**	**0.340**	**0.405**	**0.353**
	Bottom side					-3.00	-3.00						**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 4_UAT	Front	18.00	24.80	0.309	0.412	15.00	21.80	0.155	0.206	0.116	0.001	0.033	**0.477**	**0.362**	**0.478**	**0.395**
	Back	18.00	24.80	0.322	0.586	15.00	21.80	0.161	0.293	0.134	0.427	0.044	**0.588**	**0.881**	**1.015**	**0.925**
	Left side	18.00	24.80	0.147	0.588	15.00	21.80	0.074	0.294				**0.368**	**0.368**	**0.368**	**0.368**
	Right side	18.00	24.80	0.067	0.022	15.00	21.80	0.034	0.011	0.100	0.074	0.035	**0.145**	**0.119**	**0.219**	**0.154**
	Top side	18.00	24.80	0.548	0.022			0.274	0.011	0.065	0.100	0.013	**0.350**	**0.385**	**0.450**	**0.398**
	Bottom side					-3.00	-3.00						**0.000**	**0.000**	**0.000**	**0.000**

Hotspot		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	**1+2+5 Summed 1g SAR (W/kg)**	**1+3+5 Summed 1g SAR (W/kg)**	**1+2+3+5 Summed 1g SAR (W/kg)**	**1+3+4+5 Summed 1g SAR (W/kg)**
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B66 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B66 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 5_UAT	Front	23.50	18.00	0.363	0.309	20.50	15.00	0.182	0.155	0.116	0.001	0.033	**0.452**	**0.337**	**0.453**	**0.370**
	Back	23.50	18.00	0.513	0.322	20.50	15.00	0.257	0.161	0.134	0.427	0.044	**0.552**	**0.845**	**0.979**	**0.889**
	Left side	23.50	18.00	0.563	0.147	20.50	15.00	0.282	0.074				**0.355**	**0.355**	**0.355**	**0.355**
	Right side	23.50	18.00	0.015	0.067	20.50	15.00	0.008	0.034	0.100	0.074	0.035	**0.141**	**0.115**	**0.215**	**0.150**
	Top side	23.50	18.00	0.026	0.548			0.013	0.274	0.065	0.100	0.013	**0.352**	**0.387**	**0.452**	**0.400**
	Bottom side					-3.00	-3.00						**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 13_UAT	Front	24.80	18.00	0.412	0.309	21.80	15.00	0.206	0.155	0.116	0.001	0.033	**0.477**	**0.362**	**0.478**	**0.395**
	Back	24.80	18.00	0.586	0.322	21.80	15.00	0.293	0.161	0.134	0.427	0.044	**0.588**	**0.881**	**1.015**	**0.925**
	Left side	24.80	18.00	0.588	0.147	21.80	15.00	0.294	0.074				**0.368**	**0.368**	**0.368**	**0.368**
	Right side	24.80	18.00	0.022	0.067	21.80	15.00	0.011	0.034	0.100	0.074	0.035	**0.145**	**0.119**	**0.219**	**0.154**
	Top side	24.80	18.00	0.022	0.548			0.011	0.274	0.065	0.100	0.013	**0.350**	**0.385**	**0.450**	**0.398**
	Bottom side					-3.00	-3.00						**0.000**	**0.000**	**0.000**	**0.000**

Body worn		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B5 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B5 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 2_UAT	Front	23.30	24.80	0.381	0.255	20.30	21.80	0.191	0.128	0.056	0.001	0.016	**0.374**	**0.319**	**0.375**	**0.335**
	Back	23.30	24.80	0.443	0.384	20.30	21.80	0.222	0.192	0.067	0.287	0.022	**0.481**	**0.701**	**0.768**	**0.723**
LTE Band 4_UAT	Front	23.30	24.80	0.534	0.255	20.30	21.80	0.267	0.128	0.056	0.001	0.016	**0.451**	**0.396**	**0.452**	**0.412**
	Back	23.30	24.80	0.531	0.384	20.30	21.80	0.266	0.192	0.067	0.287	0.022	**0.525**	**0.745**	**0.812**	**0.767**

Body worn		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B13 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B13 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 2_UAT	Front	23.30	24.80	0.381	0.168	20.30	21.80	0.191	0.084	0.056	0.001	0.016	**0.331**	**0.276**	**0.332**	**0.292**
	Back	23.30	24.80	0.443	0.316	20.30	21.80	0.222	0.158	0.067	0.287	0.022	**0.447**	**0.667**	**0.734**	**0.689**
LTE Band 4_UAT	Front	23.30	24.80	0.534	0.168	20.30	21.80	0.267	0.084	0.056	0.001	0.016	**0.407**	**0.352**	**0.408**	**0.368**
	Back	23.30	24.80	0.531	0.316	20.30	21.80	0.266	0.158	0.067	0.287	0.022	**0.491**	**0.711**	**0.778**	**0.733**

Body worn		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B66 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B66 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 5_UAT	Front	24.80	23.30	0.255	0.534	21.80	20.30	0.128	0.267	0.056	0.001	0.016	**0.451**	**0.396**	**0.452**	**0.412**
	Back	24.80	23.30	0.384	0.531	21.80	20.30	0.192	0.266	0.067	0.287	0.022	**0.525**	**0.745**	**0.812**	**0.767**
LTE Band 13_UAT	Front	24.80	23.30	0.168	0.534	21.80	20.30	0.084	0.267	0.056	0.001	0.016	**0.407**	**0.352**	**0.408**	**0.368**
	Back	24.80	23.30	0.316	0.531	21.80	20.30	0.158	0.266	0.067	0.287	0.022	**0.491**	**0.711**	**0.778**	**0.733**

<LAT antenna>

Head		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B5 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B5 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 2_LAT	Right Cheek	24.20	24.80	0.156	0.177	21.20	21.80	0.078	0.089	0.165	0.033	0.059	**0.332**	**0.200**	**0.365**	**0.259**
	Right Tilted	24.20	24.80	0.073	0.154	21.20	21.80	0.037	0.077	0.128	0.047	0.038	**0.242**	**0.161**	**0.289**	**0.199**
	Left Cheek	24.20	24.80	0.155	0.327	21.20	21.80	0.078	0.164	0.508	0.098	0.194	**0.749**	**0.339**	**0.847**	**0.533**
	Left Tilted	24.20	24.80	0.102	0.144	21.20	21.80	0.051	0.072	0.344	0.039	0.137	**0.467**	**0.162**	**0.506**	**0.299**
LTE Band 4_LAT	Right Cheek	24.80	24.80	0.369	0.177	21.80	21.80	0.185	0.089	0.165	0.033	0.059	**0.438**	**0.306**	**0.471**	**0.365**
	Right Tilted	24.80	24.80	0.137	0.154	21.80	21.80	0.069	0.077	0.128	0.047	0.038	**0.274**	**0.193**	**0.321**	**0.231**
	Left Cheek	24.80	24.80	0.270	0.327	21.80	21.80	0.135	0.164	0.508	0.098	0.194	**0.807**	**0.397**	**0.905**	**0.591**
	Left Tilted	24.80	24.80	0.126	0.144	21.80	21.80	0.063	0.072	0.344	0.039	0.137	**0.479**	**0.174**	**0.518**	**0.311**

Head		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B13 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B13 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 2_LAT	Right Cheek	24.20	24.80	0.156	0.190	21.20	21.80	0.078	0.095	0.165	0.033	0.059	**0.338**	**0.206**	**0.371**	**0.265**
	Right Tilted	24.20	24.80	0.073	0.100	21.20	21.80	0.037	0.050	0.128	0.047	0.038	**0.215**	**0.134**	**0.262**	**0.172**
	Left Cheek	24.20	24.80	0.155	0.207	21.20	21.80	0.078	0.104	0.508	0.098	0.194	**0.689**	**0.279**	**0.787**	**0.473**
	Left Tilted	24.20	24.80	0.102	0.093	21.20	21.80	0.051	0.047	0.344	0.039	0.137	**0.442**	**0.137**	**0.481**	**0.274**
LTE Band 4_LAT	Right Cheek	24.80	24.80	0.369	0.190	21.80	21.80	0.185	0.095	0.165	0.033	0.059	**0.445**	**0.313**	**0.478**	**0.372**
	Right Tilted	24.80	24.80	0.137	0.100	21.80	21.80	0.069	0.050	0.128	0.047	0.038	**0.247**	**0.166**	**0.294**	**0.204**
	Left Cheek	24.80	24.80	0.270	0.207	21.80	21.80	0.135	0.104	0.508	0.098	0.194	**0.747**	**0.337**	**0.845**	**0.531**

	Left Tilted	24.80	24.80	0.126	0.093	21.80	21.80	0.063	0.047	0.344	0.039	0.137	**0.454**	**0.149**	**0.493**	**0.286**

Head		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B66 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B66 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 5_LAT	Right Cheek	24.80	24.80	0.177	0.369	21.80	21.80	0.089	0.185	0.165	0.033	0.059	**0.438**	**0.306**	**0.471**	**0.365**
	Right Tilted	24.80	24.80	0.154	0.137	21.80	21.80	0.077	0.069	0.128	0.047	0.038	**0.274**	**0.193**	**0.321**	**0.231**
	Left Cheek	24.80	24.80	0.327	0.270	21.80	21.80	0.164	0.135	0.508	0.098	0.194	**0.807**	**0.397**	**0.905**	**0.591**
	Left Tilted	24.80	24.80	0.144	0.126	21.80	21.80	0.072	0.063	0.344	0.039	0.137	**0.479**	**0.174**	**0.518**	**0.311**
LTE Band 13_LAT	Right Cheek	24.80	24.80	0.190	0.369	21.80	21.80	0.095	0.185	0.165	0.033	0.059	**0.445**	**0.313**	**0.478**	**0.372**
	Right Tilted	24.80	24.80	0.100	0.137	21.80	21.80	0.050	0.069	0.128	0.047	0.038	**0.247**	**0.166**	**0.294**	**0.204**
	Left Cheek	24.80	24.80	0.207	0.270	21.80	21.80	0.104	0.135	0.508	0.098	0.194	**0.747**	**0.337**	**0.845**	**0.531**
	Left Tilted	24.80	24.80	0.093	0.126	21.80	21.80	0.047	0.063	0.344	0.039	0.137	**0.454**	**0.149**	**0.493**	**0.286**

Hotspot		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B5 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B5 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 2_LAT	Front	24.20	24.80	0.589	0.507	21.20	21.80	0.295	0.254	0.116	0.001	0.033	**0.664**	**0.549**	**0.665**	**0.582**
	Back	24.20	24.80	0.724	0.704	21.20	21.80	0.362	0.352	0.134	0.427	0.044	**0.848**	**1.141**	**1.275**	**1.185**
	Left side	24.20	24.80	0.215	0.221	21.20	21.80	0.108	0.111				**0.218**	**0.218**	**0.218**	**0.218**
	Right side	24.20	24.80	0.102	0.485	21.20	21.80	0.051	0.243	0.100	0.074	0.035	**0.394**	**0.368**	**0.468**	**0.403**
	Top side									0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	24.20	24.80	0.844	0.395	21.20	21.80	0.422	0.198				**0.620**	**0.620**	**0.620**	**0.620**
LTE Band 4_LAT	Front	23.20	24.80	0.663	0.507	20.20	21.80	0.332	0.254	0.116	0.001	0.033	**0.701**	**0.586**	**0.702**	**0.619**
	Back	23.20	24.80	0.796	0.704	20.20	21.80	0.398	0.352	0.134	0.427	0.044	**0.884**	**1.177**	**1.311**	**1.221**
	Left side	23.20	24.80	0.339	0.221	20.20	21.80	0.170	0.111				**0.280**	**0.280**	**0.280**	**0.280**
	Right side	23.20	24.80	0.233	0.485	20.20	21.80	0.117	0.243	0.100	0.074	0.035	**0.459**	**0.433**	**0.533**	**0.468**
	Top side									0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	23.20	24.80	1.098	0.395	20.20	21.80	0.549	0.198				**0.747**	**0.747**	**0.747**	**0.747**

Hotspot		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B13 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B13 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 2_LAT	Front	24.20	24.80	0.589	0.491	21.20	21.80	0.295	0.246	0.116	0.001	0.033	**0.656**	**0.541**	**0.657**	**0.574**
	Back	24.20	24.80	0.724	0.593	21.20	21.80	0.362	0.297	0.134	0.427	0.044	**0.793**	**1.086**	**1.220**	**1.130**
	Left side	24.20	24.80	0.215	0.306	21.20	21.80	0.108	0.153				**0.261**	**0.261**	**0.261**	**0.261**
	Right side	24.20	24.80	0.102	0.308	21.20	21.80	0.051	0.154	0.100	0.074	0.035	**0.305**	**0.279**	**0.379**	**0.314**
	Top side									0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	24.20	24.80	0.844	0.319	21.20	21.80	0.422	0.160				**0.582**	**0.582**	**0.582**	**0.582**
LTE Band 4_LAT	Front	23.20	24.80	0.663	0.491	20.20	21.80	0.332	0.246	0.116	0.001	0.033	**0.693**	**0.578**	**0.694**	**0.611**
	Back	23.20	24.80	0.796	0.593	20.20	21.80	0.398	0.297	0.134	0.427	0.044	**0.829**	**1.122**	**1.256**	**1.166**
	Left side	23.20	24.80	0.339	0.306	20.20	21.80	0.170	0.153				**0.323**	**0.323**	**0.323**	**0.323**
	Right side	23.20	24.80	0.233	0.308	20.20	21.80	0.117	0.154	0.100	0.074	0.035	**0.371**	**0.345**	**0.445**	**0.380**
	Top side									0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	23.20	24.80	1.098	0.319	20.20	21.80	0.549	0.160				**0.709**	**0.709**	**0.709**	**0.709**

Hotspot		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1	CC2	CC1	CC2	CC1	CC2	1	5	2	3	4	1+2+5 Summed 1g SAR (W/kg)	1+3+5 Summed 1g SAR (W/kg)	1+2+3+5 Summed 1g SAR (W/kg)	1+3+4+5 Summed 1g SAR (W/kg)
		Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B66 1g SAR (W/kg)	Tune-up Limit (dBm)	Tune-up Limit (dBm)	WWAN 1g SAR (W/kg)	LTE B66 1g SAR (W/kg)	2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	5GHz WLAN Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 1 1g SAR (W/kg)				
LTE Band 5_LAT	Front	24.80	23.20	0.507	0.663	21.80	20.20	0.254	0.332	0.116	0.001	0.033	**0.701**	**0.586**	**0.702**	**0.619**
	Back	24.80	23.20	0.704	0.796	21.80	20.20	0.352	0.398	0.134	0.427	0.044	**0.884**	**1.177**	**1.311**	**1.221**

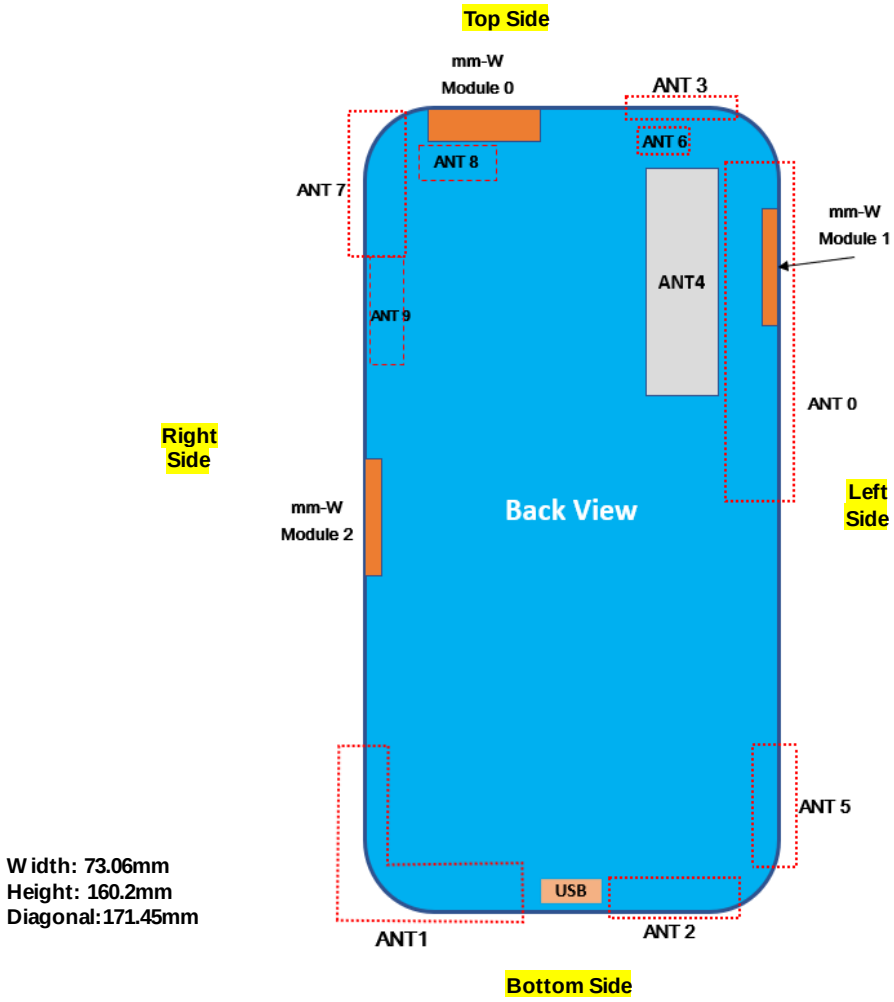
	Left side	24.80	23.20	0.221	0.339	21.80	20.20	0.111	0.170				**0.280**	**0.280**	**0.280**	**0.280**
	Right side	24.80	23.20	0.485	0.233	21.80	20.20	0.243	0.117	0.100	0.074	0.035	**0.459**	**0.433**	**0.533**	**0.468**
	Top side									0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	24.80	23.20	0.395	1.098	21.80	20.20	0.198	0.549				**0.747**	**0.747**	**0.747**	**0.747**
LTE Band 13_LAT	Front	24.80	23.20	0.491	0.663	21.80	20.20	0.246	0.332	0.116	0.001	0.033	**0.693**	**0.578**	**0.694**	**0.611**
	Back	24.80	23.20	0.593	0.796	21.80	20.20	0.297	0.398	0.134	0.427	0.044	**0.829**	**1.122**	**1.256**	**1.166**
	Left side	24.80	23.20	0.306	0.339	21.80	20.20	0.153	0.170				**0.323**	**0.323**	**0.323**	**0.323**
	Right side	24.80	23.20	0.308	0.233	21.80	20.20	0.154	0.117	0.100	0.074	0.035	**0.371**	**0.345**	**0.445**	**0.380**
	Top side									0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	24.80	23.20	0.319	1.098	21.80	20.20	0.160	0.549				**0.709**	**0.709**	**0.709**	**0.709**

Body worn		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	CC1 WWAN 1g SAR (W/kg)	CC2 LTE B5 1g SAR (W/kg)	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	1 WWAN 1g SAR (W/kg)	5 LTE B5 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	3 5GHz WLAN Ant 1+2 1g SAR (W/kg)	4 Bluetooth Ant 1 1g SAR (W/kg)	**1+2+5 Summed 1g SAR (W/kg)**	**1+3+5 Summed 1g SAR (W/kg)**	**1+2+3+5 Summed 1g SAR (W/kg)**	**1+3+4+5 Summed 1g SAR (W/kg)**
LTE Band 2_LAT	Front	24.20	24.80	0.312	0.360	21.20	21.80	0.156	0.180	0.056	0.001	0.016	**0.392**	**0.337**	**0.393**	**0.353**
	Back	24.20	24.80	0.401	0.469	21.20	21.80	0.201	0.235	0.067	0.287	0.022	**0.502**	**0.722**	**0.789**	**0.744**
LTE Band 4_LAT	Front	24.80	24.80	0.491	0.360	21.80	21.80	0.246	0.180	0.056	0.001	0.016	**0.482**	**0.427**	**0.483**	**0.443**
	Back	24.80	24.80	0.552	0.469	21.80	21.80	0.276	0.235	0.067	0.287	0.022	**0.578**	**0.798**	**0.865**	**0.820**

Body worn		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	CC1 WWAN 1g SAR (W/kg)	CC2 LTE B13 1g SAR (W/kg)	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	1 WWAN 1g SAR (W/kg)	5 LTE B13 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	3 5GHz WLAN Ant 1+2 1g SAR (W/kg)	4 Bluetooth Ant 1 1g SAR (W/kg)	**1+2+5 Summed 1g SAR (W/kg)**	**1+3+5 Summed 1g SAR (W/kg)**	**1+2+3+5 Summed 1g SAR (W/kg)**	**1+3+4+5 Summed 1g SAR (W/kg)**
LTE Band 2_LAT	Front	24.20	24.80	0.312	0.374	21.20	21.80	0.156	0.187	0.056	0.001	0.016	**0.399**	**0.344**	**0.400**	**0.360**
	Back	24.20	24.80	0.401	0.462	21.20	21.80	0.201	0.231	0.067	0.287	0.022	**0.499**	**0.719**	**0.786**	**0.741**
LTE Band 4_LAT	Front	24.80	24.80	0.491	0.374	21.80	21.80	0.246	0.187	0.056	0.001	0.016	**0.489**	**0.434**	**0.490**	**0.450**
	Back	24.80	24.80	0.552	0.462	21.80	21.80	0.276	0.231	0.067	0.287	0.022	**0.574**	**0.794**	**0.861**	**0.816**

Body worn		Standalone				UL CA active				WLAN			Inter-band UL CA summation			
WWAN Band	Exposure Position	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	CC1 WWAN 1g SAR (W/kg)	CC2 LTE B66 1g SAR (W/kg)	CC1 Tune-up Limit (dBm)	CC2 Tune-up Limit (dBm)	1 WWAN 1g SAR (W/kg)	5 LTE B66 1g SAR (W/kg)	2 2.4GHz WLAN Ant 1+2 1g SAR (W/kg)	3 5GHz WLAN Ant 1+2 1g SAR (W/kg)	4 Bluetooth Ant 1 1g SAR (W/kg)	**1+2+5 Summed 1g SAR (W/kg)**	**1+3+5 Summed 1g SAR (W/kg)**	**1+2+3+5 Summed 1g SAR (W/kg)**	**1+3+4+5 Summed 1g SAR (W/kg)**
LTE Band 5_LAT	Front	24.80	24.80	0.360	0.491	21.80	21.80	0.180	0.246	0.056	0.001	0.016	**0.482**	**0.427**	**0.483**	**0.443**
	Back	24.80	24.80	0.469	0.552	21.80	21.80	0.235	0.276	0.067	0.287	0.022	**0.578**	**0.798**	**0.865**	**0.820**
LTE Band 13_LAT	Front	24.80	24.80	0.374	0.491	21.80	21.80	0.187	0.246	0.056	0.001	0.016	**0.489**	**0.434**	**0.490**	**0.450**
	Back	24.80	24.80	0.462	0.552	21.80	21.80	0.231	0.276	0.067	0.287	0.022	**0.574**	**0.794**	**0.861**	**0.816**

15. Antenna Location



Width: 73.06mm
Height: 160.2mm
Diagonal:171.45mm

Antenna	Support Bands
0	GSM850, WCDMA B5, LTE B5/12/13/17/26/71, 5G FR1 n5
1	GSM850, WCDMA B5, LTE B5/12/13/17/26/71, 5G FR1 n5
2	GSM1900, WCDMA B2/4, LTE B2/4/7/25/30/38/41/66, 5G FR1 n2/66
3	GSM1900, WCDMA B2/4, LTE B2/4/7/25/30/38/41/48/66, 5G FR1 n2/66
6	LTE B48
7	2.4GHz / 5GHz WLAN / BT
8	5GHz WLAN
9	2.4GHz WLAN

Distance of the Antenna to the EUT surface/edge							
Antennas		Back	Front	Top Side	Bottom Side	Right Side	Left Side
UAT	0	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
	3	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
	6	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
LAT	1	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm	≤ 25mm
	2	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm	≤ 25mm
7+8		≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	>25mm
7+9		≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	>25mm

Positions for SAR tests; Hotspot mode							
Antennas		Back	Front	Top Side	Bottom Side	Right Side	Left Side
UAT	0	Yes	Yes	Yes	No	Yes	Yes
	3	Yes	Yes	Yes	No	Yes	Yes
	6	Yes	Yes	Yes	No	Yes	Yes
LAT	1	Yes	Yes	No	Yes	Yes	Yes
	2	Yes	Yes	No	Yes	Yes	Yes
7+8		Yes	Yes	Yes	No	Yes	No
7+9		Yes	Yes	Yes	No	Yes	No

General Note:

1. Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For WLAN/Bluetooth: Reported SAR(W/kg)=Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
4. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
5. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g product specific SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold, for this device only bottom side SAR for WWAN transmitter scaled to maximum output power is higher than 1.2W/kg of WCDMA B2/B4 and LTE B7/B25/B30/B66, therefore product specific SAR is necessary.
6. For 5.3GHz / 5.5GHz WLAN product specific SAR is necessary too, due to an overall diagonal dimension is > 16cm.

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (3Tx slots) for GSM850 UAT & LAT, GSM1900 UAT and GPRS (4Tx slots) for GSM1900 LAT is considered as the primary mode for Head/Hotspot SAR, the GPRS (3Tx slots) for GSM850 UAT & LAT and GPRS (4Tx slots) for GSM1900 UAT & LAT is considered as the primary mode for Body-worn SAR.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC 12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B5/B12/B26 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v 02r05, 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.
7. LTE band 2/4/17/38 SAR test was covered by Band 25/66/17/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. The maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion.
   b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

16.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_UAT	GPRS (3 Tx slots)	Right Cheek	0mm	DSI 2	189	836.4	29.23	29.80	1.140	0.05	0.856	0.976
01	GSM850_UAT	GPRS (3 Tx slots)	Right Cheek	0mm	DSI 2	128	824.2	29.19	29.80	1.151	0.06	0.915	1.053
	GSM850_UAT	GPRS (3 Tx slots)	Right Cheek	0mm	DSI 2	251	848.8	29.23	29.80	1.140	0.06	0.919	1.048
	GSM850_UAT	GPRS (3 Tx slots)	Right Tilted	0mm	DSI 2	189	836.4	29.23	29.80	1.140	0.09	0.180	0.205
	GSM850_UAT	GPRS (3 Tx slots)	Left Cheek	0mm	DSI 2	189	836.4	29.23	29.80	1.140	0.02	0.875	0.998
	GSM850_UAT	GPRS (3 Tx slots)	Left Cheek	0mm	DSI 2	128	824.2	29.19	29.80	1.151	0.03	0.878	1.010
	GSM850_UAT	GPRS (3 Tx slots)	Left Cheek	0mm	DSI 2	251	848.8	29.23	29.80	1.140	0.02	0.804	0.917
	GSM850_UAT	GPRS (3 Tx slots)	Left Tilted	0mm	DSI 2	189	836.4	29.23	29.80	1.140	0.09	0.193	0.220
	GSM850_UAT	GPRS (3 Tx slots)	Right Cheek	0mm	DSI 3	128	824.2	27.26	28.00	1.186	0.1	0.369	0.438
	GSM850_UAT	GPRS (3 Tx slots)	Right Tilted	0mm	DSI 3	128	824.2	27.26	28.00	1.186	-0.15	0.093	0.110
	GSM850_UAT	GPRS (3 Tx slots)	Left Cheek	0mm	DSI 3	128	824.2	27.26	28.00	1.186	0.05	0.315	0.374
	GSM850_UAT	GPRS (3 Tx slots)	Left Tilted	0mm	DSI 3	128	824.2	27.26	28.00	1.186	-0.12	0.078	0.092
	GSM850_LAT	GPRS (3 Tx slots)	Right Cheek	0mm	DSI 5	251	848.8	29.58	30.50	1.236	0.07	0.108	0.133
	GSM850_LAT	GPRS (3 Tx slots)	Right Tilted	0mm	DSI 5	251	848.8	29.58	30.50	1.236	0.02	0.066	0.082
	GSM850_LAT	GPRS (3 Tx slots)	Left Cheek	0mm	DSI 5	251	848.8	29.58	30.50	1.236	-0.03	0.161	0.199
	GSM850_LAT	GPRS (3 Tx slots)	Left Tilted	0mm	DSI 5	251	848.8	29.58	30.50	1.236	0.09	0.045	0.056
	GSM1900_UAT	GPRS (3 Tx slots)	Right Cheek	0mm	DSI 2/3	810	1909.8	21.17	22.00	1.211	0.05	0.756	0.915
02	GSM1900_UAT	GPRS (3 Tx slots)	Right Cheek	0mm	DSI 2/3	512	1850.2	20.55	22.00	1.396	-0.15	0.735	1.026
	GSM1900_UAT	GPRS (3 Tx slots)	Right Cheek	0mm	DSI 2/3	661	1880	20.96	22.00	1.271	0.07	0.759	0.964
	GSM1900_UAT	GPRS (3 Tx slots)	Right Tilted	0mm	DSI 2/3	810	1909.8	21.17	22.00	1.211	-0.04	0.765	0.926
	GSM1900_UAT	GPRS (3 Tx slots)	Right Tilted	0mm	DSI 2/3	512	1850.2	20.55	22.00	1.396	-0.02	0.719	1.004
	GSM1900_UAT	GPRS (3 Tx slots)	Right Tilted	0mm	DSI 2/3	661	1880	20.96	22.00	1.271	-0.03	0.802	1.019
	GSM1900_UAT	GPRS (3 Tx slots)	Left Cheek	0mm	DSI 2/3	810	1909.8	21.17	22.00	1.211	-0.08	0.471	0.570
	GSM1900_UAT	GPRS (3 Tx slots)	Left Tilted	0mm	DSI 2/3	810	1909.8	21.17	22.00	1.211	0.01	0.642	0.777
	GSM1900_LAT	GPRS (4 Tx slots)	Right Cheek	0mm	DSI 5	512	1850.2	23.53	24.00	1.114	0.08	0.095	0.106
	GSM1900_LAT	GPRS (4 Tx slots)	Right Tilted	0mm	DSI 5	512	1850.2	23.53	24.00	1.114	0.07	0.053	0.059
	GSM1900_LAT	GPRS (4 Tx slots)	Left Cheek	0mm	DSI 5	512	1850.2	23.53	24.00	1.114	-0.06	0.117	0.130
	GSM1900_LAT	GPRS (4 Tx slots)	Left Tilted	0mm	DSI 5	512	1850.2	23.53	24.00	1.114	-0.01	0.059	0.066

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2/3	9400	1880	16.70	17.70	1.259	-0.13	0.797	1.003
03	WCDMA II_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2/3	9262	1852.4	16.63	17.70	1.279	-0.07	0.804	1.029
	WCDMA II_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2/3	9538	1907.6	16.69	17.70	1.262	-0.05	0.774	0.977
	WCDMA II_UAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 2/3	9400	1880	16.70	17.70	1.259	-0.17	0.747	0.940
	WCDMA II_UAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 2/3	9262	1852.4	16.63	17.70	1.279	-0.16	0.762	0.975
	WCDMA II_UAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 2/3	9538	1907.6	16.69	17.70	1.262	-0.17	0.729	0.920
	WCDMA II_UAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 2/3	9400	1880	16.70	17.70	1.259	-0.11	0.512	0.645
	WCDMA II_UAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 2/3	9400	1880	16.70	17.70	1.259	-0.02	0.702	0.884
	WCDMA II_UAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 2/3	9262	1852.4	16.63	17.70	1.279	-0.1	0.680	0.870
	WCDMA II_UAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 2/3	9538	1907.6	16.69	17.70	1.262	-0.09	0.709	0.895
	WCDMA II_LAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 5	9400	1880	20.97	21.50	1.130	0.08	0.114	0.129
	WCDMA II_LAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 5	9400	1880	20.97	21.50	1.130	0.13	0.074	0.084
	WCDMA II_LAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 5	9400	1880	20.97	21.50	1.130	0.19	0.109	0.123
	WCDMA II_LAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 5	9400	1880	20.97	21.50	1.130	0.18	0.080	0.090
	WCDMA IV_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2/3	1413	1732.6	16.25	17.10	1.216	-0.17	0.774	0.941
	WCDMA IV_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2/3	1312	1712.4	16.20	17.10	1.230	-0.12	0.770	0.947
04	WCDMA IV_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2/3	1513	1752.6	16.22	17.10	1.225	-0.11	0.776	0.950
	WCDMA IV_UAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 2/3	1413	1732.6	16.25	17.10	1.216	-0.09	0.759	0.923
	WCDMA IV_UAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 2/3	1312	1712.4	16.20	17.10	1.230	-0.09	0.748	0.920
	WCDMA IV_UAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 2/3	1513	1752.6	16.22	17.10	1.225	-0.07	0.757	0.927
	WCDMA IV_UAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 2/3	1413	1732.6	16.25	17.10	1.216	-0.08	0.418	0.508
	WCDMA IV_UAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 2/3	1413	1732.6	16.25	17.10	1.216	-0.17	0.543	0.660
	WCDMA IV_LAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 5	1413	1732.6	21.06	21.50	1.107	0.18	0.420	0.465
	WCDMA IV_LAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 5	1413	1732.6	21.06	21.50	1.107	-0.01	0.143	0.158
	WCDMA IV_LAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 5	1413	1732.6	21.06	21.50	1.107	0.13	0.282	0.312
	WCDMA IV_LAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 5	1413	1732.6	21.06	21.50	1.107	-0.13	0.152	0.168
05	WCDMA V_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2	4182	836.4	23.23	23.80	1.140	0.1	0.828	0.944
	WCDMA V_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2	4132	826.4	23.14	23.80	1.164	0.01	0.788	0.917
	WCDMA V_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 2	4233	846.6	23.17	23.80	1.156	0.12	0.766	0.886
	WCDMA V_UAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 2	4182	836.4	23.23	23.80	1.140	-0.12	0.177	0.202
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 2	4182	836.4	23.23	23.80	1.140	0	0.711	0.811
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 2	4132	826.4	23.14	23.80	1.164	-0.03	0.735	0.856
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 2	4233	846.6	23.17	23.80	1.156	0.18	0.671	0.776
	WCDMA V_UAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 2	4182	836.4	23.23	23.80	1.140	0.09	0.148	0.169
	WCDMA V_UAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 3	4182	836.4	21.19	22.00	1.205	-0.09	0.419	0.505
	WCDMA V_UAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 3	4182	836.4	21.19	22.00	1.205	0	0.093	0.112
	WCDMA V_UAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 3	4182	836.4	21.19	22.00	1.205	-0.19	0.389	0.469
	WCDMA V_UAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 3	4182	836.4	21.19	22.00	1.205	-0.16	0.085	0.102
	WCDMA V_LAT	RMC 12.2Kbps	Right Cheek	0mm	DSI 5	4182	836.4	23.39	23.50	1.026	0.15	0.139	0.143
	WCDMA V_LAT	RMC 12.2Kbps	Right Tilted	0mm	DSI 5	4182	836.4	23.39	23.50	1.026	0.07	0.091	0.093
	WCDMA V_LAT	RMC 12.2Kbps	Left Cheek	0mm	DSI 5	4182	836.4	23.39	23.50	1.026	0.11	0.196	0.201
	WCDMA V_LAT	RMC 12.2Kbps	Left Tilted	0mm	DSI 5	4182	836.4	23.39	23.50	1.026	0.08	0.082	0.084

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
06	LTE Band 5_UAT	10M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	20525	836.5	22.65	23.60	1.245	0.08	0.562	0.699
	LTE Band 5_UAT	10M	QPSK	25	12	Right Cheek	0mm	DSI 2/3	20525	836.5	22.58	23.60	1.265	0.03	0.521	0.659
	LTE Band 5_UAT	10M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	20525	836.5	22.65	23.60	1.245	0.07	0.138	0.172
	LTE Band 5_UAT	10M	QPSK	25	12	Right Tilted	0mm	DSI 2/3	20525	836.5	22.58	23.60	1.265	0.05	0.130	0.164
	LTE Band 5_UAT	10M	QPSK	1	0	Left Cheek	0mm	DSI 2/3	20525	836.5	22.65	23.60	1.245	0.04	0.537	0.668
	LTE Band 5_UAT	10M	QPSK	25	12	Left Cheek	0mm	DSI 2/3	20525	836.5	22.58	23.60	1.265	0.01	0.505	0.639
	LTE Band 5_UAT	10M	QPSK	1	0	Left Tilted	0mm	DSI 2/3	20525	836.5	22.65	23.60	1.245	0.03	0.108	0.134
	LTE Band 5_UAT	10M	QPSK	25	12	Left Tilted	0mm	DSI 2/3	20525	836.5	22.58	23.60	1.265	0.02	0.101	0.128
	LTE Band 5_LAT	10M	QPSK	1	0	Right Cheek	0mm	DSI 5	20525	836.5	23.76	24.80	1.271	-0.07	0.139	0.177
	LTE Band 5_LAT	10M	QPSK	25	12	Right Cheek	0mm	DSI 5	20525	836.5	22.96	23.80	1.213	-0.01	0.140	0.170
	LTE Band 5_LAT	10M	QPSK	1	0	Right Tilted	0mm	DSI 5	20525	836.5	23.76	24.80	1.271	0.16	0.121	0.154
	LTE Band 5_LAT	10M	QPSK	25	12	Right Tilted	0mm	DSI 5	20525	836.5	22.96	23.80	1.213	-0.02	0.094	0.114
	LTE Band 5_LAT	10M	QPSK	1	0	Left Cheek	0mm	DSI 5	20525	836.5	23.76	24.80	1.271	-0.05	0.257	0.327
	LTE Band 5_LAT	10M	QPSK	25	12	Left Cheek	0mm	DSI 5	20525	836.5	22.96	23.80	1.213	0.02	0.206	0.250
	LTE Band 5_LAT	10M	QPSK	1	0	Left Tilted	0mm	DSI 5	20525	836.5	23.76	24.80	1.271	-0.07	0.113	0.144
	LTE Band 5_LAT	10M	QPSK	25	12	Left Tilted	0mm	DSI 5	20525	836.5	22.96	23.80	1.213	-0.1	0.089	0.108
	LTE Band 7_UAT	20M	QPSK	1	99	Right Cheek	0mm	DSI 2/3	21350	2560	15.75	16.50	1.189	0.13	0.687	0.817
	LTE Band 7_UAT	20M	QPSK	1	99	Right Cheek	0mm	DSI 2/3	20850	2510	15.74	16.50	1.191	-0.01	0.610	0.727
	LTE Band 7_UAT	20M	QPSK	1	99	Right Cheek	0mm	DSI 2/3	21100	2535	15.73	16.50	1.194	0.08	0.690	0.824
	LTE Band 7_UAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 2/3	21350	2560	15.86	16.50	1.159	-0.05	0.713	0.826
	LTE Band 7_UAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 2/3	20850	2510	15.83	16.50	1.167	0.01	0.618	0.721
	LTE Band 7_UAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 2/3	21100	2535	15.85	16.50	1.161	0.07	0.666	0.774
	LTE Band 7_UAT	20M	QPSK	100	0	Right Cheek	0mm	DSI 2/3	21350	2560	15.72	16.50	1.197	-0.04	0.682	0.816
	LTE Band 7_UAT	20M	QPSK	1	99	Right Tilted	0mm	DSI 2/3	21350	2560	15.75	16.50	1.189	-0.17	0.813	0.966
	LTE Band 7_UAT	20M	QPSK	1	99	Right Tilted	0mm	DSI 2/3	20850	2510	15.74	16.50	1.191	-0.15	0.727	0.866
	LTE Band 7_UAT	20M	QPSK	1	99	Right Tilted	0mm	DSI 2/3	21100	2535	15.73	16.50	1.194	-0.15	0.777	0.928
	LTE Band 7_UAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 2/3	21350	2560	15.86	16.50	1.159	-0.06	0.834	0.966
	LTE Band 7_UAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 2/3	20850	2510	15.83	16.50	1.167	0.01	0.766	0.894
	LTE Band 7_UAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 2/3	21100	2535	15.85	16.50	1.161	-0.03	0.826	0.959
07	LTE Band 7_UAT	20M	QPSK	100	0	Right Tilted	0mm	DSI 2/3	21350	2560	15.72	16.50	1.197	-0.12	0.857	1.026
	LTE Band 7_UAT	20M	QPSK	1	99	Left Cheek	0mm	DSI 2/3	21350	2560	15.75	16.50	1.189	-0.07	0.341	0.405
	LTE Band 7_UAT	20M	QPSK	50	50	Left Cheek	0mm	DSI 2/3	21350	2560	15.86	16.50	1.159	-0.03	0.353	0.409
	LTE Band 7_UAT	20M	QPSK	1	99	Left Tilted	0mm	DSI 2/3	21350	2560	15.75	16.50	1.189	0.04	0.491	0.584
	LTE Band 7_UAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 2/3	21350	2560	15.86	16.50	1.159	0.05	0.507	0.588
	LTE Band 7_LAT	20M	QPSK	1	99	Right Cheek	0mm	DSI 5	21350	2560	20.89	21.80	1.233	0.09	0.038	0.047
	LTE Band 7_LAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 5	21350	2560	19.94	20.80	1.219	0.06	0.032	0.039
	LTE Band 7_LAT	20M	QPSK	1	99	Right Tilted	0mm	DSI 5	21350	2560	20.89	21.80	1.233	-0.09	0.022	0.027
	LTE Band 7_LAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 5	21350	2560	19.94	20.80	1.219	-0.01	0.017	0.021
	LTE Band 7_LAT	20M	QPSK	1	99	Left Cheek	0mm	DSI 5	21350	2560	20.89	21.80	1.233	-0.07	0.053	0.065
	LTE Band 7_LAT	20M	QPSK	50	50	Left Cheek	0mm	DSI 5	21350	2560	19.94	20.80	1.219	0.04	0.044	0.054
	LTE Band 7_LAT	20M	QPSK	1	99	Left Tilted	0mm	DSI 5	21350	2560	20.89	21.80	1.233	0.07	0.021	0.026
	LTE Band 7_LAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 5	21350	2560	19.94	20.80	1.219	-0.07	0.015	0.018
	LTE Band 12_UAT	10M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	23095	707.5	23.04	23.80	1.191	0.11	0.294	0.350
	LTE Band 12_UAT	10M	QPSK	25	12	Right Cheek	0mm	DSI 2/3	23095	707.5	22.15	22.80	1.161	0.03	0.272	0.316
	LTE Band 12_UAT	10M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	23095	707.5	23.04	23.80	1.191	0.04	0.083	0.099
	LTE Band 12_UAT	10M	QPSK	25	12	Right Tilted	0mm	DSI 2/3	23095	707.5	22.15	22.80	1.161	-0.07	0.076	0.088
08	LTE Band 12_UAT	10M	QPSK	1	0	Left Cheek	0mm	DSI 2/3	23095	707.5	23.04	23.80	1.191	-0.07	0.317	0.378
	LTE Band 12_UAT	10M	QPSK	25	12	Left Cheek	0mm	DSI 2/3	23095	707.5	22.15	22.80	1.161	0.08	0.291	0.338
	LTE Band 12_UAT	10M	QPSK	1	0	Left Tilted	0mm	DSI 2/3	23095	707.5	23.04	23.80	1.191	0.07	0.067	0.080
	LTE Band 12_UAT	10M	QPSK	25	12	Left Tilted	0mm	DSI 2/3	23095	707.5	22.15	22.80	1.161	-0.06	0.060	0.070

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12_LAT	10M	QPSK	1	49	Right Cheek	0mm	DSI 5	23095	707.5	22.96	23.80	1.213	0.11	0.042	0.051
	LTE Band 12_LAT	10M	QPSK	25	12	Right Cheek	0mm	DSI 5	23095	707.5	21.98	22.80	1.208	0.14	0.042	0.051
	LTE Band 12_LAT	10M	QPSK	1	49	Right Tilted	0mm	DSI 5	23095	707.5	22.96	23.80	1.213	0.04	0.025	0.030
	LTE Band 12_LAT	10M	QPSK	25	12	Right Tilted	0mm	DSI 5	23095	707.5	21.98	22.80	1.208	0.18	0.024	0.029
	LTE Band 12_LAT	10M	QPSK	1	49	Left Cheek	0mm	DSI 5	23095	707.5	22.96	23.80	1.213	0.14	0.050	0.061
	LTE Band 12_LAT	10M	QPSK	25	12	Left Cheek	0mm	DSI 5	23095	707.5	21.98	22.80	1.208	0.11	0.045	0.054
	LTE Band 12_LAT	10M	QPSK	1	49	Left Tilted	0mm	DSI 5	23095	707.5	22.96	23.80	1.213	0.16	0.024	0.029
	LTE Band 12_LAT	10M	QPSK	25	12	Left Tilted	0mm	DSI 5	23095	707.5	21.98	22.80	1.208	0.09	0.022	0.027
	LTE Band 13_UAT	10M	QPSK	1	0	Right Cheek	0mm	DSI 2	23230	782	23.91	24.80	1.227	0.04	0.765	0.939
	LTE Band 13_UAT	10M	QPSK	25	25	Right Cheek	0mm	DSI 2	23230	782	23.18	23.80	1.153	0.02	0.937	1.081
	LTE Band 13_UAT	10M	QPSK	50	0	Right Cheek	0mm	DSI 2	23230	782	23.02	23.80	1.197	0.03	0.856	1.024
	LTE Band 13_UAT	10M	QPSK	1	0	Right Tilted	0mm	DSI 2	23230	782	23.91	24.80	1.227	-0.02	0.229	0.281
	LTE Band 13_UAT	10M	QPSK	25	25	Right Tilted	0mm	DSI 2	23230	782	23.18	23.80	1.153	-0.04	0.252	0.291
	LTE Band 13_UAT	10M	QPSK	1	0	Left Cheek	0mm	DSI 2	23230	782	23.91	24.80	1.227	-0.15	0.831	1.020
09	LTE Band 13_UAT	10M	QPSK	25	25	Left Cheek	0mm	DSI 2	23230	782	23.18	23.80	1.153	0.01	0.947	1.092
	LTE Band 13_UAT	10M	QPSK	50	0	Left Cheek	0mm	DSI 2	23230	782	23.02	23.80	1.197	-0.04	0.912	1.091
	LTE Band 13_UAT	10M	QPSK	1	0	Left Tilted	0mm	DSI 2	23230	782	23.91	24.80	1.227	-0.07	0.188	0.231
	LTE Band 13_UAT	10M	QPSK	25	25	Left Tilted	0mm	DSI 2	23230	782	23.18	23.80	1.153	-0.03	0.211	0.243
	LTE Band 13_UAT	10M	QPSK	1	25	Right Cheek	0mm	DSI 3	23230	782	21.08	21.50	1.102	-0.01	0.481	0.530
	LTE Band 13_UAT	10M	QPSK	25	25	Right Cheek	0mm	DSI 3	23230	782	21.18	21.50	1.076	-0.11	0.492	0.530
	LTE Band 13_UAT	10M	QPSK	1	25	Right Tilted	0mm	DSI 3	23230	782	21.08	21.50	1.102	-0.12	0.124	0.137
	LTE Band 13_UAT	10M	QPSK	25	25	Right Tilted	0mm	DSI 3	23230	782	21.18	21.50	1.076	-0.16	0.127	0.137
	LTE Band 13_UAT	10M	QPSK	1	25	Left Cheek	0mm	DSI 3	23230	782	21.08	21.50	1.102	-0.05	0.514	0.566
	LTE Band 13_UAT	10M	QPSK	25	25	Left Cheek	0mm	DSI 3	23230	782	21.18	21.50	1.076	-0.01	0.530	0.571
	LTE Band 13_UAT	10M	QPSK	1	25	Left Tilted	0mm	DSI 3	23230	782	21.08	21.50	1.102	-0.04	0.111	0.122
	LTE Band 13_UAT	10M	QPSK	25	25	Left Tilted	0mm	DSI 3	23230	782	21.18	21.50	1.076	-0.07	0.115	0.124
	LTE Band 13_LAT	10M	QPSK	1	25	Right Cheek	0mm	DSI 5	23230	782	23.90	24.80	1.230	0.15	0.149	0.183
	LTE Band 13_LAT	10M	QPSK	25	25	Right Cheek	0mm	DSI 5	23230	782	23.00	23.80	1.202	0.02	0.158	0.190
	LTE Band 13_LAT	10M	QPSK	1	25	Right Tilted	0mm	DSI 5	23230	782	23.90	24.80	1.230	0.1	0.080	0.098
	LTE Band 13_LAT	10M	QPSK	25	25	Right Tilted	0mm	DSI 5	23230	782	23.00	23.80	1.202	0.15	0.083	0.100
	LTE Band 13_LAT	10M	QPSK	1	25	Left Cheek	0mm	DSI 5	23230	782	23.90	24.80	1.230	0.17	0.163	0.201
	LTE Band 13_LAT	10M	QPSK	25	25	Left Cheek	0mm	DSI 5	23230	782	23.00	23.80	1.202	0.17	0.172	0.207
	LTE Band 13_LAT	10M	QPSK	1	25	Left Tilted	0mm	DSI 5	23230	782	23.90	24.80	1.230	0.17	0.073	0.090
	LTE Band 13_LAT	10M	QPSK	25	25	Left Tilted	0mm	DSI 5	23230	782	23.00	23.80	1.202	0.18	0.077	0.093

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25_UAT	20M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	26140	1860	16.82	17.70	1.225	-0.12	0.740	0.906
	LTE Band 25_UAT	20M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	26340	1880	16.63	17.70	1.279	-0.05	0.765	0.979
	LTE Band 25_UAT	20M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	26590	1905	16.65	17.70	1.274	-0.06	0.761	0.969
	LTE Band 25_UAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 2/3	26140	1860	16.90	17.70	1.202	-0.08	0.761	0.915
11	LTE Band 25_UAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 2/3	26340	1880	16.71	17.70	1.256	-0.1	0.783	0.983
	LTE Band 25_UAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 2/3	26590	1905	16.77	17.70	1.239	-0.04	0.779	0.965
	LTE Band 25_UAT	20M	QPSK	100	0	Right Cheek	0mm	DSI 2/3	26140	1860	16.78	17.70	1.236	0.01	0.748	0.924
	LTE Band 25_UAT	20M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	26140	1860	16.82	17.70	1.225	-0.19	0.698	0.855
	LTE Band 25_UAT	20M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	26340	1880	16.63	17.70	1.279	-0.14	0.718	0.919
	LTE Band 25_UAT	20M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	26590	1905	16.65	17.70	1.274	-0.16	0.733	0.933
	LTE Band 25_UAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 2/3	26140	1860	16.90	17.70	1.202	-0.1	0.720	0.866
	LTE Band 25_UAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 2/3	26340	1880	16.71	17.70	1.256	-0.19	0.743	0.933
	LTE Band 25_UAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 2/3	26590	1905	16.77	17.70	1.239	-0.14	0.741	0.918
	LTE Band 25_UAT	20M	QPSK	100	0	Right Tilted	0mm	DSI 2/3	26140	1860	16.78	17.70	1.236	-0.14	0.706	0.873
	LTE Band 25_UAT	20M	QPSK	1	0	Left Cheek	0mm	DSI 2/3	26140	1860	16.82	17.70	1.225	-0.11	0.502	0.615
	LTE Band 25_UAT	20M	QPSK	50	50	Left Cheek	0mm	DSI 2/3	26140	1860	16.90	17.70	1.202	-0.09	0.518	0.623
	LTE Band 25_UAT	20M	QPSK	1	0	Left Tilted	0mm	DSI 2/3	26140	1860	16.82	17.70	1.225	-0.09	0.659	0.807
	LTE Band 25_UAT	20M	QPSK	1	0	Left Tilted	0mm	DSI 2/3	26340	1880	16.63	17.70	1.279	-0.1	0.689	0.881
	LTE Band 25_UAT	20M	QPSK	1	0	Left Tilted	0mm	DSI 2/3	26590	1905	16.65	17.70	1.274	-0.11	0.715	0.911
	LTE Band 25_UAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 2/3	26140	1860	16.90	17.70	1.202	-0.19	0.667	0.802
	LTE Band 25_UAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 2/3	26340	1880	16.71	17.70	1.256	-0.11	0.711	0.893
	LTE Band 25_UAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 2/3	26590	1905	16.77	17.70	1.239	-0.05	0.716	0.887
	LTE Band 25_UAT	20M	QPSK	100	0	Left Tilted	0mm	DSI 2/3	26140	1860	16.78	17.70	1.236	-0.11	0.661	0.817
	LTE Band 25_LAT	20M	QPSK	1	99	Right Cheek	0mm	DSI 5	26590	1905	23.26	24.20	1.242	-0.05	0.126	0.156
	LTE Band 25_LAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 5	26590	1905	22.25	23.20	1.245	-0.08	0.100	0.124
	LTE Band 25_LAT	20M	QPSK	1	99	Right Tilted	0mm	DSI 5	26590	1905	23.26	24.20	1.242	0.02	0.059	0.073
	LTE Band 25_LAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 5	26590	1905	22.25	23.20	1.245	-0.02	0.042	0.052
	LTE Band 25_LAT	20M	QPSK	1	99	Left Cheek	0mm	DSI 5	26590	1905	23.26	24.20	1.242	0.03	0.125	0.155
	LTE Band 25_LAT	20M	QPSK	50	50	Left Cheek	0mm	DSI 5	26590	1905	22.25	23.20	1.245	0.06	0.101	0.126
	LTE Band 25_LAT	20M	QPSK	1	99	Left Tilted	0mm	DSI 5	26590	1905	23.26	24.20	1.242	-0.06	0.082	0.102
	LTE Band 25_LAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 5	26590	1905	22.25	23.20	1.245	0.01	0.064	0.080
	LTE Band 26_UAT	15M	QPSK	1	0	Right Cheek	0mm	DSI 2	26865	831.5	22.99	23.80	1.205	-0.13	0.613	0.739
	LTE Band 26_UAT	15M	QPSK	36	20	Right Cheek	0mm	DSI 2	26865	831.5	22.04	22.80	1.191	-0.15	0.509	0.606
	LTE Band 26_UAT	15M	QPSK	1	0	Right Tilted	0mm	DSI 2	26865	831.5	22.99	23.80	1.205	-0.12	0.152	0.183
	LTE Band 26_UAT	15M	QPSK	36	20	Right Tilted	0mm	DSI 2	26865	831.5	22.04	22.80	1.191	-0.09	0.125	0.149
12	LTE Band 26_UAT	15M	QPSK	1	0	Left Cheek	0mm	DSI 2	26865	831.5	22.99	23.80	1.205	-0.14	0.627	0.756
	LTE Band 26_UAT	15M	QPSK	36	20	Left Cheek	0mm	DSI 2	26865	831.5	22.04	22.80	1.191	-0.09	0.560	0.667
	LTE Band 26_UAT	15M	QPSK	1	0	Left Tilted	0mm	DSI 2	26865	831.5	22.99	23.80	1.205	0	0.136	0.164
	LTE Band 26_UAT	15M	QPSK	36	20	Left Tilted	0mm	DSI 2	26865	831.5	22.04	22.80	1.191	-0.02	0.113	0.135
	LTE Band 26_UAT	15M	QPSK	1	0	Right Cheek	0mm	DSI 3	26865	831.5	21.50	22.50	1.259	-0.09	0.476	0.599
	LTE Band 26_UAT	15M	QPSK	36	20	Right Cheek	0mm	DSI 3	26865	831.5	21.56	22.50	1.242	-0.12	0.436	0.541
	LTE Band 26_UAT	15M	QPSK	1	0	Right Tilted	0mm	DSI 3	26865	831.5	21.50	22.50	1.259	-0.1	0.128	0.161
	LTE Band 26_UAT	15M	QPSK	36	20	Right Tilted	0mm	DSI 3	26865	831.5	21.56	22.50	1.242	-0.15	0.116	0.144
	LTE Band 26_UAT	15M	QPSK	1	0	Left Cheek	0mm	DSI 3	26865	831.5	21.50	22.50	1.259	-0.01	0.550	0.692
	LTE Band 26_UAT	15M	QPSK	36	20	Left Cheek	0mm	DSI 3	26865	831.5	21.56	22.50	1.242	-0.05	0.516	0.641
	LTE Band 26_UAT	15M	QPSK	1	0	Left Tilted	0mm	DSI 3	26865	831.5	21.50	22.50	1.259	0.03	0.115	0.145
	LTE Band 26_UAT	15M	QPSK	36	20	Left Tilted	0mm	DSI 3	26865	831.5	21.56	22.50	1.242	-0.01	0.106	0.132
	LTE Band 26_LAT	15M	QPSK	1	74	Right Cheek	0mm	DSI 5	26865	831.5	22.92	23.80	1.225	0.17	0.108	0.132
	LTE Band 26_LAT	15M	QPSK	36	20	Right Cheek	0mm	DSI 5	26865	831.5	21.95	22.80	1.216	0.13	0.090	0.109
	LTE Band 26_LAT	15M	QPSK	1	74	Right Tilted	0mm	DSI 5	26865	831.5	22.92	23.80	1.225	0.14	0.073	0.089
	LTE Band 26_LAT	15M	QPSK	36	20	Right Tilted	0mm	DSI 5	26865	831.5	21.95	22.80	1.216	0.15	0.060	0.073
	LTE Band 26_LAT	15M	QPSK	1	74	Left Cheek	0mm	DSI 5	26865	831.5	22.92	23.80	1.225	0.11	0.179	0.219
	LTE Band 26_LAT	15M	QPSK	36	20	Left Cheek	0mm	DSI 5	26865	831.5	21.95	22.80	1.216	0.18	0.143	0.174
	LTE Band 26_LAT	15M	QPSK	1	74	Left Tilted	0mm	DSI 5	26865	831.5	22.92	23.80	1.225	0.15	0.074	0.091
	LTE Band 26_LAT	15M	QPSK	36	20	Left Tilted	0mm	DSI 5	26865	831.5	21.95	22.80	1.216	0.13	0.061	0.074

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 30_UAT	10M	QPSK	1	25	Right Cheek	0mm	DSI 2	27710	2310	17.09	18.10	1.262	-0.09	0.756	0.954
	LTE Band 30_UAT	10M	QPSK	25	25	Right Cheek	0mm	DSI 2	27710	2310	17.10	18.10	1.259	-0.13	0.733	0.923
	LTE Band 30_UAT	10M	QPSK	50	0	Right Cheek	0mm	DSI 2	27710	2310	17.09	18.10	1.262	-0.11	0.738	0.931
	LTE Band 30_UAT	10M	QPSK	1	25	Right Tilted	0mm	DSI 2	27710	2310	17.09	18.10	1.262	-0.02	0.708	0.893
	LTE Band 30_UAT	10M	QPSK	25	25	Right Tilted	0mm	DSI 2	27710	2310	17.10	18.10	1.259	-0.08	0.707	0.890
	LTE Band 30_UAT	10M	QPSK	50	0	Right Tilted	0mm	DSI 2	27710	2310	17.09	18.10	1.262	-0.04	0.708	0.893
	LTE Band 30_UAT	10M	QPSK	1	25	Left Cheek	0mm	DSI 2	27710	2310	17.09	18.10	1.262	0	0.564	0.712
	LTE Band 30_UAT	10M	QPSK	1	25	Left Tilted	0mm	DSI 2	27710	2310	17.09	18.10	1.262	-0.15	0.868	1.095
	LTE Band 30_UAT	10M	QPSK	25	25	Left Tilted	0mm	DSI 2	27710	2310	17.10	18.10	1.259	-0.16	0.869	1.094
13	LTE Band 30_UAT	10M	QPSK	50	0	Left Tilted	0mm	DSI 2	27710	2310	17.09	18.10	1.262	-0.18	0.870	1.098
	LTE Band 30_UAT	10M	QPSK	1	0	Right Cheek	0mm	DSI 3	27710	2310	14.90	16.00	1.288	-0.17	0.465	0.599
	LTE Band 30_UAT	10M	QPSK	25	12	Right Cheek	0mm	DSI 3	27710	2310	14.94	16.00	1.276	-0.02	0.469	0.599
	LTE Band 30_UAT	10M	QPSK	1	0	Right Tilted	0mm	DSI 3	27710	2310	14.90	16.00	1.288	-0.15	0.438	0.564
	LTE Band 30_UAT	10M	QPSK	25	12	Right Tilted	0mm	DSI 3	27710	2310	14.94	16.00	1.276	-0.06	0.448	0.572
	LTE Band 30_UAT	10M	QPSK	1	0	Left Cheek	0mm	DSI 3	27710	2310	14.90	16.00	1.288	0.16	0.318	0.410
	LTE Band 30_UAT	10M	QPSK	25	12	Left Cheek	0mm	DSI 3	27710	2310	14.94	16.00	1.276	-0.11	0.321	0.410
	LTE Band 30_UAT	10M	QPSK	1	0	Left Tilted	0mm	DSI 3	27710	2310	14.90	16.00	1.288	-0.19	0.494	0.636
	LTE Band 30_UAT	10M	QPSK	25	12	Left Tilted	0mm	DSI 3	27710	2310	14.94	16.00	1.276	-0.1	0.511	0.652
	LTE Band 30_LAT	10M	QPSK	1	0	Right Cheek	0mm	DSI 5	27710	2310	20.64	21.80	1.306	0.11	0.056	0.073
	LTE Band 30_LAT	10M	QPSK	25	25	Right Cheek	0mm	DSI 5	27710	2310	19.68	20.80	1.294	0.02	0.040	0.052
	LTE Band 30_LAT	10M	QPSK	1	0	Right Tilted	0mm	DSI 5	27710	2310	20.64	21.80	1.306	-0.11	0.017	0.022
	LTE Band 30_LAT	10M	QPSK	25	25	Right Tilted	0mm	DSI 5	27710	2310	19.68	20.80	1.294	0.12	0.015	0.019
	LTE Band 30_LAT	10M	QPSK	1	0	Left Cheek	0mm	DSI 5	27710	2310	20.64	21.80	1.306	0.11	0.092	0.120
	LTE Band 30_LAT	10M	QPSK	25	25	Left Cheek	0mm	DSI 5	27710	2310	19.68	20.80	1.294	-0.06	0.074	0.096
	LTE Band 30_LAT	10M	QPSK	1	0	Left Tilted	0mm	DSI 5	27710	2310	20.64	21.80	1.306	-0.14	0.029	0.038
	LTE Band 30_LAT	10M	QPSK	25	25	Left Tilted	0mm	DSI 5	27710	2310	19.68	20.80	1.294	0.15	0.021	0.027
	LTE Band 66_UAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 2/3	132572	1770	16.03	17.10	1.279	-0.11	0.805	1.030
	LTE Band 66_UAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 2/3	132072	1720	16.00	17.10	1.288	-0.1	0.836	1.077
	LTE Band 66_UAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 2/3	132322	1745	16.00	17.10	1.288	-0.1	0.819	1.055
	LTE Band 66_UAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 2/3	132572	1770	16.11	17.10	1.256	-0.08	0.836	1.050
14	LTE Band 66_UAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 2/3	132072	1720	16.10	17.10	1.259	-0.09	0.872	1.098
	LTE Band 66_UAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 2/3	132322	1745	16.10	17.10	1.259	-0.1	0.843	1.061
	LTE Band 66_UAT	20M	QPSK	100	0	Right Cheek	0mm	DSI 2/3	132072	1720	16.10	17.10	1.259	-0.11	0.858	1.080
	LTE Band 66_UAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 2/3	132572	1770	16.03	17.10	1.279	-0.19	0.795	1.017
	LTE Band 66_UAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 2/3	132072	1720	16.00	17.10	1.288	-0.07	0.810	1.043
	LTE Band 66_UAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 2/3	132322	1745	16.00	17.10	1.288	-0.1	0.805	1.037
	LTE Band 66_UAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 2/3	132572	1770	16.11	17.10	1.256	-0.07	0.834	1.048
	LTE Band 66_UAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 2/3	132072	1720	16.10	17.10	1.259	-0.08	0.844	1.063
	LTE Band 66_UAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 2/3	132322	1745	16.10	17.10	1.259	-0.09	0.833	1.049
	LTE Band 66_UAT	20M	QPSK	100	0	Right Tilted	0mm	DSI 2/3	132572	1770	16.10	17.10	1.259	-0.07	0.819	1.031
	LTE Band 66_UAT	20M	QPSK	1	49	Left Cheek	0mm	DSI 2/3	132572	1770	16.03	17.10	1.279	-0.03	0.535	0.684
	LTE Band 66_UAT	20M	QPSK	50	24	Left Cheek	0mm	DSI 2/3	132572	1770	16.11	17.10	1.256	-0.01	0.538	0.676
	LTE Band 66_UAT	20M	QPSK	1	49	Left Tilted	0mm	DSI 2/3	132572	1770	16.03	17.10	1.279	-0.01	0.697	0.892
	LTE Band 66_UAT	20M	QPSK	1	49	Left Tilted	0mm	DSI 2/3	132072	1720	16.00	17.10	1.288	-0.06	0.698	0.899
	LTE Band 66_UAT	20M	QPSK	1	49	Left Tilted	0mm	DSI 2/3	132322	1745	16.00	17.10	1.288	-0.03	0.709	0.913
	LTE Band 66_UAT	20M	QPSK	50	24	Left Tilted	0mm	DSI 2/3	132572	1770	16.11	17.10	1.256	-0.07	0.724	0.909
	LTE Band 66_UAT	20M	QPSK	50	24	Left Tilted	0mm	DSI 2/3	132072	1720	16.10	17.10	1.259	-0.03	0.720	0.906
	LTE Band 66_UAT	20M	QPSK	50	24	Left Tilted	0mm	DSI 2/3	132322	1745	16.10	17.10	1.259	-0.02	0.727	0.915
	LTE Band 66_UAT	20M	QPSK	100	0	Left Tilted	0mm	DSI 2/3	132572	1770	16.10	17.10	1.259	-0.08	0.719	0.905

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 66_LAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 5	132072	1720	24.08	24.80	1.180	0.06	0.313	0.369
	LTE Band 66_LAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 5	132072	1720	23.15	23.80	1.161	0.12	0.257	0.298
	LTE Band 66_LAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 5	132072	1720	24.08	24.80	1.180	0.18	0.116	0.137
	LTE Band 66_LAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 5	132072	1720	23.15	23.80	1.161	0.15	0.095	0.110
	LTE Band 66_LAT	20M	QPSK	1	49	Left Cheek	0mm	DSI 5	132072	1720	24.08	24.80	1.180	0.19	0.229	0.270
	LTE Band 66_LAT	20M	QPSK	50	24	Left Cheek	0mm	DSI 5	132072	1720	23.15	23.80	1.161	0.16	0.189	0.220
	LTE Band 66_LAT	20M	QPSK	1	49	Left Tilted	0mm	DSI 5	132072	1720	24.08	24.80	1.180	0.1	0.107	0.126
	LTE Band 66_LAT	20M	QPSK	50	24	Left Tilted	0mm	DSI 5	132072	1720	23.15	23.80	1.161	0.08	0.088	0.102
15	LTE Band 71_UAT	20M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	133322	683	23.56	23.80	1.057	0.06	0.218	0.230
	LTE Band 71_UAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 2/3	133322	683	22.64	22.80	1.038	-0.1	0.215	0.223
	LTE Band 71_UAT	20M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	133322	683	23.56	23.80	1.057	-0.1	0.052	0.055
	LTE Band 71_UAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 2/3	133322	683	22.64	22.80	1.038	0.02	0.044	0.046
	LTE Band 71_UAT	20M	QPSK	1	0	Left Cheek	0mm	DSI 2/3	133322	683	23.56	23.80	1.057	-0.1	0.194	0.205
	LTE Band 71_UAT	20M	QPSK	50	50	Left Cheek	0mm	DSI 2/3	133322	683	22.64	22.80	1.038	-0.02	0.170	0.176
	LTE Band 71_UAT	20M	QPSK	1	0	Left Tilted	0mm	DSI 2/3	133322	683	23.56	23.80	1.057	0.01	0.042	0.044
	LTE Band 71_UAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 2/3	133322	683	22.64	22.80	1.038	0.01	0.036	0.037
	LTE Band 71_LAT	20M	QPSK	1	99	Right Cheek	0mm	DSI 5	133322	683	23.39	23.80	1.099	0.18	0.073	0.080
	LTE Band 71_LAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 5	133322	683	22.53	22.80	1.064	0.16	0.058	0.062
	LTE Band 71_LAT	20M	QPSK	1	99	Right Tilted	0mm	DSI 5	133322	683	23.39	23.80	1.099	0.14	0.039	0.043
	LTE Band 71_LAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 5	133322	683	22.53	22.80	1.064	0.12	0.030	0.032
	LTE Band 71_LAT	20M	QPSK	1	99	Left Cheek	0mm	DSI 5	133322	683	23.39	23.80	1.099	0.09	0.074	0.081
	LTE Band 71_LAT	20M	QPSK	50	50	Left Cheek	0mm	DSI 5	133322	683	22.53	22.80	1.064	0.1	0.058	0.062
	LTE Band 71_LAT	20M	QPSK	1	99	Left Tilted	0mm	DSI 5	133322	683	23.39	23.80	1.099	0.05	0.036	0.040
	LTE Band 71_LAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 5	133322	683	22.53	22.80	1.064	0.17	0.028	0.030

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_UAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 2/3	40620	2593	16.41	18.00	1.442	62.9	1.006	-0.02	0.494	0.717
	LTE Band 41_UAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 2/3	39750	2506	16.36	18.00	1.459	62.9	1.006	-0.02	0.390	0.572
	LTE Band 41_UAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 2/3	40185	2549.5	16.35	18.00	1.462	62.9	1.006	-0.1	0.438	0.644
	LTE Band 41_UAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 2/3	41055	2636.5	16.37	18.00	1.455	62.9	1.006	-0.06	0.569	0.833
	LTE Band 41_UAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 2/3	41490	2680	16.33	18.00	1.469	62.9	1.006	-0.01	0.630	0.931
	LTE Band 41_UAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 2/3	40620	2593	16.50	18.00	1.413	62.9	1.006	0.1	0.506	0.719
	LTE Band 41_UAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 2/3	39750	2506	16.49	18.00	1.416	62.9	1.006	0.04	0.402	0.573
	LTE Band 41_UAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 2/3	40185	2549.5	16.45	18.00	1.429	62.9	1.006	0.04	0.490	0.704
	LTE Band 41_UAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 2/3	41055	2636.5	16.37	18.00	1.455	62.9	1.006	-0.05	0.575	0.842
	LTE Band 41_UAT	20M	QPSK	50	24	Right Cheek	0mm	DSI 2/3	41490	2680	16.41	18.00	1.442	62.9	1.006	-0.06	0.642	0.931
	LTE Band 41_UAT	20M	QPSK	100	0	Right Cheek	0mm	DSI 2/3	40620	2593	16.38	18.00	1.452	62.9	1.006	0.02	0.495	0.723
	LTE Band 41_UAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 2/3	40620	2593	16.41	18.00	1.442	62.9	1.006	-0.04	0.589	0.855
	LTE Band 41_UAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 2/3	39750	2506	16.36	18.00	1.459	62.9	1.006	-0.11	0.444	0.652
	LTE Band 41_UAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 2/3	40185	2549.5	16.35	18.00	1.462	62.9	1.006	-0.02	0.527	0.775
	LTE Band 41_UAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 2/3	41055	2636.5	16.37	18.00	1.455	62.9	1.006	-0.07	0.690	1.010
	LTE Band 41_UAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 2/3	41490	2680	16.33	18.00	1.469	62.9	1.006	-0.12	0.735	1.086
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 2/3	40620	2593	16.50	18.00	1.413	62.9	1.006	0	0.600	0.853
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 2/3	39750	2506	16.49	18.00	1.416	62.9	1.006	-0.03	0.510	0.726
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 2/3	40185	2549.5	16.45	18.00	1.429	62.9	1.006	-0.02	0.544	0.782
	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 2/3	41055	2636.5	16.37	18.00	1.455	62.9	1.006	-0.1	0.669	0.980
16	LTE Band 41_UAT	20M	QPSK	50	24	Right Tilted	0mm	DSI 2/3	41490	2680	16.41	18.00	1.442	62.9	1.006	-0.18	0.760	1.103
	LTE Band 41_UAT	20M	QPSK	100	0	Right Tilted	0mm	DSI 2/3	40620	2593	16.38	18.00	1.452	62.9	1.006	-0.06	0.590	0.862
	LTE Band 41_UAT	20M	QPSK	1	49	Left Cheek	0mm	DSI 2/3	40620	2593	16.41	18.00	1.442	62.9	1.006	0.05	0.332	0.482
	LTE Band 41_UAT	20M	QPSK	50	24	Left Cheek	0mm	DSI 2/3	40620	2593	16.50	18.00	1.413	62.9	1.006	0.16	0.340	0.483
	LTE Band 41_UAT	20M	QPSK	1	49	Left Tilted	0mm	DSI 2/3	40620	2593	16.41	18.00	1.442	62.9	1.006	0.17	0.435	0.631
	LTE Band 41_UAT	20M	QPSK	50	24	Left Tilted	0mm	DSI 2/3	40620	2593	16.50	18.00	1.413	62.9	1.006	-0.16	0.437	0.621
	LTE Band 41_LAT	20M	QPSK	1	49	Right Cheek	0mm	DSI 5	41490	2680	20.90	21.80	1.230	62.9	1.006	0	0.012	0.015
	LTE Band 41_LAT	20M	QPSK	50	50	Right Cheek	0mm	DSI 5	41490	2680	20.00	20.80	1.202	62.9	1.006	0	0.001	0.001
	LTE Band 41_LAT	20M	QPSK	1	49	Right Tilted	0mm	DSI 5	41490	2680	20.90	21.80	1.230	62.9	1.006	0.09	0.001	0.001
	LTE Band 41_LAT	20M	QPSK	50	50	Right Tilted	0mm	DSI 5	41490	2680	20.00	20.80	1.202	62.9	1.006	-0.08	0.001	0.001
	LTE Band 41_LAT	20M	QPSK	1	49	Left Cheek	0mm	DSI 5	41490	2680	20.90	21.80	1.230	62.9	1.006	-0.11	0.001	0.001
	LTE Band 41_LAT	20M	QPSK	50	50	Left Cheek	0mm	DSI 5	41490	2680	20.00	20.80	1.202	62.9	1.006	0.13	0.017	0.021
	LTE Band 41_LAT	20M	QPSK	1	49	Left Tilted	0mm	DSI 5	41490	2680	20.90	21.80	1.230	62.9	1.006	0.09	0.001	0.001
	LTE Band 41_LAT	20M	QPSK	50	50	Left Tilted	0mm	DSI 5	41490	2680	20.00	20.80	1.202	62.9	1.006	0.15	0.001	0.001

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	55830	3609	15.89	16.20	1.074	62.9	1.006	0.17	0.704	0.761
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	55340	3560	15.85	16.20	1.084	62.9	1.006	0.04	0.624	0.680
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	56150	3641	15.83	16.20	1.089	62.9	1.006	0.03	0.801	0.877
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Cheek	0mm	DSI 2/3	56640	3690	15.88	16.20	1.076	62.9	1.006	0.14	0.873	0.945
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Cheek	0mm	DSI 2/3	55830	3609	15.96	16.20	1.057	62.9	1.006	0.16	0.750	0.797
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Cheek	0mm	DSI 2/3	55340	3560	15.88	16.20	1.076	62.9	1.006	-0.03	0.634	0.687
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Cheek	0mm	DSI 2/3	56150	3641	15.86	16.20	1.081	62.9	1.006	-0.02	0.809	0.880
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Cheek	0mm	DSI 2/3	56640	3690	15.89	16.20	1.074	62.9	1.006	0.17	0.887	0.958
	LTE Band 48_UAT Ant 3	20M	QPSK	100	0	Right Cheek	0mm	DSI 2/3	55830	3609	15.84	16.20	1.086	62.9	1.006	0.03	0.736	0.804
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	55830	3609	15.89	16.20	1.074	62.9	1.006	0.11	0.827	0.894
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	55340	3560	15.85	16.20	1.084	62.9	1.006	0.01	0.731	0.797
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	56150	3641	15.83	16.20	1.089	62.9	1.006	-0.07	0.909	0.996
17	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Tilted	0mm	DSI 2/3	56640	3690	15.88	16.20	1.076	62.9	1.006	0.14	0.989	1.071
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Tilted	0mm	DSI 2/3	55830	3609	15.96	16.20	1.057	62.9	1.006	0.03	0.869	0.924
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Tilted	0mm	DSI 2/3	55340	3560	15.88	16.20	1.076	62.9	1.006	0.03	0.746	0.808
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Tilted	0mm	DSI 2/3	56150	3641	15.86	16.20	1.081	62.9	1.006	-0.11	0.894	0.973
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Tilted	0mm	DSI 2/3	56640	3690	15.89	16.20	1.074	62.9	1.006	0.03	0.940	1.016
	LTE Band 48_UAT Ant 3	20M	QPSK	100	0	Right Tilted	0mm	DSI 2/3	55830	3609	15.84	16.20	1.086	62.9	1.006	0.04	0.828	0.905
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Left Cheek	0mm	DSI 2/3	55830	3609	15.89	16.20	1.074	62.9	1.006	-0.13	0.390	0.421
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Left Cheek	0mm	DSI 2/3	55830	3609	15.96	16.20	1.057	62.9	1.006	-0.01	0.399	0.424
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Left Tilted	0mm	DSI 2/3	55830	3609	15.89	16.20	1.074	62.9	1.006	-0.04	0.437	0.472
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Left Tilted	0mm	DSI 2/3	55830	3609	15.96	16.20	1.057	62.9	1.006	0.09	0.375	0.399
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Right Cheek	0mm	DSI 5	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.17	0.419	0.441
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Right Cheek	0mm	DSI 5	55340	3560	24.41	24.70	1.069	62.9	1.006	-0.16	0.499	0.537
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Right Tilted	0mm	DSI 5	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.11	0.498	0.525
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Right Tilted	0mm	DSI 5	55340	3560	24.41	24.70	1.069	62.9	1.006	-0.14	0.556	0.598
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Left Cheek	0mm	DSI 5	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.13	0.206	0.217
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Left Cheek	0mm	DSI 5	55340	3560	24.41	24.70	1.069	62.9	1.006	0.04	0.248	0.267
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Left Tilted	0mm	DSI 5	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.19	0.262	0.276
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Left Tilted	0mm	DSI 5	55340	3560	24.41	24.70	1.069	62.9	1.006	-0.03	0.316	0.340

<5G NR NSA SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	N2_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 2	380000	1900	17.24	18.20	1.247	-0.11	0.708	0.883
18	N2_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 2	372000	1860	17.09	18.20	1.291	-0.04	0.794	1.025
	N2_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 2	376000	1880	17.21	18.20	1.256	-0.11	0.792	0.995
	N2_UAT	20M	QPSK	50	0	DFT-15	Right Cheek	0mm	DSI 2	380000	1900	17.21	18.20	1.256	0.1	0.635	0.798
	N2_UAT	20M	QPSK	100	0	DFT-15	Right Cheek	0mm	DSI 2	380000	1900	17.09	18.20	1.291	0.01	0.665	0.859
	N2_UAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 2	380000	1900	17.24	18.20	1.247	0	0.635	0.792
	N2_UAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 2	380000	1900	17.21	18.20	1.256	0.11	0.653	0.820
	N2_UAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 2	372000	1860	17.07	18.20	1.297	-0.11	0.689	0.894
	N2_UAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 2	376000	1880	17.18	18.20	1.265	-0.06	0.736	0.931
	N2_UAT	20M	QPSK	100	0	DFT-15	Right Tilted	0mm	DSI 2	380000	1900	17.09	18.20	1.291	0.09	0.625	0.807
	N2_UAT	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	DSI 2	380000	1900	17.24	18.20	1.247	-0.04	0.436	0.544
	N2_UAT	20M	QPSK	50	0	DFT-15	Left Cheek	0mm	DSI 2	380000	1900	17.21	18.20	1.256	-0.1	0.418	0.525
	N2_UAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 2	380000	1900	17.24	18.20	1.247	-0.07	0.609	0.760
	N2_UAT	20M	QPSK	50	0	DFT-15	Left Tilted	0mm	DSI 2	380000	1900	17.21	18.20	1.256	-0.16	0.587	0.737
	N2_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 3	380000	1900	15.26	16.00	1.186	-0.08	0.512	0.607
	N2_UAT	20M	QPSK	50	0	DFT-15	Right Cheek	0mm	DSI 3	380000	1900	15.20	16.00	1.202	-0.07	0.491	0.590
	N2_UAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 3	380000	1900	15.26	16.00	1.186	0.09	0.437	0.518
	N2_UAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 3	380000	1900	15.20	16.00	1.202	0.07	0.457	0.549
	N2_UAT	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	DSI 3	380000	1900	15.26	16.00	1.186	-0.1	0.278	0.330
	N2_UAT	20M	QPSK	50	0	DFT-15	Left Cheek	0mm	DSI 3	380000	1900	15.20	16.00	1.202	-0.04	0.255	0.307
	N2_UAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 3	380000	1900	15.26	16.00	1.186	-0.03	0.380	0.451
	N2_UAT	20M	QPSK	50	0	DFT-15	Left Tilted	0mm	DSI 3	380000	1900	15.20	16.00	1.202	-0.12	0.375	0.451
	N2_LAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 5	380000	1900	20.75	22.40	1.462	-0.16	0.097	0.141
	N2_LAT	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	DSI 5	380000	1900	20.46	22.40	1.563	-0.11	0.087	0.136
	N2_LAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 5	380000	1900	20.75	22.40	1.462	-0.18	0.062	0.091
	N2_LAT	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	DSI 5	380000	1900	20.46	22.40	1.563	-0.11	0.057	0.089
	N2_LAT	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	DSI 5	380000	1900	20.75	22.40	1.462	0.19	0.140	0.205
	N2_LAT	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	DSI 5	380000	1900	20.46	22.40	1.563	0.03	0.119	0.186
	N2_LAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 5	380000	1900	20.75	22.40	1.462	0.14	0.066	0.096
	N2_LAT	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	DSI 5	380000	1900	20.46	22.40	1.563	-0.06	0.055	0.085

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	N5_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 2	167300	836.5	22.72	23.80	1.282	0.06	0.628	0.805
19	N5_UAT	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	DSI 2	167300	836.5	22.49	23.80	1.352	0.02	0.656	0.887
	N5_UAT	20M	QPSK	100	0	DFT-15	Right Cheek	0mm	DSI 2	167300	836.5	22.05	22.80	1.189	0.01	0.561	0.667
	N5_UAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 2	167300	836.5	22.72	23.80	1.282	0	0.137	0.176
	N5_UAT	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	DSI 2	167300	836.5	22.49	23.80	1.352	-0.06	0.149	0.201
	N5_UAT	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	DSI 2	167300	836.5	22.72	23.80	1.282	0	0.554	0.710
	N5_UAT	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	DSI 2	167300	836.5	22.49	23.80	1.352	-0.06	0.552	0.746
	N5_UAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 2	167300	836.5	22.72	23.80	1.282	-0.1	0.119	0.153
	N5_UAT	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	DSI 2	167300	836.5	22.49	23.80	1.352	-0.08	0.115	0.155
	N5_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 3	167300	836.5	21.74	22.80	1.276	0.03	0.495	0.632
	N5_UAT	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	DSI 3	167300	836.5	21.65	22.80	1.303	-0.15	0.440	0.573
	N5_UAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 3	167300	836.5	21.74	22.80	1.276	0.05	0.110	0.140
	N5_UAT	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	DSI 3	167300	836.5	21.65	22.80	1.303	-0.02	0.120	0.156
	N5_UAT	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	DSI 3	167300	836.5	21.74	22.80	1.276	0.03	0.452	0.577
	N5_UAT	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	DSI 3	167300	836.5	21.65	22.80	1.303	0.02	0.450	0.586
	N5_UAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 3	167300	836.5	21.74	22.80	1.276	0	0.099	0.126
	N5_UAT	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	DSI 3	167300	836.5	21.65	22.80	1.303	-0.01	0.095	0.124
	N5_LAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 5	167300	836.5	22.62	23.80	1.312	0.03	0.102	0.134
	N5_LAT	20M	QPSK	50	0	DFT-15	Right Cheek	0mm	DSI 5	167300	836.5	22.42	23.80	1.374	0.13	0.101	0.139
	N5_LAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 5	167300	836.5	22.62	23.80	1.312	-0.03	0.057	0.075
	N5_LAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 5	167300	836.5	22.42	23.80	1.374	0.05	0.059	0.081
	N5_LAT	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	DSI 5	167300	836.5	22.62	23.80	1.312	0.01	0.157	0.206
	N5_LAT	20M	QPSK	50	0	DFT-15	Left Cheek	0mm	DSI 5	167300	836.5	22.42	23.80	1.374	0.03	0.149	0.205
	N5_LAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 5	167300	836.5	22.62	23.80	1.312	0.04	0.061	0.080
	N5_LAT	20M	QPSK	50	0	DFT-15	Left Tilted	0mm	DSI 5	167300	836.5	22.42	23.80	1.374	0.08	0.060	0.082

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 2	349000	1745	16.34	17.50	1.306	-0.13	0.788	1.029
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 2	344000	1720	16.32	17.50	1.312	-0.09	0.746	0.979
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 2	354000	1770	16.25	17.50	1.334	0.06	0.719	0.959
	N66_UAT	20M	QPSK	50	0	DFT-15	Right Cheek	0mm	DSI 2	349000	1745	16.09	17.50	1.384	-0.12	0.782	1.082
	N66_UAT	20M	QPSK	50	0	DFT-15	Right Cheek	0mm	DSI 2	344000	1720	16.06	17.50	1.393	0.04	0.711	0.991
	N66_UAT	20M	QPSK	50	0	DFT-15	Right Cheek	0mm	DSI 2	354000	1770	16.08	17.50	1.387	0.06	0.715	0.992
	N66_UAT	20M	QPSK	100	0	DFT-15	Right Cheek	0mm	DSI 2	349000	1745	16.03	17.50	1.403	-0.18	0.738	1.035
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 2	349000	1745	16.34	17.50	1.306	-0.01	0.799	1.044
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 2	344000	1720	16.32	17.50	1.312	0.04	0.787	1.033
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 2	354000	1770	16.25	17.50	1.334	0.1	0.765	1.020
	N66_UAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 2	349000	1745	16.09	17.50	1.384	0.09	0.752	1.040
	N66_UAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 2	344000	1720	16.06	17.50	1.393	-0.14	0.692	0.964
20	N66_UAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 2	354000	1770	16.08	17.50	1.387	-0.1	0.791	1.097
	N66_UAT	20M	QPSK	100	0	DFT-15	Right Tilted	0mm	DSI 2	349000	1745	16.03	17.50	1.403	-0.06	0.745	1.045
	N66_UAT	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	DSI 2	349000	1745	16.34	17.50	1.306	-0.01	0.466	0.609
	N66_UAT	20M	QPSK	50	0	DFT-15	Left Cheek	0mm	DSI 2	349000	1745	16.09	17.50	1.384	-0.15	0.459	0.635
	N66_UAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 2	349000	1745	16.34	17.50	1.306	0	0.654	0.854
	N66_UAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 2	344000	1720	16.32	17.50	1.312	-0.07	0.599	0.786
	N66_UAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 2	354000	1770	16.25	17.50	1.334	-0.07	0.642	0.856
	N66_UAT	20M	QPSK	50	0	DFT-15	Left Tilted	0mm	DSI 2	349000	1745	16.09	17.50	1.384	-0.1	0.631	0.873
	N66_UAT	20M	QPSK	50	0	DFT-15	Left Tilted	0mm	DSI 2	344000	1720	16.06	17.50	1.393	0.05	0.599	0.835
	N66_UAT	20M	QPSK	50	0	DFT-15	Left Tilted	0mm	DSI 2	354000	1770	16.08	17.50	1.387	-0.06	0.635	0.881
	N66_UAT	20M	QPSK	100	0	DFT-15	Left Tilted	0mm	DSI 2	349000	1745	16.03	17.50	1.403	-0.19	0.648	0.909
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 3	349000	1745	14.36	15.50	1.300	-0.16	0.537	0.698
	N66_UAT	20M	QPSK	50	0	DFT-15	Right Cheek	0mm	DSI 3	349000	1745	14.10	15.50	1.380	-0.12	0.473	0.653
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	DSI 3	349000	1745	14.36	15.50	1.300	0.16	0.492	0.640
	N66_UAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 3	349000	1745	14.10	15.50	1.380	0.17	0.442	0.610
	N66_UAT	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	DSI 3	349000	1745	14.36	15.50	1.300	-0.07	0.324	0.421
	N66_UAT	20M	QPSK	50	0	DFT-15	Left Cheek	0mm	DSI 3	349000	1745	14.10	15.50	1.380	-0.18	0.309	0.427
	N66_UAT	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	DSI 3	349000	1745	14.36	15.50	1.300	-0.08	0.426	0.554
	N66_UAT	20M	QPSK	50	0	DFT-15	Left Tilted	0mm	DSI 3	349000	1745	14.10	15.50	1.380	-0.1	0.412	0.569
	N66_LAT	20M	QPSK	1	104	DFT-15	Right Cheek	0mm	DSI 5	349000	1745	23.32	23.80	1.117	-0.03	0.202	0.226
	N66_LAT	20M	QPSK	50	0	DFT-15	Right Cheek	0mm	DSI 5	349000	1745	22.79	23.80	1.262	-0.03	0.211	0.266
	N66_LAT	20M	QPSK	1	104	DFT-15	Right Tilted	0mm	DSI 5	349000	1745	23.32	23.80	1.117	0.07	0.107	0.120
	N66_LAT	20M	QPSK	50	0	DFT-15	Right Tilted	0mm	DSI 5	349000	1745	22.79	23.80	1.262	-0.16	0.110	0.139
	N66_LAT	20M	QPSK	1	104	DFT-15	Left Cheek	0mm	DSI 5	349000	1745	23.32	23.80	1.117	0.03	0.166	0.185
	N66_LAT	20M	QPSK	50	0	DFT-15	Left Cheek	0mm	DSI 5	349000	1745	22.79	23.80	1.262	0.08	0.159	0.201
	N66_LAT	20M	QPSK	1	104	DFT-15	Left Tilted	0mm	DSI 5	349000	1745	23.32	23.80	1.117	-0.06	0.131	0.146
	N66_LAT	20M	QPSK	50	0	DFT-15	Left Tilted	0mm	DSI 5	349000	1745	22.79	23.80	1.262	-0.14	0.123	0.155

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz-	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9	2	1	2412	19.41	19.50	1.021	100	1.000	-0.09	0.411	0.420
	WLAN2.4GHz-	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9	2	1	2412	19.41	19.50	1.021	100	1.000	0.06	0.246	0.251
21	WLAN2.4GHz-	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	2	1	2412	19.41	19.50	1.021	100	1.000	0.04	1.070	1.092
	WLAN2.4GHz-	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	2	11	2462	19.36	19.50	1.032	100	1.000	-0.02	0.999	1.031
	WLAN2.4GHz-	802.11b 1Mbps	Left Tilted	0mm	Ant 7+9	2	1	2412	19.41	19.50	1.021	100	1.000	0.05	0.722	0.737
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9	3	11	2462	16.31	16.50	1.044	100	1.000	-0.06	0.158	0.165
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9	3	11	2462	16.31	16.50	1.044	100	1.000	0.04	0.123	0.128
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	3	11	2462	16.31	16.50	1.044	100	1.000	-0.06	0.486	0.508
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 7+9	3	11	2462	16.31	16.50	1.044	100	1.000	0.03	0.329	0.344
	WLAN5GHz-	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 7+8	1	58	5270	19.51	20.00	1.119	100	1.000	-0.01	0.059	0.066
	WLAN5GHz-	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.15	0.077	0.086
22	WLAN5GHz-	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.08	0.145	0.162
	WLAN5GHz-	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.04	0.081	0.091
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+8	3/4	58	5290	16.86	17.00	1.033	100	1.000	0.02	0.032	0.033
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+8	3/4	58	5290	16.86	17.00	1.033	100	1.000	0.02	0.045	0.047
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+8	3/4	58	5290	16.86	17.00	1.033	100	1.000	0.01	0.095	0.098
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+8	3/4	58	5290	16.86	17.00	1.033	100	1.000	0.05	0.038	0.039
	WLAN5GHz-	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	-0.01	0.053	0.055
	WLAN5GHz-	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	-0.06	0.072	0.075
23	WLAN5GHz-	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	-0.09	0.180	0.188
	WLAN5GHz-	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	0.04	0.104	0.109
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+8	3/4	122	5610	16.71	17.00	1.069	100	1.000	0.06	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+8	3/4	122	5610	16.71	17.00	1.069	100	1.000	0.05	0.015	0.016
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+8	3/4	122	5610	16.71	17.00	1.069	100	1.000	0.05	0.029	0.031
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+8	3/4	122	5610	16.71	17.00	1.069	100	1.000	0.01	0.030	0.032
	WLAN5GHz-	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 7+8	1	151	5755	19.71	20.00	1.069	100	1.000	-0.17	0.105	0.112
	WLAN5GHz-	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 7+8	1	151	5755	19.71	20.00	1.069	100	1.000	-0.12	0.096	0.103
	WLAN5GHz-	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 7+8	1	151	5755	19.71	20.00	1.069	100	1.000	0.13	0.134	0.143
24	WLAN5GHz-	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 7+8	1	151	5755	19.71	20.00	1.069	100	1.000	-0.16	0.140	0.150
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0.02	0.004	0.004
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0.01	0.026	0.029

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	-0.13	0.047	0.059
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	0.06	0.030	0.038
25	Bluetooth	1Mbps	Left Cheek	0mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	0.05	0.154	0.194
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	0.08	0.109	0.137

16.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_UAT	GPRS (3 Tx slots)	Front	10mm	DSI 4	251	848.8	27.18	28.00	1.208	-0.08	0.152	0.184
	GSM850_UAT	GPRS (3 Tx slots)	Back	10mm	DSI 4	251	848.8	27.18	28.00	1.208	-0.1	0.245	0.296
	GSM850_UAT	GPRS (3 Tx slots)	Left Side	10mm	DSI 4	251	848.8	27.18	28.00	1.208	-0.09	0.223	0.269
	GSM850_UAT	GPRS (3 Tx slots)	Right Side	10mm	DSI 4	251	848.8	27.18	28.00	1.208	0.14	0.006	0.007
	GSM850_UAT	GPRS (3 Tx slots)	Top Side	10mm	DSI 4	251	848.8	27.18	28.00	1.208	0.08	0.013	0.016
	GSM850_LAT	GPRS (3 Tx slots)	Front	10mm	DSI 7	251	848.8	29.58	30.50	1.236	0.08	0.343	0.424
26	GSM850_LAT	GPRS (3 Tx slots)	Back	10mm	DSI 7	251	848.8	29.58	30.50	1.236	0.08	0.602	0.744
	GSM850_LAT	GPRS (3 Tx slots)	Left Side	10mm	DSI 7	251	848.8	29.58	30.50	1.236	0.03	0.137	0.169
	GSM850_LAT	GPRS (3 Tx slots)	Right Side	10mm	DSI 7	251	848.8	29.58	30.50	1.236	0.11	0.342	0.423
	GSM850_LAT	GPRS (3 Tx slots)	Bottom Side	10mm	DSI 7	251	848.8	29.58	30.50	1.236	0.01	0.258	0.319
	GSM1900_UAT	GPRS (3 Tx slots)	Front	10mm	DSI 4	810	1909.8	23.64	25.00	1.368	0.02	0.229	0.313
	GSM1900_UAT	GPRS (3 Tx slots)	Back	10mm	DSI 4	810	1909.8	23.64	25.00	1.368	-0.01	0.274	0.375
	GSM1900_UAT	GPRS (3 Tx slots)	Left Side	10mm	DSI 4	810	1909.8	23.64	25.00	1.368	-0.09	0.109	0.149
	GSM1900_UAT	GPRS (3 Tx slots)	Right Side	10mm	DSI 4	810	1909.8	23.64	25.00	1.368	-0.06	0.062	0.085
27	GSM1900_UAT	GPRS (3 Tx slots)	Top Side	10mm	DSI 4	810	1909.8	23.64	25.00	1.368	-0.12	0.521	0.713
	GSM1900_LAT	GPRS (4 Tx slots)	Front	10mm	DSI 7	512	1850.2	23.53	24.00	1.114	0.18	0.252	0.281
	GSM1900_LAT	GPRS (4 Tx slots)	Back	10mm	DSI 7	512	1850.2	23.53	24.00	1.114	0.06	0.244	0.272
	GSM1900_LAT	GPRS (4 Tx slots)	Left Side	10mm	DSI 7	512	1850.2	23.53	24.00	1.114	-0.08	0.054	0.060
	GSM1900_LAT	GPRS (4 Tx slots)	Right Side	10mm	DSI 7	512	1850.2	23.53	24.00	1.114	-0.08	0.034	0.038
	GSM1900_LAT	GPRS (4 Tx slots)	Bottom Side	10mm	DSI 7	512	1850.2	23.53	24.00	1.114	0.02	0.265	0.295

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_UAT	RMC 12.2Kbps	Front	10mm	DSI 4	9400	1880	18.13	19.00	1.222	-0.04	0.218	0.266
	WCDMA II_UAT	RMC 12.2Kbps	Back	10mm	DSI 4	9400	1880	18.13	19.00	1.222	-0.08	0.245	0.299
	WCDMA II_UAT	RMC 12.2Kbps	Left Side	10mm	DSI 4	9400	1880	18.13	19.00	1.222	-0.07	0.116	0.142
	WCDMA II_UAT	RMC 12.2Kbps	Right Side	10mm	DSI 4	9400	1880	18.13	19.00	1.222	-0.03	0.061	0.075
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	10mm	DSI 4	9400	1880	18.13	19.00	1.222	0.03	0.515	0.629
	WCDMA II_LAT	RMC 12.2Kbps	Front	10mm	DSI 7	9400	1880	20.97	21.50	1.130	-0.15	0.396	0.447
	WCDMA II_LAT	RMC 12.2Kbps	Back	10mm	DSI 7	9400	1880	20.97	21.50	1.130	-0.02	0.464	0.524
	WCDMA II_LAT	RMC 12.2Kbps	Left Side	10mm	DSI 7	9400	1880	20.97	21.50	1.130	0.08	0.138	0.156
	WCDMA II_LAT	RMC 12.2Kbps	Right Side	10mm	DSI 7	9400	1880	20.97	21.50	1.130	-0.14	0.068	0.077
28	WCDMA II_LAT	RMC 12.2Kbps	Bottom Side	10mm	DSI 7	9400	1880	20.97	21.50	1.130	0.08	0.590	0.667
	WCDMA IV_UAT	RMC 12.2Kbps	Front	10mm	DSI 4	1413	1732.6	17.70	18.50	1.202	-0.14	0.208	0.250
	WCDMA IV_UAT	RMC 12.2Kbps	Back	10mm	DSI 4	1413	1732.6	17.70	18.50	1.202	-0.14	0.199	0.239
	WCDMA IV_UAT	RMC 12.2Kbps	Left Side	10mm	DSI 4	1413	1732.6	17.70	18.50	1.202	-0.1	0.113	0.136
	WCDMA IV_UAT	RMC 12.2Kbps	Right Side	10mm	DSI 4	1413	1732.6	17.70	18.50	1.202	-0.05	0.041	0.049
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	10mm	DSI 4	1413	1732.6	17.70	18.50	1.202	-0.05	0.369	0.444
	WCDMA IV_LAT	RMC 12.2Kbps	Front	10mm	DSI 7	1413	1732.6	21.06	21.50	1.107	-0.18	0.408	0.452
	WCDMA IV_LAT	RMC 12.2Kbps	Back	10mm	DSI 7	1413	1732.6	21.06	21.50	1.107	-0.12	0.484	0.536
	WCDMA IV_LAT	RMC 12.2Kbps	Left Side	10mm	DSI 7	1413	1732.6	21.06	21.50	1.107	0.09	0.206	0.228
	WCDMA IV_LAT	RMC 12.2Kbps	Right Side	10mm	DSI 7	1413	1732.6	21.06	21.50	1.107	-0.11	0.124	0.137
29	WCDMA IV_LAT	RMC 12.2Kbps	Bottom Side	10mm	DSI 7	1413	1732.6	21.06	21.50	1.107	0.08	0.589	0.652
	WCDMA V_UAT	RMC 12.2Kbps	Front	10mm	DSI 4	4182	836.4	23.23	23.80	1.140	0.07	0.322	0.367
	WCDMA V_UAT	RMC 12.2Kbps	Back	10mm	DSI 4	4182	836.4	23.23	23.80	1.140	-0.12	0.466	0.531
30	WCDMA V_UAT	RMC 12.2Kbps	Left Side	10mm	DSI 4	4182	836.4	23.23	23.80	1.140	0.07	0.518	0.591
	WCDMA V_UAT	RMC 12.2Kbps	Right Side	10mm	DSI 4	4182	836.4	23.23	23.80	1.140	-0.1	0.014	0.016
	WCDMA V_UAT	RMC 12.2Kbps	Top Side	10mm	DSI 4	4182	836.4	23.23	23.80	1.140	0.02	0.023	0.026
	WCDMA V_LAT	RMC 12.2Kbps	Front	10mm	DSI 7	4182	836.4	23.39	23.50	1.026	0.05	0.342	0.351
	WCDMA V_LAT	RMC 12.2Kbps	Back	10mm	DSI 7	4182	836.4	23.39	23.50	1.026	0.06	0.499	0.512
	WCDMA V_LAT	RMC 12.2Kbps	Left Side	10mm	DSI 7	4182	836.4	23.39	23.50	1.026	0.01	0.165	0.169
	WCDMA V_LAT	RMC 12.2Kbps	Right Side	10mm	DSI 7	4182	836.4	23.39	23.50	1.026	-0.09	0.298	0.306
	WCDMA V_LAT	RMC 12.2Kbps	Bottom Side	10mm	DSI 7	4182	836.4	23.39	23.50	1.026	0.14	0.273	0.280

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 5_UAT	10M	QPSK	1	0	Front	10mm	DSI 4	20525	836.5	22.43	23.50	1.279	-0.18	0.271	0.347
	LTE Band 5_UAT	10M	QPSK	25	12	Front	10mm	DSI 4	20525	836.5	22.44	23.50	1.276	-0.15	0.284	0.363
	LTE Band 5_UAT	10M	QPSK	1	0	Back	10mm	DSI 4	20525	836.5	22.43	23.50	1.279	-0.06	0.379	0.485
	LTE Band 5_UAT	10M	QPSK	25	12	Back	10mm	DSI 4	20525	836.5	22.44	23.50	1.276	0.07	0.402	0.513
	LTE Band 5_UAT	10M	QPSK	1	0	Left Side	10mm	DSI 4	20525	836.5	22.43	23.50	1.279	0.12	0.438	0.560
	LTE Band 5_UAT	10M	QPSK	25	12	Left Side	10mm	DSI 4	20525	836.5	22.44	23.50	1.276	0.18	0.441	0.563
	LTE Band 5_UAT	10M	QPSK	1	0	Right Side	10mm	DSI 4	20525	836.5	22.43	23.50	1.279	-0.17	0.010	0.013
	LTE Band 5_UAT	10M	QPSK	25	12	Right Side	10mm	DSI 4	20525	836.5	22.44	23.50	1.276	-0.19	0.012	0.015
	LTE Band 5_UAT	10M	QPSK	1	0	Top Side	10mm	DSI 4	20525	836.5	22.43	23.50	1.279	-0.17	0.019	0.024
	LTE Band 5_UAT	10M	QPSK	25	12	Top Side	10mm	DSI 4	20525	836.5	22.44	23.50	1.276	0.08	0.020	0.026
	LTE Band 5_LAT	10M	QPSK	1	0	Front	10mm	DSI 7	20525	836.5	23.76	24.80	1.271	0.05	0.399	0.507
	LTE Band 5_LAT	10M	QPSK	25	12	Front	10mm	DSI 7	20525	836.5	22.96	23.80	1.213	-0.02	0.396	0.481
31	LTE Band 5_LAT	10M	QPSK	1	0	Back	10mm	DSI 7	20525	836.5	23.76	24.80	1.271	-0.11	0.554	0.704
	LTE Band 5_LAT	10M	QPSK	25	12	Back	10mm	DSI 7	20525	836.5	22.96	23.80	1.213	0.1	0.572	0.694
	LTE Band 5_LAT	10M	QPSK	1	0	Left Side	10mm	DSI 7	20525	836.5	23.76	24.80	1.271	0.13	0.174	0.221
	LTE Band 5_LAT	10M	QPSK	25	12	Left Side	10mm	DSI 7	20525	836.5	22.96	23.80	1.213	0.08	0.173	0.210
	LTE Band 5_LAT	10M	QPSK	1	0	Right Side	10mm	DSI 7	20525	836.5	23.76	24.80	1.271	0.17	0.382	0.485
	LTE Band 5_LAT	10M	QPSK	25	12	Right Side	10mm	DSI 7	20525	836.5	22.96	23.80	1.213	0.12	0.398	0.483
	LTE Band 5_LAT	10M	QPSK	1	0	Bottom Side	10mm	DSI 7	20525	836.5	23.76	24.80	1.271	0.05	0.311	0.395
	LTE Band 5_LAT	10M	QPSK	25	12	Bottom Side	10mm	DSI 7	20525	836.5	22.96	23.80	1.213	0.03	0.316	0.383
	LTE Band 7_UAT	20M	QPSK	1	99	Front	10mm	DSI 4	20850	2510	17.19	18.00	1.205	0.12	0.127	0.153
	LTE Band 7_UAT	20M	QPSK	50	50	Front	10mm	DSI 4	20850	2510	17.28	18.00	1.180	0.09	0.132	0.156
	LTE Band 7_UAT	20M	QPSK	1	99	Back	10mm	DSI 4	20850	2510	17.19	18.00	1.205	-0.03	0.174	0.210
	LTE Band 7_UAT	20M	QPSK	50	50	Back	10mm	DSI 4	20850	2510	17.28	18.00	1.180	-0.08	0.180	0.212
	LTE Band 7_UAT	20M	QPSK	1	99	Left Side	10mm	DSI 4	20850	2510	17.19	18.00	1.205	-0.03	0.043	0.052
	LTE Band 7_UAT	20M	QPSK	50	50	Left Side	10mm	DSI 4	20850	2510	17.28	18.00	1.180	-0.09	0.044	0.052
	LTE Band 7_UAT	20M	QPSK	1	99	Right Side	10mm	DSI 4	20850	2510	17.19	18.00	1.205	-0.12	0.039	0.047
	LTE Band 7_UAT	20M	QPSK	50	50	Right Side	10mm	DSI 4	20850	2510	17.28	18.00	1.180	-0.13	0.040	0.047
	LTE Band 7_UAT	20M	QPSK	1	99	Top Side	10mm	DSI 4	20850	2510	17.19	18.00	1.205	-0.13	0.473	0.570
	LTE Band 7_UAT	20M	QPSK	50	50	Top Side	10mm	DSI 4	20850	2510	17.28	18.00	1.180	-0.04	0.490	0.578
	LTE Band 7_LAT	20M	QPSK	1	99	Front	10mm	DSI 7	21350	2560	20.89	21.80	1.233	-0.07	0.349	0.430
	LTE Band 7_LAT	20M	QPSK	50	50	Front	10mm	DSI 7	21350	2560	19.94	20.80	1.219	-0.12	0.294	0.358
	LTE Band 7_LAT	20M	QPSK	1	99	Back	10mm	DSI 7	21350	2560	20.89	21.80	1.233	-0.06	0.754	0.930
	LTE Band 7_LAT	20M	QPSK	1	99	Back	10mm	DSI 7	20850	2510	20.84	21.80	1.247	-0.04	0.679	0.847
	LTE Band 7_LAT	20M	QPSK	1	99	Back	10mm	DSI 7	21100	2535	20.82	21.80	1.253	-0.12	0.752	0.942
	LTE Band 7_LAT	20M	QPSK	50	50	Back	10mm	DSI 7	21350	2560	19.94	20.80	1.219	-0.1	0.660	0.805
	LTE Band 7_LAT	20M	QPSK	50	50	Back	10mm	DSI 7	20850	2510	19.89	20.80	1.233	-0.02	0.617	0.761
	LTE Band 7_LAT	20M	QPSK	50	50	Back	10mm	DSI 7	21100	2535	19.93	20.80	1.222	0.1	0.669	0.817
	LTE Band 7_LAT	20M	QPSK	100	0	Back	10mm	DSI 7	20850	2510	19.80	20.80	1.259	-0.07	0.625	0.787
	LTE Band 7_LAT	20M	QPSK	1	99	Left Side	10mm	DSI 7	21350	2560	20.89	21.80	1.233	0.14	0.101	0.125
	LTE Band 7_LAT	20M	QPSK	50	50	Left Side	10mm	DSI 7	21350	2560	19.94	20.80	1.219	-0.04	0.084	0.102
	LTE Band 7_LAT	20M	QPSK	1	99	Right Side	10mm	DSI 7	21350	2560	20.89	21.80	1.233	-0.1	0.072	0.089
	LTE Band 7_LAT	20M	QPSK	50	50	Right Side	10mm	DSI 7	21350	2560	19.94	20.80	1.219	-0.12	0.058	0.071
	LTE Band 7_LAT	20M	QPSK	1	99	Bottom Side	10mm	DSI 7	21350	2560	20.89	21.80	1.233	0.01	0.760	0.937
	LTE Band 7_LAT	20M	QPSK	1	99	Bottom Side	10mm	DSI 7	20850	2510	20.84	21.80	1.247	-0.11	0.765	0.954
32	LTE Band 7_LAT	20M	QPSK	1	99	Bottom Side	10mm	DSI 7	21100	2535	20.82	21.80	1.253	0.03	0.775	0.971
	LTE Band 7_LAT	20M	QPSK	50	50	Bottom Side	10mm	DSI 7	21350	2560	19.94	20.80	1.219	-0.11	0.643	0.784
	LTE Band 7_LAT	20M	QPSK	100	0	Bottom Side	10mm	DSI 7	20850	2510	19.80	20.80	1.259	-0.09	0.578	0.728

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12_UAT	10M	QPSK	1	0	Front	10mm	DSI 4	23095	707.5	23.04	23.80	1.191	-0.14	0.102	0.122
	LTE Band 12_UAT	10M	QPSK	25	12	Front	10mm	DSI 4	23095	707.5	22.15	22.80	1.161	-0.1	0.094	0.109
	LTE Band 12_UAT	10M	QPSK	1	0	Back	10mm	DSI 4	23095	707.5	23.04	23.80	1.191	-0.17	0.134	0.160
	LTE Band 12_UAT	10M	QPSK	25	12	Back	10mm	DSI 4	23095	707.5	22.15	22.80	1.161	-0.07	0.107	0.124
	LTE Band 12_UAT	10M	QPSK	1	0	Left Side	10mm	DSI 4	23095	707.5	23.04	23.80	1.191	0.02	0.167	0.199
	LTE Band 12_UAT	10M	QPSK	25	12	Left Side	10mm	DSI 4	23095	707.5	22.15	22.80	1.161	0.19	0.154	0.179
	LTE Band 12_UAT	10M	QPSK	1	0	Right Side	10mm	DSI 4	23095	707.5	23.04	23.80	1.191	0.16	0.005	0.007
	LTE Band 12_UAT	10M	QPSK	25	12	Right Side	10mm	DSI 4	23095	707.5	22.15	22.80	1.161	0.11	0.005	0.006
	LTE Band 12_UAT	10M	QPSK	1	0	Top Side	10mm	DSI 4	23095	707.5	23.04	23.80	1.191	-0.09	0.005	0.006
	LTE Band 12_UAT	10M	QPSK	25	12	Top Side	10mm	DSI 4	23095	707.5	22.15	22.80	1.161	0.05	0.005	0.006
	LTE Band 12_LAT	10M	QPSK	1	49	Front	10mm	DSI 7	23095	707.5	22.96	23.80	1.213	0.13	0.158	0.192
	LTE Band 12_LAT	10M	QPSK	25	12	Front	10mm	DSI 7	23095	707.5	21.98	22.80	1.208	0.06	0.151	0.182
33	LTE Band 12_LAT	10M	QPSK	1	49	Back	10mm	DSI 7	23095	707.5	22.96	23.80	1.213	0.05	0.230	0.279
	LTE Band 12_LAT	10M	QPSK	25	12	Back	10mm	DSI 7	23095	707.5	21.98	22.80	1.208	0.09	0.210	0.254
	LTE Band 12_LAT	10M	QPSK	1	49	Left Side	10mm	DSI 7	23095	707.5	22.96	23.80	1.213	0.11	0.050	0.061
	LTE Band 12_LAT	10M	QPSK	25	12	Left Side	10mm	DSI 7	23095	707.5	21.98	22.80	1.208	0.09	0.051	0.062
	LTE Band 12_LAT	10M	QPSK	1	49	Right Side	10mm	DSI 7	23095	707.5	22.96	23.80	1.213	-0.04	0.146	0.177
	LTE Band 12_LAT	10M	QPSK	25	12	Right Side	10mm	DSI 7	23095	707.5	21.98	22.80	1.208	0.01	0.131	0.158
	LTE Band 12_LAT	10M	QPSK	1	49	Bottom Side	10mm	DSI 7	23095	707.5	22.96	23.80	1.213	0.03	0.096	0.116
	LTE Band 12_LAT	10M	QPSK	25	12	Bottom Side	10mm	DSI 7	23095	707.5	21.98	22.80	1.208	0.06	0.087	0.105
	LTE Band 13_UAT	10M	QPSK	1	0	Front	10mm	DSI 4	23230	782	23.91	24.80	1.227	-0.11	0.299	0.367
	LTE Band 13_UAT	10M	QPSK	25	25	Front	10mm	DSI 4	23230	782	23.18	23.80	1.153	-0.14	0.357	0.412
	LTE Band 13_UAT	10M	QPSK	1	0	Back	10mm	DSI 4	23230	782	23.91	24.80	1.227	0.07	0.423	0.519
	LTE Band 13_UAT	10M	QPSK	25	25	Back	10mm	DSI 4	23230	782	23.18	23.80	1.153	0.12	0.508	0.586
	LTE Band 13_UAT	10M	QPSK	1	0	Left Side	10mm	DSI 4	23230	782	23.91	24.80	1.227	0.07	0.420	0.516
	LTE Band 13_UAT	10M	QPSK	25	25	Left Side	10mm	DSI 4	23230	782	23.18	23.80	1.153	0.03	0.510	0.588
	LTE Band 13_UAT	10M	QPSK	1	0	Right Side	10mm	DSI 4	23230	782	23.91	24.80	1.227	0.03	0.015	0.018
	LTE Band 13_UAT	10M	QPSK	25	25	Right Side	10mm	DSI 4	23230	782	23.18	23.80	1.153	0.05	0.019	0.022
	LTE Band 13_UAT	10M	QPSK	1	0	Top Side	10mm	DSI 4	23230	782	23.91	24.80	1.227	0.15	0.017	0.021
	LTE Band 13_UAT	10M	QPSK	25	25	Top Side	10mm	DSI 4	23230	782	23.18	23.80	1.153	0.1	0.019	0.022
	LTE Band 13_LAT	10M	QPSK	1	25	Front	10mm	DSI 7	23230	782	23.90	24.80	1.230	0.09	0.399	0.491
	LTE Band 13_LAT	10M	QPSK	25	12	Front	10mm	DSI 7	23230	782	23.00	23.80	1.202	0.03	0.383	0.460
	LTE Band 13_LAT	10M	QPSK	1	25	Back	10mm	DSI 7	23230	782	23.90	24.80	1.230	0.13	0.461	0.567
34	LTE Band 13_LAT	10M	QPSK	25	12	Back	10mm	DSI 7	23230	782	23.00	23.80	1.202	0.09	0.493	0.593
	LTE Band 13_LAT	10M	QPSK	1	25	Left Side	10mm	DSI 7	23230	782	23.90	24.80	1.230	0.04	0.249	0.306
	LTE Band 13_LAT	10M	QPSK	25	12	Left Side	10mm	DSI 7	23230	782	23.00	23.80	1.202	0.04	0.250	0.301
	LTE Band 13_LAT	10M	QPSK	1	25	Right Side	10mm	DSI 7	23230	782	23.90	24.80	1.230	-0.02	0.248	0.305
	LTE Band 13_LAT	10M	QPSK	25	12	Right Side	10mm	DSI 7	23230	782	23.00	23.80	1.202	-0.04	0.256	0.308
	LTE Band 13_LAT	10M	QPSK	1	25	Bottom Side	10mm	DSI 7	23230	782	23.90	24.80	1.230	0.14	0.257	0.316
	LTE Band 13_LAT	10M	QPSK	25	12	Bottom Side	10mm	DSI 7	23230	782	23.00	23.80	1.202	0.15	0.265	0.319

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25_UAT	20M	QPSK	1	0	Front	10mm	DSI 4	26140	1860	17.39	18.00	1.151	-0.05	0.172	0.198
	LTE Band 25_UAT	20M	QPSK	50	0	Front	10mm	DSI 4	26140	1860	17.48	18.00	1.127	-0.04	0.173	0.195
	LTE Band 25_UAT	20M	QPSK	1	0	Back	10mm	DSI 4	26140	1860	17.39	18.00	1.151	-0.1	0.193	0.222
	LTE Band 25_UAT	20M	QPSK	50	0	Back	10mm	DSI 4	26140	1860	17.48	18.00	1.127	-0.07	0.197	0.222
	LTE Band 25_UAT	20M	QPSK	1	0	Left Side	10mm	DSI 4	26140	1860	17.39	18.00	1.151	0	0.089	0.102
	LTE Band 25_UAT	20M	QPSK	50	0	Left Side	10mm	DSI 4	26140	1860	17.48	18.00	1.127	-0.06	0.090	0.101
	LTE Band 25_UAT	20M	QPSK	1	0	Right Side	10mm	DSI 4	26140	1860	17.39	18.00	1.151	-0.08	0.051	0.059
	LTE Band 25_UAT	20M	QPSK	50	0	Right Side	10mm	DSI 4	26140	1860	17.48	18.00	1.127	-0.14	0.052	0.059
	LTE Band 25_UAT	20M	QPSK	1	0	Top Side	10mm	DSI 4	26140	1860	17.39	18.00	1.151	-0.02	0.397	0.457
	LTE Band 25_UAT	20M	QPSK	50	0	Top Side	10mm	DSI 4	26140	1860	17.48	18.00	1.127	0.01	0.406	0.458
	LTE Band 25_LAT	20M	QPSK	1	99	Front	10mm	DSI 7	26590	1905	23.26	24.20	1.242	-0.03	0.474	0.589
	LTE Band 25_LAT	20M	QPSK	50	50	Front	10mm	DSI 7	26590	1905	22.25	23.20	1.245	-0.07	0.378	0.470
	LTE Band 25_LAT	20M	QPSK	1	99	Back	10mm	DSI 7	26590	1905	23.26	24.20	1.242	-0.05	0.583	0.724
	LTE Band 25_LAT	20M	QPSK	50	50	Back	10mm	DSI 7	26590	1905	22.25	23.20	1.245	-0.04	0.467	0.581
	LTE Band 25_LAT	20M	QPSK	1	99	Left Side	10mm	DSI 7	26590	1905	23.26	24.20	1.242	-0.02	0.173	0.215
	LTE Band 25_LAT	20M	QPSK	50	50	Left Side	10mm	DSI 7	26590	1905	22.25	23.20	1.245	-0.01	0.136	0.169
	LTE Band 25_LAT	20M	QPSK	1	99	Right Side	10mm	DSI 7	26590	1905	23.26	24.20	1.242	-0.09	0.082	0.102
	LTE Band 25_LAT	20M	QPSK	50	50	Right Side	10mm	DSI 7	26590	1905	22.25	23.20	1.245	-0.05	0.066	0.082
36	LTE Band 25_LAT	20M	QPSK	1	99	Bottom Side	10mm	DSI 7	26590	1905	23.26	24.20	1.242	0.08	0.680	0.844
	LTE Band 25_LAT	20M	QPSK	1	0	Bottom Side	10mm	DSI 7	26590	1905	23.13	24.20	1.279	0.02	0.651	0.833
	LTE Band 25_LAT	20M	QPSK	1	0	Bottom Side	10mm	DSI 7	26590	1905	22.81	24.20	1.377	0.09	0.610	0.840
	LTE Band 25_LAT	20M	QPSK	50	50	Bottom Side	10mm	DSI 7	26590	1905	22.25	23.20	1.245	0.02	0.562	0.699
	LTE Band 25_LAT	20M	QPSK	100	0	Bottom Side	10mm	DSI 7	26590	1905	22.15	23.20	1.274	0	0.542	0.690
	LTE Band 26_UAT	15M	QPSK	1	0	Front	10mm	DSI 4	26865	831.5	22.99	23.80	1.205	0.11	0.312	0.376
	LTE Band 26_UAT	15M	QPSK	36	20	Front	10mm	DSI 4	26865	831.5	22.04	22.80	1.191	-0.13	0.248	0.295
	LTE Band 26_UAT	15M	QPSK	1	0	Back	10mm	DSI 4	26865	831.5	22.99	23.80	1.205	-0.15	0.449	0.541
	LTE Band 26_UAT	15M	QPSK	36	20	Back	10mm	DSI 4	26865	831.5	22.04	22.80	1.191	-0.12	0.357	0.425
37	LTE Band 26_UAT	15M	QPSK	1	0	Left Side	10mm	DSI 4	26865	831.5	22.99	23.80	1.205	-0.11	0.497	0.599
	LTE Band 26_UAT	15M	QPSK	36	20	Left Side	10mm	DSI 4	26865	831.5	22.04	22.80	1.191	-0.16	0.397	0.473
	LTE Band 26_UAT	15M	QPSK	1	0	Right Side	10mm	DSI 4	26865	831.5	22.99	23.80	1.205	-0.11	0.012	0.014
	LTE Band 26_UAT	15M	QPSK	36	20	Right Side	10mm	DSI 4	26865	831.5	22.04	22.80	1.191	-0.04	0.009	0.011
	LTE Band 26_UAT	15M	QPSK	1	0	Top Side	10mm	DSI 4	26865	831.5	22.99	23.80	1.205	0.07	0.022	0.027
	LTE Band 26_UAT	15M	QPSK	36	20	Top Side	10mm	DSI 4	26865	831.5	22.04	22.80	1.191	-0.16	0.020	0.024
	LTE Band 26_LAT	15M	QPSK	1	74	Front	10mm	DSI 7	26865	831.5	22.92	23.80	1.225	0.02	0.328	0.402
	LTE Band 26_LAT	15M	QPSK	36	20	Front	10mm	DSI 7	26865	831.5	21.95	22.80	1.216	-0.01	0.271	0.330
	LTE Band 26_LAT	15M	QPSK	1	74	Back	10mm	DSI 7	26865	831.5	22.92	23.80	1.225	-0.11	0.419	0.513
	LTE Band 26_LAT	15M	QPSK	36	20	Back	10mm	DSI 7	26865	831.5	21.95	22.80	1.216	-0.14	0.330	0.401
	LTE Band 26_LAT	15M	QPSK	1	74	Left Side	10mm	DSI 7	26865	831.5	22.92	23.80	1.225	0.11	0.140	0.171
	LTE Band 26_LAT	15M	QPSK	36	20	Left Side	10mm	DSI 7	26865	831.5	21.95	22.80	1.216	0.13	0.117	0.142
	LTE Band 26_LAT	15M	QPSK	1	74	Right Side	10mm	DSI 7	26865	831.5	22.92	23.80	1.225	0.08	0.324	0.397
	LTE Band 26_LAT	15M	QPSK	36	20	Right Side	10mm	DSI 7	26865	831.5	21.95	22.80	1.216	0.17	0.252	0.306
	LTE Band 26_LAT	15M	QPSK	1	74	Bottom Side	10mm	DSI 7	26865	831.5	22.92	23.80	1.225	0.07	0.269	0.329
	LTE Band 26_LAT	15M	QPSK	36	20	Bottom Side	10mm	DSI 7	26865	831.5	21.95	22.80	1.216	0.04	0.207	0.252

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 30_UAT	10M	QPSK	1	0	Front	10mm	DSI 4	27710	2310	16.94	18.00	1.276	-0.05	0.139	0.177
	LTE Band 30_UAT	10M	QPSK	25	12	Front	10mm	DSI 4	27710	2310	16.96	18.00	1.271	0.03	0.140	0.178
	LTE Band 30_UAT	10M	QPSK	1	0	Back	10mm	DSI 4	27710	2310	16.94	18.00	1.276	-0.09	0.157	0.200
	LTE Band 30_UAT	10M	QPSK	25	12	Back	10mm	DSI 4	27710	2310	16.96	18.00	1.271	-0.05	0.159	0.202
	LTE Band 30_UAT	10M	QPSK	1	0	Left Side	10mm	DSI 4	27710	2310	16.94	18.00	1.276	-0.15	0.047	0.060
	LTE Band 30_UAT	10M	QPSK	25	12	Left Side	10mm	DSI 4	27710	2310	16.96	18.00	1.271	-0.12	0.050	0.064
	LTE Band 30_UAT	10M	QPSK	1	0	Right Side	10mm	DSI 4	27710	2310	16.94	18.00	1.276	0.07	0.028	0.036
	LTE Band 30_UAT	10M	QPSK	25	12	Right Side	10mm	DSI 4	27710	2310	16.96	18.00	1.271	-0.13	0.027	0.034
	LTE Band 30_UAT	10M	QPSK	1	0	Top Side	10mm	DSI 4	27710	2310	16.94	18.00	1.276	-0.05	0.419	0.535
	LTE Band 30_UAT	10M	QPSK	25	12	Top Side	10mm	DSI 4	27710	2310	16.96	18.00	1.271	-0.08	0.446	0.567
	LTE Band 30_LAT	10M	QPSK	1	0	Front	10mm	DSI 7	27710	2310	20.64	21.80	1.306	-0.07	0.346	0.452
	LTE Band 30_LAT	10M	QPSK	25	25	Front	10mm	DSI 7	27710	2310	19.68	20.80	1.294	-0.11	0.270	0.349
	LTE Band 30_LAT	10M	QPSK	1	0	Back	10mm	DSI 7	27710	2310	20.64	21.80	1.306	0.03	0.475	0.620
	LTE Band 30_LAT	10M	QPSK	25	25	Back	10mm	DSI 7	27710	2310	19.68	20.80	1.294	-0.03	0.367	0.475
	LTE Band 30_LAT	10M	QPSK	1	0	Left Side	10mm	DSI 7	27710	2310	20.64	21.80	1.306	0.08	0.080	0.104
	LTE Band 30_LAT	10M	QPSK	25	25	Left Side	10mm	DSI 7	27710	2310	19.68	20.80	1.294	-0.14	0.061	0.079
	LTE Band 30_LAT	10M	QPSK	1	0	Right Side	10mm	DSI 7	27710	2310	20.64	21.80	1.306	-0.08	0.083	0.108
	LTE Band 30_LAT	10M	QPSK	25	25	Right Side	10mm	DSI 7	27710	2310	19.68	20.80	1.294	-0.15	0.067	0.087
38	LTE Band 30_LAT	10M	QPSK	1	0	Bottom Side	10mm	DSI 7	27710	2310	20.64	21.80	1.306	0	0.661	0.863
	LTE Band 30_LAT	10M	QPSK	25	25	Bottom Side	10mm	DSI 7	27710	2310	19.68	20.80	1.294	-0.1	0.521	0.674
	LTE Band 30_LAT	10M	QPSK	50	0	Bottom Side	10mm	DSI 7	27710	2310	19.27	20.80	1.422	-0.14	0.494	0.703
	LTE Band 66_UAT	20M	QPSK	1	0	Front	10mm	DSI 4	132572	1770	17.04	18.00	1.247	-0.07	0.247	0.308
	LTE Band 66_UAT	20M	QPSK	50	24	Front	10mm	DSI 4	132572	1770	17.08	18.00	1.236	-0.14	0.250	0.309
	LTE Band 66_UAT	20M	QPSK	1	0	Back	10mm	DSI 4	132572	1770	17.04	18.00	1.247	-0.12	0.258	0.322
	LTE Band 66_UAT	20M	QPSK	50	24	Back	10mm	DSI 4	132572	1770	17.08	18.00	1.236	-0.08	0.258	0.319
	LTE Band 66_UAT	20M	QPSK	1	0	Left Side	10mm	DSI 4	132572	1770	17.04	18.00	1.247	-0.15	0.118	0.147
	LTE Band 66_UAT	20M	QPSK	50	24	Left Side	10mm	DSI 4	132572	1770	17.08	18.00	1.236	-0.04	0.112	0.138
	LTE Band 66_UAT	20M	QPSK	1	0	Right Side	10mm	DSI 4	132572	1770	17.04	18.00	1.247	-0.05	0.051	0.064
	LTE Band 66_UAT	20M	QPSK	50	24	Right Side	10mm	DSI 4	132572	1770	17.08	18.00	1.236	-0.09	0.054	0.067
	LTE Band 66_UAT	20M	QPSK	1	0	Top Side	10mm	DSI 4	132572	1770	17.04	18.00	1.247	0.02	0.437	0.545
	LTE Band 66_UAT	20M	QPSK	50	24	Top Side	10mm	DSI 4	132572	1770	17.08	18.00	1.236	0.04	0.443	0.548
	LTE Band 66_LAT	20M	QPSK	1	49	Front	10mm	DSI 7	132572	1770	23.15	23.20	1.012	-0.05	0.620	0.627
	LTE Band 66_LAT	20M	QPSK	50	24	Front	10mm	DSI 7	132572	1770	23.01	23.20	1.045	-0.04	0.635	0.663
	LTE Band 66_LAT	20M	QPSK	1	49	Back	10mm	DSI 7	132572	1770	23.15	23.20	1.012	-0.1	0.776	0.785
	LTE Band 66_LAT	20M	QPSK	50	24	Back	10mm	DSI 7	132572	1770	23.01	23.20	1.045	0.02	0.762	0.796
	LTE Band 66_LAT	20M	QPSK	1	49	Left Side	10mm	DSI 7	132572	1770	23.15	23.20	1.012	0.05	0.335	0.339
	LTE Band 66_LAT	20M	QPSK	50	24	Left Side	10mm	DSI 7	132572	1770	23.01	23.20	1.045	-0.04	0.302	0.316
	LTE Band 66_LAT	20M	QPSK	1	49	Right Side	10mm	DSI 7	132572	1770	23.15	23.20	1.012	-0.12	0.230	0.233
	LTE Band 66_LAT	20M	QPSK	50	24	Right Side	10mm	DSI 7	132572	1770	23.01	23.20	1.045	-0.19	0.206	0.215
	LTE Band 66_LAT	20M	QPSK	1	49	Bottom Side	10mm	DSI 7	132572	1770	23.15	23.20	1.012	0.14	1.080	1.093
39	LTE Band 66_LAT	20M	QPSK	1	49	Bottom Side	10mm	DSI 7	132072	1720	22.92	23.20	1.067	0.04	1.029	1.098
	LTE Band 66_LAT	20M	QPSK	1	49	Bottom Side	10mm	DSI 7	132322	1745	23.06	23.20	1.033	0.03	1.021	1.054
	LTE Band 66_LAT	20M	QPSK	50	24	Bottom Side	10mm	DSI 7	132572	1770	23.01	23.20	1.045	0.09	0.966	1.009
	LTE Band 66_LAT	20M	QPSK	50	24	Bottom Side	10mm	DSI 7	132072	1720	22.87	23.20	1.079	0.04	0.986	1.064
	LTE Band 66_LAT	20M	QPSK	50	24	Bottom Side	10mm	DSI 7	132322	1745	22.96	23.20	1.057	0.06	0.975	1.030
	LTE Band 66_LAT	20M	QPSK	100	0	Bottom Side	10mm	DSI 7	132572	1770	22.94	23.20	1.062	0.04	0.955	1.014
	LTE Band 71_UAT	20M	QPSK	1	0	Front	10mm	DSI 4	133322	683	23.56	23.80	1.057	-0.17	0.085	0.090
	LTE Band 71_UAT	20M	QPSK	50	50	Front	10mm	DSI 4	133322	683	22.64	22.80	1.038	0.03	0.075	0.078
	LTE Band 71_UAT	20M	QPSK	1	0	Back	10mm	DSI 4	133322	683	23.56	23.80	1.057	-0.05	0.093	0.098
	LTE Band 71_UAT	20M	QPSK	50	50	Back	10mm	DSI 4	133322	683	22.64	22.80	1.038	-0.08	0.100	0.104
	LTE Band 71_UAT	20M	QPSK	1	0	Left Side	10mm	DSI 4	133322	683	23.56	23.80	1.057	0.05	0.115	0.122
	LTE Band 71_UAT	20M	QPSK	50	50	Left Side	10mm	DSI 4	133322	683	22.64	22.80	1.038	0.09	0.123	0.128
	LTE Band 71_UAT	20M	QPSK	1	0	Right Side	10mm	DSI 4	133322	683	23.56	23.80	1.057	0.11	0.006	0.006
	LTE Band 71_UAT	20M	QPSK	50	50	Right Side	10mm	DSI 4	133322	683	22.64	22.80	1.038	0.07	0.006	0.006
	LTE Band 71_UAT	20M	QPSK	1	0	Top Side	10mm	DSI 4	133322	683	23.56	23.80	1.057	0.05	0.005	0.005
	LTE Band 71_UAT	20M	QPSK	50	50	Top Side	10mm	DSI 4	133322	683	22.64	22.80	1.038	0.15	0.005	0.005

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 71_LAT	20M	QPSK	1	99	Front	10mm	DSI 7	133322	683	23.39	23.80	1.099	0.08	0.185	0.203
	LTE Band 71_LAT	20M	QPSK	50	50	Front	10mm	DSI 7	133322	683	22.53	22.80	1.064	-0.06	0.151	0.161
40	LTE Band 71_LAT	20M	QPSK	1	99	Back	10mm	DSI 7	133322	683	23.39	23.80	1.099	-0.04	0.266	0.292
	LTE Band 71_LAT	20M	QPSK	50	50	Back	10mm	DSI 7	133322	683	22.53	22.80	1.064	-0.05	0.204	0.217
	LTE Band 71_LAT	20M	QPSK	1	99	Left Side	10mm	DSI 7	133322	683	23.39	23.80	1.099	0.03	0.078	0.086
	LTE Band 71_LAT	20M	QPSK	50	50	Left Side	10mm	DSI 7	133322	683	22.53	22.80	1.064	-0.03	0.060	0.064
	LTE Band 71_LAT	20M	QPSK	1	99	Right Side	10mm	DSI 7	133322	683	23.39	23.80	1.099	-0.06	0.165	0.181
	LTE Band 71_LAT	20M	QPSK	50	50	Right Side	10mm	DSI 7	133322	683	22.53	22.80	1.064	-0.02	0.129	0.137
	LTE Band 71_LAT	20M	QPSK	1	99	Bottom Side	10mm	DSI 7	133322	683	23.39	23.80	1.099	0.17	0.110	0.121
	LTE Band 71_LAT	20M	QPSK	50	50	Bottom Side	10mm	DSI 7	133322	683	22.53	22.80	1.064	0.12	0.082	0.087

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_UAT	20M	QPSK	1	49	Front	10mm	DSI 4	40620	2593	19.79	20.50	1.178	62.9	1.006	-0.01	0.197	0.233
	LTE Band 41_UAT	20M	QPSK	50	24	Front	10mm	DSI 4	41490	2680	19.83	20.50	1.167	62.9	1.006	0.01	0.243	0.285
	LTE Band 41_UAT	20M	QPSK	1	49	Back	10mm	DSI 4	40620	2593	19.79	20.50	1.178	62.9	1.006	-0.08	0.244	0.289
	LTE Band 41_UAT	20M	QPSK	50	24	Back	10mm	DSI 4	41490	2680	19.83	20.50	1.167	62.9	1.006	-0.03	0.310	0.364
	LTE Band 41_UAT	20M	QPSK	1	49	Left Side	10mm	DSI 4	40620	2593	19.79	20.50	1.178	62.9	1.006	-0.15	0.054	0.064
	LTE Band 41_UAT	20M	QPSK	50	24	Left Side	10mm	DSI 4	41490	2680	19.83	20.50	1.167	62.9	1.006	-0.15	0.032	0.038
	LTE Band 41_UAT	20M	QPSK	1	49	Right Side	10mm	DSI 4	40620	2593	19.79	20.50	1.178	62.9	1.006	-0.15	0.050	0.059
	LTE Band 41_UAT	20M	QPSK	50	50	Right Side	10mm	DSI 4	41490	2680	19.83	20.50	1.167	62.9	1.006	-0.04	0.074	0.087
	LTE Band 41_UAT	20M	QPSK	1	49	Top Side	10mm	DSI 4	40620	2593	19.79	20.50	1.178	62.9	1.006	-0.16	0.461	0.546
41	LTE Band 41_UAT	20M	QPSK	50	24	Top Side	10mm	DSI 4	41490	2680	19.83	20.50	1.167	62.9	1.006	0.07	0.582	0.683
	LTE Band 41_UAT	20M	QPSK	50	50	Top Side	10mm	DSI 4	39750	2506	19.79	20.50	1.178	62.9	1.006	-0.05	0.481	0.570
	LTE Band 41_UAT	20M	QPSK	50	50	Top Side	10mm	DSI 4	40185	2549.5	19.75	20.50	1.189	62.9	1.006	-0.03	0.493	0.589
	LTE Band 41_UAT	20M	QPSK	50	50	Top Side	10mm	DSI 4	40620	2593	19.81	20.50	1.172	62.9	1.006	0	0.494	0.583
	LTE Band 41_UAT	20M	QPSK	50	24	Top Side	10mm	DSI 4	41055	2636.5	19.75	20.50	1.189	62.9	1.006	0.09	0.521	0.623
	LTE Band 41_LAT	20M	QPSK	1	49	Front	10mm	DSI 7	41490	2680	20.90	21.80	1.230	62.9	1.006	-0.09	0.188	0.233
	LTE Band 41_LAT	20M	QPSK	50	50	Front	10mm	DSI 7	41490	2680	20.00	20.80	1.202	62.9	1.006	-0.1	0.158	0.191
	LTE Band 41_LAT	20M	QPSK	1	49	Back	10mm	DSI 7	41490	2680	20.90	21.80	1.230	62.9	1.006	-0.13	0.503	0.623
	LTE Band 41_LAT	20M	QPSK	1	0	Back	10mm	DSI 7	39750	2506	20.71	21.80	1.285	62.9	1.006	-0.16	0.421	0.544
	LTE Band 41_LAT	20M	QPSK	1	0	Back	10mm	DSI 7	40185	2549.5	20.65	21.80	1.303	62.9	1.006	-0.13	0.453	0.594
	LTE Band 41_LAT	20M	QPSK	1	49	Back	10mm	DSI 7	40620	2593	20.76	21.80	1.271	62.9	1.006	-0.14	0.454	0.580
	LTE Band 41_LAT	20M	QPSK	1	49	Back	10mm	DSI 7	41055	2636.5	20.80	21.80	1.259	62.9	1.006	-0.16	0.483	0.612
	LTE Band 41_LAT	20M	QPSK	50	50	Back	10mm	DSI 7	41490	2680	20.00	20.80	1.202	62.9	1.006	-0.19	0.397	0.480
	LTE Band 41_LAT	20M	QPSK	100	0	Back	10mm	DSI 7	41490	2680	19.84	20.80	1.247	62.9	1.006	-0.06	0.348	0.437
	LTE Band 41_LAT	20M	QPSK	1	49	Left Side	10mm	DSI 7	41490	2680	20.90	21.80	1.230	62.9	1.006	-0.16	0.026	0.032
	LTE Band 41_LAT	20M	QPSK	50	50	Left Side	10mm	DSI 7	41490	2680	20.00	20.80	1.202	62.9	1.006	-0.12	0.021	0.025
	LTE Band 41_LAT	20M	QPSK	1	49	Right Side	10mm	DSI 7	41490	2680	20.90	21.80	1.230	62.9	1.006	-0.12	0.029	0.036
	LTE Band 41_LAT	20M	QPSK	50	50	Right Side	10mm	DSI 7	41490	2680	20.00	20.80	1.202	62.9	1.006	-0.18	0.022	0.027
	LTE Band 41_LAT	20M	QPSK	1	49	Bottom Side	10mm	DSI 7	41490	2680	20.90	21.80	1.230	62.9	1.006	-0.12	0.494	0.611
	LTE Band 41_LAT	20M	QPSK	1	0	Bottom Side	10mm	DSI 7	39750	2506	20.71	21.80	1.285	62.9	1.006	-0.13	0.430	0.556
	LTE Band 41_LAT	20M	QPSK	1	0	Bottom Side	10mm	DSI 7	40185	2549.5	20.65	21.80	1.303	62.9	1.006	-0.1	0.438	0.574
	LTE Band 41_LAT	20M	QPSK	1	49	Bottom Side	10mm	DSI 7	40620	2593	20.76	21.80	1.271	62.9	1.006	-0.17	0.469	0.599
	LTE Band 41_LAT	20M	QPSK	1	49	Bottom Side	10mm	DSI 7	41055	2636.5	20.80	21.80	1.259	62.9	1.006	-0.03	0.485	0.614
	LTE Band 41_LAT	20M	QPSK	50	50	Bottom Side	10mm	DSI 7	41490	2680	20.00	20.80	1.202	62.9	1.006	-0.18	0.390	0.472
	LTE Band 41_LAT	20M	QPSK	100	0	Bottom Side	10mm	DSI 7	41490	2680	19.84	20.80	1.247	62.9	1.006	0.06	0.371	0.466

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Front	10mm	DSI 4	55340	3560	18.03	19.00	1.250	62.9	1.006	-0.07	0.131	0.165
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Front	10mm	DSI 4	55340	3560	17.97	19.00	1.268	62.9	1.006	0.05	0.112	0.143
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Back	10mm	DSI 4	55340	3560	18.03	19.00	1.250	62.9	1.006	0.11	0.220	0.277
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Back	10mm	DSI 4	55340	3560	17.97	19.00	1.268	62.9	1.006	-0.16	0.226	0.288
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Left Side	10mm	DSI 4	55340	3560	18.03	19.00	1.250	62.9	1.006	0.12	0.032	0.040
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Left Side	10mm	DSI 4	55340	3560	17.97	19.00	1.268	62.9	1.006	0.14	0.031	0.040
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Right Side	10mm	DSI 4	55340	3560	18.03	19.00	1.250	62.9	1.006	0.1	0.034	0.043
	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Right Side	10mm	DSI 4	55340	3560	17.97	19.00	1.268	62.9	1.006	-0.14	0.036	0.046
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Top Side	10mm	DSI 4	55340	3560	18.03	19.00	1.250	62.9	1.006	0.1	0.287	0.361
42	LTE Band 48_UAT Ant 3	20M	QPSK	50	0	Top Side	10mm	DSI 4	55340	3560	17.97	19.00	1.268	62.9	1.006	0.15	0.284	0.362
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Front	10mm	DSI 4	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.04	0.042	0.044
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Front	10mm	DSI 4	55340	3560	24.41	24.70	1.069	62.9	1.006	-0.12	0.050	0.054
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Back	10mm	DSI 4	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.06	0.162	0.171
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Back	10mm	DSI 4	55340	3560	24.41	24.70	1.069	62.9	1.006	0.11	0.169	0.182
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Left Side	10mm	DSI 4	55340	3560	25.50	25.70	1.047	62.9	1.006	0.02	0.025	0.026
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Left Side	10mm	DSI 4	55340	3560	24.41	24.70	1.069	62.9	1.006	-0.1	0.043	0.046
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Right Side	10mm	DSI 4	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.11	0.014	0.015
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Right Side	10mm	DSI 4	55340	3560	24.41	24.70	1.069	62.9	1.006	-0.12	0.017	0.018
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Bottom Side	10mm	DSI 4	55340	3560	25.50	25.70	1.047	62.9	1.006	0.12	0.006	0.007
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Bottom Side	10mm	DSI 4	55340	3560	24.41	24.70	1.069	62.9	1.006	0.1	0.007	0.007

<5G NR NSA SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	N2_UAT	20M	QPSK	1	1	DFT-15	Front	10mm	DSI 4	380000	1900	18.83	19.50	1.167	-0.03	0.194	0.226
	N2_UAT	20M	QPSK	50	0	DFT-15	Front	10mm	DSI 4	380000	1900	18.55	19.50	1.245	-0.06	0.189	0.235
	N2_UAT	20M	QPSK	1	1	DFT-15	Back	10mm	DSI 4	380000	1900	18.83	19.50	1.167	0.08	0.202	0.236
	N2_UAT	20M	QPSK	50	0	DFT-15	Back	10mm	DSI 4	380000	1900	18.55	19.50	1.245	-0.05	0.196	0.244
	N2_UAT	20M	QPSK	1	1	DFT-15	Left Side	10mm	DSI 4	380000	1900	18.83	19.50	1.167	0.16	0.077	0.090
	N2_UAT	20M	QPSK	50	0	DFT-15	Left Side	10mm	DSI 4	380000	1900	18.55	19.50	1.245	0.02	0.069	0.086
	N2_UAT	20M	QPSK	1	1	DFT-15	Right Side	10mm	DSI 4	380000	1900	18.83	19.50	1.167	-0.04	0.052	0.061
	N2_UAT	20M	QPSK	50	0	DFT-15	Right Side	10mm	DSI 4	380000	1900	18.55	19.50	1.245	-0.06	0.050	0.062
	N2_UAT	20M	QPSK	1	1	DFT-15	Top Side	10mm	DSI 4	380000	1900	18.83	19.50	1.167	0.04	0.473	0.552
	N2_UAT	20M	QPSK	50	0	DFT-15	Top Side	10mm	DSI 4	380000	1900	18.55	19.50	1.245	-0.03	0.440	0.548
	N2_LAT	20M	QPSK	1	1	DFT-15	Front	10mm	DSI 7	380000	1900	20.75	22.40	1.462	-0.06	0.451	0.659
	N2_LAT	20M	QPSK	50	28	DFT-15	Front	10mm	DSI 7	380000	1900	20.46	22.40	1.563	-0.09	0.442	0.691
	N2_LAT	20M	QPSK	1	1	DFT-15	Back	10mm	DSI 7	380000	1900	20.75	22.40	1.462	-0.05	0.473	0.692
43	N2_LAT	20M	QPSK	50	28	DFT-15	Back	10mm	DSI 7	380000	1900	20.46	22.40	1.563	-0.07	0.462	0.722
	N2_LAT	20M	QPSK	1	1	DFT-15	Left Side	10mm	DSI 7	380000	1900	20.75	22.40	1.462	-0.06	0.158	0.231
	N2_LAT	20M	QPSK	50	28	DFT-15	Left Side	10mm	DSI 7	380000	1900	20.46	22.40	1.563	-0.04	0.157	0.245
	N2_LAT	20M	QPSK	1	1	DFT-15	Right Side	10mm	DSI 7	380000	1900	20.75	22.40	1.462	-0.11	0.140	0.205
	N2_LAT	20M	QPSK	50	28	DFT-15	Right Side	10mm	DSI 7	380000	1900	20.46	22.40	1.563	-0.09	0.128	0.200
	N2_LAT	20M	QPSK	1	1	DFT-15	Bottom Side	10mm	DSI 7	380000	1900	20.75	22.40	1.462	-0.03	0.470	0.687
	N2_LAT	20M	QPSK	50	28	DFT-15	Bottom Side	10mm	DSI 7	380000	1900	20.46	22.40	1.563	-0.06	0.444	0.694

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	N5_UAT	20M	QPSK	1	1	DFT-15	Front	10mm	DSI 4	167300	836.5	22.72	23.80	1.282	0.17	0.252	0.323
	N5_UAT	20M	QPSK	50	28	DFT-15	Front	10mm	DSI 4	167300	836.5	22.49	23.80	1.352	-0.13	0.249	0.337
44	N5_UAT	20M	QPSK	1	1	DFT-15	Back	10mm	DSI 4	167300	836.5	22.72	23.80	1.282	0.16	0.427	0.548
	N5_UAT	20M	QPSK	50	28	DFT-15	Back	10mm	DSI 4	167300	836.5	22.49	23.80	1.352	0.12	0.391	0.529
	N5_UAT	20M	QPSK	1	1	DFT-15	Left Side	10mm	DSI 4	167300	836.5	22.72	23.80	1.282	0.13	0.413	0.530
	N5_UAT	20M	QPSK	50	28	DFT-15	Left Side	10mm	DSI 4	167300	836.5	22.49	23.80	1.352	0.07	0.383	0.518
	N5_UAT	20M	QPSK	1	1	DFT-15	Right Side	10mm	DSI 4	167300	836.5	22.72	23.80	1.282	0.09	0.006	0.008
	N5_UAT	20M	QPSK	50	28	DFT-15	Right Side	10mm	DSI 4	167300	836.5	22.49	23.80	1.352	-0.05	0.006	0.008
	N5_UAT	20M	QPSK	1	1	DFT-15	Top Side	10mm	DSI 4	167300	836.5	22.72	23.80	1.282	0.03	0.018	0.023
	N5_UAT	20M	QPSK	50	28	DFT-15	Top Side	10mm	DSI 4	167300	836.5	22.49	23.80	1.352	-0.12	0.017	0.023
	N5_LAT	20M	QPSK	1	1	DFT-15	Front	10mm	DSI 7	167300	836.5	22.62	23.80	1.312	0.13	0.301	0.395
	N5_LAT	20M	QPSK	50	0	DFT-15	Front	10mm	DSI 7	167300	836.5	22.42	23.80	1.374	-0.01	0.307	0.422
	N5_LAT	20M	QPSK	1	1	DFT-15	Back	10mm	DSI 7	167300	836.5	22.62	23.80	1.312	0.09	0.418	0.548
	N5_LAT	20M	QPSK	50	0	DFT-15	Back	10mm	DSI 7	167300	836.5	22.42	23.80	1.374	0.06	0.397	0.546
	N5_LAT	20M	QPSK	1	1	DFT-15	Left Side	10mm	DSI 7	167300	836.5	22.62	23.80	1.312	0.02	0.143	0.188
	N5_LAT	20M	QPSK	50	0	DFT-15	Left Side	10mm	DSI 7	167300	836.5	22.42	23.80	1.374	0.19	0.145	0.199
	N5_LAT	20M	QPSK	1	1	DFT-15	Right Side	10mm	DSI 7	167300	836.5	22.62	23.80	1.312	0.09	0.264	0.346
	N5_LAT	20M	QPSK	50	0	DFT-15	Right Side	10mm	DSI 7	167300	836.5	22.42	23.80	1.374	-0.07	0.285	0.392
	N5_LAT	20M	QPSK	1	1	DFT-15	Bottom Side	10mm	DSI 7	167300	836.5	22.62	23.80	1.312	0.06	0.294	0.386
	N5_LAT	20M	QPSK	50	0	DFT-15	Bottom Side	10mm	DSI 7	167300	836.5	22.42	23.80	1.374	0.16	0.299	0.411
	N66_UAT	20M	QPSK	1	1	DFT-15	Front	10mm	DSI 4	349000	1745	17.84	19.10	1.337	-0.15	0.214	0.286
	N66_UAT	20M	QPSK	50	0	DFT-15	Front	10mm	DSI 4	349000	1745	17.49	19.10	1.449	-0.09	0.217	0.314
	N66_UAT	20M	QPSK	1	1	DFT-15	Back	10mm	DSI 4	349000	1745	17.84	19.10	1.337	-0.13	0.221	0.295
	N66_UAT	20M	QPSK	50	0	DFT-15	Back	10mm	DSI 4	349000	1745	17.49	19.10	1.449	0	0.214	0.310
	N66_UAT	20M	QPSK	1	1	DFT-15	Left Side	10mm	DSI 4	349000	1745	17.84	19.10	1.337	0.08	0.087	0.116
	N66_UAT	20M	QPSK	50	0	DFT-15	Left Side	10mm	DSI 4	349000	1745	17.49	19.10	1.449	0	0.086	0.124
	N66_UAT	20M	QPSK	1	1	DFT-15	Right Side	10mm	DSI 4	349000	1745	17.84	19.10	1.337	-0.17	0.036	0.048
	N66_UAT	20M	QPSK	50	0	DFT-15	Right Side	10mm	DSI 4	349000	1745	17.49	19.10	1.449	-0.09	0.037	0.053
	N66_UAT	20M	QPSK	1	1	DFT-15	Top Side	10mm	DSI 4	349000	1745	17.84	19.10	1.337	0.05	0.359	0.480
	N66_UAT	20M	QPSK	50	0	DFT-15	Top Side	10mm	DSI 4	349000	1745	17.49	19.10	1.449	0.07	0.375	0.543
	N66_LAT	20M	QPSK	1	104	DFT-15	Front	10mm	DSI 7	349000	1745	23.32	23.80	1.117	-0.06	0.634	0.708
	N66_LAT	20M	QPSK	50	0	DFT-15	Front	10mm	DSI 7	349000	1745	22.79	23.80	1.262	-0.03	0.645	0.814
	N66_LAT	20M	QPSK	1	104	DFT-15	Back	10mm	DSI 7	349000	1745	23.32	23.80	1.117	-0.09	0.711	0.794
	N66_LAT	20M	QPSK	50	0	DFT-15	Back	10mm	DSI 7	349000	1745	22.79	23.80	1.262	-0.07	0.704	0.888
	N66_LAT	20M	QPSK	1	104	DFT-15	Left Side	10mm	DSI 7	349000	1745	23.32	23.80	1.117	0.06	0.437	0.488
	N66_LAT	20M	QPSK	50	0	DFT-15	Left Side	10mm	DSI 7	349000	1745	22.79	23.80	1.262	0.08	0.411	0.519
	N66_LAT	20M	QPSK	1	104	DFT-15	Right Side	10mm	DSI 7	349000	1745	23.32	23.80	1.117	-0.05	0.364	0.407
	N66_LAT	20M	QPSK	50	0	DFT-15	Right Side	10mm	DSI 7	349000	1745	22.79	23.80	1.262	0.04	0.359	0.453
	N66_LAT	20M	QPSK	1	104	DFT-15	Bottom Side	10mm	DSI 7	349000	1745	23.32	23.80	1.117	0.1	0.805	0.899
	N66_LAT	20M	QPSK	1	104	DFT-15	Bottom Side	10mm	DSI 7	344000	1720	22.72	23.80	1.282	-0.15	0.773	0.991
	N66_LAT	20M	QPSK	1	104	DFT-15	Bottom Side	10mm	DSI 7	354000	1770	23.13	23.80	1.167	-0.03	0.699	0.816
	N66_LAT	20M	QPSK	50	0	DFT-15	Bottom Side	10mm	DSI 7	349000	1745	22.79	23.80	1.262	0.01	0.800	1.009
45	N66_LAT	20M	QPSK	50	0	DFT-15	Bottom Side	10mm	DSI 7	344000	1720	22.39	23.80	1.384	-0.04	0.782	1.082
	N66_LAT	20M	QPSK	50	0	DFT-15	Bottom Side	10mm	DSI 7	354000	1770	22.31	23.80	1.409	-0.06	0.731	1.030
	N66_LAT	20M	QPSK	100	0	DFT-15	Bottom Side	10mm	DSI 7	349000	1745	21.62	22.80	1.312	-0.09	0.797	1.046
	N66_LAT	20M	QPSK	1	1	DFT-15	Bottom Side	10mm	DSI 7	349000	1745	23.32	23.8	1.117	0.02	0.845	0.944
	N66_LAT	20M	QPSK	1	1	DFT-15	Back	15mm	DSI 7	349000	1745	23.32	23.8	1.117	-0.05	0.333	0.372
	N66_LAT	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	DSI 7	349000	1745	23.32	23.8	1.117	0.15	0.219	0.245

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 7+9	4	11	2462	18.66	19.00	1.081	100	1.000	0.08	0.107	0.116
46	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 7+9	4	11	2462	18.66	19.00	1.081	100	1.000	0.12	0.124	0.134
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 7+9	4	11	2462	18.66	19.00	1.081	100	1.000	-0.05	0.092	0.100
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 7+9	4	11	2462	18.66	19.00	1.081	100	1.000	0.04	0.061	0.065
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 7+8	3/4	42	5210	16.76	17.00	1.057	100	1.000	0.02	0.001	0.001
47	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 7+8	3/4	42	5210	16.76	17.00	1.057	100	1.000	0.01	0.404	0.427
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 7+8	3/4	42	5210	16.76	17.00	1.057	100	1.000	-0.04	0.070	0.074
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant 7+8	3/4	42	5210	16.76	17.00	1.057	100	1.000	-0.06	0.095	0.100
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0	0.001	0.001
48	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0.01	0.109	0.123
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0.09	0.012	0.013
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	-0.09	0.022	0.025

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	0.02	0.026	0.033
49	Bluetooth	1Mbps	Back	10mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	0.04	0.035	0.044
	Bluetooth	1Mbps	Right Side	10mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	-0.02	0.028	0.035
	Bluetooth	1Mbps	Top Side	10mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	0.01	0.011	0.013

16.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850_UAT	GPRS (3 Tx slots)	Front	15mm	251	848.8	29.52	30.50	1.253	0.02	0.173	0.217
	GSM850_UAT	GPRS (3 Tx slots)	Back	15mm	251	848.8	29.52	30.50	1.253	0.02	0.219	0.274
	GSM850_LAT	GPRS (3 Tx slots)	Front	15mm	251	848.8	29.58	30.50	1.236	-0.09	0.155	0.192
50	GSM850_LAT	GPRS (3 Tx slots)	Back	15mm	251	848.8	29.58	30.50	1.236	-0.03	0.225	0.278
	GSM1900_UAT	GPRS (4 Tx slots)	Front	15mm	810	1909.8	25.55	26.00	1.109	-0.05	0.216	0.240
	GSM1900_UAT	GPRS (4 Tx slots)	Back	15mm	810	1909.8	25.55	26.00	1.109	-0.05	0.289	0.321
51	GSM1900_LAT	GPRS (4 Tx slots)	Front	15mm	512	1850.2	23.53	24.00	1.114	-0.05	0.368	0.410
	GSM1900_LAT	GPRS (4 Tx slots)	Back	15mm	512	1850.2	23.53	24.00	1.114	-0.03	0.326	0.363

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II_UAT	RMC 12.2Kbps	Front	15mm	9538	1907.6	23.19	23.50	1.074	0.18	0.395	0.424
52	WCDMA II_UAT	RMC 12.2Kbps	Back	15mm	9538	1907.6	23.19	23.50	1.074	0.13	0.476	0.511
	WCDMA II_LAT	RMC 12.2Kbps	Front	15mm	9400	1880	20.97	21.50	1.130	-0.17	0.225	0.254
	WCDMA II_LAT	RMC 12.2Kbps	Back	15mm	9400	1880	20.97	21.50	1.130	0.14	0.261	0.295
	WCDMA IV_UAT	RMC 12.2Kbps	Front	15mm	1413	1732.6	23.22	23.30	1.019	-0.17	0.598	0.609
	WCDMA IV_UAT	RMC 12.2Kbps	Back	15mm	1413	1732.6	23.22	23.30	1.019	-0.17	0.584	0.595
	WCDMA IV_LAT	RMC 12.2Kbps	Front	15mm	1413	1732.6	21.06	21.50	1.107	0.13	0.536	0.593
53	WCDMA IV_LAT	RMC 12.2Kbps	Back	15mm	1413	1732.6	21.06	21.50	1.107	0.12	0.628	0.695
	WCDMA V_UAT	RMC 12.2Kbps	Front	15mm	4182	836.4	23.23	23.80	1.140	-0.03	0.182	0.208
54	WCDMA V_UAT	RMC 12.2Kbps	Back	15mm	4182	836.4	23.23	23.80	1.140	-0.1	0.282	0.322
	WCDMA V_LAT	RMC 12.2Kbps	Front	15mm	4182	836.4	23.39	23.50	1.026	0.17	0.251	0.257
	WCDMA V_LAT	RMC 12.2Kbps	Back	15mm	4182	836.4	23.39	23.50	1.026	0.05	0.307	0.315

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 5_UAT	10M	QPSK	1	0	Front	15mm	20525	836.5	23.90	24.80	1.230	-0.16	0.207	0.255
	LTE Band 5_UAT	10M	QPSK	25	0	Front	15mm	20525	836.5	22.97	23.80	1.211	-0.12	0.193	0.234
	LTE Band 5_UAT	10M	QPSK	1	0	Back	15mm	20525	836.5	23.90	24.80	1.230	0	0.312	0.384
	LTE Band 5_UAT	10M	QPSK	25	0	Back	15mm	20525	836.5	22.97	23.80	1.211	-0.02	0.305	0.369
	LTE Band 5_LAT	10M	QPSK	1	0	Front	15mm	20525	836.5	23.76	24.80	1.271	0.17	0.283	0.360
	LTE Band 5_LAT	10M	QPSK	25	12	Front	15mm	20525	836.5	22.96	23.80	1.213	0.08	0.254	0.308
55	LTE Band 5_LAT	10M	QPSK	1	0	Back	15mm	20525	836.5	23.76	24.80	1.271	0.08	0.369	0.469
	LTE Band 5_LAT	10M	QPSK	25	12	Back	15mm	20525	836.5	22.96	23.80	1.213	0.05	0.351	0.426
	LTE Band 7_UAT	20M	QPSK	1	99	Front	15mm	21350	2560	22.24	22.80	1.138	-0.06	0.279	0.317
	LTE Band 7_UAT	20M	QPSK	50	50	Front	15mm	21350	2560	22.33	22.80	1.114	-0.03	0.294	0.328
	LTE Band 7_UAT	20M	QPSK	1	99	Back	15mm	21350	2560	22.24	22.80	1.138	-0.08	0.327	0.372
	LTE Band 7_UAT	20M	QPSK	50	50	Back	15mm	21350	2560	22.33	22.80	1.114	-0.06	0.346	0.386
	LTE Band 7_LAT	20M	QPSK	1	99	Front	15mm	21350	2560	20.89	21.80	1.233	-0.11	0.191	0.236
	LTE Band 7_LAT	20M	QPSK	50	50	Front	15mm	21350	2560	19.94	20.80	1.219	-0.15	0.162	0.197
56	LTE Band 7_LAT	20M	QPSK	1	99	Back	15mm	21350	2560	20.89	21.80	1.233	0.11	0.330	0.407
	LTE Band 7_LAT	20M	QPSK	50	50	Back	15mm	21350	2560	19.94	20.80	1.219	0.03	0.273	0.333
	LTE Band 12_UAT	10M	QPSK	1	0	Front	15mm	23095	707.5	23.04	23.80	1.191	0.13	0.046	0.055
	LTE Band 12_UAT	10M	QPSK	25	12	Front	15mm	23095	707.5	22.15	22.80	1.161	0.1	0.036	0.042
	LTE Band 12_UAT	10M	QPSK	1	0	Back	15mm	23095	707.5	23.04	23.80	1.191	0.14	0.063	0.075
	LTE Band 12_UAT	10M	QPSK	25	12	Back	15mm	23095	707.5	22.15	22.80	1.161	-0.08	0.051	0.059
	LTE Band 12_LAT	10M	QPSK	1	49	Front	15mm	23095	707.5	22.96	23.80	1.213	0.18	0.089	0.108
	LTE Band 12_LAT	10M	QPSK	25	12	Front	15mm	23095	707.5	21.98	22.80	1.208	0.05	0.091	0.110
57	LTE Band 12_LAT	10M	QPSK	1	49	Back	15mm	23095	707.5	22.96	23.80	1.213	-0.04	0.122	0.148
	LTE Band 12_LAT	10M	QPSK	25	25	Back	15mm	23095	707.5	21.98	22.80	1.208	-0.01	0.110	0.133
	LTE Band 13_UAT	10M	QPSK	1	0	Front	15mm	23230	782	23.91	24.80	1.227	0	0.125	0.153
	LTE Band 13_UAT	10M	QPSK	25	25	Front	15mm	23230	782	23.18	23.80	1.153	-0.01	0.146	0.168
	LTE Band 13_UAT	10M	QPSK	1	0	Back	15mm	23230	782	23.91	24.80	1.227	-0.13	0.194	0.238
	LTE Band 13_UAT	10M	QPSK	25	25	Back	15mm	23230	782	23.18	23.80	1.153	-0.03	0.274	0.316
	LTE Band 13_LAT	10M	QPSK	1	25	Front	15mm	23230	782	23.90	24.80	1.230	-0.01	0.261	0.321
	LTE Band 13_LAT	10M	QPSK	25	25	Front	15mm	23230	782	23.00	23.80	1.202	-0.07	0.311	0.374
	LTE Band 13_LAT	10M	QPSK	1	25	Back	15mm	23230	782	23.90	24.80	1.230	-0.07	0.312	0.384
58	LTE Band 13_LAT	10M	QPSK	25	25	Back	15mm	23230	782	23.00	23.80	1.202	-0.05	0.384	0.462

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25_UAT	20M	QPSK	1	0	Front	15mm	26140	1860	23.30	23.30	1.000	0.15	0.383	0.381
	LTE Band 25_UAT	20M	QPSK	50	24	Front	15mm	26140	1860	22.37	22.80	1.104	0.13	0.301	0.332
60	LTE Band 25_UAT	20M	QPSK	1	0	Back	15mm	26140	1860	23.30	23.30	1.000	0.15	0.443	0.443
	LTE Band 25_UAT	20M	QPSK	50	24	Back	15mm	26140	1860	22.37	22.80	1.104	0.18	0.357	0.394
	LTE Band 25_LAT	20M	QPSK	1	99	Front	15mm	26590	1905	23.26	24.20	1.242	-0.02	0.251	0.312
	LTE Band 25_LAT	20M	QPSK	50	50	Front	15mm	26590	1905	22.25	23.20	1.245	-0.05	0.206	0.256
	LTE Band 25_LAT	20M	QPSK	1	99	Back	15mm	26590	1905	23.26	24.20	1.242	-0.04	0.323	0.401
	LTE Band 25_LAT	20M	QPSK	50	50	Back	15mm	26590	1905	22.25	23.20	1.245	-0.03	0.260	0.324
	LTE Band 26_UAT	15M	QPSK	1	0	Front	15mm	26865	831.5	22.99	23.80	1.205	-0.11	0.173	0.208
	LTE Band 26_UAT	15M	QPSK	36	20	Front	15mm	26865	831.5	22.04	22.80	1.191	-0.06	0.144	0.172
	LTE Band 26_UAT	15M	QPSK	1	0	Back	15mm	26865	831.5	22.99	23.80	1.205	0.07	0.228	0.275
	LTE Band 26_UAT	15M	QPSK	36	20	Back	15mm	26865	831.5	22.04	22.80	1.191	0.07	0.218	0.260
	LTE Band 26_LAT	15M	QPSK	1	74	Front	15mm	26865	831.5	22.92	23.80	1.225	0.17	0.226	0.277
	LTE Band 26_LAT	15M	QPSK	36	20	Front	15mm	26865	831.5	21.95	22.80	1.216	0.13	0.192	0.234
61	LTE Band 26_LAT	15M	QPSK	1	74	Back	15mm	26865	831.5	22.92	23.80	1.225	0.16	0.319	0.391
	LTE Band 26_LAT	15M	QPSK	36	20	Back	15mm	26865	831.5	21.95	22.80	1.216	0.14	0.257	0.313
	LTE Band 30_UAT	10M	QPSK	1	0	Front	15mm	27710	2310	23.03	23.80	1.194	-0.05	0.373	0.445
	LTE Band 30_UAT	10M	QPSK	25	25	Front	15mm	27710	2310	21.99	22.80	1.205	-0.03	0.307	0.370
62	LTE Band 30_UAT	10M	QPSK	1	0	Back	15mm	27710	2310	23.03	23.80	1.194	-0.16	0.434	0.518
	LTE Band 30_UAT	10M	QPSK	25	25	Back	15mm	27710	2310	21.99	22.80	1.205	-0.11	0.348	0.419
	LTE Band 30_LAT	10M	QPSK	1	0	Front	15mm	27710	2310	20.64	21.80	1.306	-0.01	0.213	0.278
	LTE Band 30_LAT	10M	QPSK	25	25	Front	15mm	27710	2310	19.68	20.80	1.294	-0.11	0.170	0.220
	LTE Band 30_LAT	10M	QPSK	1	0	Back	15mm	27710	2310	20.64	21.80	1.306	0	0.257	0.336
	LTE Band 30_LAT	10M	QPSK	25	25	Back	15mm	27710	2310	19.68	20.80	1.294	0.05	0.198	0.256
	LTE Band 66_UAT	20M	QPSK	1	0	Front	15mm	132572	1770	23.02	23.30	1.067	-0.18	0.501	0.534
	LTE Band 66_UAT	20M	QPSK	50	24	Front	15mm	132072	1720	22.14	22.30	1.038	-0.16	0.379	0.393
	LTE Band 66_UAT	20M	QPSK	1	0	Back	15mm	132572	1770	23.02	23.30	1.067	-0.16	0.498	0.531
	LTE Band 66_UAT	20M	QPSK	50	24	Back	15mm	132072	1720	22.14	22.30	1.038	-0.13	0.380	0.394
	LTE Band 66_LAT	20M	QPSK	1	49	Front	15mm	132072	1720	24.08	24.80	1.180	0.15	0.416	0.491
	LTE Band 66_LAT	20M	QPSK	50	24	Front	15mm	132072	1720	23.15	23.80	1.161	0.14	0.347	0.403
63	LTE Band 66_LAT	20M	QPSK	1	49	Back	15mm	132072	1720	24.08	24.80	1.180	0.16	0.468	0.552
	LTE Band 66_LAT	20M	QPSK	50	24	Back	15mm	132072	1720	23.15	23.80	1.161	0.07	0.386	0.448
	LTE Band 71_UAT	20M	QPSK	1	0	Front	15mm	133322	683	23.56	23.80	1.057	0.1	0.035	0.037
	LTE Band 71_UAT	20M	QPSK	50	50	Front	15mm	133322	683	22.64	22.80	1.038	0.12	0.038	0.039
	LTE Band 71_UAT	20M	QPSK	1	0	Back	15mm	133322	683	23.56	23.80	1.057	0.09	0.051	0.054
	LTE Band 71_UAT	20M	QPSK	50	50	Back	15mm	133322	683	22.64	22.80	1.038	0.18	0.046	0.048
	LTE Band 71_LAT	20M	QPSK	1	99	Front	15mm	133322	683	23.39	23.80	1.099	-0.07	0.134	0.147
	LTE Band 71_LAT	20M	QPSK	50	50	Front	15mm	133322	683	22.53	22.80	1.064	-0.1	0.106	0.113
64	LTE Band 71_LAT	20M	QPSK	1	99	Back	15mm	133322	683	23.39	23.80	1.099	-0.03	0.191	0.210
	LTE Band 71_LAT	20M	QPSK	50	50	Back	15mm	133322	683	22.53	22.80	1.064	-0.05	0.153	0.163

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41_UAT	20M	QPSK	1	49	Front	15mm	40620	2593	23.14	23.80	1.164	62.9	1.006	0	0.207	0.242
	LTE Band 41_UAT	20M	QPSK	50	24	Front	15mm	40620	2593	22.15	22.80	1.161	62.9	1.006	0.07	0.174	0.203
65	LTE Band 41_UAT	20M	QPSK	1	49	Back	15mm	40620	2593	23.14	23.80	1.164	62.9	1.006	-0.13	0.242	0.283
	LTE Band 41_UAT	20M	QPSK	50	24	Back	15mm	40620	2593	22.15	22.80	1.161	62.9	1.006	-0.13	0.205	0.240
	LTE Band 41_LAT	20M	QPSK	1	49	Front	15mm	41490	2680	20.90	21.80	1.230	62.9	1.006	-0.1	0.088	0.109
	LTE Band 41_LAT	20M	QPSK	50	50	Front	15mm	41490	2680	20.00	20.80	1.202	62.9	1.006	-0.14	0.072	0.087
	LTE Band 41_LAT	20M	QPSK	1	49	Back	15mm	41490	2680	20.90	21.80	1.230	62.9	1.006	-0.07	0.225	0.278
	LTE Band 41_LAT	20M	QPSK	50	50	Back	15mm	41490	2680	20.00	20.80	1.202	62.9	1.006	-0.14	0.185	0.224
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Front	15mm	56150	3641	22.98	24.00	1.265	62.9	1.006	-0.13	0.165	0.210
	LTE Band 48_UAT Ant 3	20M	QPSK	50	24	Front	15mm	56150	3641	21.96	23.00	1.271	62.9	1.006	0.07	0.195	0.249
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Back	15mm	56150	3641	22.98	24.00	1.265	62.9	1.006	-0.05	0.562	0.715
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Back	15mm	55340	3560	22.97	24.00	1.268	62.9	1.006	-0.04	0.407	0.519
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Back	15mm	55830	3609	22.95	24.00	1.274	62.9	1.006	-0.01	0.471	0.603
	LTE Band 48_UAT Ant 3	20M	QPSK	1	0	Back	15mm	56640	3690	22.95	24.00	1.274	62.9	1.006	-0.06	0.614	0.787
	LTE Band 48_UAT Ant 3	20M	QPSK	50	24	Back	15mm	56150	3641	21.96	23.00	1.271	62.9	1.006	-0.04	0.632	0.808
	LTE Band 48_UAT Ant 3	20M	QPSK	50	24	Back	15mm	55340	3560	21.92	23.00	1.282	62.9	1.006	-0.05	0.461	0.595
	LTE Band 48_UAT Ant 3	20M	QPSK	50	24	Back	15mm	55830	3609	21.95	23.00	1.274	62.9	1.006	0	0.570	0.730
66	LTE Band 48_UAT Ant 3	20M	QPSK	50	24	Back	15mm	56640	3690	21.95	23.00	1.274	62.9	1.006	-0.03	0.702	0.899
	LTE Band 48_UAT Ant 3	20M	QPSK	100	0	Back	15mm	56150	3641	21.91	23.00	1.285	62.9	1.006	-0.02	0.673	0.870
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Front	15mm	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.16	0.022	0.023
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Front	15mm	55340	3560	24.41	24.70	1.069	62.9	1.006	-0.13	0.027	0.029
	LTE Band 48_UAT Ant 6	20M	QPSK	1	0	Back	15mm	55340	3560	25.50	25.70	1.047	62.9	1.006	-0.15	0.072	0.076
	LTE Band 48_UAT Ant 6	20M	QPSK	50	0	Back	15mm	55340	3560	24.41	24.70	1.069	62.9	1.006	-0.06	0.087	0.094

<5G NR NSA SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	N2_UAT	20M	QPSK	1	1	DFT-15	Front	15mm	DSI 0	380000	1900	22.85	23.80	1.245	-0.08	0.253	0.315
	N2_UAT	20M	QPSK	50	28	DFT-15	Front	15mm	DSI 0	380000	1900	22.67	23.80	1.297	0.15	0.232	0.301
	N2_UAT	20M	QPSK	1	1	DFT-15	Back	15mm	DSI 0	380000	1900	22.85	23.80	1.245	-0.12	0.283	0.352
	N2_UAT	20M	QPSK	50	28	DFT-15	Back	15mm	DSI 0	380000	1900	22.67	23.80	1.297	0.04	0.304	0.394
	N2_LAT	20M	QPSK	1	1	DFT-15	Front	15mm	DSI 5	380000	1900	20.75	22.40	1.462	-0.13	0.241	0.352
	N2_LAT	20M	QPSK	50	28	DFT-15	Front	15mm	DSI 5	380000	1900	20.46	22.40	1.563	-0.17	0.229	0.358
	N2_LAT	20M	QPSK	1	1	DFT-15	Back	15mm	DSI 5	380000	1900	20.75	22.40	1.462	-0.12	0.266	0.389
67	N2_LAT	20M	QPSK	50	28	DFT-15	Back	15mm	DSI 5	380000	1900	20.46	22.40	1.563	-0.11	0.258	0.403
	N5_UAT	20M	QPSK	1	1	DFT-15	Front	15mm	DSI 0	167300	836.5	22.72	23.80	1.282	0.08	0.150	0.192
	N5_UAT	20M	QPSK	50	28	DFT-15	Front	15mm	DSI 0	167300	836.5	22.49	23.80	1.352	-0.02	0.142	0.192
	N5_UAT	20M	QPSK	1	1	DFT-15	Back	15mm	DSI 0	167300	836.5	22.72	23.80	1.282	0.05	0.212	0.272
	N5_UAT	20M	QPSK	50	28	DFT-15	Back	15mm	DSI 0	167300	836.5	22.49	23.80	1.352	0.08	0.221	0.299
	N5_LAT	20M	QPSK	1	1	DFT-15	Front	15mm	DSI 5	167300	836.5	22.62	23.80	1.312	-0.02	0.230	0.302
	N5_LAT	20M	QPSK	50	0	DFT-15	Front	15mm	DSI 5	167300	836.5	22.42	23.80	1.374	0.05	0.234	0.322
68	N5_LAT	20M	QPSK	1	1	DFT-15	Back	15mm	DSI 5	167300	836.5	22.62	23.80	1.312	-0.06	0.281	0.369
	N5_LAT	20M	QPSK	50	0	DFT-15	Back	15mm	DSI 5	167300	836.5	22.42	23.80	1.374	0.14	0.260	0.357
	N66_UAT	20M	QPSK	1	1	DFT-15	Front	15mm	DSI 0	349000	1745	22.75	23.80	1.274	-0.08	0.365	0.465
	N66_UAT	20M	QPSK	50	28	DFT-15	Front	15mm	DSI 0	349000	1745	22.52	23.80	1.343	0.05	0.340	0.457
	N66_UAT	20M	QPSK	1	1	DFT-15	Back	15mm	DSI 0	349000	1745	22.75	23.80	1.274	-0.01	0.394	0.502
69	N66_UAT	20M	QPSK	50	28	DFT-15	Back	15mm	DSI 0	349000	1745	22.52	23.80	1.343	0.02	0.381	0.512
	N66_LAT	20M	QPSK	1	104	DFT-15	Front	15mm	DSI 5	349000	1745	23.32	23.80	1.117	-0.05	0.303	0.338
	N66_LAT	20M	QPSK	50	0	DFT-15	Front	15mm	DSI 5	349000	1745	22.79	23.80	1.262	-0.12	0.301	0.380
	N66_LAT	20M	QPSK	1	104	DFT-15	Back	15mm	DSI 5	349000	1745	23.32	23.80	1.117	-0.01	0.308	0.344
	N66_LAT	20M	QPSK	50	0	DFT-15	Back	15mm	DSI 5	349000	1745	22.79	23.80	1.262	0.01	0.301	0.380

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz-	802.11b 1Mbps	Front	15mm	Ant 7+9	1	11	2462	21.91	22.00	1.021	100	1.000	-0.11	0.112	0.114
70	WLAN2.4GHz-	802.11b 1Mbps	Back	15mm	Ant 7+9	1	11	2462	21.91	22.00	1.021	100	1.000	-0.09	0.187	0.191
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 7+9	4	11	2462	18.66	19.00	1.081	100	1.000	0.12	0.052	0.056
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 7+9	4	11	2462	18.66	19.00	1.081	100	1.000	0.06	0.062	0.067
	WLAN5GHz-	802.11n-HT40 MCS0	Front	15mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.17	0.006	0.007
71	WLAN5GHz-	802.11n-HT40 MCS0	Back	15mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.01	0.409	0.458
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 7+8	3/4	58	5290	16.86	17.00	1.033	100	1.000	0	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 7+8	3/4	58	5290	16.86	17.00	1.033	100	1.000	0.01	0.278	0.287
	WLAN5GHz-	802.11n-HT40 MCS0	Front	15mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	-0.17	0.009	0.009
72	WLAN5GHz-	802.11n-HT40 MCS0	Back	15mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	-0.12	0.329	0.344
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 7+8	3/4	122	5610	16.71	17.00	1.069	100	1.000	0	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 7+8	3/4	122	5610	16.71	17.00	1.069	100	1.000	0.02	0.204	0.218
	WLAN5GHz-	802.11n-HT40 MCS0	Front	15mm	Ant 7+8	1	151	5755	19.71	20.00	1.069	100	1.000	-0.13	0.020	0.021
73	WLAN5GHz-	802.11n-HT40 MCS0	Back	15mm	Ant 7+8	1	151	5755	19.71	20.00	1.069	100	1.000	-0.14	0.476	0.509
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	15mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 7+8	3/4	155	5775	16.46	17.00	1.132	100	1.000	0.02	0.052	0.058

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	15mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	0.03	0.013	0.016
74	Bluetooth	1Mbps	Back	15mm	Ant 7	39	2441	14.17	14.80	1.157	76.72	1.086	0.06	0.018	0.022

16.4 Product Specific SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	0mm	DSI 1	9400	1880	20.80	21.70	1.230	-0.02	1.220	1.501
75	WCDMA II_UAT	RMC 12.2Kbps	Top Side	1mm	DSI 0	9400	1880	23.17	23.50	1.079	0	3.490	3.766
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	1mm	DSI 0	9262	1852.4	23.14	23.50	1.086	0.06	3.230	3.509
	WCDMA II_UAT	RMC 12.2Kbps	Top Side	1mm	DSI 0	9538	1907.6	23.19	23.50	1.074	0.11	3.180	3.415
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	0mm	DSI 1	1413	1732.6	21.65	22.50	1.216	0.01	2.130	2.590
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	0mm	DSI 1	1312	1712.4	21.63	22.50	1.222	0.17	2.110	2.578
76	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	0mm	DSI 1	1513	1752.6	21.70	22.50	1.202	0.14	2.170	2.609
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	1mm	DSI 0	1513	1752.6	23.19	23.30	1.026	0.02	2.290	2.349
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	1mm	DSI 0	1312	1712.4	23.18	23.30	1.028	0.09	2.160	2.221
	WCDMA IV_UAT	RMC 12.2Kbps	Top Side	1mm	DSI 0	1413	1732.6	23.22	23.30	1.019	-0.14	2.080	2.119

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 7_UAT	20M	QPSK	50	50	Top Side	0mm	DSI 1	20850	2510	19.13	19.80	1.167	0.12	2.320	2.707
77	LTE Band 7_UAT	20M	QPSK	50	50	Top Side	0mm	DSI 1	21100	2535	19.06	19.80	1.186	0.18	2.350	2.787
	LTE Band 7_UAT	20M	QPSK	50	50	Top Side	0mm	DSI 1	21350	2560	19.17	19.80	1.156	0.16	2.310	2.671
	LTE Band 7_UAT	20M	QPSK	50	50	Top Side	1mm	DSI 0	21100	2535	22.31	22.80	1.119	0.15	2.080	2.328
	LTE Band 7_UAT	20M	QPSK	50	50	Top Side	1mm	DSI 0	20850	2510	22.31	22.80	1.119	0.04	2.010	2.250
	LTE Band 7_UAT	20M	QPSK	50	50	Top Side	1mm	DSI 0	21350	2560	22.33	22.80	1.114	-0.05	1.960	2.184
	LTE Band 25_UAT	20M	QPSK	1	0	Top Side	0mm	DSI 1	26140	1860	20.92	21.80	1.225	0.04	2.090	2.559
	LTE Band 25_UAT	20M	QPSK	1	0	Top Side	0mm	DSI 1	26340	1880	20.92	21.80	1.225	0.08	2.130	2.608
	LTE Band 25_UAT	20M	QPSK	1	0	Top Side	0mm	DSI 1	26590	1905	20.93	21.80	1.222	0.01	2.180	2.664
78	LTE Band 25_UAT	20M	QPSK	1	0	Top Side	1mm	DSI 0	26590	1905	23.11	23.30	1.045	0.15	3.570	3.730
	LTE Band 25_UAT	20M	QPSK	1	0	Top Side	1mm	DSI 0	26140	1860	23.30	23.30	1.000	0.08	3.560	3.560
	LTE Band 25_UAT	20M	QPSK	1	0	Top Side	1mm	DSI 0	26340	1880	23.10	23.30	1.047	-0.02	3.440	3.602
	LTE Band 30_UAT	10M	QPSK	1	0	Top Side	0mm	DSI 1	27710	2310	20.73	21.70	1.250	0.18	2.200	2.751
79	LTE Band 30_UAT	10M	QPSK	1	0	Top Side	1mm	DSI 0	27710	2310	23.03	23.80	1.194	0.12	3.100	3.701
	LTE Band 66_UAT	20M	QPSK	1	49	Top Side	0mm	DSI 1	132572	1770	20.75	21.60	1.216	0.08	2.250	2.736
	LTE Band 66_UAT	20M	QPSK	1	49	Top Side	0mm	DSI 1	132072	1720	20.64	21.60	1.247	0.07	2.190	2.732
	LTE Band 66_UAT	20M	QPSK	1	49	Top Side	0mm	DSI 1	132322	1745	20.72	21.60	1.225	0.05	1.840	2.253
80	LTE Band 66_UAT	20M	QPSK	1	49	Top Side	1mm	DSI 0	132572	1770	22.94	23.30	1.086	-0.02	3.130	3.401
	LTE Band 66_UAT	20M	QPSK	1	49	Top Side	1mm	DSI 0	132072	1720	22.94	23.30	1.086	-0.14	2.990	3.248
	LTE Band 66_UAT	20M	QPSK	1	49	Top Side	1mm	DSI 0	132322	1745	22.95	23.30	1.084	0.09	3.020	3.273
	LTE Band 66_LAT	20M	QPSK	1	49	Bottom Side	0mm	DSI 6	132572	1770	22.12	23.00	1.225	0.09	1.260	1.543
	LTE Band 66_LAT	20M	QPSK	1	49	Bottom Side	8mm	DSI 5	132572	1770	24.07	24.80	1.183	-0.13	0.809	0.957

<5G NR NSA SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	N2_UAT	20M	QPSK	1	1	DFT-15	Top Side	0mm	DSI 1	380000	1900	21.35	22.20	1.216	0.04	1.940	2.359
	N2_UAT	20M	QPSK	1	1	DFT-15	Top Side	0mm	DSI 1	372000	1860	21.18	22.20	1.265	0.15	1.680	2.125
	N2_UAT	20M	QPSK	1	1	DFT-15	Top Side	0mm	DSI 1	376000	1880	21.22	22.20	1.253	0.17	1.760	2.206
81	N2_UAT	20M	QPSK	1	1	DFT-15	Top Side	1mm	DSI 0	380000	1900	22.85	23.80	1.245	0.06	2.750	3.422
	N2_UAT	20M	QPSK	1	1	DFT-15	Top Side	1mm	DSI 0	372000	1860	22.75	23.80	1.274	0.14	2.550	3.247
	N2_UAT	20M	QPSK	1	1	DFT-15	Top Side	1mm	DSI 0	376000	1880	22.76	23.80	1.271	0.09	2.630	3.342
	N66_UAT	20M	QPSK	1	1	DFT-15	Top Side	0mm	DSI 1	349000	1745	21.24	22.40	1.306	0.12	1.870	2.443
	N66_UAT	20M	QPSK	1	1	DFT-15	Top Side	0mm	DSI 1	344000	1720	21.16	22.40	1.330	0.16	1.690	2.248
	N66_UAT	20M	QPSK	1	1	DFT-15	Top Side	0mm	DSI 1	354000	1770	21.13	22.40	1.340	0.17	1.900	2.545
	N66_UAT	20M	QPSK	1	1	DFT-15	Top Side	1mm	DSI 0	349000	1745	22.75	23.80	1.274	-0.11	2.470	3.146
	N66_UAT	20M	QPSK	1	1	DFT-15	Top Side	1mm	DSI 0	344000	1720	22.73	23.80	1.279	0.06	2.370	3.032
82	N66_UAT	20M	QPSK	1	1	DFT-15	Top Side	1mm	DSI 0	354000	1770	22.70	23.80	1.288	0.07	2.510	3.234

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5GHz	802.11n-HT40 MCS0	Front	0mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.19	0.053	0.059
83	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.13	1.730	1.936
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 7+8	3/4	58	5290	16.86	17.00	1.033	100	1.000	-0.09	0.932	0.936
	WLAN5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.12	0.233	0.261
	WLAN5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 7+8	1	54	5270	19.51	20.00	1.119	100	1.000	-0.15	0.168	0.188
	WLAN5GHz	802.11n-HT40 MCS0	Front	0mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	0.11	0.049	0.051
84	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	-0.13	1.530	1.598
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 7+8	3/4	122	5610	16.71	17.00	1.069	100	1.000	-0.13	0.734	0.785
	WLAN5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	-0.07	0.268	0.280
	WLAN5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 7+8	1	110	5550	19.81	20.00	1.045	100	1.000	-0.05	0.136	0.142

16.5 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Antenna	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	GSM850_UAT	GPRS (3 Tx slots)	Right Cheek	0mm		DSI 2	251	848.8	29.23	29.80	1.140	-	-	0.06	0.919	-	1.048
2nd	GSM850_UAT	GPRS (3 Tx slots)	Right Cheek	0mm		DSI 2	251	848.8	29.23	29.80	1.140	-	-	0.03	0.911	1.01	1.039
1st	WCDMA II_UAT	RMC 12.2Kbps	Right Cheek	0mm		DSI 2	9262	1852.4	16.63	17.70	1.279	-	-	-0.07	0.804	-	1.029
2nd	WCDMA II_UAT	RMC 12.2Kbps	Right Cheek	0mm		DSI 2	9262	1852.4	16.63	17.70	1.279	-	-	-0.09	0.761	1.06	0.974
1st	LTE Band 7_UAT	20M_QPSK_100_0	Right Tilted	0mm		DSI 2	21350	2560	15.72	16.50	1.197	-	-	-0.12	0.857	-	1.026
2nd	LTE Band 7_UAT	20M_QPSK_100_0	Right Tilted	0mm		DSI 2	21350	2560	15.72	16.50	1.197	-	-	0	0.856	1.00	1.024
1st	LTE Band 13_UAT	10M_QPSK_25_25	Left Cheek	0mm		DSI 2	23230	782	23.18	23.80	1.153	-	-	0.01	0.947	-	1.092
2nd	LTE Band 13_UAT	10M_QPSK_25_25	Left Cheek	0mm		DSI 2	23230	782	23.18	23.80	1.153	-	-	0	0.942	1.01	1.087
1st	LTE Band 30_UAT	10M_QPSK_50_0	Left Tilted	0mm		DSI 2	27710	2310	17.09	18.10	1.262	-	-	-0.18	0.870	-	1.098
2nd	LTE Band 30_UAT	10M_QPSK_50_0	Left Tilted	0mm		DSI 2	27710	2310	17.09	18.10	1.262	-	-	0.05	0.833	1.04	1.051
1st	LTE Band 48_UAT Ant 3	20M_QPSK_1_0	Right Tilted	0mm		DSI 2	56640	3690	15.88	16.20	1.076	62.9	1.006	0.14	0.989	-	1.071
2nd	LTE Band 48_UAT Ant 3	20M_QPSK_1_0	Right Tilted	0mm		DSI 2	56640	3690	15.88	16.20	1.076	62.9	1.006	0.07	0.980	1.01	1.061
1st	LTE Band 66_LAT	20M_QPSK_1_49	Bottom Side	10mm		DSI 7	132072	1720	22.92	23.20	1.067	-	-	0.04	1.029	-	1.098
2nd	LTE Band 66_LAT	20M_QPSK_1_49	Bottom Side	10mm		DSI 7	132072	1720	22.92	23.20	1.067	-	-	-0.02	1.023	1.01	1.091
1st	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	2	1	2412	19.41	19.50	1.021	100	1.000	0.04	1.070		1.092
2nd	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9	2	1	2412	19.41	19.50	1.021	100	1.000	0.04	1.050	1.02	1.072

Plot No.	Band	Mode	Test Position	Gap (mm)	output Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	LTE Band 7_UAT	20M_QPSK_50_50	Top Side	0mm	DSI 1	21100	2535	19.06	19.80	1.186	0.18	2.350		2.787
2nd	LTE Band 7_UAT	20M_QPSK_50_50	Top Side	0mm	DSI 1	21100	2535	19.06	19.80	1.186	-0.07	2.340	1.00	2.775
1st	LTE Band 25_UAT	20M_QPSK_1_0	Top Side	1mm	DSI 0	26590	1905	23.11	23.30	1.045	0.15	3.570		3.730
2nd	LTE Band 25_UAT	20M_QPSK_1_0	Top Side	1mm	DSI 0	26590	1905	23.11	23.30	1.045	0.06	3.380	1.06	3.530
1st	LTE Band 30_UAT	10M_QPSK_1_0	Top Side	1mm	DSI 0	27710	2310	23.03	23.80	1.194	0.12	3.100		3.701
2nd	LTE Band 30_UAT	10M_QPSK_1_0	Top Side	1mm	DSI 0	27710	2310	23.03	23.80	1.194	0.04	2.970	1.04	3.546
1st	LTE Band 66_UAT	20M_QPSK_1_49	Top Side	1mm	DSI 1	132572	1770	22.94	23.30	1.086	-0.02	3.130		3.401
2nd	LTE Band 66_UAT	20M_QPSK_1_49	Top Side	1mm	DSI 1	132572	1770	22.94	23.30	1.086	0.04	3.010	1.04	3.269

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The ratio is the difference in percentage between original and repeated *measured SAR*.
5. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

17. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWNA + WLAN2.4GHz + WLAN5GHz	Yes	Yes	Yes	Yes
3.	WWNA + WLAN5GHz + Bluetooth	Yes	Yes	Yes	Yes
4.	LTE + WLAN2.4GHz + FR1	Yes	Yes	Yes	Yes
5.	LTE + WLAN2.4GHz + WLAN5GHz + FR1	Yes	Yes	Yes	Yes
6.	LTE + WLAN5GHz + Bluetooth + FR1	Yes	Yes	Yes	Yes
7.	LTE + WLAN2.4GHz + FR2	Yes	Yes	Yes	Yes
8.	LTE + WLAN2.4GHz + WLAN5GHz + FR2	Yes	Yes	Yes	Yes
9.	LTE + WLAN5GHz + Bluetooth + FR2	Yes	Yes	Yes	Yes

General Note:

1. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications.
2. 2.4GHz WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
3. All licensed modes share the same antenna part and cannot transmit simultaneously.
4. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment.
5. The Scaled SAR summation is calculated based on the same configuration and test position.
6. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
   iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

17.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
GSM850_LAT	Right Cheek	0.133	0.165	0.033	0.059	**0.298**	**0.166**	**0.331**	**0.225**
	Right Tilted	0.082	0.128	0.047	0.038	**0.210**	**0.129**	**0.257**	**0.167**
	Left Cheek	0.199	0.508	0.098	0.194	**0.707**	**0.297**	**0.805**	**0.491**
	Left Tilted	0.056	0.344	0.039	0.137	**0.400**	**0.095**	**0.439**	**0.232**
GSM1900_LAT	Right Cheek	0.106	0.165	0.033	0.059	**0.271**	**0.139**	**0.304**	**0.198**
	Right Tilted	0.059	0.128	0.047	0.038	**0.187**	**0.106**	**0.234**	**0.144**
	Left Cheek	0.130	0.508	0.098	0.194	**0.638**	**0.228**	**0.736**	**0.422**
	Left Tilted	0.066	0.344	0.039	0.137	**0.410**	**0.105**	**0.449**	**0.242**
WCDMA II_LAT	Right Cheek	0.129	0.165	0.033	0.059	**0.294**	**0.162**	**0.327**	**0.221**
	Right Tilted	0.084	0.128	0.047	0.038	**0.212**	**0.131**	**0.259**	**0.169**
	Left Cheek	0.123	0.508	0.098	0.194	**0.631**	**0.221**	**0.729**	**0.415**
	Left Tilted	0.090	0.344	0.039	0.137	**0.434**	**0.129**	**0.473**	**0.266**
WCDMA IV_LAT	Right Cheek	0.465	0.165	0.033	0.059	**0.630**	**0.498**	**0.663**	**0.557**
	Right Tilted	0.158	0.128	0.047	0.038	**0.286**	**0.205**	**0.333**	**0.243**
	Left Cheek	0.312	0.508	0.098	0.194	**0.820**	**0.410**	**0.918**	**0.604**
	Left Tilted	0.168	0.344	0.039	0.137	**0.512**	**0.207**	**0.551**	**0.344**
WCDMA V_LAT	Right Cheek	0.143	0.165	0.033	0.059	**0.308**	**0.176**	**0.341**	**0.235**
	Right Tilted	0.093	0.128	0.047	0.038	**0.221**	**0.140**	**0.268**	**0.178**
	Left Cheek	0.201	0.508	0.098	0.194	**0.709**	**0.299**	**0.807**	**0.493**
	Left Tilted	0.084	0.344	0.039	0.137	**0.428**	**0.123**	**0.467**	**0.260**
LTE Band 5_LAT	Right Cheek	0.177	0.165	0.033	0.059	**0.342**	**0.210**	**0.375**	**0.269**
	Right Tilted	0.154	0.128	0.047	0.038	**0.282**	**0.201**	**0.329**	**0.239**
	Left Cheek	0.327	0.508	0.098	0.194	**0.835**	**0.425**	**0.933**	**0.619**
	Left Tilted	0.144	0.344	0.039	0.137	**0.488**	**0.183**	**0.527**	**0.320**
LTE Band 7_LAT	Right Cheek	0.047	0.165	0.033	0.059	**0.212**	**0.080**	**0.245**	**0.139**
	Right Tilted	0.027	0.128	0.047	0.038	**0.155**	**0.074**	**0.202**	**0.112**
	Left Cheek	0.065	0.508	0.098	0.194	**0.573**	**0.163**	**0.671**	**0.357**
	Left Tilted	0.026	0.344	0.039	0.137	**0.370**	**0.065**	**0.409**	**0.202**
LTE Band 12_LAT	Right Cheek	0.051	0.165	0.033	0.059	**0.216**	**0.084**	**0.249**	**0.143**
	Right Tilted	0.030	0.128	0.047	0.038	**0.158**	**0.077**	**0.205**	**0.115**
	Left Cheek	0.061	0.508	0.098	0.194	**0.569**	**0.159**	**0.667**	**0.353**
	Left Tilted	0.029	0.344	0.039	0.137	**0.373**	**0.068**	**0.412**	**0.205**
LTE Band 13_LAT	Right Cheek	0.190	0.165	0.033	0.059	**0.355**	**0.223**	**0.388**	**0.282**
	Right Tilted	0.100	0.128	0.047	0.038	**0.228**	**0.147**	**0.275**	**0.185**
	Left Cheek	0.207	0.508	0.098	0.194	**0.715**	**0.305**	**0.813**	**0.499**
	Left Tilted	0.093	0.344	0.039	0.137	**0.437**	**0.132**	**0.476**	**0.269**
LTE Band 25_LAT	Right Cheek	0.156	0.165	0.033	0.059	**0.321**	**0.189**	**0.354**	**0.248**
	Right Tilted	0.073	0.128	0.047	0.038	**0.201**	**0.120**	**0.248**	**0.158**
	Left Cheek	0.155	0.508	0.098	0.194	**0.663**	**0.253**	**0.761**	**0.447**
	Left Tilted	0.102	0.344	0.039	0.137	**0.446**	**0.141**	**0.485**	**0.278**
LTE Band 26_LAT	Right Cheek	0.132	0.165	0.033	0.059	**0.297**	**0.165**	**0.330**	**0.224**
	Right Tilted	0.089	0.128	0.047	0.038	**0.217**	**0.136**	**0.264**	**0.174**
	Left Cheek	0.219	0.508	0.098	0.194	**0.727**	**0.317**	**0.825**	**0.511**
	Left Tilted	0.091	0.344	0.039	0.137	**0.435**	**0.130**	**0.474**	**0.267**
LTE Band 30_LAT	Right Cheek	0.073	0.165	0.033	0.059	**0.238**	**0.106**	**0.271**	**0.165**
	Right Tilted	0.022	0.128	0.047	0.038	**0.150**	**0.069**	**0.197**	**0.107**
	Left Cheek	0.120	0.508	0.098	0.194	**0.628**	**0.218**	**0.726**	**0.412**
	Left Tilted	0.038	0.344	0.039	0.137	**0.382**	**0.077**	**0.421**	**0.214**
LTE Band 41_LAT	Right Cheek	0.015	0.165	0.033	0.059	**0.180**	**0.048**	**0.213**	**0.107**
	Right Tilted	0.001	0.128	0.047	0.038	**0.129**	**0.048**	**0.176**	**0.086**

	Left Cheek	0.021	0.508	0.098	0.194	**0.529**	**0.119**	**0.627**	**0.313**
	Left Tilted	0.001	0.344	0.039	0.137	**0.345**	**0.040**	**0.384**	**0.177**
LTE Band 66_LAT	Right Cheek	0.369	0.165	0.033	0.059	**0.534**	**0.402**	**0.567**	**0.461**
	Right Tilted	0.137	0.128	0.047	0.038	**0.265**	**0.184**	**0.312**	**0.222**
	Left Cheek	0.270	0.508	0.098	0.194	**0.778**	**0.368**	**0.876**	**0.562**
	Left Tilted	0.126	0.344	0.039	0.137	**0.470**	**0.165**	**0.509**	**0.302**
LTE Band 71_LAT	Right Cheek	0.080	0.165	0.033	0.059	**0.245**	**0.113**	**0.278**	**0.172**
	Right Tilted	0.043	0.128	0.047	0.038	**0.171**	**0.090**	**0.218**	**0.128**
	Left Cheek	0.081	0.508	0.098	0.194	**0.589**	**0.179**	**0.687**	**0.373**
	Left Tilted	0.040	0.344	0.039	0.137	**0.384**	**0.079**	**0.423**	**0.216**

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
GSM850_UAT	Right Cheek	0.438	0.165	0.033	0.059	**0.603**	**0.471**	**0.636**	**0.530**
	Right Tilted	0.110	0.128	0.047	0.038	**0.238**	**0.157**	**0.285**	**0.195**
	Left Cheek	0.374	0.508	0.098	0.194	**0.882**	**0.472**	**0.980**	**0.666**
	Left Tilted	0.092	0.344	0.039	0.137	**0.436**	**0.131**	**0.475**	**0.268**
GSM1900_UAT	Right Cheek	1.026	0.165	0.033	0.059	**1.191**	**1.059**	**1.224**	**1.118**
	Right Tilted	1.019	0.128	0.047	0.038	**1.147**	**1.066**	**1.194**	**1.104**
	Left Cheek	0.570	0.508	0.098	0.194	**1.078**	**0.668**	**1.176**	**0.862**
	Left Tilted	0.777	0.344	0.039	0.137	**1.121**	**0.816**	**1.160**	**0.953**
WCDMA II_UAT	Right Cheek	1.029	0.165	0.033	0.059	**1.194**	**1.062**	**1.227**	**1.121**
	Right Tilted	0.975	0.128	0.047	0.038	**1.103**	**1.022**	**1.150**	**1.060**
	Left Cheek	0.645	0.508	0.098	0.194	**1.153**	**0.743**	**1.251**	**0.937**
	Left Tilted	0.895	0.344	0.039	0.137	**1.239**	**0.934**	**1.278**	**1.071**
WCDMA IV_UAT	Right Cheek	0.950	0.165	0.033	0.059	**1.115**	**0.983**	**1.148**	**1.042**
	Right Tilted	0.927	0.128	0.047	0.038	**1.055**	**0.974**	**1.102**	**1.012**
	Left Cheek	0.508	0.508	0.098	0.194	**1.016**	**0.606**	**1.114**	**0.800**
	Left Tilted	0.660	0.344	0.039	0.137	**1.004**	**0.699**	**1.043**	**0.836**
WCDMA V_UAT	Right Cheek	0.505	0.165	0.033	0.059	**0.670**	**0.538**	**0.703**	**0.597**
	Right Tilted	0.112	0.128	0.047	0.038	**0.240**	**0.159**	**0.287**	**0.197**
	Left Cheek	0.469	0.508	0.098	0.194	**0.977**	**0.567**	**1.075**	**0.761**
	Left Tilted	0.102	0.344	0.039	0.137	**0.446**	**0.141**	**0.485**	**0.278**
LTE Band 5_UAT	Right Cheek	0.699	0.165	0.033	0.059	**0.864**	**0.732**	**0.897**	**0.791**
	Right Tilted	0.172	0.128	0.047	0.038	**0.300**	**0.219**	**0.347**	**0.257**
	Left Cheek	0.668	0.508	0.098	0.194	**1.176**	**0.766**	**1.274**	**0.960**
	Left Tilted	0.134	0.344	0.039	0.137	**0.478**	**0.173**	**0.517**	**0.310**
LTE Band 7_UAT	Right Cheek	0.826	0.165	0.033	0.059	**0.991**	**0.859**	**1.024**	**0.918**
	Right Tilted	1.026	0.128	0.047	0.038	**1.154**	**1.073**	**1.201**	**1.111**
	Left Cheek	0.409	0.508	0.098	0.194	**0.917**	**0.507**	**1.015**	**0.701**
	Left Tilted	0.588	0.344	0.039	0.137	**0.932**	**0.627**	**0.971**	**0.764**
LTE Band 12_UAT	Right Cheek	0.350	0.165	0.033	0.059	**0.515**	**0.383**	**0.548**	**0.442**
	Right Tilted	0.099	0.128	0.047	0.038	**0.227**	**0.146**	**0.274**	**0.184**
	Left Cheek	0.378	0.508	0.098	0.194	**0.886**	**0.476**	**0.984**	**0.670**
	Left Tilted	0.080	0.344	0.039	0.137	**0.424**	**0.119**	**0.463**	**0.256**
LTE Band 13_UAT	Right Cheek	0.530	0.165	0.033	0.059	**0.695**	**0.563**	**0.728**	**0.622**
	Right Tilted	0.137	0.128	0.047	0.038	**0.265**	**0.184**	**0.312**	**0.222**
	Left Cheek	0.571	0.508	0.098	0.194	**1.079**	**0.669**	**1.177**	**0.863**
	Left Tilted	0.124	0.344	0.039	0.137	**0.468**	**0.163**	**0.507**	**0.300**
LTE Band 25_UAT	Right Cheek	0.983	0.165	0.033	0.059	**1.148**	**1.016**	**1.181**	**1.075**
	Right Tilted	0.933	0.128	0.047	0.038	**1.061**	**0.980**	**1.108**	**1.018**
	Left Cheek	0.623	0.508	0.098	0.194	**1.131**	**0.721**	**1.229**	**0.915**
	Left Tilted	0.911	0.344	0.039	0.137	**1.255**	**0.950**	**1.294**	**1.087**

LTE Band 26_UAT	Right Cheek	0.599	0.165	0.033	0.059	**0.764**	**0.632**	**0.797**	**0.691**
	Right Tilted	0.161	0.128	0.047	0.038	**0.289**	**0.208**	**0.336**	**0.246**
	Left Cheek	0.692	0.508	0.098	0.194	**1.200**	**0.790**	**1.298**	**0.984**
	Left Tilted	0.145	0.344	0.039	0.137	**0.489**	**0.184**	**0.528**	**0.321**
LTE Band 30_UAT	Right Cheek	0.599	0.165	0.033	0.059	**0.764**	**0.632**	**0.797**	**0.691**
	Right Tilted	0.572	0.128	0.047	0.038	**0.700**	**0.619**	**0.747**	**0.657**
	Left Cheek	0.410	0.508	0.098	0.194	**0.918**	**0.508**	**1.016**	**0.702**
	Left Tilted	0.652	0.344	0.039	0.137	**0.996**	**0.691**	**1.035**	**0.828**
LTE Band 41_UAT	Right Cheek	0.931	0.165	0.033	0.059	**1.096**	**0.964**	**1.129**	**1.023**
	Right Tilted	1.103	0.128	0.047	0.038	**1.231**	**1.150**	**1.278**	**1.188**
	Left Cheek	0.483	0.508	0.098	0.194	**0.991**	**0.581**	**1.089**	**0.775**
	Left Tilted	0.631	0.344	0.039	0.137	**0.975**	**0.670**	**1.014**	**0.807**
LTE Band 48_UAT Ant 3	Right Cheek	0.958	0.165	0.033	0.059	**1.123**	**0.991**	**1.156**	**1.050**
	Right Tilted	1.071	0.128	0.047	0.038	**1.199**	**1.118**	**1.246**	**1.156**
	Left Cheek	0.424	0.508	0.098	0.194	**0.932**	**0.522**	**1.030**	**0.716**
	Left Tilted	0.472	0.344	0.039	0.137	**0.816**	**0.511**	**0.855**	**0.648**
LTE Band 48_UAT Ant 6	Right Cheek	0.537	0.165	0.033	0.059	**0.702**	**0.570**	**0.735**	**0.629**
	Right Tilted	0.598	0.128	0.047	0.038	**0.726**	**0.645**	**0.773**	**0.683**
	Left Cheek	0.267	0.508	0.098	0.194	**0.775**	**0.365**	**0.873**	**0.559**
	Left Tilted	0.340	0.344	0.039	0.137	**0.684**	**0.379**	**0.723**	**0.516**
LTE Band 66_UAT	Right Cheek	1.098	0.165	0.033	0.059	**1.263**	**1.131**	**1.296**	**1.190**
	Right Tilted	1.063	0.128	0.047	0.038	**1.191**	**1.110**	**1.238**	**1.148**
	Left Cheek	0.684	0.508	0.098	0.194	**1.192**	**0.782**	**1.290**	**0.976**
	Left Tilted	0.915	0.344	0.039	0.137	**1.259**	**0.954**	**1.298**	**1.091**
LTE Band 71_UAT	Right Cheek	0.230	0.165	0.033	0.059	**0.395**	**0.263**	**0.428**	**0.322**
	Right Tilted	0.055	0.128	0.047	0.038	**0.183**	**0.102**	**0.230**	**0.140**
	Left Cheek	0.205	0.508	0.098	0.194	**0.713**	**0.303**	**0.811**	**0.497**
	Left Tilted	0.044	0.344	0.039	0.137	**0.388**	**0.083**	**0.427**	**0.220**

<For 5G NR NSA>

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
N2_UAT	Right Cheek	0.607	0.165	0.033	0.059	**0.772**	**0.640**	**0.805**	**0.699**
	Right Tilted	0.549	0.128	0.047	0.038	**0.677**	**0.596**	**0.724**	**0.634**
	Left Cheek	0.330	0.508	0.098	0.194	**0.838**	**0.428**	**0.936**	**0.622**
	Left Tilted	0.451	0.344	0.039	0.137	**0.795**	**0.490**	**0.834**	**0.627**
N2_LAT	Right Cheek	0.141	0.165	0.033	0.059	**0.306**	**0.174**	**0.339**	**0.233**
	Right Tilted	0.091	0.128	0.047	0.038	**0.219**	**0.138**	**0.266**	**0.176**
	Left Cheek	0.205	0.508	0.098	0.194	**0.713**	**0.303**	**0.811**	**0.497**
	Left Tilted	0.096	0.344	0.039	0.137	**0.440**	**0.135**	**0.479**	**0.272**
N5_UAT	Right Cheek	0.632	0.165	0.033	0.059	**0.797**	**0.665**	**0.830**	**0.724**
	Right Tilted	0.156	0.128	0.047	0.038	**0.284**	**0.203**	**0.331**	**0.241**
	Left Cheek	0.586	0.508	0.098	0.194	**1.094**	**0.684**	**1.192**	**0.878**
	Left Tilted	0.126	0.344	0.039	0.137	**0.470**	**0.165**	**0.509**	**0.302**
N5_LAT	Right Cheek	0.139	0.165	0.033	0.059	**0.304**	**0.172**	**0.337**	**0.231**
	Right Tilted	0.081	0.128	0.047	0.038	**0.209**	**0.128**	**0.256**	**0.166**
	Left Cheek	0.206	0.508	0.098	0.194	**0.714**	**0.304**	**0.812**	**0.498**
	Left Tilted	0.082	0.344	0.039	0.137	**0.426**	**0.121**	**0.465**	**0.258**
N66_UAT	Right Cheek	0.698	0.165	0.033	0.059	**0.863**	**0.731**	**0.896**	**0.790**
	Right Tilted	0.640	0.128	0.047	0.038	**0.768**	**0.687**	**0.815**	**0.725**
	Left Cheek	0.427	0.508	0.098	0.194	**0.935**	**0.525**	**1.033**	**0.719**
	Left Tilted	0.569	0.344	0.039	0.137	**0.913**	**0.608**	**0.952**	**0.745**
N66_LAT	Right Cheek	0.266	0.165	0.033	0.059	**0.431**	**0.299**	**0.464**	**0.358**
	Right Tilted	0.139	0.128	0.047	0.038	**0.267**	**0.186**	**0.314**	**0.224**
	Left Cheek	0.201	0.508	0.098	0.194	**0.709**	**0.299**	**0.807**	**0.493**
	Left Tilted	0.155	0.344	0.039	0.137	**0.499**	**0.194**	**0.538**	**0.331**

17.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
GSM850_LAT	Front	0.424	0.116	0.001	0.033	**0.540**	**0.425**	**0.541**	**0.458**
	Back	0.744	0.134	0.427	0.044	**0.878**	**1.171**	**1.305**	**1.215**
	Left side	0.169				**0.169**	**0.169**	**0.169**	**0.169**
	Right side	0.423	0.100	0.074	0.035	**0.523**	**0.497**	**0.597**	**0.532**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.319				**0.319**	**0.319**	**0.319**	**0.319**
GSM1900_LAT	Front	0.281	0.116	0.001	0.033	**0.397**	**0.282**	**0.398**	**0.315**
	Back	0.272	0.134	0.427	0.044	**0.406**	**0.699**	**0.833**	**0.743**
	Left side	0.060				**0.060**	**0.060**	**0.060**	**0.060**
	Right side	0.038	0.100	0.074	0.035	**0.138**	**0.112**	**0.212**	**0.147**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.295				**0.295**	**0.295**	**0.295**	**0.295**
WCDMA II_LAT	Front	0.447	0.116	0.001	0.033	**0.563**	**0.448**	**0.564**	**0.481**
	Back	0.524	0.134	0.427	0.044	**0.658**	**0.951**	**1.085**	**0.995**
	Left side	0.156				**0.156**	**0.156**	**0.156**	**0.156**
	Right side	0.077	0.100	0.074	0.035	**0.177**	**0.151**	**0.251**	**0.186**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.667				**0.667**	**0.667**	**0.667**	**0.667**
WCDMA IV_LAT	Front	0.452	0.116	0.001	0.033	**0.568**	**0.453**	**0.569**	**0.486**
	Back	0.536	0.134	0.427	0.044	**0.670**	**0.963**	**1.097**	**1.007**
	Left side	0.228				**0.228**	**0.228**	**0.228**	**0.228**
	Right side	0.137	0.100	0.074	0.035	**0.237**	**0.211**	**0.311**	**0.246**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.652				**0.652**	**0.652**	**0.652**	**0.652**
WCDMA V_LAT	Front	0.351	0.116	0.001	0.033	**0.467**	**0.352**	**0.468**	**0.385**
	Back	0.512	0.134	0.427	0.044	**0.646**	**0.939**	**1.073**	**0.983**
	Left side	0.169				**0.169**	**0.169**	**0.169**	**0.169**
	Right side	0.306	0.100	0.074	0.035	**0.406**	**0.380**	**0.480**	**0.415**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.280				**0.280**	**0.280**	**0.280**	**0.280**
LTE Band 5_LAT	Front	0.507	0.116	0.001	0.033	**0.623**	**0.508**	**0.624**	**0.541**
	Back	0.704	0.134	0.427	0.044	**0.838**	**1.131**	**1.265**	**1.175**
	Left side	0.221				**0.221**	**0.221**	**0.221**	**0.221**
	Right side	0.485	0.100	0.074	0.035	**0.585**	**0.559**	**0.659**	**0.594**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.395				**0.395**	**0.395**	**0.395**	**0.395**
LTE Band 7_LAT	Front	0.430	0.116	0.001	0.033	**0.546**	**0.431**	**0.547**	**0.464**
	Back	0.942	0.134	0.427	0.044	**1.076**	**1.369**	**1.503**	**1.413**
	Left side	0.125				**0.125**	**0.125**	**0.125**	**0.125**
	Right side	0.089	0.100	0.074	0.035	**0.189**	**0.163**	**0.263**	**0.198**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.971				**0.971**	**0.971**	**0.971**	**0.971**
LTE Band 12_LAT	Front	0.192	0.116	0.001	0.033	**0.308**	**0.193**	**0.309**	**0.226**
	Back	0.279	0.134	0.427	0.044	**0.413**	**0.706**	**0.840**	**0.750**
	Left side	0.062				**0.062**	**0.062**	**0.062**	**0.062**
	Right side	0.177	0.100	0.074	0.035	**0.277**	**0.251**	**0.351**	**0.286**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.116				**0.116**	**0.116**	**0.116**	**0.116**
LTE Band 13_LAT	Front	0.491	0.116	0.001	0.033	**0.607**	**0.492**	**0.608**	**0.525**
	Back	0.593	0.134	0.427	0.044	**0.727**	**1.020**	**1.154**	**1.064**

	Left side	0.306				**0.306**	**0.306**	**0.306**	**0.306**
	Right side	0.308	0.100	0.074	0.035	**0.408**	**0.382**	**0.482**	**0.417**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.319				**0.319**	**0.319**	**0.319**	**0.319**
LTE Band 25_LAT	Front	0.589	0.116	0.001	0.033	**0.705**	**0.590**	**0.706**	**0.623**
	Back	0.724	0.134	0.427	0.044	**0.858**	**1.151**	**1.285**	**1.195**
	Left side	0.215				**0.215**	**0.215**	**0.215**	**0.215**
	Right side	0.102	0.100	0.074	0.035	**0.202**	**0.176**	**0.276**	**0.211**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.844				**0.844**	**0.844**	**0.844**	**0.844**
LTE Band 26_LAT	Front	0.402	0.116	0.001	0.033	**0.518**	**0.403**	**0.519**	**0.436**
	Back	0.513	0.134	0.427	0.044	**0.647**	**0.940**	**1.074**	**0.984**
	Left side	0.171				**0.171**	**0.171**	**0.171**	**0.171**
	Right side	0.397	0.100	0.074	0.035	**0.497**	**0.471**	**0.571**	**0.506**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.329				**0.329**	**0.329**	**0.329**	**0.329**
LTE Band 30_LAT	Front	0.452	0.116	0.001	0.033	**0.568**	**0.453**	**0.569**	**0.486**
	Back	0.620	0.134	0.427	0.044	**0.754**	**1.047**	**1.181**	**1.091**
	Left side	0.104				**0.104**	**0.104**	**0.104**	**0.104**
	Right side	0.108	0.100	0.074	0.035	**0.208**	**0.182**	**0.282**	**0.217**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.863				**0.863**	**0.863**	**0.863**	**0.863**
LTE Band 41_LAT	Front	0.233	0.116	0.001	0.033	**0.349**	**0.234**	**0.350**	**0.267**
	Back	0.623	0.134	0.427	0.044	**0.757**	**1.050**	**1.184**	**1.094**
	Left side	0.032				**0.032**	**0.032**	**0.032**	**0.032**
	Right side	0.036	0.100	0.074	0.035	**0.136**	**0.110**	**0.210**	**0.145**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.614				**0.614**	**0.614**	**0.614**	**0.614**
LTE Band 66_LAT	Front	0.663	0.116	0.001	0.033	**0.779**	**0.664**	**0.780**	**0.697**
	Back	0.796	0.134	0.427	0.044	**0.930**	**1.223**	**1.357**	**1.267**
	Left side	0.339				**0.339**	**0.339**	**0.339**	**0.339**
	Right side	0.233	0.100	0.074	0.035	**0.333**	**0.307**	**0.407**	**0.342**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	1.098				**1.098**	**1.098**	**1.098**	**1.098**
LTE Band 71_LAT	Front	0.203	0.116	0.001	0.033	**0.319**	**0.204**	**0.320**	**0.237**
	Back	0.292	0.134	0.427	0.044	**0.426**	**0.719**	**0.853**	**0.763**
	Left side	0.086				**0.086**	**0.086**	**0.086**	**0.086**
	Right side	0.181	0.100	0.074	0.035	**0.281**	**0.255**	**0.355**	**0.290**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.121				**0.121**	**0.121**	**0.121**	**0.121**

WWAN Band	Exposure Position	1 WWAN 1g SAR (W/kg)	2 2.4GHz WLAN Ant 7+9 1g SAR (W/kg)	3 5GHz WLAN Ant 7+8 1g SAR (W/kg)	4 Bluetooth Ant 7 1g SAR (W/kg)	**1+2 Summed 1g SAR (W/kg)**	**1+3 Summed 1g SAR (W/kg)**	**1+2+3 Summed 1g SAR (W/kg)**	**1+3+4 Summed 1g SAR (W/kg)**
GSM850_UAT	Front	0.184	0.116	0.001	0.033	**0.300**	**0.185**	**0.301**	**0.218**
	Back	0.296	0.134	0.427	0.044	**0.430**	**0.723**	**0.857**	**0.767**
	Left side	0.269				**0.269**	**0.269**	**0.269**	**0.269**
	Right side	0.007	0.100	0.074	0.035	**0.107**	**0.081**	**0.181**	**0.116**
	Top side	0.016	0.065	0.100	0.013	**0.081**	**0.116**	**0.181**	**0.129**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
GSM1900_UAT	Front	0.313	0.116	0.001	0.033	**0.429**	**0.314**	**0.430**	**0.347**
	Back	0.375	0.134	0.427	0.044	**0.509**	**0.802**	**0.936**	**0.846**
	Left side	0.149				**0.149**	**0.149**	**0.149**	**0.149**
	Right side	0.085	0.100	0.074	0.035	**0.185**	**0.159**	**0.259**	**0.194**

	Top side	0.713	0.065	0.100	0.013	**0.778**	**0.813**	**0.878**	**0.826**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
WCDMA II_UAT	Front	0.266	0.116	0.001	0.033	**0.382**	**0.267**	**0.383**	**0.300**
	Back	0.299	0.134	0.427	0.044	**0.433**	**0.726**	**0.860**	**0.770**
	Left side	0.142				**0.142**	**0.142**	**0.142**	**0.142**
	Right side	0.075	0.100	0.074	0.035	**0.175**	**0.149**	**0.249**	**0.184**
	Top side	0.629	0.065	0.100	0.013	**0.694**	**0.729**	**0.794**	**0.742**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
WCDMA IV_UAT	Front	0.250	0.116	0.001	0.033	**0.366**	**0.251**	**0.367**	**0.284**
	Back	0.239	0.134	0.427	0.044	**0.373**	**0.666**	**0.800**	**0.710**
	Left side	0.136				**0.136**	**0.136**	**0.136**	**0.136**
	Right side	0.049	0.100	0.074	0.035	**0.149**	**0.123**	**0.223**	**0.158**
	Top side	0.444	0.065	0.100	0.013	**0.509**	**0.544**	**0.609**	**0.557**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
WCDMA V_UAT	Front	0.367	0.116	0.001	0.033	**0.483**	**0.368**	**0.484**	**0.401**
	Back	0.531	0.134	0.427	0.044	**0.665**	**0.958**	**1.092**	**1.002**
	Left side	0.591				**0.591**	**0.591**	**0.591**	**0.591**
	Right side	0.016	0.100	0.074	0.035	**0.116**	**0.090**	**0.190**	**0.125**
	Top side	0.026	0.065	0.100	0.013	**0.091**	**0.126**	**0.191**	**0.139**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 5_UAT	Front	0.363	0.116	0.001	0.033	**0.479**	**0.364**	**0.480**	**0.397**
	Back	0.513	0.134	0.427	0.044	**0.647**	**0.940**	**1.074**	**0.984**
	Left side	0.563				**0.563**	**0.563**	**0.563**	**0.563**
	Right side	0.015	0.100	0.074	0.035	**0.115**	**0.089**	**0.189**	**0.124**
	Top side	0.026	0.065	0.100	0.013	**0.091**	**0.126**	**0.191**	**0.139**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 7_UAT	Front	0.156	0.116	0.001	0.033	**0.272**	**0.157**	**0.273**	**0.190**
	Back	0.212	0.134	0.427	0.044	**0.346**	**0.639**	**0.773**	**0.683**
	Left side	0.052				**0.052**	**0.052**	**0.052**	**0.052**
	Right side	0.047	0.100	0.074	0.035	**0.147**	**0.121**	**0.221**	**0.156**
	Top side	0.578	0.065	0.100	0.013	**0.643**	**0.678**	**0.743**	**0.691**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 12_UAT	Front	0.122	0.116	0.001	0.033	**0.238**	**0.123**	**0.239**	**0.156**
	Back	0.160	0.134	0.427	0.044	**0.294**	**0.587**	**0.721**	**0.631**
	Left side	0.199				**0.199**	**0.199**	**0.199**	**0.199**
	Right side	0.007	0.100	0.074	0.035	**0.107**	**0.081**	**0.181**	**0.116**
	Top side	0.006	0.065	0.100	0.013	**0.071**	**0.106**	**0.171**	**0.119**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 13_UAT	Front	0.412	0.116	0.001	0.033	**0.528**	**0.413**	**0.529**	**0.446**
	Back	0.586	0.134	0.427	0.044	**0.720**	**1.013**	**1.147**	**1.057**
	Left side	0.588				**0.588**	**0.588**	**0.588**	**0.588**
	Right side	0.022	0.100	0.074	0.035	**0.122**	**0.096**	**0.196**	**0.131**
	Top side	0.022	0.065	0.100	0.013	**0.087**	**0.122**	**0.187**	**0.135**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 25_UAT	Front	0.198	0.116	0.001	0.033	**0.314**	**0.199**	**0.315**	**0.232**
	Back	0.222	0.134	0.427	0.044	**0.356**	**0.649**	**0.783**	**0.693**
	Left side	0.102				**0.102**	**0.102**	**0.102**	**0.102**
	Right side	0.059	0.100	0.074	0.035	**0.159**	**0.133**	**0.233**	**0.168**
	Top side	0.458	0.065	0.100	0.013	**0.523**	**0.558**	**0.623**	**0.571**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 26_UAT	Front	0.376	0.116	0.001	0.033	**0.492**	**0.377**	**0.493**	**0.410**
	Back	0.541	0.134	0.427	0.044	**0.675**	**0.968**	**1.102**	**1.012**
	Left side	0.599				**0.599**	**0.599**	**0.599**	**0.599**
	Right side	0.014	0.100	0.074	0.035	**0.114**	**0.088**	**0.188**	**0.123**
	Top side	0.027	0.065	0.100	0.013	**0.092**	**0.127**	**0.192**	**0.140**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**

LTE Band 30_UAT	Front	0.178	0.116	0.001	0.033	**0.294**	**0.179**	**0.295**	**0.212**
	Back	0.202	0.134	0.427	0.044	**0.336**	**0.629**	**0.763**	**0.673**
	Left side	0.064				**0.064**	**0.064**	**0.064**	**0.064**
	Right side	0.036	0.100	0.074	0.035	**0.136**	**0.110**	**0.210**	**0.145**
	Top side	0.567	0.065	0.100	0.013	**0.632**	**0.667**	**0.732**	**0.680**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 41_UAT	Front	0.285	0.116	0.001	0.033	**0.401**	**0.286**	**0.402**	**0.319**
	Back	0.364	0.134	0.427	0.044	**0.498**	**0.791**	**0.925**	**0.835**
	Left side	0.064				**0.064**	**0.064**	**0.064**	**0.064**
	Right side	0.087	0.100	0.074	0.035	**0.187**	**0.161**	**0.261**	**0.196**
	Top side	0.683	0.065	0.100	0.013	**0.748**	**0.783**	**0.848**	**0.796**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 48_UAT Ant 3	Front	0.165	0.116	0.001	0.033	**0.281**	**0.166**	**0.282**	**0.199**
	Back	0.288	0.134	0.427	0.044	**0.422**	**0.715**	**0.849**	**0.759**
	Left side	0.040				**0.040**	**0.040**	**0.040**	**0.040**
	Right side	0.046	0.100	0.074	0.035	**0.146**	**0.120**	**0.220**	**0.155**
	Top side	0.362	0.065	0.100	0.013	**0.427**	**0.462**	**0.527**	**0.475**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 48_UAT Ant 6	Front	0.054	0.116	0.001	0.033	**0.170**	**0.055**	**0.171**	**0.088**
	Back	0.182	0.134	0.427	0.044	**0.316**	**0.609**	**0.743**	**0.653**
	Left side	0.046				**0.046**	**0.046**	**0.046**	**0.046**
	Right side	0.018	0.100	0.074	0.035	**0.118**	**0.092**	**0.192**	**0.127**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.007				**0.007**	**0.007**	**0.007**	**0.007**
LTE Band 66_UAT	Front	0.309	0.116	0.001	0.033	**0.425**	**0.310**	**0.426**	**0.343**
	Back	0.322	0.134	0.427	0.044	**0.456**	**0.749**	**0.883**	**0.793**
	Left side	0.147				**0.147**	**0.147**	**0.147**	**0.147**
	Right side	0.067	0.100	0.074	0.035	**0.167**	**0.141**	**0.241**	**0.176**
	Top side	0.548	0.065	0.100	0.013	**0.613**	**0.648**	**0.713**	**0.661**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
LTE Band 71_UAT	Front	0.090	0.116	0.001	0.033	**0.206**	**0.091**	**0.207**	**0.124**
	Back	0.104	0.134	0.427	0.044	**0.238**	**0.531**	**0.665**	**0.575**
	Left side	0.128				**0.128**	**0.128**	**0.128**	**0.128**
	Right side	0.006	0.100	0.074	0.035	**0.106**	**0.080**	**0.180**	**0.115**
	Top side	0.005	0.065	0.100	0.013	**0.070**	**0.105**	**0.170**	**0.118**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**

<For 5G NR NSA>

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
N2_UAT	Front	0.235	0.116	0.001	0.033	**0.351**	**0.236**	**0.352**	**0.269**
	Back	0.244	0.134	0.427	0.044	**0.378**	**0.671**	**0.805**	**0.715**
	Left side	0.090				**0.090**	**0.090**	**0.090**	**0.090**
	Right side	0.062	0.100	0.074	0.035	**0.162**	**0.136**	**0.236**	**0.171**
	Top side	0.552	0.065	0.100	0.013	**0.617**	**0.652**	**0.717**	**0.665**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
N2_LAT	Front	0.691	0.116	0.001	0.033	**0.807**	**0.692**	**0.808**	**0.725**
	Back	0.722	0.134	0.427	0.044	**0.856**	**1.149**	**1.283**	**1.193**
	Left side	0.245				**0.245**	**0.245**	**0.245**	**0.245**
	Right side	0.205	0.100	0.074	0.035	**0.305**	**0.279**	**0.379**	**0.314**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.694				**0.694**	**0.694**	**0.694**	**0.694**
N5_UAT	Front	0.337	0.116	0.001	0.033	**0.453**	**0.338**	**0.454**	**0.371**
	Back	0.548	0.134	0.427	0.044	**0.682**	**0.975**	**1.109**	**1.019**
	Left side	0.530				**0.530**	**0.530**	**0.530**	**0.530**
	Right side	0.008	0.100	0.074	0.035	**0.108**	**0.082**	**0.182**	**0.117**
	Top side	0.023	0.065	0.100	0.013	**0.088**	**0.123**	**0.188**	**0.136**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
N5_LAT	Front	0.422	0.116	0.001	0.033	**0.538**	**0.423**	**0.539**	**0.456**
	Back	0.548	0.134	0.427	0.044	**0.682**	**0.975**	**1.109**	**1.019**
	Left side	0.199				**0.199**	**0.199**	**0.199**	**0.199**
	Right side	0.392	0.100	0.074	0.035	**0.492**	**0.466**	**0.566**	**0.501**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	0.411				**0.411**	**0.411**	**0.411**	**0.411**
N66_UAT	Front	0.314	0.116	0.001	0.033	**0.430**	**0.315**	**0.431**	**0.348**
	Back	0.310	0.134	0.427	0.044	**0.444**	**0.737**	**0.871**	**0.781**
	Left side	0.124				**0.124**	**0.124**	**0.124**	**0.124**
	Right side	0.053	0.100	0.074	0.035	**0.153**	**0.127**	**0.227**	**0.162**
	Top side	0.543	0.065	0.100	0.013	**0.608**	**0.643**	**0.708**	**0.656**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
N66_LAT	Front	0.814	0.116	0.001	0.033	**0.930**	**0.815**	**0.931**	**0.848**
	Back	0.888	0.134	0.427	0.044	**1.022**	**1.315**	**1.449**	**1.359**
	Left side	0.519				**0.519**	**0.519**	**0.519**	**0.519**
	Right side	0.453	0.100	0.074	0.035	**0.553**	**0.527**	**0.627**	**0.562**
	Top side		0.065	0.100	0.013	**0.065**	**0.100**	**0.165**	**0.113**
	Bottom side	1.082				**1.082**	**1.082**	**1.082**	**1.082**

17.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
GSM850_LAT	Front	0.192	0.056	0.001	0.016	**0.248**	**0.193**	**0.249**	**0.209**
	Back	0.278	0.067	0.287	0.022	**0.345**	**0.565**	**0.632**	**0.587**
GSM1900_LAT	Front	0.410	0.056	0.001	0.016	**0.466**	**0.411**	**0.467**	**0.427**
	Back	0.363	0.067	0.287	0.022	**0.430**	**0.650**	**0.717**	**0.672**
WCDMA II_LAT	Front	0.254	0.056	0.001	0.016	**0.310**	**0.255**	**0.311**	**0.271**
	Back	0.295	0.067	0.287	0.022	**0.362**	**0.582**	**0.649**	**0.604**
WCDMA IV_LAT	Front	0.593	0.056	0.001	0.016	**0.649**	**0.594**	**0.650**	**0.610**
	Back	0.695	0.067	0.287	0.022	**0.762**	**0.982**	**1.049**	**1.004**
WCDMA V_LAT	Front	0.257	0.056	0.001	0.016	**0.313**	**0.258**	**0.314**	**0.274**
	Back	0.315	0.067	0.287	0.022	**0.382**	**0.602**	**0.669**	**0.624**
LTE Band 5_LAT	Front	0.360	0.056	0.001	0.016	**0.416**	**0.361**	**0.417**	**0.377**
	Back	0.469	0.067	0.287	0.022	**0.536**	**0.756**	**0.823**	**0.778**
LTE Band 7_LAT	Front	0.236	0.056	0.001	0.016	**0.292**	**0.237**	**0.293**	**0.253**
	Back	0.407	0.067	0.287	0.022	**0.474**	**0.694**	**0.761**	**0.716**
LTE Band 12_LAT	Front	0.110	0.056	0.001	0.016	**0.166**	**0.111**	**0.167**	**0.127**
	Back	0.148	0.067	0.287	0.022	**0.215**	**0.435**	**0.502**	**0.457**
LTE Band 13_LAT	Front	0.374	0.056	0.001	0.016	**0.430**	**0.375**	**0.431**	**0.391**
	Back	0.462	0.067	0.287	0.022	**0.529**	**0.749**	**0.816**	**0.771**
LTE Band 25_LAT	Front	0.312	0.056	0.001	0.016	**0.368**	**0.313**	**0.369**	**0.329**
	Back	0.401	0.067	0.287	0.022	**0.468**	**0.688**	**0.755**	**0.710**
LTE Band 26_LAT	Front	0.277	0.056	0.001	0.016	**0.333**	**0.278**	**0.334**	**0.294**
	Back	0.391	0.067	0.287	0.022	**0.458**	**0.678**	**0.745**	**0.700**
LTE Band 30_LAT	Front	0.278	0.056	0.001	0.016	**0.334**	**0.279**	**0.335**	**0.295**
	Back	0.336	0.067	0.287	0.022	**0.403**	**0.623**	**0.690**	**0.645**
LTE Band 41_LAT	Front	0.109	0.056	0.001	0.016	**0.165**	**0.110**	**0.166**	**0.126**
	Back	0.278	0.067	0.287	0.022	**0.345**	**0.565**	**0.632**	**0.587**
LTE Band 66_LAT	Front	0.491	0.056	0.001	0.016	**0.547**	**0.492**	**0.548**	**0.508**
	Back	0.552	0.067	0.287	0.022	**0.619**	**0.839**	**0.906**	**0.861**
LTE Band 71_LAT	Front	0.147	0.056	0.001	0.016	**0.203**	**0.148**	**0.204**	**0.164**
	Back	0.210	0.067	0.287	0.022	**0.277**	**0.497**	**0.564**	**0.519**

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
GSM850_UAT	Front	0.217	0.056	0.001	0.016	**0.273**	**0.218**	**0.274**	**0.234**
	Back	0.274	0.067	0.287	0.022	**0.341**	**0.561**	**0.628**	**0.583**
GSM1900_UAT	Front	0.240	0.056	0.001	0.016	**0.296**	**0.241**	**0.297**	**0.257**
	Back	0.321	0.067	0.287	0.022	**0.388**	**0.608**	**0.675**	**0.630**
WCDMA II_UAT	Front	0.424	0.056	0.001	0.016	**0.480**	**0.425**	**0.481**	**0.441**
	Back	0.511	0.067	0.287	0.022	**0.578**	**0.798**	**0.865**	**0.820**
WCDMA IV_UAT	Front	0.609	0.056	0.001	0.016	**0.665**	**0.610**	**0.666**	**0.626**
	Back	0.595	0.067	0.287	0.022	**0.662**	**0.882**	**0.949**	**0.904**
WCDMA V_UAT	Front	0.208	0.056	0.001	0.016	**0.264**	**0.209**	**0.265**	**0.225**
	Back	0.322	0.067	0.287	0.022	**0.389**	**0.609**	**0.676**	**0.631**
LTE Band 5_UAT	Front	0.255	0.056	0.001	0.016	**0.311**	**0.256**	**0.312**	**0.272**
	Back	0.384	0.067	0.287	0.022	**0.451**	**0.671**	**0.738**	**0.693**
LTE Band 7_UAT	Front	0.328	0.056	0.001	0.016	**0.384**	**0.329**	**0.385**	**0.345**
	Back	0.386	0.067	0.287	0.022	**0.453**	**0.673**	**0.740**	**0.695**
LTE Band 12_UAT	Front	0.055	0.056	0.001	0.016	**0.111**	**0.056**	**0.112**	**0.072**
	Back	0.075	0.067	0.287	0.022	**0.142**	**0.362**	**0.429**	**0.384**
LTE Band 13_UAT	Front	0.168	0.056	0.001	0.016	**0.224**	**0.169**	**0.225**	**0.185**
	Back	0.316	0.067	0.287	0.022	**0.383**	**0.603**	**0.670**	**0.625**
LTE Band 25_UAT	Front	0.381	0.056	0.001	0.016	**0.437**	**0.382**	**0.438**	**0.398**
	Back	0.443	0.067	0.287	0.022	**0.510**	**0.730**	**0.797**	**0.752**
LTE Band 26_UAT	Front	0.208	0.056	0.001	0.016	**0.264**	**0.209**	**0.265**	**0.225**
	Back	0.275	0.067	0.287	0.022	**0.342**	**0.562**	**0.629**	**0.584**
LTE Band 30_UAT	Front	0.445	0.056	0.001	0.016	**0.501**	**0.446**	**0.502**	**0.462**
	Back	0.518	0.067	0.287	0.022	**0.585**	**0.805**	**0.872**	**0.827**
LTE Band 41_UAT	Front	0.242	0.056	0.001	0.016	**0.298**	**0.243**	**0.299**	**0.259**
	Back	0.283	0.067	0.287	0.022	**0.350**	**0.570**	**0.637**	**0.592**
LTE Band 48_UAT Ant 3	Front	0.249	0.056	0.001	0.016	**0.305**	**0.250**	**0.306**	**0.266**
	Back	0.899	0.067	0.287	0.022	**0.966**	**1.186**	**1.253**	**1.208**
LTE Band 48_UAT Ant 6	Front	0.029	0.056	0.001	0.016	**0.085**	**0.030**	**0.086**	**0.046**
	Back	0.094	0.067	0.287	0.022	**0.161**	**0.381**	**0.448**	**0.403**
LTE Band 66_UAT	Front	0.534	0.056	0.001	0.016	**0.590**	**0.535**	**0.591**	**0.551**
	Back	0.531	0.067	0.287	0.022	**0.598**	**0.818**	**0.885**	**0.840**
LTE Band 71_UAT	Front	0.039	0.056	0.001	0.016	**0.095**	**0.040**	**0.096**	**0.056**
	Back	0.054	0.067	0.287	0.022	**0.121**	**0.341**	**0.408**	**0.363**

<For 5G NR NSA>

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	+3+4 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
N2_UAT	Front	0.315	0.056	0.001	0.016	**0.371**	**0.316**	**0.372**	**0.332**
	Back	0.394	0.067	0.287	0.022	**0.461**	**0.681**	**0.748**	**0.703**
N2_LAT	Front	0.358	0.056	0.001	0.016	**0.414**	**0.359**	**0.415**	**0.375**
	Back	0.403	0.067	0.287	0.022	**0.470**	**0.690**	**0.757**	**0.712**
N5_UAT	Front	0.192	0.056	0.001	0.016	**0.248**	**0.193**	**0.249**	**0.209**
	Back	0.299	0.067	0.287	0.022	**0.366**	**0.586**	**0.653**	**0.608**
N5_LAT	Front	0.322	0.056	0.001	0.016	**0.378**	**0.323**	**0.379**	**0.339**
	Back	0.369	0.067	0.287	0.022	**0.436**	**0.656**	**0.723**	**0.678**
N66_UAT	Front	0.465	0.056	0.001	0.016	**0.521**	**0.466**	**0.522**	**0.482**
	Back	0.512	0.067	0.287	0.022	**0.579**	**0.799**	**0.866**	**0.821**
N66_LAT	Front	0.380	0.056	0.001	0.016	**0.436**	**0.381**	**0.437**	**0.397**
	Back	0.380	0.067	0.287	0.022	**0.447**	**0.667**	**0.734**	**0.689**

17.4 Product Specific Exposure Conditions

WWAN Band	Exposure Position	1 WWAN 10g SAR (W/kg)	2 2.4GHz WLAN Ant 7+9 10g SAR (W/kg)	3 5GHz WLAN Ant 7+8 10g SAR (W/kg)	4 Bluetooth Ant 7 10g SAR (W/kg)	1+2 Summed 10g SAR (W/kg)	1+3 Summed 10g SAR (W/kg)	1+2+3 Summed 10g SAR (W/kg)	1+3+4 Summed 10g SAR (W/kg)
LTE Band 66_LAT	Front			0.059		0.000	0.059	0.059	0.059
	Back			1.936		0.000	1.936	1.936	1.936
	Left side					0.000	0.000	0.000	0.000
	Right side			0.280		0.000	0.280	0.280	0.280
	Top side			0.188		0.000	0.188	0.188	0.188
	Bottom side	0.957				0.957	0.957	0.957	0.957

WWAN Band	Exposure Position	1 WWAN 10g SAR (W/kg)	2 2.4GHz WLAN Ant 7+9 10g SAR (W/kg)	3 5GHz WLAN Ant 7+8 10g SAR (W/kg)	4 Bluetooth Ant 7 10g SAR (W/kg)	1+2 Summed 10g SAR (W/kg)	1+3 Summed 10g SAR (W/kg)	1+2+3 Summed 10g SAR (W/kg)	1+3+4 Summed 10g SAR (W/kg)
WCDMA II_UAT	Front			0.059		0.000	0.059	0.059	0.059
	Back			1.936		0.000	1.936	1.936	1.936
	Left side					0.000	0.000	0.000	0.000
	Right side			0.280		0.000	0.280	0.280	0.280
	Top side	3.766		0.188		3.766	3.954	3.954	3.954
	Bottom side					0.000	0.000	0.000	0.000
WCDMA IV_UAT	Front			0.059		0.000	0.059	0.059	0.059
	Back			1.936		0.000	1.936	1.936	1.936
	Left side					0.000	0.000	0.000	0.000
	Right side			0.280		0.000	0.280	0.280	0.280
	Top side	2.609		0.188		2.609	2.797	2.797	2.797
	Bottom side					0.000	0.000	0.000	0.000
LTE Band 7_UAT	Front			0.059		0.000	0.059	0.059	0.059
	Back			1.936		0.000	1.936	1.936	1.936
	Left side					0.000	0.000	0.000	0.000
	Right side			0.280		0.000	0.280	0.280	0.280
	Top side	2.787		0.188		2.787	2.975	2.975	2.975
	Bottom side					0.000	0.000	0.000	0.000
LTE Band 25_UAT	Front			0.059		0.000	0.059	0.059	0.059
	Back			1.936		0.000	1.936	1.936	1.936
	Left side					0.000	0.000	0.000	0.000
	Right side			0.280		0.000	0.280	0.280	0.280
	Top side	3.730		0.188		3.730	3.918	3.918	3.918
	Bottom side					0.000	0.000	0.000	0.000
LTE Band 30_UAT	Front			0.059		0.000	0.059	0.059	0.059
	Back			1.936		0.000	1.936	1.936	1.936
	Left side					0.000	0.000	0.000	0.000
	Right side			0.280		0.000	0.280	0.280	0.280
	Top side	3.701		0.188		3.701	3.889	3.889	3.889
	Bottom side					0.000	0.000	0.000	0.000
LTE Band 66_UAT	Front			0.059		0.000	0.059	0.059	0.059
	Back			1.936		0.000	1.936	1.936	1.936
	Left side					0.000	0.000	0.000	0.000
	Right side			0.280		0.000	0.280	0.280	0.280
	Top side	3.401		0.188		3.401	3.589	3.589	3.589
	Bottom side					0.000	0.000	0.000	0.000

<For 5G NR NSA>

WWAN Band	Exposure Position	1	2	3	4	1+2 Summed 10g SAR (W/kg)	1+3 Summed 10g SAR (W/kg)	1+2+3 Summed 10g SAR (W/kg)	1+3+4 Summed 10g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 7+9	5GHz WLAN Ant 7+8	Bluetooth Ant 7				
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)				
N2_UAT	Front			0.059		**0.000**	**0.059**	**0.059**	**0.059**
	Back			1.936		**0.000**	**1.936**	**1.936**	**1.936**
	Left side					**0.000**	**0.000**	**0.000**	**0.000**
	Right side			0.280		**0.000**	**0.280**	**0.280**	**0.280**
	Top side	3.422		0.188		**3.422**	**3.610**	**3.610**	**3.610**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**
N66_UAT	Front			0.059		**0.000**	**0.059**	**0.059**	**0.059**
	Back			1.936		**0.000**	**1.936**	**1.936**	**1.936**
	Left side					**0.000**	**0.000**	**0.000**	**0.000**
	Right side			0.280		**0.000**	**0.280**	**0.280**	**0.280**
	Top side	3.234		0.188		**3.234**	**3.422**	**3.422**	**3.422**
	Bottom side					**0.000**	**0.000**	**0.000**	**0.000**

18. Supplemental tuner tests results

General Note:

1. This device implements 144 status antenna tuning techniques in the GSM850, WCDMA B5, LTE B5/12/13/17/26/71, 5G NR n5 for ANT 0 & ANT 1; GSM1900, WCDMA B2/4, LTE B2/4/7/25/30/38/41/66, 5GNR n66 for ANT 2.
2. SAR test proposal was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing and this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching.
3. The following test procedure was followed to demonstrate that the SAR results in this report represent the appropriate SAR test conditions. For bands with dynamic tuning implemented, SAR will be 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 will be evaluated for other tuner states to determine that the other tuner configurations would result in equivalent or lower SAR values.
4. To evaluate all of the tuner states, the 144 tuner states are divided evenly among band, mode and exposure combinations so that at least one single point SAR measurement is measured in each configuration. Single point time-sweep measurements will be performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state will be established remotely so that the device is not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe will remain stationary at the same position throughout the entire series of single point measurements for each combination.
5. The device supports LTE B5/B26, B2/B25, B4/B66, B12/17 and B38/B41. Since the supported frequency span for LTE B5/B2/B4/B17/B38 falls completely within the supported frequency span for LTE B26/B25/B66/B12/B41, and both bands have the same target power and both LTE bands share the same transmission path, therefore standalone SAR was only assessed for LTE B26/B25/B66/B12/B41. The single point SAR time-sweep measurements were treated independently for each supported ACL frequency band. For the LTE B5/B2/B4/B17/B38 single point SAR measurement selected the highest measured SAR configuration and exposure condition of LTE B26/B25/B66/B12/B41.
6. According to TCBC 201904 workshop, total number tuner states divided evenly among each supported band / air interface and exposure condition combination.
7. According to TCBC 201904 workshop, if any single point SAR measurement result is > 1.2 W/kg for a band/exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination
8. The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).

RF exposure position						Average Value of Time Sweep (W/kg)								
WWAN Head (Ant 0)	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 109)	0	18	36	54	72	90	108	126
	GSM850	GPRS (3 Tx slots)	128	Right Cheek	0.915	1.38	0.178	1.035	1.149	0.073	0.94	1.188	0.445	0.521
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 27)	1	19	37	55	73	91	109	127
	WCDMA V	RMC 12.2Kbps	4182	Right Cheek	0.828	1.31	0.584	0.66	0.279	0.889	0.451	0.546	0.937	1.013
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 27)	2	20	38	56	74	92	110	128
	LTE Band 5	10M_QPSK_1_0	20525	Right Cheek	0.562	0.891	0.146	0.184	0.87	0.422	0.546	0.603	0.394	0.794
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 130)	3	21	39	57	75	93	111	129
	LTE Band 12	10M_QPSK_1_0	23095	Left Cheek	0.317	0.346	0.268	0.03	0.23	0.22	0.277	0.096	0.115	0.201
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 109)	4	22	40	58	76	94	112	130
	LTE Band 13	10M_QPSK_25_25	23230	Left Cheek	0.947	1.08	0.964	0.116	0.059	0.811	0.23	0.802	1.078	1.03
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 38)	6	24	42	60	78	96	114	132
	LTE Band 26	15M_QPSK_1_0	26865	Left Cheek	0.627	0.953	0.246	0.77	0.361	0.894	0.399	0.77	0.951	0.399
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 31)	7	25	43	61	79	97	115	133
	LTE Band 71	20M_QPSK_1_0	133322	Right Cheek	0.218	0.229	0.151	0.17	0.075	0.075	0.046	0.075	0.227	0.132
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 38)	8	26	44	62	80	98	116	134
	N5	20M_QPSK_50_28	167300	Right Cheek	0.656	0.715	0.475	0.618	0.446	0.446	0.684	0.094	0.256	0.561
WWAN Body (Ant 0)	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 90)	9	27	45	63	81	99	117	135
	GSM850	GPRS (3 Tx slots)	251	Back	0.245	0.279	0.106	0.153	0.144	0.058	0.163	0.134	0.087	0.277
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 109)	10	28	46	64	82	100	118	136
	WCDMA V	RMC 12.2Kbps	4182	Left Side	0.518	0.758	0.223	0.718	0.756	0.242	0.137	0.623	0.718	0.337
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 23)	11	29	47	65	83	101	119	137
	LTE Band 5	10M_QPSK_25_12	20525	Left Side	0.441	0.642	0.05	0.64	0.269	0.497	0.545	0.23	0.497	0.364
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 130)	12	30	48	66	84	102	120	138
	LTE Band 12	10M_QPSK_1_0	23095	Left Side	0.167	0.194	0.163	0.154	0.125	0.144	0.078	0.192	0.087	0.182
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 109)	13	31	49	67	85	103	121	139
	LTE Band 13	10M_QPSK_25_25	23230	Left Side	0.51	0.588	0.062	0.586	0.386	0.148	0.186	0.481	0.396	0.472
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 38)	15	33	51	69	87	105	123	141
	LTE Band 26	10M_QPSK_1_0	26865	Left Side	0.497	0.722	0.12	0.11	0.225	0.415	0.491	0.187	0.491	0.396
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 31)	16	34	52	70	88	106	124	142
	LTE Band 71	20M_QPSK_50_50	133322	Left Side	0.123	0.138	0.107	0.041	0.117	0.117	0.022	0.05	0.069	0.136
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 38)	17	35	53	71	89	107	125	143
	N5	20M_QPSK_1_1	167300	Back	0.427	0.493	0.329	0.443	0.11	0.167	0.291	0.491	0.167	0.386

RF exposure position						Average Value of Time Sweep (W/kg)								
WWAN Head Ant 1	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 93)	0	18	36	54	72	90	108	126
	GSM850	GPRS (3 Tx slots)	251	Left Cheek	0.161	0.205	0.203	0.127	0.174	0.032	0.07	0.098	0.06	0.155
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 126)	1	19	37	55	73	91	109	127
	WCDMA V	RMC 12.2Kbps	4182	Left Cheek	0.196	0.202	0.171	0.029	0.105	0.029	0.133	0.171	0.152	0.171
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 126)	2	20	38	56	74	92	110	128
	LTE Band 5	10M_QPSK_1_0	20525	Left Cheek	0.257	0.268	0.247	0.056	0.161	0.237	0.161	0.056	0.095	0.142
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 141)	3	21	39	57	75	93	111	129
	LTE Band 12	10M_QPSK_1_49	23095	Left Cheek	0.05	0.053	0.032	0.013	0.003	0.022	0.013	0.003	0.013	0.041
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 142)	4	22	40	58	76	94	112	130
	LTE Band 13	10M_QPSK_25_25	23230	Left Cheek	0.172	0.179	0.12	0.129	0.12	0.11	0.082	0.053	0.139	0.167
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 116)	6	24	42	60	78	96	114	132
	LTE Band 26	15M_QPSK_1_74	26865	Left Cheek	0.179	0.189	0.12	0.101	0.044	0.158	0.035	0.139	0.016	0.035
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 62)	7	25	43	61	79	97	115	133
	LTE Band 71	20M_QPSK_1_99	133322	Left Cheek	0.074	0.078	0.038	0.028	0.009	0.057	0.028	0.038	0.019	0.066
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 44)	8	26	44	62	80	98	116	134
	N5	20M_QPSK_1_1	167300	Left Cheek	0.157	0.168	0.023	0.166	0.168	0.137	0.147	0.137	0.061	0.023
WWAN Body Ant 1	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 126)	9	27	45	63	81	99	117	135
	GSM850	GPRS (3 Tx slots)	251	Back	0.602	0.759	0.357	0.5	0.424	0.443	0.376	0.709	0.128	0.709
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 126)	10	28	46	64	82	100	118	136
	WCDMA V	RMC 12.2Kbps	4182	Back	0.499	0.528	0.421	0.059	0.307	0.097	0.431	0.516	0.336	0.259
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 29)	11	29	47	65	83	101	119	137
	LTE Band 5	10M_QPSK_1_0	20525	Back	0.554	0.603	0.525	0.601	0.172	0.353	0.211	0.23	0.43	0.087
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 109)	12	30	48	66	84	102	120	138
	LTE Band 12	10M_QPSK_1_49	23095	Back	0.23	0.244	0.166	0.128	0.061	0.032	0.099	0.175	0.213	0.147
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 131)	13	31	49	67	85	103	121	139
	LTE Band 13	10M_QPSK_25_12	23230	Back	0.493	0.523	0.292	0.131	0.245	0.121	0.169	0.226	0.264	0.34
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 14)	15	33	51	69	87	105	123	141
	LTE Band 26	15M_QPSK_1_74	26865	Back	0.419	0.485	0.312	0.454	0.083	0.473	0.312	0.283	0.083	0.045
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 58)	16	34	52	70	88	106	124	142
	LTE Band 71	20M_QPSK_1_99	133322	Back	0.266	0.275	0.025	0.206	0.159	0.044	0.206	0.063	0.178	0.206
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 44)	17	35	53	71	89	107	125	0
	N5	20M_QPSK_1_1	167300	Back	0.418	0.452	0.393	0.183	0.174	0.326	0.155	0.107	0.317	0.231

RF exposure position						Average Value of Time Sweep (W/kg)								
WWAN Head Ant 2	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 11)	0	20	40	60	80	100	120	140
	GSM1900	GPRS (4 Tx slots)	512	Left Cheek	0.117	0.139	0.07	0.023	0.042	0.089	0.023	0.099	0.118	0.032
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 137)	1	21	41	61	81	101	121	141
	WCDMA II	RMC 12.2Kbps	9400	Right Cheek	0.114	0.122	0.11	0.044	0.006	0.12	0.015	0.082	0.063	0.034
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 20)	2	22	42	62	82	102	122	142
	WCDMA IV	RMC 12.2Kbps	1413	Right Cheek	0.42	0.473	0.052	0.061	0.023	0.461	0.442	0.157	0.471	0.261
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 49)	3	23	43	63	83	103	123	143
	LTE Band 7	20M_QPSK_1_99	21350	Left Cheek	0.053	0.075	0.073	0.035	0.025	0.044	0.016	0.016	0.063	0.044
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 45)	4	24	44	64	84	104	124	0
	LTE Band 25	20M_QPSK_1_99	26590	Right Cheek	0.126	0.156	0.03	0.049	0.154	0.078	0.097	0.059	0.106	0.078
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 77)	5	25	45	65	85	105	125	1
	LTE Band 30	10M_QPSK_1_0	27710	Left Cheek	0.092	0.122	0.082	0.11	0.12	0.11	0.034	0.091	0.044	0.072
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 48)	6	26	46	66	86	106	126	2
	LTE Band 41	20M_QPSK_50_50	41490	Left Cheek	0.017	0.025	0.021	0.004	0.013	0.015	0.011	0.019	0.005	0.021
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 20)	7	27	47	67	87	107	127	3
	LTE Band 66	20M_QPSK_1_49	132072	Right Cheek	0.313	0.332	0.054	0.073	0.111	0.178	0.33	0.292	0.12	0.035
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 45)	8	28	48	68	88	108	128	4
	N2	20M_QPSK_1_1	380000	Left Cheek	0.14	0.169	0.1	0.11	0.129	0.138	0.062	0.167	0.072	0.138
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 12)	9	29	49	69	89	109	129	5
	N66	20M_QPSK_50_0	349000	Right Cheek	0.211	0.246	0.152	0.209	0.085	0.142	0.114	0.028	0.019	0.095
WWAN Body Ant 2	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 41)	10	30	50	70	90	110	130	6
	GSM1900	GPRS (4 Tx slots)	512	Front_15mm	0.368	0.486	0.455	0.398	0.122	0.189	0.322	0.084	0.046	0.151
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 38)	11	31	51	71	91	111	131	7
	WCDMA II	RMC 12.2Kbps	9400	Bottom Side	0.59	0.679	0.191	0.201	0.639	0.544	0.144	0.496	0.563	0.515
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 79)	12	32	52	72	92	112	132	8
	WCDMA IV	RMC 12.2Kbps	1413	Back_15mm	0.628	0.698	0.376	0.471	0.861	0.223	0.728	0.128	0.099	1.004
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 56)	13	33	53	73	93	113	133	9
	LTE Band 7	20M_QPSK_1_99	21100	Bottom Side	0.775	1.13	0.757	1.118	0.147	0.699	1.042	0.385	1.09	0.652
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 134)	14	34	54	74	94	114	134	10
	LTE Band 25	20M_QPSK_1_99	26590	Bottom Side	0.68	0.944	0.199	0.085	0.409	0.837	0.599	0.418	0.936	0.866
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 112)	15	35	55	75	95	115	135	11
	LTE Band 30	10M_QPSK_1_0	27710	Bottom Side	0.661	0.938	0.517	0.231	0.079	0.231	0.203	0.45	0.222	0.926
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 48)	16	36	56	76	96	116	136	12
	LTE Band 41	20M_QPSK_1_49	41490	Back	0.503	0.816	0.766	0.481	0.128	0.328	0.662	0.328	0.757	0.204
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 84)	17	37	57	77	97	117	137	13
	LTE Band 66	20M_QPSK_1_49	132072	Bottom Side	1.029	1.45	1.181	1.21	0.667	0.619	0.096	1.172	0.229	0.124
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 45)	18	38	58	78	98	118	138	14
	N2	20M_QPSK_50_28	380000	Back	0.462	0.529	0.451	0.117	0.089	0.498	0.194	0.394	0.098	0.108
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State11)	19	39	59	79	99	119	139	15
	N66	20M_QPSK_50_0	344000	Bottom Side	0.782	1.09	0.945	0.488	0.183	0.288	0.507	0.155	0.059	0.44

<Additional Dynamic antenna tuning test>

According to 201904 TCBC workshop, if any single point SAR measurement result is > 1.2 W/kg for a band/exposure condition combination set, all supported tuner states are evaluated with single point SAR measurements for the combination

RF exposure position						Average Value of Time Sweep (W/kg)													
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 109)	0	1	2	3	4	5	6	7	8	9	10	11	12	13
						1.38	0.178	0.159	1.273	1.073	0.321	0.997	0.835	0.502	0.226	1.007	1.311	1.026	1.33	1.092
						14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
						0.692	1.111	0.483	1.273	1.035	0.368	0.826	0.378	0.168	0.102	0.264	1.273	0.292	0.607	0.34
						29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
						0.464	1.273	0.426	0.283	0.102	0.807	1.302	1.149	0.721	0.635	0.321	0.321	0.159	1.14	0.93
						44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
						0.483	0.216	0.654	0.607	0.711	0.416	0.654	0.578	0.692	0.797	0.073	0.54	1.007	0.349	1.092
						59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
						1.292	0.188	0.378	0.13	0.883	1.102	1.254	0.235	0.54	0.73	1.359	0.216	0.292	0.94	0.988
	GSM850	GPRS (3 Tx slots)	128	Right Cheek	0.915	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
						1.34	0.607	0.321	0.845	0.93	0.397	0.54	0.168	0.568	0.645	1.007	1.368	0.997	0.74	0.464
						89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
						0.359	1.188	1.092	1.178	0.197	0.978	0.416	0.168	0.426	0.53	1.33	0.759	0.254	0.159	1.016
						104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
						0.197	0.368	1.321	0.454	0.445	1.37	0.807	0.321	0.645	0.721	0.426	0.435	0.788	1.349	0.997
						119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
						0.768	0.445	0.349	0.216	0.292	0.873	0.597	0.521	0.53	0.959	1.302	1.13	1.045	0.835	0.111
						134	135	136	137	138	139	140	141	142	143					
WWAN Head (Ant 0)						0.768	0.93	0.311	1.159	1.149	0.445	0.207	0.168	0.521	0.692					
	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 27)	0	1	2	3	4	5	6	7	8	9	10	11	12	13
						1.31	0.794	0.584	1.222	0.594	1.032	0.089	0.641	0.232	0.822	0.908	0.394	0.765	0.337	0.708
						14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
						0.47	0.603	0.708	0.698	0.86	0.66	0.422	0.975	0.841	0.775	1.194	0.679	0.918	1.3	0.613
						29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
						0.784	0.241	0.489	1.022	1.241	0.394	1.118	0.498	0.279	0.841	0.994	0.594	1.194	0.489	1.137
						44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
						0.584	0.679	0.679	0.47	0.194	1.003	1.003	0.756	1.07	0.118	0.584	0.889	0.756	1.013	0.308
						59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
						0.289	0.441	0.622	0.365	1.241	1.165	1.213	0.279	1.108	0.67	0.098	0.965	0.832	0.984	0.451
	WCDMA V	RMC 12.2Kbps	4182	Right Cheek	0.828	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
						0.222	0.346	0.689	1.203	0.898	0.07	0.594	0.451	0.984	1.079	0.651	1.127	1.251	0.746	0.613
						89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
						1.137	0.698	0.546	0.089	0.337	0.518	0.632	0.975	0.556	0.641	0.118	0.565	1.146	0.318	0.851
						104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
						1.118	0.375	0.813	1.07	1.013	0.937	0.67	0.87	0.66	1.213	1.146	1.137	1.156	0.156	0.46
						119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
						0.184	0.727	0.194	0.689	1.27	0.137	0.375	0.841	1.013	0.718	1.156	1.175	0.498	0.927	0.47
						134	135	136	137	138	139	140	141	142	143					
						0.184	0.889	1.032	0.222	0.241	0.546	0.346	0.708	0.289	0.365					

	Band	Mode	Channel	Test Position	Measured 1g SAR (W/kg)	Auto-Tune (State 84)	0	1	2	3	4	5	6	7	8	9	10	11	12	13
WWAN Body (Ant 2)	LTE Band 66	20M_QPSK_1_49	132072	Bottom Side	1.029	1.45	1.105	0.629	1.162	0.572	0.277	0.572	0.115	1.115	0.829	0.648	1.353	0.753	0.953	0.124
						14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
						0.296	0.8	0.362	1.181	1.038	0.315	0.515	0.067	1.267	0.772	0.6	0.791	0.419	1.362	0.086
						29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
						0.124	1.229	1.077	0.867	0.143	0.258	0.362	1.324	1.21	1.305	0.21	0.238	1.391	0.477	0.258
						44	45	46	47	48	49	50	51	52	53	54	55	56	57	58
						0.4	0.6	0.877	1.429	1.248	1.019	1.019	1.343	0.943	0.829	0.105	0.781	0.438	0.667	0.391
						59	60	61	62	63	64	65	66	67	68	69	70	71	72	73
						1.353	0.858	1.077	0.115	0.953	0.962	0.715	0.572	0.943	0.219	1.353	0.61	0.972	0.638	1.248
						74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
						0.667	0.819	0.781	0.619	0.191	1.315	0.448	0.591	1.277	0.419	1.44	0.21	1.029	1.162	0.267
						89	90	91	92	93	94	95	96	97	98	99	100	101	102	103
						0.734	0.848	1.067	0.762	1.372	0.458	0.372	1.41	0.096	0.619	1.315	0.286	1.153	1.162	1.315
						104	105	106	107	108	109	110	111	112	113	114	115	116	117	118
						0.686	1.153	1.296	0.096	1.134	1	0.61	0.486	1.115	0.153	0.505	1.429	0.905	1.172	1.343
						119	120	121	122	123	124	125	126	127	128	129	130	131	132	133
						0.343	0.572	0.524	0.429	0.391	0.867	0.772	0.943	0.981	0.4	1.067	0.715	0.115	1.229	0.915
						134	135	136	137	138	139	140	141	142	143					
						1.181	0.362	0.686	0.229	1.019	1.267	0.105	0.572	0.6	1.248					

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19. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

20. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”
[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992
[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013
[4] SPEAG DASY System Handbook
[5] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.
[6] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015
[7] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.
[8] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015
[9] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015
[10] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015
[11] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.
[12] FCC KDB 941225 D07 v01r02, " SAR Evaluation Procedures for UMPC Mini-Tablet Devices", Oct 2015.
[13] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
[14] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.