FCC SAR Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2113-1 , XT2113-1PP
FCC ID	:	IHDT56ZF3
STANDARD	:	FCC 47 CFR Part 2 (2.1093)

The product was received on Mar. 08, 2021 and testing was started from Mar. 10, 2021 and completed on Apr. 25, 2021. We, Sporton International (Kunshan) Inc, would like to declare that the tested sample has been evaluated in accordance with the procedures given in 47 CFR Part 2.1093 and FCC KDB and had been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

Reviewed by: Rose Wang / Supervisor

Approved by: Kat Yin / Manager

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China

Table of Contents

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA082402-06	Rev. 01	Initial issue of report	Apr. 30, 2021

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2113-1 , XT2113-1PP,** are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.51	0.60	0.60	1.51
		GSM1900	**1.00**	1.24	0.94	
	WCDMA	Band II	0.97	1.24	0.88	
		Band V	0.93	1.05	1.05	
	LTE	LTE Band 2	0.99	**1.26**	0.93	
		LTE Band 5	0.99	0.92	0.92	
		LTE Band 7	<0.10	1.24	1.11	
		LTE Band 12/17	0.73	0.48	0.39	
		LTE Band 13	0.28	0.64	0.60	
		LTE Band 66/4	0.98	1.23	1.09	
		LTE Band 48	0.49	0.99	0.99	
	5G NR	n2	0.99	1.23	0.60	
		n5	0.58	0.77	0.77	
		n66	0.99	1.25	1.03	
		n77	0.97	0.99	0.90	
DTS	WLAN	2.4GHz WLAN	0.84	0.38	1.07	1.50
NII		5GHz WLAN	0.38	0.28	**1.19**	1.51
DSS	Bluetooth	2.4GHz Bluetooth	0.16	<0.10	<0.10	1.51

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	2.86	3.96
	WCDMA	Band II	3.17	
	LTE	Band 2	**3.21**	
		Band 7	3.15	
		Band 66/Band 4	3.19	
		Band 48	2.40	
	5G NR	n2	3.20	
		n66	3.16	
		n77	2.75	
DTS	WLAN	2.4GHz WLAN	0.69	3.89
NII		5GHz WLAN	2.40	3.96
Date of Testing:			2021/3/10~2021/4/25	

Remark: This device supports LTE B4 / B17 and B66 / B12. Since the supported frequency span for LTE B4 / B17 falls completely within the supports frequency span for LTE B66 / B12., both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66 / B12.

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

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.

2. Administration Data

Sporton International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory		
Test Firm	Sporton International (Kunshan) Inc.	
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	FCC Designation No.	FCC Test Firm Registration No.
	CN1257	314309

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

3. 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 616217 D04 SAR for laptop and tablets v01r02
- 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

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2113-1 , XT2113-1PP
FCC ID	IHDT56ZF3
IMEI Code	356883110009866
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77 : 3700 MHz ~ 3980 MHz 5G NR n260: 37000 MHz ~ 40000MHz 5G NR n261: 27500 MHz ~ 28350MHz WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 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 HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK
HW Version	DVT2
SW Version	RRV31.Q2-20
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. 802.11n-HT40 is not supported in 2.4GHz WLAN. 2. WLAN operation in 5600 MHz ~ 5650 MHz is notched 3. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.	

4. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
5. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
6. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
7. The device implements the power management and sensor detection for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description.
8. For Some WWAN bands, sensor on reduced power level higher than hotspot reduced power level, so front/back sensor on SAR can represent hotspot conservatively.
9. For WLAN when transmit simultaneous with WWAN LAT or UAT, power reduction will be activated to head / hotspot / body-worn / extremity.
10. The 2.4GHz/5GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode.
11. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the WCDMA, LTE and 5GNR modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information on section18.
12. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
13. 5GNR n77 supports HPUE, HPUE power and SAR testing performed separately.
14. For 5GNR n77 power level class 2 is higher than power level class 3, so performed full SAR testing with class 2.
15. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
16. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
17. This device supports 5GNR FR1 bands as following table, 5GNR FR2 described at another SAR test report part0/part1.

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n77	TDD	30	20, 40, 50, 60, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	IHDT56ZF3
Equipment Name	Mobile Cellular Phone
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Voice and Data
LTE Release Version	R15, Cat12
CA Support	Supported, Uplink and Downlink
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, The device has several different power modes for body-worn, hotspot/extremity conditions SAR compliance; power selection is determined by the device's positioning and usage scenarios.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for Inter band and Intra band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 4 carriers in the downlink. 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 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 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
LM	55810	3607	55815	3607.5	55820	3608	55830	3609
MH	56170	3643	56165	3642.5	56160	3642	56150	3641
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77 : 3700 MHz ~ 3980 MHz 5G NR n260: 37000 MHz ~ 40000MHz 5G NR n261: 27500 MHz ~ 28350MHz
Channel Bandwidth	5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n77: 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n5	LTE B2/66/48
L TE Anchor Bands for n2	LTE B5/13/66/48
LTE Anchor Bands for n66	LTE B2/5/13/48
LTE Anchor Bands for n77	LTE B2/5/13/66

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band

NR Band 2

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860
M	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900

NR Band 5

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165300	826.5	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5
H	169300	846.5	168800	844	168300	841.5	167800	839

NR Band 66

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	345000	1725	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353000	1765	352000	1760

NR Band 77

	Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647334	3710.01	648000	3720	648334	3725.01	648666	3729.99	649334	3740.01	649666	3744.99	650000	3750
LM	651666	3774.99	652000	3780	652166	3782.49	652334	3785.01	652666	3789.99	652834	3792.51	653000	3795
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
HM	660266	3903.99	660000	3900	659834	3897.51	659666	3894.99	659334	3890.01	659166	3887.49	659000	3885
H	664666	3969.99	664000	3960	663666	3954.99	663334	3950.01	662666	3939.99	662334	3935.01	662000	3930

Note: 5GNR n260/n261 evaluated at another separately PD report.

5. Smart Transmit feature for RF Exposure compliance

WWAN bands and mmWave are all enabled with Qualcomm Smart Transmit feature. This feature performs time averaging algorithm in real time to control and manage transmitting power and ensure the time-averaged RF exposure is in compliance with FCC requirements all the time.
Note that WLAN operations are not enabled with Smart Transmit.

The FCC RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

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

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) to enable the Smart Transmit Feature.

<Terminologies in this report>

P_{limit}	The time-averaged RF power which corresponds to SAR_design_targer.
P_{max}	Maximum target power level
SAR_design_target:	The design target for SAR compliance. It should be less than regulatory power density limit to account for all device design related uncertainties.
SAR char	P_{limit} for all the technologies/bands for all applicable DSI

<SAR Characterization>

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for f < 6 GHz.

<SAR design target and uncertainty>

The detail SAR design target relate to each exposure conditions pls refer to operation description

	Uncertainty dB (k=2)
Total uncertainty	1.5

To account for total uncertainty, SAR_design_target should be determined as:

$$SAR\_design\_target < SAR_{regulatory\_limit} \times 10^{\frac{-total\ u\ ncertainty}{10}}$$

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)>

Band	Antenna	Head DSI 2	Body Worn Hotspot DSI 3&7	Extremely DSI6	Sensor Off DSI4	Pmax*
GSM 850 (3 Tx slots) **	1	30.90	27.40	27.40	27.40	24.20
GSM 850 (3 Tx slots) **	2	27.10	27.30	27.30	27.30	24.20
GSM 1900 (3 Tx slots) **	1	34.70	16.00	21.30	25.10	21.20
GSM 1900 (3 Tx slots) **	2	18.20	17.80	24.40	31.90	20.70
WCDMA V	1	29.80	24.70	24.70	24.70	24.00
WCDMA V	2	23.30	25.30	25.30	25.30	23.00
WCDMA II	1	33.90	16.30	21.10	28.10	24.00
WCDMA II	2	17.70	15.50	19.60	28.50	23.00
LTE B2	1	33.70	15.90	20.80	27.80	23.00
LTE B2	2	18.00	17.40	20.30	28.60	22.00
LTE B12/B17	1	33.20	28.00	28.00	28.00	23.00
LTE B12/B17	2	24.30	26.10	26.10	26.10	23.00
LTE B13	1	30.70	25.90	25.90	25.90	23.00
LTE B13	2	28.40	30.00	30.00	30.00	23.00
LTE B5	1	28.80	24.30	24.30	24.30	23.00
LTE B5	2	23.00	24.10	24.10	24.10	23.00
LTE B7	1	35.90	15.90	20.40	28.80	23.00
LTE B48**	4	24.10	17.50	23.60	24.60	21.00
LTE B66/B4	1	32.80	17.10	22.30	27.80	23.00
LTE B66/B4	2	17.10	17.50	20.10	27.10	22.00
FR1 N2	1	33.80	14.90	20.30	32.20	23.00
FR1 N2	2	17.70	16.60	21.30	27.20	23.00
FR1 N5	1	31.00	25.10	25.10	25.10	23.00
FR1 N5	2	25.30	26.40	26.40	26.40	23.00
FR1 N66	1	36.50	17.70	22.20	28.60	23.00
FR1 N66	2	16.20	17.30	20.70	28.60	23.00
FR1 N77_PC3**	4	20.50	16.80	20.50	26.10	24.00
FR1 N77_PC2**	4	20.50	16.80	20.50	26.10	26.00

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

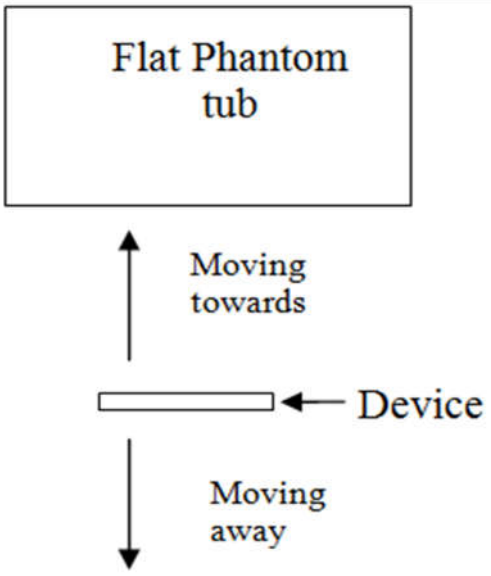
**All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).

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.

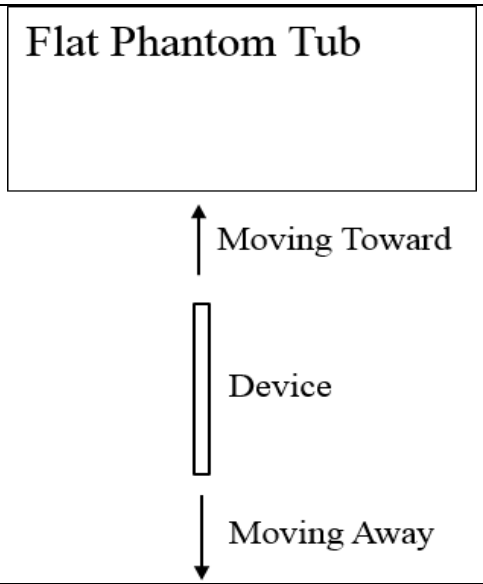
6. Proximity Sensor Triggering Test

6.1 Proximity sensor triggering distances(Per KDB616217§6.2)

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 (5825MHz) and lowest (1750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensor placed coincident with antenna elements at the bottom end of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back or bottom or top or left side surface of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
3. When the proximity sensor is active, WCDMA band II, LTE band 2/4/7/66/48, 5GNR n2 / n66 / n77 / n77HPUE and WLAN5.2GHz / 5.3GHz / 5.5GHz / 5.8GHz reduced power will be active for front/ back body worn SAR.
4. P-sensor can detect handheld state, GSM1900, WCDMA band II, LTE band 2/4/7/66/48, 5GNR n2 / n66 / n77 / n77HPUE for front/back/bottom/top/left sides of product specific 10g SAR condition reduced powers will be active for handheld SAR.
5. The proximity sensors used to detect the proximity of the user's body at the front or back or bottom or top or left side surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).
6. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed for body worn:
   Front: 18 mm
   Back: 24 mm
7. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed for handheld:
   For Antenna 1:
   Front: 12 mm
   Back: 18 mm
   Bottom side: 19 mm
   For Antenna 2:
   Back: 12 mm
   Top Side: 12 mm
   For Antenna 4:
   Back: 17 mm
   Left Side: 3 mm



Sensor/handheld detection test set-up, front and back faces



handheld detection test set-up, bottom side and top side and left side

<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	19	23	25	31

<Handheld>

Antenna 1						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving towards	Moving towards	Moving away
Minimum	13	16	19	25	20	26

Antenna 2								
Position	Front		Back		Top Side		Right Side	
	Moving towards	Moving away	Moving towards	Moving towards	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	13	13	13	18	24	7	10

Antenna 4				
Position	Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving towards
Minimum	18	21	4	7

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

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:

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

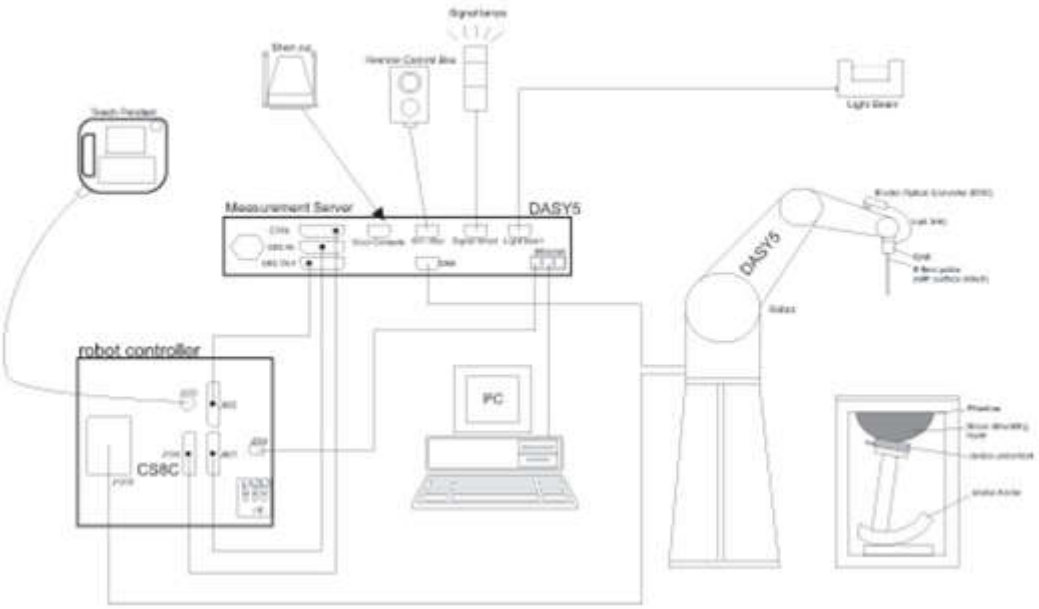
SAR is expressed in units of Watts per kilogram (W/kg)

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

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.

<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.

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	1087	2019/3/27	2021/3/25
SPEAG	835MHz System Validation Kit	D835V2	4d258	2020/5/7	2021/5/6
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2019/3/27	2022/3/25
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2019/3/26	2022/3/24
SPEAG	2450MHz System Validation Kit	D2450V2	908	2019/3/25	2022/3/23
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2021/11/25
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2020/11/25	2021/11/24
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2020/11/25	2021/11/24
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2020/5/14	2021/5/13
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/23
SPEAG	Data Acquisition Electronics	DAE4	1338	2020/11/27	2021/11/26
SPEAG	Data Acquisition Electronics	DAE4	1279	2020/8/25	2021/8/24
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2020/9/25	2021/9/24
SPEAG	Dosimetric E-Field Probe	EX3DV4	3935	2020/5/27	2021/5/26
SPEAG	Dosimetric E-Field Probe	EX3DV4	7592	2020/5/22	2021/5/21
SPEAG	SAM Twin Phantom	SAM Twin	TP-1753	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-1503	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6201432831	2021/2/13	2022/2/12
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2020/5/19	2021/5/18
Agilent	ENA Series Network Analyzer	E5071C	MY46106933	2020/8/1	2021/7/31
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2020/12/2	2021/12/1
Anritsu	Vector Signal Generator	MG3710A	6201682672	2021/1/8	2022/1/7
Rohde & Schwarz	Power Meter	NRVD	102081	2020/8/13	2021/8/12
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2020/8/13	2021/8/12
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2020/8/13	2021/8/12
R&S	CBT BLUETOOTH TESTER	CBT	101246	2021/3/13	2022/3/12
EXA	Spectrum Analyzer	FSV7	101631	2021/1/7	2022/1/6
Testo	Hygrometer	608-H1	1241332088	2021/1/8	2022/1/7
FLUKE	DIGITAC THERMOMETER	51II	97240029	2020/8/14	2021/8/13
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	

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
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 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. 12.1. 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. 12.2.

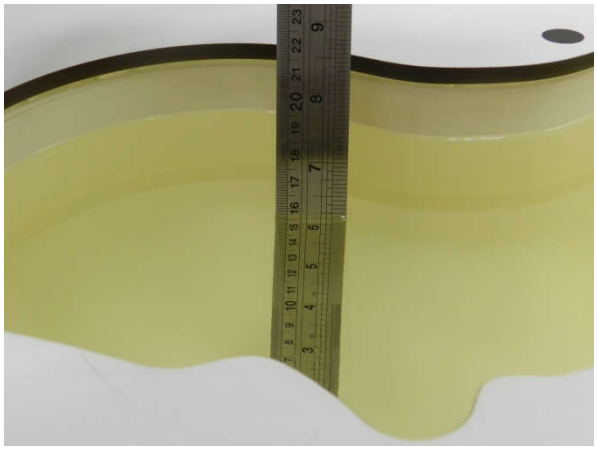


Fig 12.1 Photo of Liquid Height for Head SAR

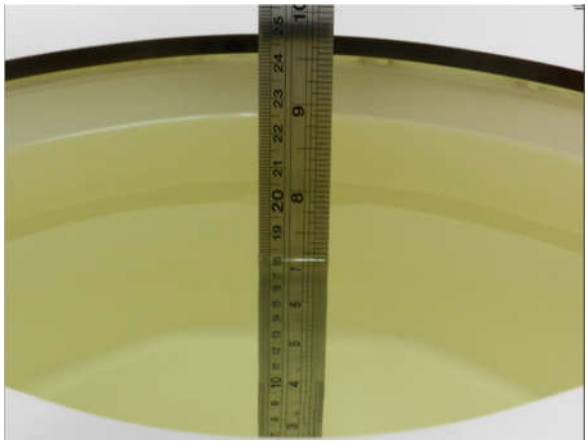


Fig 12.2 Photo of Liquid Height for Body SAR

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)
For Head								
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
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)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.5	0.902	41.620	0.89	41.90	1.35	-0.67	±5	2021/3/10
835	Head	22.6	0.921	40.872	0.90	41.50	2.33	-1.51	±5	2021/3/12
1750	Head	22.6	1.352	40.080	1.37	40.10	-1.31	-0.05	±5	2021/4/14
1900	Head	22.7	1.433	39.856	1.40	40.00	2.36	-0.36	±5	2021/4/18
2600	Head	22.6	1.887	39.260	1.96	39.00	-3.72	0.67	±5	2021/4/20
3500	Head	22.9	2.783	39.680	2.91	37.90	-4.36	4.70	±5	2021/4/22
3700	Head	22.9	2.967	39.362	3.12	37.70	-4.90	4.41	±5	2021/4/22
835	Head	22.5	0.915	41.263	0.90	41.50	1.67	-0.57	±5	2021/4/6
1750	Head	22.7	1.383	41.080	1.37	40.10	0.95	2.44	±5	2021/4/8
1900	Head	22.9	1.401	40.146	1.40	40.00	0.07	0.37	±5	2021/4/16
3900	Head	22.8	3.193	38.383	3.32	37.50	-3.83	2.35	±5	2021/4/20
2450	Head	22.9	1.772	39.465	1.80	39.20	-1.56	0.68	±5	2021/3/31
5250	Head	22.7	4.637	36.507	4.71	35.90	-1.55	1.69	±5	2021/4/21
5600	Head	22.6	4.983	35.920	5.07	35.50	-1.72	1.18	±5	2021/4/23
5750	Head	22.9	5.215	35.588	5.22	35.40	-0.10	0.53	±5	2021/4/25

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.

<1g SAR>

Date	Frequency (MHz)	Tissue Type	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 (%)
2021/3/10	750	Head	250	1087	3857	1338	2.08	8.36	8.32	-0.48
2021/3/12	835	Head	250	4d258	3857	1338	2.52	9.44	10.08	6.78
2021/4/14	1750	Head	250	1090	3857	1338	9.02	36.40	36.08	-0.88
2021/4/18	1900	Head	250	5d170	3857	1338	10.40	39.00	41.6	6.67
2021/4/20	2600	Head	250	1061	3857	1338	14.40	56.60	57.6	1.77
2021/4/22	3500	Head	100	1037	3857	1338	6.32	68.00	63.2	-7.06
2021/4/22	3700	Head	100	1008	3857	1338	6.71	67.60	67.1	-0.74
2021/4/6	835	Head	250	4d258	3935	1279	2.50	9.44	10	5.93
2021/4/8	1750	Head	250	1090	3935	1279	9.71	36.40	38.84	6.70
2021/4/16	1900	Head	250	5d170	3935	1279	10.10	39.00	40.4	3.59
2021/4/20	3900	Head	100	1048	7592	1279	6.37	70.20	63.7	-9.26
2021/3/31	2450	Head	250	908	3857	1338	13.10	52.80	52.4	-0.76
2021/4/21	5250	Head	100	1113	3857	1338	7.99	80.50	79.9	-0.75
2021/4/23	5600	Head	100	1113	3857	1338	8.24	83.40	82.4	-1.20
2021/4/25	5750	Head	100	1113	3857	1338	7.84	80.00	78.4	-2.00

<10g SAR>

Date	Frequency (MHz)	Tissue Type	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 (%)
2021/3/10	750	Head	250	1087	3857	1338	1.37	5.65	5.48	-3.01
2021/3/12	835	Head	250	4d258	3857	1338	1.65	6.13	6.6	7.67
2021/4/14	1750	Head	250	1090	3857	1338	4.86	19.20	19.44	1.25
2021/4/18	1900	Head	250	5d170	3857	1338	5.43	20.30	21.72	7.00
2021/4/20	2600	Head	250	1061	3857	1338	6.56	25.10	26.24	4.54
2021/4/22	3500	Head	100	1037	3857	1338	2.48	25.40	24.8	-2.36
2021/4/22	3700	Head	100	1008	3857	1338	2.54	24.40	25.4	4.10
2021/4/6	835	Head	250	4d258	3935	1279	1.64	6.13	6.56	7.01
2021/4/8	1750	Head	250	1090	3935	1279	5.23	19.20	20.92	8.96
2021/4/16	1900	Head	250	5d170	3935	1279	5.31	20.30	21.24	4.63
2021/4/20	3900	Head	100	1048	7592	1279	2.24	24.40	22.4	-8.20
2021/3/31	2450	Head	250	908	3857	1338	6.17	24.20	24.68	1.98
2021/4/21	5250	Head	100	1113	3857	1338	2.32	23.10	23.2	0.43
2021/4/23	5600	Head	100	1113	3857	1338	2.39	23.80	23.9	0.42
2021/4/25	5750	Head	100	1113	3857	1338	2.25	22.80	22.5	-1.32

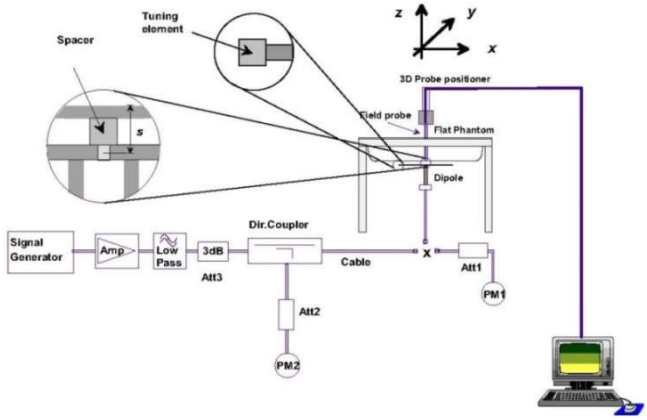


Fig 12.3.1 System Performance Check Setup

Fig 12.3.2 Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

Figure 13.1.1 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 13.1.2 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 13.1.3). 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 13.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

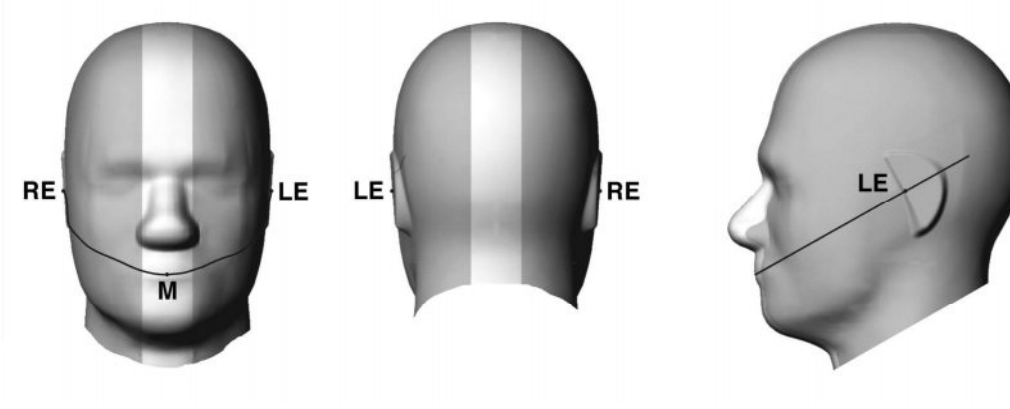


Fig 12.1.1 Front, back, and side views of SAM twin phantom

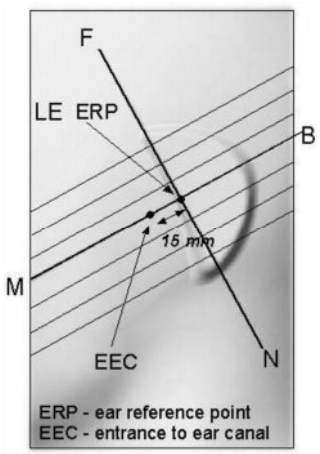


Fig 12.1.2 Close-up side view of phantom showing the ear region.

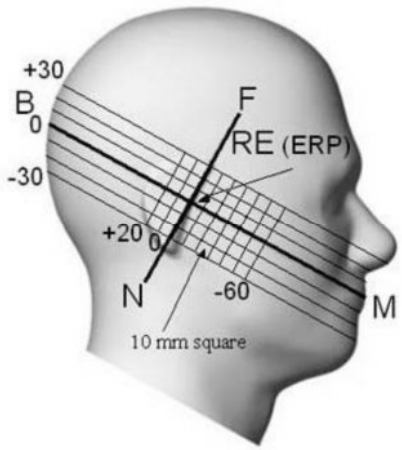


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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 13.2.1 and Figure 13.2.2), 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 13.2.1). 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 13.2.2), 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 13.2.3), 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 13.2.3. The actual rotation angles should be documented in the test report.

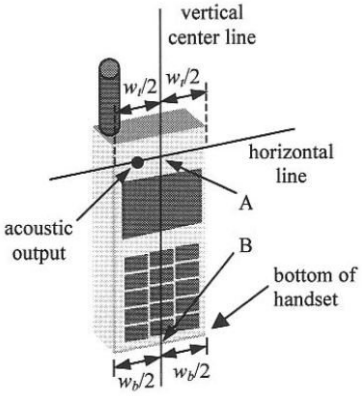


Fig 13.2.1 Handset vertical and horizontal reference lines—"fixed case

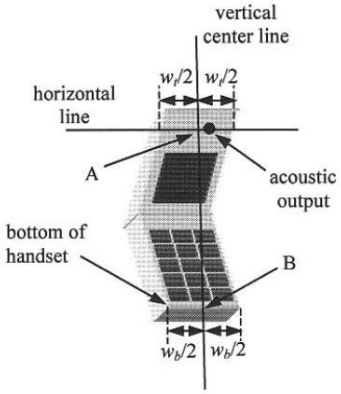


Fig 13.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

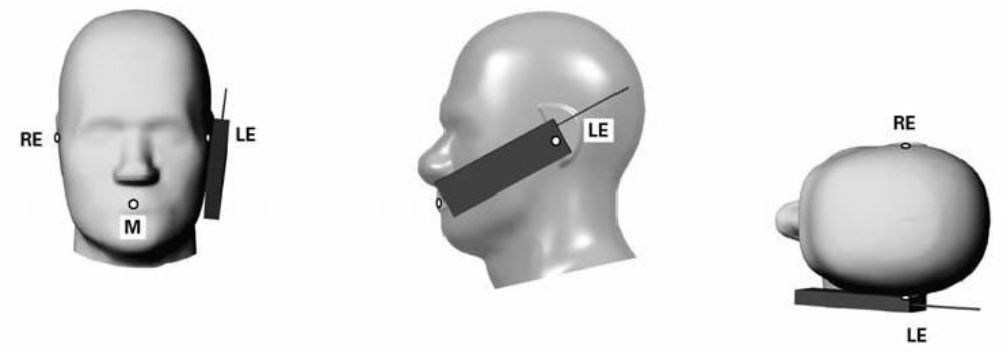


Fig 13.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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 13.3.1. 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

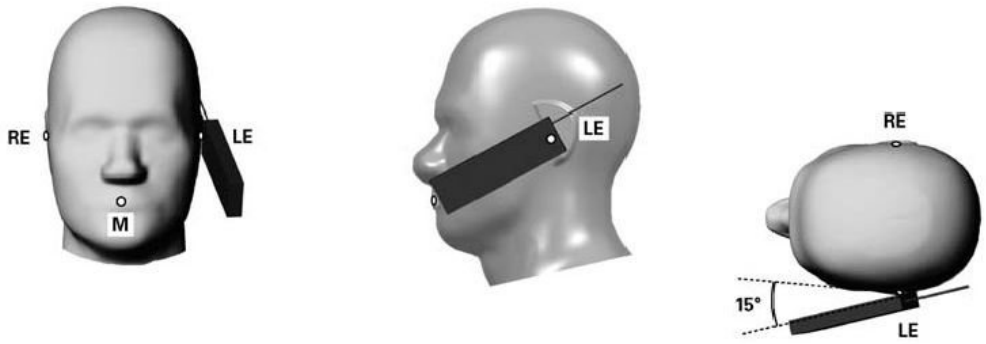


Fig 13.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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 12.4). 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.

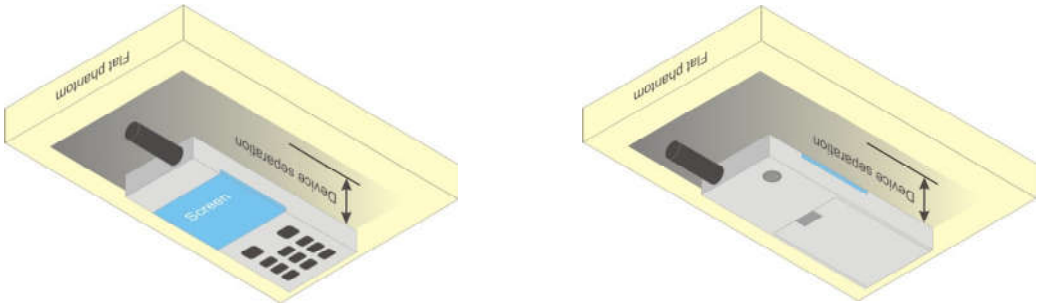


Fig 12.4 Body Worn Position

13.5 Product Specific 10g SAR 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. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. 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/GSM1900 are considered as the primary mode.
3. 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.

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c.

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

a. The EUT was connected to Base Station referred to the Setup Configuration below
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set RMC 12.2Kbps + HSDPA mode.
   ii. Set Cell Power = -25 dBm
   iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
   iv. Select HSDPA Uplink Parameters
   v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
      a). Subtest 1: β_c/β_d=2/15
      b). Subtest 2: β_c/β_d=12/15
      c). Subtest 3: β_c/β_d=15/8
      d). Subtest 4: β_c/β_d=15/4
   vi. Set Delta ACK, Delta NACK and Delta CQI = 8
   vii. Set Ack-Nack Repetition Factor to 3
   viii. Set CQI Feedback Cycle (k) to 4 ms
   ix. Set CQI Repetition Factor to 2
   x. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Proces ses	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.		
Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

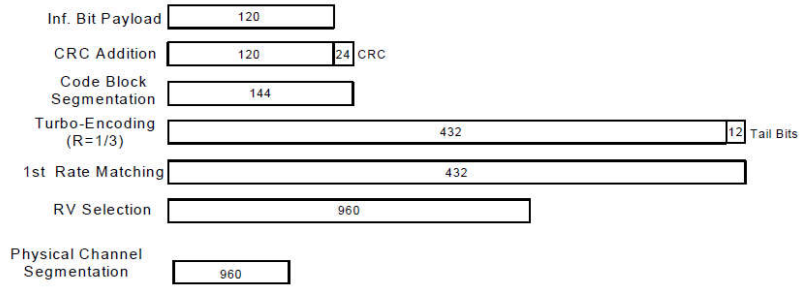


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

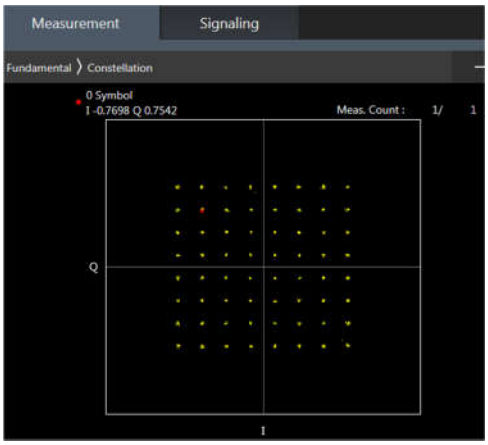
General Note:

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 RMC12.2Kbps 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 (HSDPA / HSUPA / DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. 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.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. 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.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM 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/64QAM SAR testing is not required.
7. 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.
8. For LTE B4 / B5 / B12 / B17 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B4 /B17 SAR test was covered by B66 / B12; according to April 2015 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
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM

16QAM

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations

b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS

c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

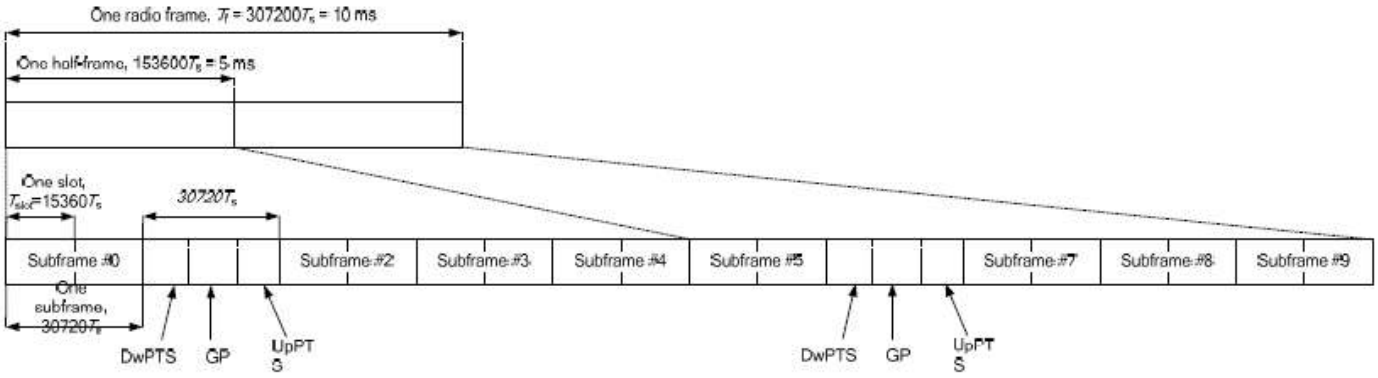


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-	-	-
9	$13168 \cdot T_s$			-	-	-

Special subframe (30720·T_s): Normal cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	**Normal cyclic prefix in uplink**	**Extended cyclic prefix in uplink**
Uplink duty factor in one special subframe	**0~4**	7.13%	8.33%
	5~9	14.3%	16.7%

Special subframe(30720·T_s): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	**Normal cyclic prefix in uplink**	**Extended cyclic prefix in uplink**
Uplink duty factor in one special subframe	**0~3**	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

For LTE Band 48 Power class 3

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.
ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.167)/5 = 63.3%
iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.143)/5 = 62.9%
v. 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 scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

<LTE Carrier Aggregation>

General Note:

1. This device supports Carrier Aggregation on downlink for inter and intra band. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.
2. In applying the existing power measurement procedures of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of frequency bands and CCs in each row need combination, and for this device that all the configurations were choose to power measurement.
3. The gray color table is covered by other combinations and no need to verify power.
4. All permutations exist. No restrictions on Pcell & Scell combinations. Only LTE Band 29A is limited to Scell.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
2CC #1	CA_2A_2A	3CC #1	3CC #1	CA_2A_2A_4A	4CC #1
2CC #2	CA_2A_4A	3CC #1	3CC #2	CA_2A_2A_5A	4CC #2
2CC #3	CA_2A_5A	3CC #2	3CC #3	CA_2A_2A_13A	4CC #4
2CC #4	CA_2A_13A	3CC #3	3CC #4	CA_2A_2A_66A	4CC #4
2CC #5	CA_2A_66A	3CC #4	3CC #5	CA_2A_4A_4A	4CC #1
2CC #6	CA_2A_48A	3CC #12	3CC #6	CA_2A_4A_5A	4CC #2
2CC #7	CA_4A_4A	3CC #5	3CC #7	CA_2A_4A_13A	
2CC #8	CA_4A_5A	3CC #6	3CC #8	CA_2A_48C	4CC #25
2CC #9	CA_4A_13A	3CC #7	3CC #9	CA_48D	4CC #29
2CC #10	CA_4A_48A		3CC #10	CA_2A-5B	4CC #12
2CC #11	CA_5B	3CC #10	3CC #11	CA_2A-5A-66A	4CC #9
2CC #12	CA_5A_5A	3CC #26	3CC #12	CA_2A-13A-48A	
2CC #13	CA_5A_66A	3CC #26	3CC #13	CA_2A-13A-66A	4CC #15
2CC #14	CA_5A_48A	3CC #24	3CC #14	CA_2A-5A-48A	
2CC #15	CA_13A_66A	3CC #32	3CC #15	CA_2A-66B	4CC #13
2CC #16	CA_13A-48A	3CC #32	3CC #16	CA_2A-66C	4CC #14
2CC #17	CA_48A_66A	3CC #32	3CC #17	CA_2A-66A-66A	4CC #15
2CC #18	CA_48A_48A	3CC #45	3CC #18	CA_2A-48A-66A	
2CC #19	CA_66B	3CC #30	3CC #19	CA_2A-48A-48A	
2CC #20	CA_66C	3CC #29	3CC #20	CA_4A-4A-5A	4CC #10
2CC #21	CA_48C	3CC #37	3CC #21	CA_4A-4A-13A	
2CC #22	CA_66A_66A	3CC #36	3CC #22	CA_4A-5B	4CC #16
			3CC #23	CA_4A-48C	
			3CC #24	CA_5A-48A-48A	
			3CC #25	CA_5A-48A-66A	
			3CC #26	CA_5A-5A-66A	4CC #22
			3CC #27	CA_5A-66A-66A	4CC #22
			3CC #28	CA_5A-48C	4CC #45
			3CC #29	CA_5A-66C	4CC #21
			3CC #30	CA_5A-66B	4CC #20
			3CC #31	CA_5B-66A	4CC #19
			3CC #32	CA_13A-48A-66A	
			3CC #33	CA_13A-66B	4CC #31
			3CC #34	CA_13A-66C	4CC #32
			3CC #35	CA_13A-48A-48A	
			3CC #36	CA_13A-66A-66A	4CC #23
			3CC #37	CA_13A-48C	4CC #33
			3CC #38	CA_66A-66C	
			3CC #39	CA_66A-66A-66A	4CC #39
			3CC #40	CA_48A-66C	4CC #37
			3CC #41	CA_48C-66A	4CC #38
			3CC #42	CA_48A-48C	4CC #38
			3CC #43	CA_48A-66B	4CC #36

			3CC #44	CA_48A-66A-66A	4CC #35
			3CC #45	CA_48A-48A-66A	4CC #35

4CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset
4CC #1	CA_2A-2A-4A-4A	
4CC #2	CA_2A-2A-4A-5A	
4CC #3	CA_2A-2A-5A-66A	
4CC #4	CA_2A-2A-13A-66A	
4CC #5	CA_2A-4A-5B	
4CC #6	CA_2A-2A-66B	
4CC #7	CA_2A-2A-66C	
4CC #8	CA_2A-5A-66C	
4CC #9	CA_2A-5A-66A-66A	
4CC #10	CA_2A-4A-4A-5A	
4CC #11	CA_2A-5A-66B	
4CC #12	CA_2A-5B-66A	
4CC #13	CA_2A-13A-66B	
4CC #14	CA_2A-13A-66C	
4CC #15	CA_2A-13A-66A-66A	
4CC #16	CA_4A-4A-5B	
4CC #17	CA_5B-66B	
4CC #18	CA_5B-66C	
4CC #19	CA_5B-66A-66A	
4CC #20	CA_5A-5A-66B	
4CC #21	CA_5A-5A-66C	
4CC #22	CA_5A-5A-66A-66A	
4CC #23	CA_13A-66A-66A-66A	
4CC #24	CA_2A-13A-48C	
4CC #25	CA_2A-48A-48C	
4CC #26	CA_2A-48C-66A	
4CC #27	CA_2A-2A-66A-66A	
4CC #28	CA_2A-66A-66A-66A	
4CC #29	CA_4A-48D	
4CC #30	CA_2A-48D	
4CC #31	CA_13A-48A-66B	
4CC #32	CA_13A-48A-66C	
4CC #33	CA_13A-48A-48C	
4CC #34	CA_13A-48D	
4CC #35	CA_48A-48A-66A-66A	
4CC #36	CA_48A-48A-66B	
4CC #37	CA_48A-48A-66C	
4CC #38	CA_48A-48C-66A	
4CC #39	CA_48A-66A-66A-66A	
4CC #40	CA_48C-66A-66A	
4CC #41	CA_48D-66A	
4CC #42	CA_48C-66B	
4CC #43	CA_48E	
4CC #44	CA_48C-66C	
4CC #45	CA_2A-5A-48C	
4CC #46	CA_5A-48A-48C	
4CC #47	CA_5A-48C-66A	
4CC #48	CA_5A-48D	
4CC #49	CA_13A-48C-66A	

LTE 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Bands 2/4/66/48only. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

Per FCC Guidance, SAR for downlink 4x4 MIMO was not needed since the maximum average output power in 4x4 downlink MIMO mode was not > 0.25 dB higher than the maximum output power with downlink 4x4 MIMO inactive. When carrier aggregation is applicable, power measurements were performed with the downlink carrier aggregation and 4x4 DL MIMO active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

4X4 MIMO	Band
	LTE Band2/4/66/48

LTE Carrier Aggregation Conducted Power (Downlink)

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 inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.

vi. 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.

vii. 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.

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

LTE Carrier Aggregation Conducted Power (Uplink)

2CC Uplink Carrier Aggregation			
Number	CA-MIMO	UL LTE LTE TX Ant	UL LTE LTE TX Ant
1	CA_5B	Ant 1	Ant 1
2	CA_5B	Ant 2	Ant 2
3	CA_66B	Ant 1	Ant 1
4	CA_66B	Ant 2	Ant 2
5	CA_66C	Ant 1	Ant 1
6	CA_66C	Ant 2	Ant 2

<Intra-band>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B5/B66 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

ii. The device supports uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.

iii. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

iv. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.

v. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<Inter-band uplink carrier aggregation consideration>

2CC Uplink Carrier Aggregation			
Number	CA-MIMO	UL LTE LTE TX Ant	UL LTE LTE TX Ant
7	CA_2A-4A	Ant 1	Ant 2
8	CA_2A-4A	Ant 2	Ant 1
9	CA_2A-5A	Ant 1	Ant 2
10	CA_2A-5A	Ant 2	Ant 1
11	CA_2A-13A	Ant 1	Ant 2
12	CA_2A-13A	Ant 2	Ant 1
13	CA_2A-66A	Ant 1	Ant 2
14	CA_2A-66A	Ant 2	Ant 1
15	CA_4A-5A	Ant 1	Ant 2
16	CA_4A-5A	Ant 2	Ant 1
17	CA_4A-13A	Ant 1	Ant 2
18	CA_4A-13A	Ant 2	Ant 1
19	CA_5A-66A	Ant 1	Ant 2
20	CA_5A-66A	Ant 2	Ant 1
21	CA_13A-66A	Ant 1	Ant 2
22	CA_13A-66A	Ant 2	Ant 1

General Note:

1. The LTE inter band total power is the same as LTE standalone power.
2. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. For LTE inter band CA have been verified at FCC part 2 report, transmit power in real time and the time-averaged RF exposure is compliant to the regulation requirement.
4. For LTE inter band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two LTE bands. Smart Transmit algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit. Therefore, simultaneous transmission compliance for LTE CA inter band SAR operation is demonstrated in the Part 2 Report during algorithm validation. In Part 1 Report, simultaneous transmission compliance was evaluated with other Radios (WLAN or BT) using standalone LTE SAR mode.

5G NR Output Power (Unit: dBm)

General Note:

5. 5G NR n2 / n5 n66 / n77 is NSA mode.
6. NR implementation of n2, n5, n66, n77 is limited to EN-DC operations only (NSA), with LTE Bands 2/5/13/48/66 acting as anchor bands, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors.
7. Following 5GNR n2/n5 support SCS 15KHz DFT/CP-OFDM, PI/2 BPSK/QPSK/16QAM/64QAM/ 256QAM, Bandwidth 5M/10M/15M/20M.
8. Following 5G NR n66 support SCS 15KHz DFT/CP-OFDM, PI/2 BPSK/QPSK/16QAM/64QAM/256QAM, Bandwidth 5M/10M/15M/20M/30M/40M.
9. Following 5G NR n77 support SCS 30KHz DFT/CP-OFDM, PI/2 BPSK/QPSK/16QAM/64QAM/256QAM, Bandwidth 20M/40M/50M/60M/80M/90M/100M.
10. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
    a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
    b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QMA/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QMA/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
    c. SAR testing 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
    d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
    e. PI/2 BPSK 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
    f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
    g. Smaller bandwidth output power for each RB allocation configuration for this device will 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, smaller bandwidth SAR testing is not required for this device
11. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.

<3GPP 38.101 MPR for EN-DC>

Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5[1]	≤ 1.2[1]	≤ 0.2[1]
		≤ 0.5[2]	≤ 0.5[2]	0[2]
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE *powerBoostPi2BPSK* is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

Table 6.2.2-2 Maximum power reduction (MPR) for power class 2

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5	≤ 0.5	0
	QPSK	≤ 3.5	≤ 1	0
	16 QAM	≤ 3.5	≤ 2	≤ 1
	64 QAM	≤ 3.5	≤ 2.5	
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3.5	≤ 3	≤ 1.5
	16 QAM	≤ 3.5	≤ 3	≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

EN-DC configuration	UL LTE UL LTE TX Ant	UL NR UL NR Ant	EN-DC configuration	EN-DC configuration	EN-DC configuration
DC_2A_n5A	Ant1	Ant2	DC_2A-2A_n5A	DC_2A-5A_n2A	DC_48D-66A_n5A
	Ant2	Ant1	DC_2A-2A_n66A	DC_48A-66A_n5A	DC_5B-66A-66A_n2A
DC_2A_n66A	Ant1	Ant2	DC_2A-5A_n5A	DC_5A-5A_n2A	DC_5B-66A-66A_n66A
	Ant2	Ant1	DC_2A-5A_n66A	DC_5A-5A_n66A	DC_13A-48A_n77A
DC_2A_n77A	Ant1	Ant4	DC_2A-13A_n66A	DC_5B_n2A	DC_2A-48A_n77A
DC_5A_n77A	Ant1	Ant4	DC_2A-66A_n2A	DC_5B_n66A	DC_48A-66A_N77A
DC_13A_n77A	Ant1	Ant4	DC_2A-66A_n5A	DC_66B_n5A	DC_48D_n2A
DC_5A_n2A	Ant2	Ant1	DC_2A-66A_n66A	DC_66C_n5A	DC_48D_n66A
	Ant1	Ant2	DC_5A-66A_n2A	DC_13A-66A-66A_n2A	DC_48D_n5A
DC_5A_n66A	Ant2	Ant1	DC_5A-66A_n5A	DC_13A-66A-66A_n66A	
	Ant1	Ant2	DC_5A-66A_n66A	DC_2A-2A-13A_n66A	
DC_48A_n5A	Ant4	Ant1	DC_13A-66A_n2A	DC_2A-2A-5A_n5A	
DC_48A_n2A	Ant4	Ant1	DC_13A-66A_n66A	DC_2A-2A-5A_n66A	
DC_48A_n66A	Ant4	Ant1	DC_66A-66A_n5A	DC_2A-2A-66A_n5A	
DC_13A_n2A	Ant2	Ant1	DC_5A-66A-66A_n66A	DC_2A-2A-66A_n66A	
	Ant1	Ant2	DC_66A-66A_n2A	DC_2A-5B_n2A	
DC_13A_n66A	Ant2	Ant1	DC_66A-66A_n77A	DC_2A-5B_n66A	
	Ant1	Ant2	DC_2A-2A_n77A	DC_2A-66A-66A_n5A	
DC_66A_n77A	Ant1	Ant4	DC_2A-5A_n77A	DC_2A-66B_n5A	
DC_66A_n5A	Ant1	Ant2	DC_2A-13A_n77A	DC_5A-66A-66A_n2A	
	Ant2	Ant1	DC_2A-66A_n77A	DC_5A-66A-66A_n5A	
DC_66A_n2A	Ant1	Ant2	DC_5A-66A_n77A	DC_5B-66A_n2A	
	Ant2	Ant1	DC_13A-66A_n77A	DC_5B-66A_n66A	
			DC_13A-48A_n2A	DC_66A-66A-66A_n5A	
			DC_13A-48A_n66A	DC_13A-48D_n2A	
			DC_2A-13A_n2A	DC_13A-48D_n66A	
			DC_2A-48A_n5A	DC_2A-2A-66A-66A_n5A	

<WLAN Conducted Power>

General Note:

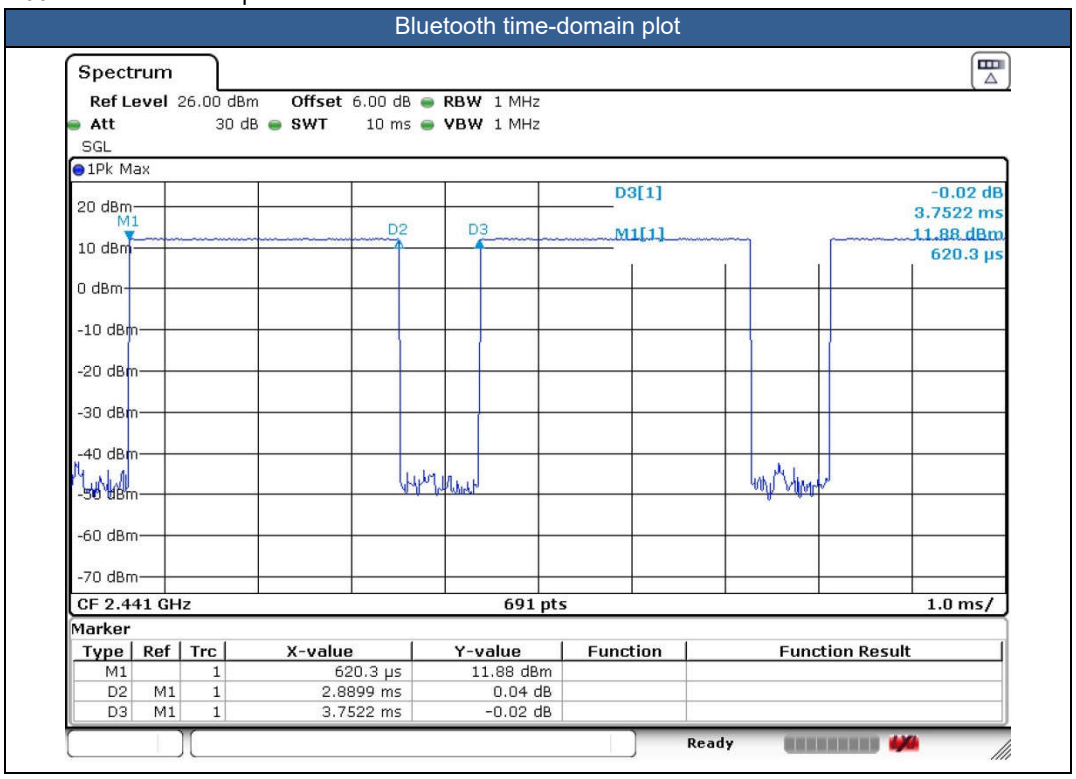
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
2. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
3. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
4. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
   a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
   b. 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.
   c. 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.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 77.02 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation

Bluetooth time-domain plot



15. Antenna Location

The detailed antenna location information can refer to SAR Test Setup Photos.

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 BT/WLAN: 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 when the measured SAR is ≥ 0.8W/kg. 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. Pre KDB648474 D04v01r03, when the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset. When headset SAR is less than or equal than without headset SAR, no need to verify the remaining channels for headset SAR.
5. The device implements the power management and sensor detection for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description.
6. For Some WWAN bands, sensor on reduced power level higher than hotspot reduced power level, so front/back sensor on SAR can represent hotspot conservatively.
7. For WLAN when transmit simultaneous with WWAN LAT or UAT, power reduction will be activated to head / hotspot / body-worn / extremity.
8. The 2.4GHz/5GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode.
9. 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 extremity 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 (for handheld on state, the maximum full power means reduced power), including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
   a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM1900, WCDMA Band II, LTE Band 2/4/7/48/66, 5GNR n2/n66/n77 and WLAN 2.4G/5.2G/5.8GHz therefore product specific 10g SAR is necessary.
   b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
   c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
10. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed for body worn:
    Front: 18 mm
    Back: 24 mm
11. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed for handheld:
    For Antenna 1：
    Front: 12 mm
    Back: 18 mm
    Bottom side: 19 mm
    For Antenna 2：

Back: 12 mm
Top Side: 12 mm
For Antenna 4:
Back: 17 mm
Left Side: 3 mm

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/GSM1900 are considered as the primary mode.
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.

WCDMA 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 RMC12.2Kbps 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 (HSDPA / HSUPA / 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/64QAM 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/64QAM 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. This device supports HPUE for LTE band 41 with class 2 level, so HPUE SAR has been performed.
7. For LTE B4 / B5 / B12 / B17 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, 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.
8. LTE B4 /B17 SAR test was covered by LTE B66 / B12; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   c. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   d. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. SAR testing 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.
   b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
   c. 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.
   d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
   e. Smaller bandwidth output power for each RB allocation configuration for this device will 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, smaller bandwidth SAR testing is not required for this device
   f. For 5G FR1 n66/n77 the maximum bandwidth does not support three non-overlapping channels, 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.

WLAN/Bluetooth 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.
6. Based on WLAN2.4GHz and Bluetooth share the same antenna, so Bluetooth RF exposure evaluation chose the worst positon of WLAN 2.4GHz Ant to perform Bluetooth SAR test, and used this Bluetooth SAR value conservatively represent other position do co-located analysis with WWAN.

DSI status description：

The device has the following DSI state which used at different exposure condition.
This WWAN bands enabled with Qualcomm Smart Transmit feature which located at chapter 5. The default power is Pmax power, When Plimit power higher than Pmax power, the output power will be limited at pmax, so the SAR will be used pmax power to do the testing.

Exposure Condition	DSI Number
Head SAR	DSI 2
Hotspot Mode SAR	DSI 7
Body worn Mode SAR	DSI 3
Product Specific 10g SAR	DSI 6
Sensor off SAR	DSI 4

16.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ant	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)
750MHz																	
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant1	DSI2	23095	707.5	23.07	24.00	1.239	-0.08	0.097	0.120
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant1	DSI2	23095	707.5	21.94	23.00	1.276	0.01	0.088	0.112
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant1	DSI2	23095	707.5	23.07	24.00	1.239	0.03	0.073	0.090
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant1	DSI2	23095	707.5	21.94	23.00	1.276	-0.07	0.045	0.057
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant1	DSI2	23095	707.5	23.07	24.00	1.239	-0.05	0.091	0.113
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant1	DSI2	23095	707.5	21.94	23.00	1.276	0.03	0.073	0.093
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant1	DSI2	23095	707.5	23.07	24.00	1.239	-0.09	0.053	0.066
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant1	DSI2	23095	707.5	21.94	23.00	1.276	0.02	0.037	0.047
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant2	DSI2	23095	707.5	22.69	24.00	1.352	0.08	0.303	0.410
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant2	DSI2	23095	707.5	21.73	23.00	1.340	0.06	0.162	0.217
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant2	DSI2	23095	707.5	22.69	24.00	1.352	-0.09	0.294	0.398
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant2	DSI2	23095	707.5	21.73	23.00	1.340	0.03	0.138	0.185
01	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant2	DSI2	23095	707.5	22.69	24.00	1.352	-0.03	0.541	**0.731**
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant2	DSI2	23095	707.5	21.73	23.00	1.340	-0.09	0.290	0.389
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant2	DSI2	23095	707.5	22.69	24.00	1.352	0.04	0.494	0.668
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant2	DSI2	23095	707.5	21.73	23.00	1.340	0.01	0.284	0.380
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant1	DSI2	23230	782	23.28	24.00	1.180	-0.08	0.178	0.210
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant1	DSI2	23230	782	22.12	23.00	1.225	-0.03	0.133	0.163
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant1	DSI2	23230	782	23.28	24.00	1.180	0.06	0.099	0.117
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant1	DSI2	23230	782	22.12	23.00	1.225	-0.09	0.070	0.086
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant1	DSI2	23230	782	23.28	24.00	1.180	0.03	0.168	0.198
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant1	DSI2	23230	782	22.12	23.00	1.225	-0.06	0.086	0.105
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant1	DSI2	23230	782	23.28	24.00	1.180	-0.09	0.079	0.093
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant1	DSI2	23230	782	22.12	23.00	1.225	0.04	0.048	0.059
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant2	DSI2	23230	782	22.99	24.00	1.262	0.07	0.132	0.167
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant2	DSI2	23230	782	22.06	23.00	1.242	-0.06	0.069	0.086
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant2	DSI2	23230	782	22.99	24.00	1.262	-0.05	0.110	0.139
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant2	DSI2	23230	782	22.06	23.00	1.242	0.03	0.050	0.062
02	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant2	DSI2	23230	782	22.99	24.00	1.262	-0.05	0.223	**0.281**
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant2	DSI2	23230	782	22.06	23.00	1.242	0.09	0.095	0.118
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant2	DSI2	23230	782	22.99	24.00	1.262	0.07	0.168	0.212
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant2	DSI2	23230	782	22.06	23.00	1.242	0.04	0.088	0.109

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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)
							850MHz											
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant1	DSI2	189	836.4	28.64	29.50	1.219	-0.02	0.218	0.266
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Tilted	0mm	Ant1	DSI2	189	836.4	28.64	29.50	1.219	-0.06	0.142	0.173
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant1	DSI2	189	836.4	28.64	29.50	1.219	0.05	0.171	0.208
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant1	DSI2	189	836.4	28.64	29.50	1.219	-0.01	0.104	0.127
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant2	DSI2	189	836.4	28.77	29.50	1.183	-0.07	0.300	0.355
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Tilted	0mm	Ant2	DSI2	189	836.4	28.77	29.50	1.183	0.02	0.295	0.349
03	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant2	DSI2	189	836.4	28.77	29.50	1.183	0.04	0.433	**0.512**
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant2	DSI2	189	836.4	28.77	29.50	1.183	0.06	0.413	0.489
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant1	DSI2	4182	836.4	23.75	25.00	1.334	0.06	0.248	0.331
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant1	DSI2	4182	836.4	23.75	25.00	1.334	-0.01	0.153	0.204
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant1	DSI2	4182	836.4	23.75	25.00	1.334	0.04	0.197	0.263
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant1	DSI2	4182	836.4	23.75	25.00	1.334	-0.03	0.126	0.168
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant2	DSI2	4182	836.4	22.79	24.00	1.321	-0.05	0.439	0.580
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant2	DSI2	4182	836.4	22.79	24.00	1.321	-0.04	0.472	0.624
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant2	DSI2	4182	836.4	22.79	24.00	1.321	0.07	0.702	**0.928**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant2	DSI2	4132	826.4	22.75	24.00	1.334	0.11	0.677	0.903
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant2	DSI2	4233	846.6	22.69	24.00	1.352	-0.09	0.686	0.928
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant2	DSI2	4182	836.4	22.79	24.00	1.321	0.02	0.632	0.835
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant2	DSI2	4132	826.4	22.75	24.00	1.334	0.11	0.660	0.880
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant2	DSI2	4233	846.6	22.69	24.00	1.352	0.09	0.649	0.877
	LTE Band 5	10M	QPSK	1	0	-	Right Cheek	0mm	Ant1	DSI2	20525	836.5	22.90	24.00	1.288	0.02	0.256	0.330
	LTE Band 5 UL CA 5B	10M	QPSK	1	0	-	Right Cheek	0mm	Ant1	DSI2	20525+20453	836.5+829.3	22.67	24.00	1.358	0.01	0.226	0.307
	LTE Band 5	10M	QPSK	25	0	-	Right Cheek	0mm	Ant1	DSI2	20525	836.5	21.86	23.00	1.300	-0.05	0.121	0.157
	LTE Band 5	10M	QPSK	1	0	-	Right Tilted	0mm	Ant1	DSI2	20525	836.5	22.90	24.00	1.288	-0.04	0.171	0.220
	LTE Band 5	10M	QPSK	25	0	-	Right Tilted	0mm	Ant1	DSI2	20525	836.5	21.86	23.00	1.300	0.03	0.079	0.103
	LTE Band 5	10M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI2	20525	836.5	22.90	24.00	1.288	-0.07	0.214	0.276
	LTE Band 5	10M	QPSK	25	0	-	Left Cheek	0mm	Ant1	DSI2	20525	836.5	21.86	23.00	1.300	0.02	0.104	0.135
	LTE Band 5	10M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI2	20525	836.5	22.90	24.00	1.288	-0.03	0.146	0.188
	LTE Band 5	10M	QPSK	25	0	-	Left Tilted	0mm	Ant1	DSI2	20525	836.5	21.86	23.00	1.300	0.06	0.067	0.087
	LTE Band 5	10M	QPSK	1	0	-	Right Cheek	0mm	Ant2	DSI2	20525	836.5	22.36	24.00	1.459	0.06	0.404	0.589
	LTE Band 5	10M	QPSK	25	0	-	Right Cheek	0mm	Ant2	DSI2	20525	836.5	21.48	23.00	1.419	0.03	0.228	0.324
	LTE Band 5	10M	QPSK	1	0	-	Right Tilted	0mm	Ant2	DSI2	20525	836.5	22.36	24.00	1.459	-0.07	0.426	0.621
	LTE Band 5	10M	QPSK	25	0	-	Right Tilted	0mm	Ant2	DSI2	20525	836.5	21.48	23.00	1.419	0.02	0.257	0.365
05	LTE Band 5	10M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI2	20525	836.5	22.36	24.00	1.459	-0.01	0.681	**0.993**
	LTE Band 5 UL CA 5B	10M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI2	20525+20453	836.5+829.3	22.32	24.00	1.472	-0.03	0.643	0.947
	LTE Band 5	10M	QPSK	25	0	-	Left Cheek	0mm	Ant2	DSI2	20525	836.5	21.48	23.00	1.419	-0.03	0.433	0.614
	LTE Band 5	10M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI2	20525	836.5	21.43	23.00	1.435	0.11	0.441	0.633
	LTE Band 5	10M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI2	20525	836.5	22.36	24.00	1.459	0.06	0.674	0.983
	LTE Band 5	10M	QPSK	25	0	-	Left Tilted	0mm	Ant2	DSI2	20525	836.5	21.48	23.00	1.419	0.08	0.419	0.595
	LTE Band 5	10M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI2	20525	836.5	21.43	23.00	1.435	-0.09	0.427	0.613
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Right Cheek	0mm	Ant1	DSI2	167300	836.5	22.98	24.00	1.265	-0.07	0.153	0.194
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Right Cheek	0mm	Ant1	DSI2	167300	836.5	22.94	24.00	1.276	0.07	0.155	0.198
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Right Tilted	0mm	Ant1	DSI2	167300	836.5	22.98	24.00	1.265	0.02	0.098	0.124
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Right Tilted	0mm	Ant1	DSI2	167300	836.5	22.94	24.00	1.276	-0.03	0.094	0.120
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Left Cheek	0mm	Ant1	DSI2	167300	836.5	22.98	24.00	1.265	0.06	0.129	0.163
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Left Cheek	0mm	Ant1	DSI2	167300	836.5	22.94	24.00	1.276	0.13	0.128	0.163
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Left Tilted	0mm	Ant1	DSI2	167300	836.5	22.98	24.00	1.265	0.08	0.084	0.106
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Left Tilted	0mm	Ant1	DSI2	167300	836.5	22.94	24.00	1.276	0.02	0.079	0.101
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Right Cheek	0mm	Ant2	DSI2	167300	836.5	23.70	24.00	1.072	-0.05	0.401	0.430
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Right Cheek	0mm	Ant2	DSI2	167300	836.5	23.42	24.00	1.143	0.06	0.367	0.419
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Right Tilted	0mm	Ant2	DSI2	167300	836.5	23.70	24.00	1.072	0.08	0.388	0.416
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Right Tilted	0mm	Ant2	DSI2	167300	836.5	23.42	24.00	1.143	0.07	0.350	0.400

	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	167300	836.5	23.70	24.00	1.072	0.09	0.501	0.537
06	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	167300	836.5	23.42	24.00	1.143	0.08	0.510	**0.583**
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	167300	836.5	23.70	24.00	1.072	0.06	0.495	0.530
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	167300	836.5	23.42	24.00	1.143	0.07	0.453	0.518

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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)
1750MHz																		
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant1	DSI2	132322	1745	23.35	24.00	1.161	0.07	0.104	0.121
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant1	DSI2	132322	1745	22.75	23.00	1.059	-0.06	0.058	0.061
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant1	DSI2	132322	1745	23.35	24.00	1.161	-0.05	0.073	0.085
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant1	DSI2	132322	1745	22.75	23.00	1.059	0.03	0.043	0.046
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI2	132322	1745	23.35	24.00	1.161	0.09	0.113	0.131
	LTE Band 66 UL CA 66B	15M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI2	132322+ 132229	1745+ 1735.7	22.99	24.00	1.262	-0.05	0.101	0.127
	LTE Band 66 UL CA 66C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI2	132322+ 132124	1745+ 1725.2	23.22	24.00	1.197	0.01	0.077	0.092
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant1	DSI2	132322	1745	22.75	23.00	1.059	-0.03	0.061	0.065
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI2	132322	1745	23.35	24.00	1.161	-0.09	0.094	0.109
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant1	DSI2	132322	1745	22.75	23.00	1.059	0.01	0.049	0.052
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant2	DSI2	132322	1745	16.90	18.10	1.318	0.03	0.349	0.460
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant2	DSI2	132322	1745	16.68	18.10	1.387	0.19	0.269	0.373
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant2	DSI2	132322	1745	16.90	18.10	1.318	0.11	0.432	0.569
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant2	DSI2	132322	1745	16.68	18.10	1.387	0.09	0.335	0.465
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI2	132322	1745	16.90	18.10	1.318	0.11	0.708	0.933
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI2	132072	1720	16.78	18.10	1.355	-0.09	0.603	0.817
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI2	132572	1770	16.65	18.10	1.396	0.11	0.701	0.979
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI2	132322	1745	16.68	18.10	1.387	0.09	0.647	0.897
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI2	132072	1720	16.62	18.10	1.406	0.03	0.649	0.913
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI2	132572	1770	16.67	18.10	1.390	0.12	0.701	0.974
	LTE Band 66	20M	QPSK	100	0	-	Left Cheek	0mm	Ant2	DSI2	132322	1745	16.69	18.10	1.384	-0.01	0.667	0.923
07	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI2	132322	1745	16.90	18.10	1.318	-0.01	0.743	**0.979**
	LTE Band 66 UL CA 66B	15M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI2	132322+ 132229	1745+ 1735.7	16.44	18.10	1.466	-0.03	0.624	0.915
	LTE Band 66 UL CA 66C	20M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI2	132322+ 132124	1745+ 1725.2	16.79	18.10	1.352	0.01	0.711	0.961
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI2	132072	1720	16.78	18.10	1.355	0.04	0.704	0.954
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI2	132572	1770	16.65	18.10	1.396	0.02	0.676	0.944
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI2	132322	1745	16.68	18.10	1.387	-0.11	0.704	0.976
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI2	132072	1720	16.62	18.10	1.406	0.05	0.671	0.943
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI2	132572	1770	16.67	18.10	1.390	-0.11	0.669	0.930
	LTE Band 66	20M	QPSK	100	0	-	Left Tilted	0mm	Ant2	DSI2	132322	1745	16.69	18.10	1.384	0.14	0.661	0.915
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Right Cheek	0mm	Ant1	DSI2	349000	1745	23.83	24.00	1.040	-0.05	0.051	0.053
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Right Cheek	0mm	Ant1	DSI2	349000	1745	23.79	24.00	1.050	0.02	0.053	0.056
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Right Tilted	0mm	Ant1	DSI2	349000	1745	23.83	24.00	1.040	0.08	0.042	0.044
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Right Tilted	0mm	Ant1	DSI2	349000	1745	23.79	24.00	1.050	0.09	0.040	0.042
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Left Cheek	0mm	Ant1	DSI2	349000	1745	23.83	24.00	1.040	0.04	0.054	0.056
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Left Cheek	0mm	Ant1	DSI2	349000	1745	23.79	24.00	1.050	0.08	0.051	0.054
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Left Tilted	0mm	Ant1	DSI2	349000	1745	23.83	24.00	1.040	0.03	0.048	0.050
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Left Tilted	0mm	Ant1	DSI2	349000	1745	23.79	24.00	1.050	0.06	0.048	0.050
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Right Cheek	0mm	Ant2	DSI2	349000	1745	16.16	17.20	1.271	-0.01	0.247	0.314
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Right Cheek	0mm	Ant2	DSI2	349000	1745	15.92	17.20	1.343	-0.14	0.286	0.384
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Right Tilted	0mm	Ant2	DSI2	349000	1745	16.16	17.20	1.271	0.01	0.313	0.398
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Right Tilted	0mm	Ant2	DSI2	349000	1745	15.92	17.20	1.343	0.09	0.361	0.485
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	349000	1745	16.16	17.20	1.271	0.01	0.672	0.854
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	349000	1745	15.92	17.20	1.343	0.04	0.681	0.914
	FR1 n66	40M	QPSK	216	0	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	349000	1745	15.84	17.20	1.368	0.11	0.598	0.818
08	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	349000	1745	16.16	17.20	1.271	-0.09	0.776	**0.986**
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	349000	1745	15.92	17.20	1.343	0.13	0.695	0.933
	FR1 n66	40M	QPSK	216	0	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	349000	1745	15.84	17.20	1.368	0.07	0.698	0.955

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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)
							1900MHz											
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant1	DSI2	661	1880	25.86	26.50	1.159	0.02	0.023	0.027
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Tilted	0mm	Ant1	DSI2	661	1880	25.86	26.50	1.159	0.04	0.011	0.013
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant1	DSI2	661	1880	25.86	26.50	1.159	0.02	0.048	0.056
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant1	DSI2	661	1880	25.86	26.50	1.159	0.17	0.035	0.041
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant2	DSI2	661	1880	22.49	23.50	1.262	0.13	0.220	0.278
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Tilted	0mm	Ant2	DSI2	661	1880	22.49	23.50	1.262	0.04	0.274	0.346
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant2	DSI2	661	1880	22.49	23.50	1.262	0.02	0.702	0.886
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant2	DSI2	512	1850.2	22.43	23.50	1.279	0.01	0.611	0.782
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant2	DSI2	810	1909.8	22.24	23.50	1.337	0.02	0.698	0.933
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant2	DSI2	661	1880	22.49	23.50	1.262	-0.04	0.684	0.863
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant2	DSI2	512	1850.2	22.43	23.50	1.279	0.14	0.666	0.852
09	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant2	DSI2	810	1909.8	22.24	23.50	1.337	0.08	0.748	**1.000**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant1	DSI2	9400	1880	24.58	25.00	1.102	0.06	0.100	0.110
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant1	DSI2	9400	1880	24.58	25.00	1.102	-0.06	0.076	0.084
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant1	DSI2	9400	1880	24.58	25.00	1.102	0.01	0.116	0.128
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant1	DSI2	9400	1880	24.58	25.00	1.102	0.07	0.105	0.116
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant2	DSI2	9400	1880	17.68	18.70	1.265	0.13	0.238	0.301
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant2	DSI2	9400	1880	17.68	18.70	1.265	0.08	0.308	0.390
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant2	DSI2	9400	1880	17.68	18.70	1.265	0.02	0.657	0.831
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant2	DSI2	9262	1852.4	17.58	18.70	1.294	0.04	0.687	0.889
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant2	DSI2	9538	1907.6	17.63	18.70	1.279	0.02	0.657	0.841
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant2	DSI2	9400	1880	17.68	18.70	1.265	0.04	0.651	0.823
10	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant2	DSI2	9262	1852.4	17.58	18.70	1.294	0.04	0.752	**0.973**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant2	DSI2	9538	1907.6	17.63	18.70	1.279	0.17	0.711	0.910
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant1	DSI2	18900	1880	23.51	24.00	1.119	0.05	0.086	0.096
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant1	DSI2	18900	1880	22.35	23.00	1.161	0.06	0.053	0.062
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant1	DSI2	18900	1880	23.51	24.00	1.119	-0.05	0.077	0.086
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant1	DSI2	18900	1880	22.35	23.00	1.161	0.14	0.048	0.056
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI2	18900	1880	23.51	24.00	1.119	0.07	0.095	0.106
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant1	DSI2	18900	1880	22.35	23.00	1.161	0.13	0.068	0.079
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI2	18900	1880	23.51	24.00	1.119	0.04	0.089	0.100
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant1	DSI2	18900	1880	22.35	23.00	1.161	0.02	0.062	0.072
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant2	DSI2	18900	1880	17.83	19.00	1.309	0.01	0.164	0.215
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant2	DSI2	18900	1880	17.61	19.00	1.377	0.02	0.251	0.346
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant2	DSI2	18900	1880	17.83	19.00	1.309	-0.04	0.221	0.289
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant2	DSI2	18900	1880	17.61	19.00	1.377	0.14	0.328	0.452
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI2	18900	1880	17.83	19.00	1.309	0.11	0.694	0.909
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI2	18700	1860	17.66	19.00	1.361	0.07	0.685	0.933
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant2	DSI2	19100	1900	17.65	19.00	1.365	-0.01	0.668	0.912
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI2	18900	1880	17.61	19.00	1.377	0.12	0.625	0.861
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI2	18700	1860	17.48	19.00	1.419	0.09	0.635	0.901
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant2	DSI2	19100	1900	17.48	19.00	1.419	0.03	0.599	0.850
	LTE Band 2	20M	QPSK	100	0	-	Left Cheek	0mm	Ant2	DSI2	18900	1880	17.57	19.00	1.390	0.02	0.637	0.885
11	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI2	18900	1880	17.83	19.00	1.309	0.07	0.755	**0.988**
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI2	18700	1860	17.66	19.00	1.361	-0.11	0.711	0.968
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant2	DSI2	19100	1900	17.65	19.00	1.365	0.12	0.641	0.875
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI2	18900	1880	17.61	19.00	1.377	0.09	0.647	0.891
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI2	18700	1860	17.48	19.00	1.419	0.03	0.674	0.956
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant2	DSI2	19100	1900	17.48	19.00	1.419	-0.11	0.695	0.986
	LTE Band 2	20M	QPSK	100	0	-	Left Tilted	0mm	Ant2	DSI2	18900	1880	17.57	19.00	1.390	0.05	0.657	0.913
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Right Cheek	0mm	Ant1	DSI2	376000	1880	23.70	24.00	1.072	-0.05	0.075	0.080
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Right Cheek	0mm	Ant1	DSI2	376000	1880	23.59	24.00	1.099	-0.11	0.072	0.079
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Right Tilted	0mm	Ant1	DSI2	376000	1880	23.70	24.00	1.072	0.08	0.074	0.079

	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Right Tilted	0mm	Ant1	DSI2	376000	1880	23.59	24.00	1.099	0.01	0.064	0.070
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Cheek	0mm	Ant1	DSI2	376000	1880	23.70	24.00	1.072	0.05	0.096	0.103
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Cheek	0mm	Ant1	DSI2	376000	1880	23.59	24.00	1.099	0.11	0.089	0.098
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Tilted	0mm	Ant1	DSI2	376000	1880	23.70	24.00	1.072	0.08	0.082	0.088
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Tilted	0mm	Ant1	DSI2	376000	1880	23.59	24.00	1.099	0.08	0.085	0.093
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Right Cheek	0mm	Ant2	DSI2	376000	1880	17.78	18.70	1.236	-0.02	0.259	0.320
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Right Cheek	0mm	Ant2	DSI2	376000	1880	17.76	18.70	1.242	0.01	0.244	0.303
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Right Tilted	0mm	Ant2	DSI2	376000	1880	17.78	18.70	1.236	-0.02	0.349	0.431
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Right Tilted	0mm	Ant2	DSI2	376000	1880	17.76	18.70	1.242	0.06	0.322	0.400
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	376000	1880	17.78	18.70	1.236	0.09	0.686	0.848
12	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	372000	1860	17.57	18.70	1.297	0.03	0.766	**0.994**
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	380000	1900	17.66	18.70	1.271	-0.03	0.672	0.854
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	376000	1880	17.76	18.70	1.242	0.01	0.732	0.909
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	372000	1860	17.32	18.70	1.374	0.07	0.695	0.955
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	380000	1900	17.49	18.70	1.321	0.01	0.712	0.941
	FR1 n2	20M	QPSK	100	0	DFT-15KHz	Left Cheek	0mm	Ant2	DSI2	376000	1880	17.63	18.70	1.279	0.08	0.733	0.938
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	376000	1880	17.78	18.70	1.236	-0.03	0.682	0.843
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	372000	1860	17.57	18.70	1.297	0.02	0.727	0.943
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	380000	1900	17.66	18.70	1.271	0.05	0.731	0.929
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	376000	1880	17.76	18.70	1.242	0.09	0.694	0.862
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	372000	1860	17.32	18.70	1.374	0.01	0.715	0.982
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	380000	1900	17.49	18.70	1.321	-0.03	0.666	0.880
	FR1 n2	20M	QPSK	100	0	DFT-15KHz	Left Tilted	0mm	Ant2	DSI2	376000	1880	17.63	18.70	1.279	0.08	0.683	0.874

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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)
2600MHz																				
13	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant1	DSI2	21100	2535	23.63	24.00	1.089	-	1.000	0.09	0.058	**0.063**
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant1	DSI2	21100	2535	22.49	23.00	1.125	-	1.000	0.07	0.039	0.044
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant1	DSI2	21100	2535	23.63	24.00	1.089	-	1.000	0.16	0.034	0.037
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant1	DSI2	21100	2535	22.49	23.00	1.125	-	1.000	-0.06	0.018	0.020
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant1	DSI2	21100	2535	23.63	24.00	1.089	-	1.000	0.09	0.050	0.054
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant1	DSI2	21100	2535	22.49	23.00	1.125	-	1.000	0.06	0.037	0.042
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant1	DSI2	21100	2535	23.63	24.00	1.089	-	1.000	0.09	0.052	0.057
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant1	DSI2	21100	2535	22.49	23.00	1.125	-	1.000	-0.05	0.031	0.035
3500MHz																				
14	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant4	DSI2	56150	3641	22.57	24.00	1.390	62.9	1.006	0.05	0.348	**0.487**
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant4	DSI2	56150	3641	21.90	23.00	1.288	62.9	1.006	0.06	0.276	0.358
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant4	DSI2	56150	3641	22.57	24.00	1.390	62.9	1.006	-0.05	0.279	0.390
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant4	DSI2	56150	3641	21.90	23.00	1.288	62.9	1.006	0.1	0.243	0.315
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant4	DSI2	56150	3641	22.57	24.00	1.390	62.9	1.006	0.04	0.241	0.337
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant4	DSI2	56150	3641	21.90	23.00	1.288	62.9	1.006	0.06	0.162	0.210
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant4	DSI2	56150	3641	22.57	24.00	1.390	62.9	1.006	-0.16	0.174	0.243
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant4	DSI2	56150	3641	21.90	23.00	1.288	62.9	1.006	0.08	0.090	0.117
3900MHz																				
15	FR1 n77-PC3&2	100M	QPSK	1	1	DFT-30KHz	Right Cheek	0mm	Ant4	DSI2	656000	3840	20.48	21.50	1.265	-	1.000	0.08	0.770	**0.974**
	FR1 n77-PC3&2	100M	QPSK	135	0	DFT-30KHz	Right Cheek	0mm	Ant4	DSI2	656000	3840	20.38	21.50	1.294	-	1.000	-0.09	0.694	0.898
	FR1 n77-PC3&2	100M	QPSK	270	0	DFT-30KHz	Right Cheek	0mm	Ant4	DSI2	656000	3840	20.37	21.50	1.297	-	1.000	0.08	0.732	0.950
	FR1 n77-PC3&2	100M	QPSK	1	1	DFT-30KHz	Right Tilted	0mm	Ant4	DSI2	656000	3840	20.48	21.50	1.265	-	1.000	0.11	0.468	0.592
	FR1 n77-PC3&2	100M	QPSK	135	0	DFT-30KHz	Right Tilted	0mm	Ant4	DSI2	656000	3840	20.38	21.50	1.294	-	1.000	0.06	0.451	0.584
	FR1 n77-PC3&2	100M	QPSK	1	1	DFT-30KHz	Left Cheek	0mm	Ant4	DSI2	656000	3840	20.48	21.50	1.265	-	1.000	0.05	0.291	0.368
	FR1 n77-PC3&2	100M	QPSK	135	0	DFT-30KHz	Left Cheek	0mm	Ant4	DSI2	656000	3840	20.38	21.50	1.294	-	1.000	-0.06	0.331	0.428
	FR1 n77-PC3&2	100M	QPSK	1	1	DFT-30KHz	Left Tilted	0mm	Ant4	DSI2	656000	3840	20.48	21.50	1.265	-	1.000	0.01	0.181	0.229
	FR1 n77-PC3&2	100M	QPSK	135	0	DFT-30KHz	Left Tilted	0mm	Ant4	DSI2	656000	3840	20.38	21.50	1.294	-	1.000	0.05	0.174	0.225

Plot No.	Band	Mode	Test Position	Gap (mm)	Ant	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)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	0.05	0.532	0.651
16	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	0.06	0.685	**0.839**
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3+6	Standalone	11	2462	22.00	23.00	1.259	100	1.000	0.11	0.567	0.714
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	0.05	0.326	0.399
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	0.03	0.428	0.524
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3+6	Simultaneous	1	2412	17.45	18.50	1.274	100	1.000	-0.04	0.263	0.335
17	Bluetooth	1Mbps	Right Tilted	0mm	Ant 3	Standalone/Simultaneous	78	2480	14.41	15.00	1.146	77.02	1.298	0.13	0.106	**0.158**
5000MHz																
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5+6	Standalone/Simultaneous	52	5260	20.23	21.00	1.194	98.62	1.014	0.06	0.127	0.154
18	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5+6	Standalone/Simultaneous	52	5260	20.23	21.00	1.194	98.62	1.014	-0.05	0.129	**0.156**
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5+6	Standalone/Simultaneous	52	5260	20.23	21.00	1.194	98.62	1.014	0.07	0.099	0.120
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5+6	Standalone/Simultaneous	52	5260	20.23	21.00	1.194	98.62	1.014	0.09	0.103	0.125
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5+6	Standalone/Simultaneous	100	5500	20.10	21.00	1.230	98.62	1.014	0.06	0.181	0.226
19	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5+6	Standalone/Simultaneous	100	5500	20.10	21.00	1.230	98.62	1.014	0.04	0.246	**0.307**
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5+6	Standalone/Simultaneous	100	5500	20.10	21.00	1.230	98.62	1.014	0.07	0.173	0.216
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5+6	Standalone/Simultaneous	100	5500	20.10	21.00	1.230	98.62	1.014	0.02	0.183	0.228
	WLAN5.8GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5+6	Standalone/Simultaneous	157	5785	19.91	21.00	1.285	98.62	1.014	0.14	0.248	0.323
20	WLAN5.8GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5+6	Standalone/Simultaneous	157	5785	19.91	21.00	1.285	98.62	1.014	-0.05	0.291	**0.379**
	WLAN5.8GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5+6	Standalone/Simultaneous	157	5785	19.91	21.00	1.285	98.62	1.014	0.01	0.141	0.184
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5+6	Standalone/Simultaneous	157	5785	19.91	21.00	1.285	98.62	1.014	-0.04	0.196	0.255

16.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	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)
750MHz																	
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant1	DSI7	23095	707.5	23.07	24.00	1.239	0.07	0.192	0.238
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant1	DSI7	23095	707.5	21.94	23.00	1.276	0.16	0.120	0.153
	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant1	DSI7	23095	707.5	23.07	24.00	1.239	-0.06	0.317	0.393
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant1	DSI7	23095	707.5	21.94	23.00	1.276	0.09	0.214	0.273
	LTE Band 12	10M	QPSK	1	0	Left Side	5mm	Ant1	DSI7	23095	707.5	23.07	24.00	1.239	0.06	0.092	0.114
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	Ant1	DSI7	23095	707.5	21.94	23.00	1.276	0.09	0.052	0.066
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	Ant1	DSI7	23095	707.5	23.07	24.00	1.239	-0.05	0.109	0.135
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	Ant1	DSI7	23095	707.5	21.94	23.00	1.276	0.06	0.064	0.082
	LTE Band 12	10M	QPSK	1	0	Bottom Side	5mm	Ant1	DSI7	23095	707.5	23.07	24.00	1.239	-0.09	0.324	0.401
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5mm	Ant1	DSI7	23095	707.5	21.94	23.00	1.276	-0.05	0.197	0.251
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant2	DSI7	23095	707.5	22.69	24.00	1.352	-0.05	0.251	0.339
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant2	DSI7	23095	707.5	21.73	23.00	1.340	0.1	0.137	0.184
	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant2	DSI7	23095	707.5	22.69	24.00	1.352	0.04	0.271	0.366
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant2	DSI7	23095	707.5	21.73	23.00	1.340	0.06	0.162	0.217
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	Ant2	DSI7	23095	707.5	22.69	24.00	1.352	0.05	0.242	0.327
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	Ant2	DSI7	23095	707.5	21.73	23.00	1.340	0.06	0.123	0.165
21	LTE Band 12	10M	QPSK	1	0	Top Side	5mm	Ant2	DSI7	23095	707.5	22.69	24.00	1.352	0.15	0.358	**0.484**
	LTE Band 12	10M	QPSK	25	0	Top Side	5mm	Ant2	DSI7	23095	707.5	21.73	23.00	1.340	0.03	0.193	0.259
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant1	DSI7	23230	782	23.28	24.00	1.180	0.04	0.390	0.460
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant1	DSI7	23230	782	22.12	23.00	1.225	-0.16	0.301	0.369
	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant1	DSI7	23230	782	23.28	24.00	1.180	0.08	0.509	0.601
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant1	DSI7	23230	782	22.12	23.00	1.225	-0.01	0.424	0.519
	LTE Band 13	10M	QPSK	1	0	Left Side	5mm	Ant1	DSI7	23230	782	23.28	24.00	1.180	-0.04	0.121	0.143
	LTE Band 13	10M	QPSK	25	0	Left Side	5mm	Ant1	DSI7	23230	782	22.12	23.00	1.225	0.11	0.090	0.110
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	Ant1	DSI7	23230	782	23.28	24.00	1.180	0.16	0.236	0.279
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	Ant1	DSI7	23230	782	22.12	23.00	1.225	0.06	0.122	0.149
22	LTE Band 13	10M	QPSK	1	0	Bottom Side	5mm	Ant1	DSI7	23230	782	23.28	24.00	1.180	-0.03	0.541	**0.639**
	LTE Band 13	10M	QPSK	25	0	Bottom Side	5mm	Ant1	DSI7	23230	782	22.12	23.00	1.225	0.16	0.373	0.457
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant2	DSI7	23230	782	22.99	24.00	1.262	0.06	0.105	0.132
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant2	DSI7	23230	782	22.06	23.00	1.242	0.11	0.044	0.055
	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant2	DSI7	23230	782	22.99	24.00	1.262	0.11	0.097	0.122
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant2	DSI7	23230	782	22.06	23.00	1.242	0.06	0.054	0.067
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	Ant2	DSI7	23230	782	22.99	24.00	1.262	0.01	0.088	0.111
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	Ant2	DSI7	23230	782	22.06	23.00	1.242	0.05	0.049	0.061
	LTE Band 13	10M	QPSK	1	0	Top Side	5mm	Ant2	DSI7	23230	782	22.99	24.00	1.262	0.17	0.155	0.196
	LTE Band 13	10M	QPSK	25	0	Top Side	5mm	Ant2	DSI7	23230	782	22.06	23.00	1.242	0.06	0.089	0.111

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
							850MHz											
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant1	DSI7	189	836.4	28.64	29.50	1.219	0.08	0.315	0.384
23	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant1	DSI7	189	836.4	28.64	29.50	1.219	-0.15	0.488	**0.595**
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant1	DSI7	189	836.4	28.64	29.50	1.219	0.07	0.121	0.147
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Side	5mm	Ant1	DSI7	189	836.4	28.64	29.50	1.219	0.09	0.209	0.255
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Bottom Side	5mm	Ant1	DSI7	189	836.4	28.64	29.50	1.219	0.11	0.342	0.417
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant2	DSI7	189	836.4	28.77	29.50	1.183	0.06	0.296	0.350
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant2	DSI7	189	836.4	28.77	29.50	1.183	0.04	0.293	0.347
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Side	5mm	Ant2	DSI7	189	836.4	28.77	29.50	1.183	0.05	0.176	0.208
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Top Side	5mm	Ant2	DSI7	189	836.4	28.77	29.50	1.183	-0.11	0.415	0.491
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant1	DSI7	4182	836.4	23.75	25.00	1.334	0.02	0.551	0.735
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI7	4182	836.4	23.75	25.00	1.334	0.02	0.655	0.873
24	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI7	4132	826.4	23.71	25.00	1.346	-0.08	0.781	**1.051**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI7	4233	846.6	23.65	25.00	1.365	0.11	0.730	0.996
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant1	DSI7	4182	836.4	23.75	25.00	1.334	0.05	0.145	0.193
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant1	DSI7	4182	836.4	23.75	25.00	1.334	0.02	0.236	0.315
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant1	DSI7	4182	836.4	23.75	25.00	1.334	0.06	0.541	0.721
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant2	DSI7	4182	836.4	22.79	24.00	1.321	0.06	0.308	0.407
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant2	DSI7	4182	836.4	22.79	24.00	1.321	0.05	0.219	0.289
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant2	DSI7	4182	836.4	22.79	24.00	1.321	0.01	0.136	0.180
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant2	DSI7	4182	836.4	22.79	24.00	1.321	-0.06	0.440	0.581
	LTE Band 5	10M	QPSK	1	0	-	Front	5mm	Ant1	DSI7	20525	836.5	22.90	24.00	1.288	0.06	0.564	0.727
	LTE Band 5	10M	QPSK	25	0	-	Front	5mm	Ant1	DSI7	20525	836.5	21.86	23.00	1.300	0.08	0.360	0.468
25	LTE Band 5	10M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	20525	836.5	22.90	24.00	1.288	0.04	0.713	**0.919**
	LTE Band 5 UL CA 5B	10M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	20525+ 20453	836.5+ 829.3	22.67	24.00	1.358	0.03	0.660	0.896
	LTE Band 5	10M	QPSK	25	0	-	Back	5mm	Ant1	DSI7	20525	836.5	21.86	23.00	1.300	0.09	0.469	0.610
	LTE Band 5	10M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	20525	836.5	21.79	23.00	1.321	-0.11	0.511	0.675
	LTE Band 5	10M	QPSK	1	0	-	Left Side	5mm	Ant1	DSI7	20525	836.5	22.90	24.00	1.288	0.11	0.116	0.149
	LTE Band 5	10M	QPSK	25	0	-	Left Side	5mm	Ant1	DSI7	20525	836.5	21.86	23.00	1.300	0.06	0.102	0.133
	LTE Band 5	10M	QPSK	1	0	-	Right Side	5mm	Ant1	DSI7	20525	836.5	22.90	24.00	1.288	0.07	0.277	0.357
	LTE Band 5	10M	QPSK	25	0	-	Right Side	5mm	Ant1	DSI7	20525	836.5	21.86	23.00	1.300	0.02	0.155	0.202
	LTE Band 5	10M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	20525	836.5	22.90	24.00	1.288	0.07	0.654	0.843
	LTE Band 5	10M	QPSK	25	0	-	Bottom Side	5mm	Ant1	DSI7	20525	836.5	21.86	23.00	1.300	0.11	0.435	0.566
	LTE Band 5	10M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	20525	836.5	21.79	23.00	1.321	0.07	0.452	0.597
	LTE Band 5	10M	QPSK	1	0	-	Front	5mm	Ant2	DSI7	20525	836.5	22.36	24.00	1.459	0.06	0.310	0.452
	LTE Band 5	10M	QPSK	25	0	-	Front	5mm	Ant2	DSI7	20525	836.5	21.48	23.00	1.419	0.04	0.161	0.228
	LTE Band 5	10M	QPSK	1	0	-	Back	5mm	Ant2	DSI7	20525	836.5	22.36	24.00	1.459	-0.01	0.281	0.410
	LTE Band 5	10M	QPSK	25	0	-	Back	5mm	Ant2	DSI7	20525	836.5	21.48	23.00	1.419	0.05	0.158	0.224
	LTE Band 5	10M	QPSK	1	0	-	Right Side	5mm	Ant2	DSI7	20525	836.5	22.36	24.00	1.459	0.05	0.182	0.266
	LTE Band 5	10M	QPSK	25	0	-	Right Side	5mm	Ant2	DSI7	20525	836.5	21.48	23.00	1.419	0.02	0.099	0.140
	LTE Band 5	10M	QPSK	1	0	-	Top Side	5mm	Ant2	DSI7	20525	836.5	22.36	24.00	1.459	0.03	0.529	0.772
	LTE Band 5 UL CA 5B	10M	QPSK	1	0	-	Top Side	5mm	Ant2	DSI7	20525+ 20453	836.5+ 829.3	22.32	24.00	1.472	0.05	0.499	0.735
	LTE Band 5	10M	QPSK	25	0	-	Top Side	5mm	Ant2	DSI7	20525	836.5	21.48	23.00	1.419	0.08	0.288	0.409
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant1	DSI7	167300	836.5	22.98	24.00	1.265	0.01	0.413	0.522
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Front	5mm	Ant1	DSI7	167300	836.5	22.94	24.00	1.276	0.02	0.377	0.481
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant1	DSI7	167300	836.5	22.98	24.00	1.265	-0.13	0.563	0.712
26	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Back	5mm	Ant1	DSI7	167300	836.5	22.94	24.00	1.276	0.09	0.602	**0.768**
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Left Side	5mm	Ant1	DSI7	167300	836.5	22.98	24.00	1.265	0.04	0.124	0.157
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Left Side	5mm	Ant1	DSI7	167300	836.5	22.94	24.00	1.276	0.04	0.114	0.146
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Right Side	5mm	Ant1	DSI7	167300	836.5	22.98	24.00	1.265	-0.03	0.192	0.243
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Right Side	5mm	Ant1	DSI7	167300	836.5	22.94	24.00	1.276	0.02	0.174	0.222
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	167300	836.5	22.98	24.00	1.265	0.06	0.524	0.663

	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	167300	836.5	22.94	24.00	1.276	-0.04	0.453	0.578
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant2	DSI7	167300	836.5	23.70	24.00	1.072	0.03	0.350	0.375
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Front	5mm	Ant2	DSI7	167300	836.5	23.42	24.00	1.143	0.04	0.307	0.351
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant2	DSI7	167300	836.5	23.70	24.00	1.072	0.02	0.279	0.299
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Back	5mm	Ant2	DSI7	167300	836.5	23.42	24.00	1.143	0.01	0.257	0.294
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Right Side	5mm	Ant2	DSI7	167300	836.5	23.70	24.00	1.072	-0.06	0.161	0.173
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Right Side	5mm	Ant2	DSI7	167300	836.5	23.42	24.00	1.143	0.11	0.198	0.226
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Top Side	5mm	Ant2	DSI7	167300	836.5	23.70	24.00	1.072	0.06	0.419	0.449
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Top Side	5mm	Ant2	DSI7	167300	836.5	23.42	24.00	1.143	0.19	0.382	0.437

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
1750MHz																		
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant1	DSI7	132322	1745	17.36	18.10	1.186	0.06	0.594	0.704
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant1	DSI7	132322	1745	17.15	18.10	1.245	0.04	0.523	0.651
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	132322	1745	17.36	18.10	1.186	-0.01	0.865	1.026
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	132072	1720	17.25	18.10	1.216	0.06	0.822	1.000
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	132572	1770	17.16	18.10	1.242	0.08	0.878	1.090
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	132322	1745	17.15	18.10	1.245	0.07	0.815	1.014
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	132072	1720	17.03	18.10	1.279	0.02	0.811	1.038
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	132572	1770	16.70	18.10	1.380	-0.11	0.756	1.044
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant1	DSI7	132322	1745	17.03	18.10	1.279	0.09	0.825	1.055
	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant1	DSI7	132322	1745	17.36	18.10	1.186	-0.04	0.049	0.058
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant1	DSI7	132322	1745	17.15	18.10	1.245	0.04	0.038	0.047
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant1	DSI7	132322	1745	17.36	18.10	1.186	-0.01	0.090	0.107
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant1	DSI7	132322	1745	17.15	18.10	1.245	0.07	0.085	0.106
27	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	132322	1745	17.36	18.10	1.186	0.04	1.040	**1.233**
	LTE Band 66 UL CA 66B	15M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	132322+ 132229	1745+ 1735.7	17.11	18.10	1.256	-0.03	0.941	1.182
	LTE Band 66 UL CA 66C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	132322+ 132124	1745+ 1725.2	17.27	18.10	1.211	0.01	0.933	1.129
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	132072	1720	17.25	18.10	1.216	0.08	0.818	0.995
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	132572	1770	17.16	18.10	1.242	0.01	0.976	1.212
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	132322	1745	17.15	18.10	1.245	0.11	0.894	1.113
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	132072	1720	17.03	18.10	1.279	-0.04	0.892	1.141
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	132572	1770	16.70	18.10	1.380	0.11	0.855	1.180
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	5mm	Ant1	DSI7	132322	1745	17.03	18.10	1.279	0.06	0.894	1.144
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant2	DSI7	132322	1745	17.41	18.50	1.285	0.08	0.473	0.608
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant2	DSI7	132322	1745	17.18	18.50	1.355	0.02	0.442	0.599
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant2	DSI7	132322	1745	17.41	18.50	1.285	0.11	0.368	0.473
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant2	DSI7	132322	1745	17.18	18.50	1.355	0.01	0.420	0.569
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant2	DSI7	132322	1745	17.41	18.50	1.285	-0.02	0.096	0.123
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant2	DSI7	132322	1745	17.18	18.50	1.355	0.01	0.087	0.118
	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant2	DSI7	132322	1745	17.41	18.50	1.285	0.05	0.760	0.977
	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant2	DSI7	132072	1720	17.09	18.50	1.384	-0.03	0.712	0.985
	LTE Band 66 UL CA 66B	15M	QPSK	1	74	-	Top Side	5mm	Ant2	DSI7	132047+ 132140	1717.5+ 1726.8	16.82	18.50	1.472	0.02	0.651	0.958
	LTE Band 66 UL CA 66C	20M	QPSK	1	99	-	Top Side	5mm	Ant2	DSI7	132072+ 132270	1720+ 1739.8	17.03	18.50	1.403	-0.01	0.636	0.892
	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant2	DSI7	132572	1770	17.24	18.50	1.337	-0.17	0.673	0.900
	LTE Band 66	20M	QPSK	50	0	-	Top Side	5mm	Ant2	DSI7	132322	1745	17.18	18.50	1.355	0.01	0.684	0.927
	LTE Band 66	20M	QPSK	50	0	-	Top Side	5mm	Ant2	DSI7	132072	1720	17.01	18.50	1.409	0.03	0.622	0.877
	LTE Band 66	20M	QPSK	50	0	-	Top Side	5mm	Ant2	DSI7	132572	1770	16.95	18.50	1.429	0.01	0.643	0.919
	LTE Band 66	20M	QPSK	100	0	-	Top Side	5mm	Ant2	DSI7	132322	1745	17.23	18.50	1.340	0.02	0.621	0.832
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant1	DSI7	349000	1745	17.56	18.70	1.300	0.08	0.482	0.627
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Front	5mm	Ant1	DSI7	349000	1745	17.49	18.70	1.321	0.06	0.533	0.704
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant1	DSI7	349000	1745	17.56	18.70	1.300	0.01	0.793	1.031
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Back	5mm	Ant1	DSI7	349000	1745	17.49	18.70	1.321	0.03	0.767	1.013

	FR1 n66	40M	QPSK	216	0	DFT-15KHz	Back	5mm	Ant1	DSI7	349000	1745	17.38	18.70	1.355	-0.11	0.752	1.019
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Left Side	5mm	Ant1	DSI7	349000	1745	17.56	18.70	1.300	0.05	0.040	0.052
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Left Side	5mm	Ant1	DSI7	349000	1745	17.49	18.70	1.321	0.06	0.034	0.045
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Right Side	5mm	Ant1	DSI7	349000	1745	17.56	18.70	1.300	0.12	0.082	0.107
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Right Side	5mm	Ant1	DSI7	349000	1745	17.49	18.70	1.321	0.03	0.086	0.114
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	349000	1745	17.56	18.70	1.300	0.01	0.898	1.168
28	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	349000	1745	17.49	18.70	1.321	0.02	0.945	**1.249**
	FR1 n66	40M	QPSK	216	0	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	349000	1745	17.38	18.70	1.355	-0.07	0.844	1.144
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant2	DSI7	349000	1745	17.28	18.30	1.265	0.04	0.408	0.516
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Front	5mm	Ant2	DSI7	349000	1745	17.11	18.30	1.315	-0.06	0.366	0.481
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant2	DSI7	349000	1745	17.28	18.30	1.265	0.02	0.515	0.651
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Back	5mm	Ant2	DSI7	349000	1745	17.11	18.30	1.315	0.03	0.359	0.472
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Right Side	5mm	Ant2	DSI7	349000	1745	17.28	18.30	1.265	-0.03	0.157	0.199
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Right Side	5mm	Ant2	DSI7	349000	1745	17.11	18.30	1.315	0.03	0.114	0.150
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Top Side	5mm	Ant2	DSI7	349000	1745	17.28	18.30	1.265	-0.02	0.770	0.974
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Top Side	5mm	Ant2	DSI7	349000	1745	17.11	18.30	1.315	0.01	0.684	0.900
	FR1 n66	40M	QPSK	216	0	DFT-15KHz	Top Side	5mm	Ant2	DSI7	349000	1745	17.01	18.30	1.346	-0.12	0.633	0.852

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
1900MHz																		
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant1	DSI7	661	1880	20.04	21.30	1.337	0.01	0.428	0.572
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant1	DSI7	661	1880	20.04	21.30	1.337	0.06	0.689	0.921
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant1	DSI7	512	1850.2	19.99	21.30	1.352	-0.18	0.694	0.938
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant1	DSI7	810	1909.8	19.96	21.30	1.361	0.03	0.593	0.807
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Side	5mm	Ant1	DSI7	661	1880	20.04	21.30	1.337	0.08	0.044	0.059
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Side	5mm	Ant1	DSI7	661	1880	20.04	21.30	1.337	0.06	0.049	0.065
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Bottom Side	5mm	Ant1	DSI7	661	1880	20.04	21.30	1.337	0.09	0.899	1.202
29	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Bottom Side	5mm	Ant1	DSI7	512	1850.2	19.99	21.30	1.352	-0.08	0.919	**1.243**
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Bottom Side	5mm	Ant1	DSI7	810	1909.8	19.96	21.30	1.361	0.08	0.741	1.009
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant2	DSI7	661	1880	22.78	23.10	1.076	0.02	0.365	0.393
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant2	DSI7	661	1880	22.78	23.10	1.076	0.01	0.337	0.363
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Side	5mm	Ant2	DSI7	661	1880	22.78	23.10	1.076	0.04	0.065	0.070
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Top Side	5mm	Ant2	DSI7	661	1880	22.78	23.10	1.076	0.05	0.831	0.895
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Top Side	5mm	Ant2	DSI7	512	1850.2	22.67	23.10	1.104	0.04	0.858	0.947
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Top Side	5mm	Ant2	DSI7	810	1909.8	22.65	23.10	1.109	0.03	0.896	0.994
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant1	DSI7	9400	1880	15.76	17.30	1.426	0.03	0.363	0.517
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI7	9400	1880	15.76	17.30	1.426	0.03	0.617	0.880
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI7	9262	1852.4	15.67	17.30	1.455	-0.11	0.557	0.811
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI7	9538	1907.6	15.71	17.30	1.442	0.09	0.574	0.828
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant1	DSI7	9400	1880	15.76	17.30	1.426	0.03	0.043	0.061
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant1	DSI7	9400	1880	15.76	17.30	1.426	0.05	0.043	0.061
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant1	DSI7	9400	1880	15.76	17.30	1.426	0.01	0.851	1.213
30	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant1	DSI7	9262	1852.4	15.67	17.30	1.455	0.06	0.855	**1.244**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant1	DSI7	9538	1907.6	15.71	17.30	1.442	0.05	0.742	1.070
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant2	DSI7	9400	1880	15.78	16.50	1.180	-0.09	0.310	0.366
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant2	DSI7	9400	1880	15.78	16.50	1.180	0.08	0.300	0.354
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant2	DSI7	9400	1880	15.78	16.50	1.180	0.08	0.069	0.081
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant2	DSI7	9400	1880	15.78	16.50	1.180	-0.01	0.763	0.901
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant2	DSI7	9262	1852.4	15.77	16.50	1.183	0.03	0.830	0.982
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant2	DSI7	9538	1907.6	15.68	16.50	1.208	-0.09	0.750	0.906
	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant1	DSI7	18900	1880	16.02	16.90	1.225	-0.02	0.417	0.511
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant1	DSI7	18900	1880	15.92	16.90	1.253	0.07	0.347	0.435
	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	18900	1880	16.02	16.90	1.225	0.12	0.677	0.829
	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	18700	1860	15.95	16.90	1.245	0.01	0.743	0.925
	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	19100	1900	15.99	16.90	1.233	-0.06	0.635	0.783
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	18900	1880	15.92	16.90	1.253	0.08	0.720	0.902
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	18700	1860	15.72	16.90	1.312	0.11	0.671	0.880
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	19100	1900	15.67	16.90	1.327	-0.03	0.649	0.861
	LTE Band 2	20M	QPSK	100	0	-	Back	5mm	Ant1	DSI7	18900	1880	15.77	16.90	1.297	-0.13	0.677	0.878
	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant1	DSI7	18900	1880	16.02	16.90	1.225	0.06	0.053	0.065
	LTE Band 2	20M	QPSK	50	0	-	Left Side	5mm	Ant1	DSI7	18900	1880	15.92	16.90	1.253	0.05	0.050	0.063
	LTE Band 2	20M	QPSK	1	0	-	Right Side	5mm	Ant1	DSI7	18900	1880	16.02	16.90	1.225	0.03	0.053	0.065
	LTE Band 2	20M	QPSK	50	0	-	Right Side	5mm	Ant1	DSI7	18900	1880	15.92	16.90	1.253	-0.02	0.048	0.060
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	18900	1880	16.02	16.90	1.225	0.07	0.937	1.147
31	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	18700	1860	15.95	16.90	1.245	0.01	1.010	**1.257**
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	19100	1900	15.99	16.90	1.233	0.12	0.941	1.160
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	18900	1880	15.92	16.90	1.253	0.01	0.954	1.195
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	18700	1860	15.72	16.90	1.312	0.12	0.934	1.226
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	19100	1900	15.67	16.90	1.327	0.09	0.929	1.233
	LTE Band 2	20M	QPSK	100	0	-	Bottom Side	5mm	Ant1	DSI7	18900	1880	15.77	16.90	1.297	0.06	0.933	1.210
	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant2	DSI7	18900	1880	17.49	18.40	1.233	0.07	0.426	0.525
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant2	DSI7	18900	1880	17.46	18.40	1.242	-0.01	0.400	0.497

	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant2	DSI7	18900	1880	17.49	18.40	1.233	0.15	0.426	0.525
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant2	DSI7	18900	1880	17.46	18.40	1.242	0.08	0.398	0.494
	LTE Band 2	20M	QPSK	1	0	-	Right Side	5mm	Ant2	DSI7	18900	1880	17.49	18.40	1.233	0.05	0.103	0.127
	LTE Band 2	20M	QPSK	50	0	-	Right Side	5mm	Ant2	DSI7	18900	1880	17.46	18.40	1.242	0.03	0.088	0.109
	LTE Band 2	20M	QPSK	1	0	-	Top Side	5mm	Ant2	DSI7	18900	1880	17.49	18.40	1.233	0.08	0.683	0.842
	LTE Band 2	20M	QPSK	1	0	-	Top Side	5mm	Ant2	DSI7	18700	1860	17.12	18.40	1.343	0.04	0.731	0.982
	LTE Band 2	20M	QPSK	1	0	-	Top Side	5mm	Ant2	DSI7	19100	1900	17.32	18.40	1.282	0.12	0.700	0.898
	LTE Band 2	20M	QPSK	50	0	-	Top Side	5mm	Ant2	DSI7	18900	1880	17.46	18.40	1.242	0.09	0.729	0.905
	LTE Band 2	20M	QPSK	50	0	-	Top Side	5mm	Ant2	DSI7	18700	1860	17.41	18.40	1.256	0.04	0.603	0.757
	LTE Band 2	20M	QPSK	50	0	-	Top Side	5mm	Ant2	DSI7	19100	1900	17.46	18.40	1.242	0.01	0.729	0.905
	LTE Band 2	20M	QPSK	100	0	-	Top Side	5mm	Ant2	DSI7	18900	1880	17.28	18.40	1.294	-0.11	0.726	0.940
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant1	DSI7	376000	1880	15.21	15.90	1.172	0.04	0.463	0.543
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Front	5mm	Ant1	DSI7	376000	1880	15.26	15.90	1.159	0.11	0.388	0.450
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant1	DSI7	376000	1880	15.21	15.90	1.172	-0.01	0.510	0.598
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Back	5mm	Ant1	DSI7	376000	1880	15.26	15.90	1.159	0.01	0.502	0.582
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Left Side	5mm	Ant1	DSI7	376000	1880	15.21	15.90	1.172	-0.06	0.048	0.056
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Left Side	5mm	Ant1	DSI7	376000	1880	15.26	15.90	1.159	0.08	0.044	0.051
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Right Side	5mm	Ant1	DSI7	376000	1880	15.21	15.90	1.172	0.16	0.057	0.067
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Right Side	5mm	Ant1	DSI7	376000	1880	15.26	15.90	1.159	-0.13	0.051	0.059
32	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	376000	1880	15.21	15.90	1.172	0.08	1.050	**1.231**
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	372000	1860	15.13	15.90	1.194	-0.11	0.977	1.167
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	380000	1900	14.89	15.90	1.262	0.02	0.954	1.204
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	376000	1880	15.26	15.90	1.159	0.04	0.923	1.070
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	372000	1860	15.15	15.90	1.189	0.01	0.911	1.083
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	380000	1900	14.96	15.90	1.242	0.11	0.884	1.098
	FR1 n2	20M	QPSK	100	0	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	376000	1880	15.08	15.90	1.208	0.08	0.872	1.053
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant2	DSI7	376000	1880	16.84	17.60	1.191	0.05	0.318	0.379
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Front	5mm	Ant2	DSI7	376000	1880	16.72	17.60	1.225	0.01	0.316	0.387
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant2	DSI7	376000	1880	16.84	17.60	1.191	0.05	0.380	0.453
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Back	5mm	Ant2	DSI7	376000	1880	16.72	17.60	1.225	-0.03	0.315	0.386
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Right Side	5mm	Ant2	DSI7	376000	1880	16.84	17.60	1.191	0.16	0.064	0.076
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Right Side	5mm	Ant2	DSI7	376000	1880	16.72	17.60	1.225	-0.13	0.074	0.091
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Top Side	5mm	Ant2	DSI7	376000	1880	16.84	17.60	1.191	0.09	0.717	0.854
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Top Side	5mm	Ant2	DSI7	372000	1860	16.63	17.60	1.250	-0.06	0.730	0.913
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Top Side	5mm	Ant2	DSI7	380000	1900	16.71	17.60	1.227	0.09	0.668	0.820
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Top Side	5mm	Ant2	DSI7	376000	1880	16.72	17.60	1.225	0.08	0.714	0.874
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Top Side	5mm	Ant2	DSI7	372000	1860	16.35	17.60	1.334	0.01	0.734	0.979
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Top Side	5mm	Ant2	DSI7	380000	1900	16.40	17.60	1.318	0.01	0.709	0.935
	FR1 n2	20M	QPSK	100	0	DFT-15KHz	Top Side	5mm	Ant2	DSI7	376000	1880	16.58	17.60	1.265	0.06	0.717	0.907

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant1	DSI7	21100	2535	15.60	16.90	1.349	-	1.000	0.17	0.305	0.411
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant1	DSI7	21100	2535	15.51	16.90	1.377	-	1.000	-0.01	0.219	0.302
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	21100	2535	15.60	16.90	1.349	-	1.000	0.03	0.710	0.958
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	20850	2510	15.46	16.90	1.393	-	1.000	0.05	0.747	1.041
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI7	21350	2560	15.45	16.90	1.396	-	1.000	0.02	0.797	1.113
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	21100	2535	15.51	16.90	1.377	-	1.000	0.03	0.739	1.018
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	20850	2510	15.31	16.90	1.442	-	1.000	-0.11	0.726	1.047
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI7	21350	2560	15.27	16.90	1.455	-	1.000	0.07	0.703	1.023
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant1	DSI7	21100	2535	15.45	16.90	1.396	-	1.000	0.01	0.725	1.012
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant1	DSI7	21100	2535	15.60	16.90	1.349	-	1.000	0.05	0.011	0.015
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant1	DSI7	21100	2535	15.51	16.90	1.377	-	1.000	-0.01	0.010	0.014
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant1	DSI7	21100	2535	15.60	16.90	1.349	-	1.000	-0.03	0.128	0.173
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant1	DSI7	21100	2535	15.51	16.90	1.377	-	1.000	0.03	0.109	0.150
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	21100	2535	15.60	16.90	1.349	-	1.000	0.01	0.808	1.090
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	20850	2510	15.46	16.90	1.393	-	1.000	-0.09	0.806	1.123
33	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	21350	2560	15.45	16.90	1.396	-	1.000	0.06	0.888	**1.240**
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	21100	2535	15.51	16.90	1.377	-	1.000	0.03	0.812	1.118
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	20850	2510	15.31	16.90	1.442	-	1.000	0.01	0.811	1.170
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant1	DSI7	21350	2560	15.27	16.90	1.455	-	1.000	0.03	0.823	1.198
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	5mm	Ant1	DSI7	21100	2535	15.45	16.90	1.396	-	1.000	-0.09	0.811	1.132
3500MHz																				
	LTE Band 48	20M	QPSK	1	0	-	Front	5mm	Ant4	DSI7	56150	3641	19.70	20.50	1.202	62.9	1.006	0.05	0.102	0.123
	LTE Band 48	20M	QPSK	50	0	-	Front	5mm	Ant4	DSI7	56150	3641	19.67	20.50	1.211	62.9	1.006	-0.03	0.127	0.155
	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI7	56150	3641	19.70	20.50	1.202	62.9	1.006	0.04	0.631	0.763
34	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI7	55340	3560	19.63	20.50	1.222	62.9	1.006	-0.09	0.803	**0.987**
	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI7	55830	3609	19.65	20.50	1.216	62.9	1.006	0.01	0.796	0.974
	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI7	56640	3690	19.53	20.50	1.250	62.9	1.006	0.06	0.529	0.665
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant4	DSI7	56150	3641	19.67	20.50	1.211	62.9	1.006	0.03	0.650	0.792
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant4	DSI7	55340	3560	19.56	20.50	1.242	62.9	1.006	0.05	0.710	0.887
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant4	DSI7	55830	3609	19.60	20.50	1.230	62.9	1.006	0.02	0.718	0.889
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant4	DSI7	56640	3690	19.56	20.50	1.242	62.9	1.006	0.03	0.531	0.663
	LTE Band 48	20M	QPSK	100	0	-	Back	5mm	Ant4	DSI7	56150	3641	19.41	20.50	1.285	62.9	1.006	-0.01	0.645	0.834
	LTE Band 48	20M	QPSK	1	0	-	Left Side	5mm	Ant4	DSI7	56150	3641	19.70	20.50	1.202	62.9	1.006	0.02	0.616	0.745
	LTE Band 48	20M	QPSK	1	0	-	Left Side	5mm	Ant4	DSI7	55340	3560	19.63	20.50	1.222	62.9	1.006	0.06	0.679	0.835
	LTE Band 48	20M	QPSK	1	0	-	Left Side	5mm	Ant4	DSI7	55830	3609	19.65	20.50	1.216	62.9	1.006	0.01	0.665	0.814
	LTE Band 48	20M	QPSK	1	0	-	Left Side	5mm	Ant4	DSI7	56640	3690	19.53	20.50	1.250	62.9	1.006	-0.04	0.529	0.665
	LTE Band 48	20M	QPSK	50	0	-	Left Side	5mm	Ant4	DSI7	56150	3641	19.67	20.50	1.211	62.9	1.006	-0.03	0.592	0.721
	LTE Band 48	20M	QPSK	50	0	-	Left Side	5mm	Ant4	DSI7	55340	3560	19.56	20.50	1.242	62.9	1.006	0.15	0.631	0.788
	LTE Band 48	20M	QPSK	50	0	-	Left Side	5mm	Ant4	DSI7	55830	3609	19.60	20.50	1.230	62.9	1.006	0.03	0.597	0.739
	LTE Band 48	20M	QPSK	50	0	-	Left Side	5mm	Ant4	DSI7	56640	3690	19.56	20.50	1.242	62.9	1.006	0.08	0.505	0.631
	LTE Band 48	20M	QPSK	100	0	-	Left Side	5mm	Ant4	DSI7	56150	3641	19.41	20.50	1.285	62.9	1.006	-0.03	0.592	0.765
	LTE Band 48	20M	QPSK	1	0	-	Top Side	5mm	Ant4	DSI7	56150	3641	19.70	20.50	1.202	62.9	1.006	0.02	0.208	0.252
	LTE Band 48	20M	QPSK	50	0	-	Top Side	5mm	Ant4	DSI7	56150	3641	19.67	20.50	1.211	62.9	1.006	0.09	0.200	0.244
3900MHz																				
	FR1 n77-PC2 &3	100M	QPSK	1	1	DFT-30KHz	Front	5mm	Ant4	DSI7	656000	3840	16.78	17.80	1.265	-	1.000	-0.05	0.251	0.317
	FR1 n77-PC2 &3	100M	QPSK	135	69	DFT-30KHz	Front	5mm	Ant4	DSI7	656000	3840	16.78	17.80	1.265	-	1.000	0.01	0.212	0.268
	FR1 n77-PC2 &3	100M	QPSK	1	1	DFT-30KHz	Back	5mm	Ant4	DSI7	656000	3840	16.78	17.80	1.265	-	1.000	0.03	0.712	0.900
	FR1 n77-PC2 &3	100M	QPSK	135	69	DFT-30KHz	Back	5mm	Ant4	DSI7	656000	3840	16.78	17.80	1.265	-	1.000	0.12	0.678	0.857
	FR1 n77-PC2 &3	100M	QPSK	270	0	DFT-30KHz	Back	5mm	Ant4	DSI7	656000	3840	16.75	17.80	1.274	-	1.000	0.11	0.667	0.849
	FR1 n77-PC2 &3	100M	QPSK	1	1	DFT-30KHz	Left Side	5mm	Ant4	DSI7	656000	3840	16.78	17.80	1.265	-	1.000	0.07	0.773	0.978
35	FR1 n77-PC2 &3	100M	QPSK	135	69	DFT-30KHz	Left Side	5mm	Ant4	DSI7	656000	3840	16.78	17.80	1.265	-	1.000	0.02	0.784	**0.992**
	FR1 n77-PC2 &3	100M	QPSK	270	0	DFT-30KHz	Left Side	5mm	Ant4	DSI7	656000	3840	16.75	17.80	1.274	-	1.000	0.01	0.683	0.870
	FR1 n77-PC2 &3	100M	QPSK	1	1	DFT-30KHz	Top Side	5mm	Ant4	DSI7	656000	3840	16.78	17.80	1.265	-	1.000	0.01	0.062	0.078
	FR1 n77-PC2 &3	100M	QPSK	135	69	DFT-30KHz	Top Side	5mm	Ant4	DSI7	656000	3840	16.78	17.80	1.265	-	1.000	-0.03	0.078	0.099

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	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)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+6	Simultaneous	1	2412	17.45	18.50	1.274	100	1	-0.09	0.091	0.116
36	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+6	Simultaneous	1	2412	17.45	18.50	1.274	100	1	-0.02	0.300	**0.382**
	WLAN2.4GHz	802.11b 1Mbps	Left Side	5mm	Ant 3+6	Simultaneous	1	2412	17.45	18.50	1.274	100	1	-0.09	0.062	0.079
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 3+6	Simultaneous	1	2412	17.45	18.50	1.274	100	1	0.11	0.108	0.138
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 3+6	Simultaneous	1	2412	17.45	18.50	1.274	100	1	0.07	0.200	0.255
37	Bluetooth	1Mbps	Back	5mm	Ant 3	Simultaneous	78	2480	14.41	15.00	1.146	77.02	1.298	0.18	0.019	**0.028**
5000MHz																
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+6	Simultaneous	42	5210	9.38	10.50	1.294	93.35	1.071	-0.11	0.029	0.040
38	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Simultaneous	42	5210	9.38	10.50	1.294	93.35	1.071	0.03	0.201	**0.279**
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 5+6	Simultaneous	42	5210	9.38	10.50	1.294	93.35	1.071	0.06	0.030	0.042
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 5+6	Simultaneous	42	5210	9.38	10.50	1.294	93.35	1.071	0.09	0.036	0.049
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5+6	Simultaneous	42	5210	9.38	10.50	1.294	93.35	1.071	0.11	0.031	0.043
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+6	Simultaneous	155	5775	8.45	9.50	1.274	93.35	1.071	0.02	0.069	0.094
39	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Simultaneous	155	5775	8.45	9.50	1.274	93.35	1.071	0.09	0.178	**0.243**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 5+6	Simultaneous	155	5775	8.45	9.50	1.274	93.35	1.071	-0.11	0.048	0.065
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 5+6	Simultaneous	155	5775	8.45	9.50	1.274	93.35	1.071	0.12	0.078	0.106
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5+6	Simultaneous	155	5775	8.45	9.50	1.274	93.35	1.071	-0.04	0.042	0.057

16.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
750MHz																		
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant1	DSI3	23095	707.5	23.07	24.00	1.239	0.07	0.192	0.238
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant1	DSI3	23095	707.5	21.94	23.00	1.276	0.16	0.120	0.153
40	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	23095	707.5	23.07	24.00	1.239	-0.06	0.317	**0.393**
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant1	DSI3	23095	707.5	21.94	23.00	1.276	0.09	0.214	0.273
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant2	DSI3	23095	707.5	22.69	24.00	1.352	-0.05	0.251	0.339
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant2	DSI3	23095	707.5	21.73	23.00	1.340	0.1	0.137	0.184
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant2	DSI3	23095	707.5	22.69	24.00	1.352	0.04	0.271	0.366
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant2	DSI3	23095	707.5	21.73	23.00	1.340	0.06	0.162	0.217
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant1	DSI3	23230	782	23.28	24.00	1.180	0.04	0.390	0.460
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant1	DSI3	23230	782	22.12	23.00	1.225	-0.16	0.301	0.369
41	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	23230	782	23.28	24.00	1.180	0.08	0.509	**0.601**
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant1	DSI3	23230	782	22.12	23.00	1.225	-0.01	0.424	0.519
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant2	DSI3	23230	782	22.99	24.00	1.262	0.06	0.105	0.132
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant2	DSI3	23230	782	22.06	23.00	1.242	0.11	0.044	0.055
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant2	DSI3	23230	782	22.99	24.00	1.262	0.11	0.097	0.122
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant2	DSI3	23230	782	22.06	23.00	1.242	0.06	0.054	0.067
850MHz																		
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant1	DSI3	189	836.4	28.64	29.50	1.219	0.08	0.315	0.384
42	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant1	DSI3	189	836.4	28.64	29.50	1.219	-0.15	0.488	**0.595**
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant2	DSI3	189	836.4	28.77	29.50	1.183	0.06	0.296	0.350
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant2	DSI3	189	836.4	28.77	29.50	1.183	0.04	0.293	0.347
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant1	DSI3	4182	836.4	23.75	25.00	1.334	0.02	0.551	0.735
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI3	4182	836.4	23.75	25.00	1.334	0.02	0.655	0.873
43	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI3	4132	826.4	23.71	25.00	1.346	-0.08	0.781	**1.051**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI3	4233	846.6	23.65	25.00	1.365	0.11	0.730	0.996
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant2	DSI3	4182	836.4	22.79	24.00	1.321	0.06	0.308	0.407
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant2	DSI3	4182	836.4	22.79	24.00	1.321	0.05	0.219	0.289
	LTE Band 5	10M	QPSK	1	0	-	Front	5mm	Ant1	DSI3	20525	836.5	22.90	24.00	1.288	0.06	0.564	0.727
	LTE Band 5	10M	QPSK	25	0	-	Front	5mm	Ant1	DSI3	20525	836.5	21.86	23.00	1.300	0.08	0.360	0.468
44	LTE Band 5	10M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	20525	836.5	22.90	24.00	1.288	0.04	0.713	**0.919**
	LTE Band 5 UL CA 5B	10M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	20525+ 20453	836.5+ 829.3	22.67	24.00	1.358	0.03	0.660	0.896
	LTE Band 5	10M	QPSK	25	0	-	Back	5mm	Ant1	DSI3	20525	836.5	21.86	23.00	1.300	0.09	0.469	0.610
	LTE Band 5	10M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	20525	836.5	21.79	23.00	1.321	-0.11	0.511	0.675
	LTE Band 5	10M	QPSK	1	0	-	Front	5mm	Ant2	DSI3	20525	836.5	22.36	24.00	1.459	0.06	0.310	0.452
	LTE Band 5 UL CA 5B	10M	QPSK	1	0	-	Front	5mm	Ant2	DSI3	20525+ 20453	836.5+ 829.3	22.32	24.00	1.472	0.03	0.266	0.392
	LTE Band 5	10M	QPSK	25	0	-	Front	5mm	Ant2	DSI3	20525	836.5	21.48	23.00	1.419	0.04	0.161	0.228
	LTE Band 5	10M	QPSK	1	0	-	Back	5mm	Ant2	DSI3	20525	836.5	22.36	24.00	1.459	-0.01	0.281	0.410
	LTE Band 5	10M	QPSK	25	0	-	Back	5mm	Ant2	DSI3	20525	836.5	21.48	23.00	1.419	0.05	0.158	0.224
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant1	DSI3	167300	836.5	22.98	24.00	1.265	0.01	0.413	0.522
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Front	5mm	Ant1	DSI3	167300	836.5	22.94	24.00	1.276	0.02	0.377	0.481
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant1	DSI3	167300	836.5	22.98	24.00	1.265	-0.13	0.563	0.712
45	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Back	5mm	Ant1	DSI3	167300	836.5	22.94	24.00	1.276	0.09	0.602	**0.768**
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant2	DSI3	167300	836.5	23.70	24.00	1.072	0.03	0.350	0.375
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Front	5mm	Ant2	DSI3	167300	836.5	23.42	24.00	1.143	0.04	0.307	0.351
	FR1 n5	20M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant2	DSI3	167300	836.5	23.70	24.00	1.072	0.02	0.279	0.299
	FR1 n5	20M	QPSK	50	28	DFT-15KHz	Back	5mm	Ant2	DSI3	167300	836.5	23.42	24.00	1.143	0.01	0.257	0.294

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
1750MHz																		
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant1	DSI3	132322	1745	17.36	18.10	1.186	0.06	0.594	0.704
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant1	DSI3	132322	1745	17.15	18.10	1.245	0.04	0.523	0.651
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	132322	1745	17.36	18.10	1.186	-0.01	0.865	1.026
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	132072	1720	17.25	18.10	1.216	0.06	0.822	1.000
46	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	132572	1770	17.16	18.10	1.242	0.08	0.878	**1.090**
	LTE Band 66 UL CA 66B	15M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	132597+ 132504	1772.5+ 1763.2	17.13	18.10	1.250	-0.06	0.791	0.989
	LTE Band 66 UL CA 66C	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	132572+ 132374	1770+ 1750.2	17.33	18.10	1.194	0.01	0.815	0.973
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	132322	1745	17.15	18.10	1.245	0.07	0.815	1.014
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	132072	1720	17.03	18.10	1.279	0.02	0.811	1.038
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	132572	1770	16.70	18.10	1.380	-0.11	0.756	1.044
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant1	DSI3	132322	1745	17.03	18.10	1.279	0.09	0.825	1.055
	LTE Band 66	20M	QPSK	1	0	-	Front	18mm	Ant1	DSI4	132322	1745	23.35	24.00	1.161	0.09	0.351	0.408
	LTE Band 66	20M	QPSK	1	0	-	Back	24mm	Ant1	DSI4	132322	1745	23.35	24.00	1.161	-0.13	0.315	0.366
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant2	DSI3	132322	1745	17.41	18.50	1.285	0.08	0.473	0.608
	LTE Band 66 UL CA 66B	15M	QPSK	1	0	-	Front	5mm	Ant2	DSI3	132322+ 132229	1745+ 1735.7	16.86	18.50	1.459	-0.02	0.363	0.530
	LTE Band 66 UL CA 66C	20M	QPSK	1	0	-	Front	5mm	Ant2	DSI3	132322+ 132124	1745+ 1725.2	17.20	18.50	1.349	0.05	0.441	0.595
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant2	DSI3	132322	1745	17.18	18.50	1.355	0.02	0.442	0.599
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant2	DSI3	132322	1745	17.41	18.50	1.285	0.11	0.368	0.473
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant2	DSI3	132322	1745	17.18	18.50	1.355	0.01	0.420	0.569
	LTE Band 66	20M	QPSK	1	0	-	Front	18mm	Ant2	DSI4	132322	1745	22.06	23.00	1.242	-0.02	0.246	0.305
	LTE Band 66	20M	QPSK	1	0	-	Back	24mm	Ant2	DSI4	132322	1745	22.06	23.00	1.242	-0.03	0.160	0.199
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant1	DSI3	349000	1745	17.56	18.70	1.300	0.08	0.482	0.627
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Front	5mm	Ant1	DSI3	349000	1745	17.49	18.70	1.321	0.06	0.533	0.704
47	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant1	DSI3	349000	1745	17.56	18.70	1.300	0.01	0.793	**1.031**
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Back	5mm	Ant1	DSI3	349000	1745	17.49	18.70	1.321	0.03	0.767	1.013
	FR1 n66	40M	QPSK	216	0	DFT-15KHz	Back	5mm	Ant1	DSI3	349000	1745	17.38	18.70	1.355	-0.11	0.752	1.019
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Front	18mm	Ant1	DSI4	349000	1745	23.83	24.00	1.040	0.03	0.283	0.294
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	24mm	Ant1	DSI4	349000	1745	23.83	24.00	1.040	0.08	0.332	0.345
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant2	DSI3	349000	1745	17.28	18.30	1.265	0.04	0.408	0.516
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Front	5mm	Ant2	DSI3	349000	1745	17.11	18.30	1.315	-0.06	0.366	0.481
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant2	DSI3	349000	1745	17.28	18.30	1.265	0.02	0.515	0.651
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Back	5mm	Ant2	DSI3	349000	1745	17.11	18.30	1.315	0.03	0.359	0.472
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Front	18mm	Ant2	DSI4	349000	1745	23.88	24.00	1.028	0.01	0.238	0.245
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	24mm	Ant2	DSI4	349000	1745	23.88	24.00	1.028	0.03	0.135	0.139

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
1900MHz																		
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant1	DSI3	661	1880	20.04	21.30	1.337	0.01	0.428	0.572
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant1	DSI3	661	1880	20.04	21.30	1.337	0.06	0.689	0.921
48	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant1	DSI3	512	1850.2	19.99	21.30	1.352	-0.18	0.694	**0.938**
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant1	DSI3	810	1909.8	19.96	21.30	1.361	0.03	0.593	0.807
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	18mm	Ant1	DSI4	661	1880	25.86	26.50	1.159	0.13	0.434	0.503
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	24mm	Ant1	DSI4	661	1880	25.86	26.50	1.159	0.03	0.444	0.514
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	5mm	Ant2	DSI3	661	1880	22.78	23.10	1.076	0.02	0.365	0.393
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	5mm	Ant2	DSI3	661	1880	22.78	23.10	1.076	0.01	0.337	0.363
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	18mm	Ant2	DSI4	661	1880	24.76	26.00	1.330	0.01	0.056	0.075
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	24mm	Ant2	DSI4	661	1880	24.76	26.00	1.330	0.06	0.039	0.052
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant1	DSI3	9400	1880	15.76	17.30	1.426	0.03	0.363	0.517
49	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI3	9400	1880	15.76	17.30	1.426	0.03	0.617	**0.880**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI3	9262	1852.4	15.67	17.30	1.455	-0.11	0.557	0.811
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant1	DSI3	9538	1907.6	15.71	17.30	1.442	0.09	0.574	0.828
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	18mm	Ant1	DSI4	9400	1880	24.58	25.00	1.102	0.08	0.379	0.417
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	24mm	Ant1	DSI4	9400	1880	24.58	25.00	1.102	0.09	0.438	0.482
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant2	DSI3	9400	1880	15.78	16.50	1.180	-0.09	0.310	0.366
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant2	DSI3	9400	1880	15.78	16.50	1.180	0.08	0.300	0.354
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	18mm	Ant2	DSI4	9400	1880	22.72	24.00	1.343	-0.11	0.160	0.215
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	24mm	Ant2	DSI4	9400	1880	22.72	24.00	1.343	0.05	0.128	0.172
	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant1	DSI3	18900	1880	16.02	16.90	1.225	-0.02	0.417	0.511
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant1	DSI3	18900	1880	15.92	16.90	1.253	0.07	0.347	0.435
	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	18900	1880	16.02	16.90	1.225	0.12	0.677	0.829
50	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	18700	1860	15.95	16.90	1.245	0.01	0.743	**0.925**
	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	19100	1900	15.99	16.90	1.233	-0.06	0.635	0.783
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	18900	1880	15.92	16.90	1.253	0.08	0.720	0.902
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	18700	1860	15.72	16.90	1.312	0.11	0.671	0.880
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	19100	1900	15.67	16.90	1.327	-0.03	0.649	0.861
	LTE Band 2	20M	QPSK	100	0	-	Back	5mm	Ant1	DSI3	18900	1880	15.77	16.90	1.297	-0.13	0.677	0.878
	LTE Band 2	20M	QPSK	1	0	-	Front	18mm	Ant1	DSI4	18900	1880	23.51	24.00	1.119	-0.01	0.322	0.360
	LTE Band 2	20M	QPSK	1	0	-	Back	24mm	Ant1	DSI4	18900	1880	23.51	24.00	1.119	0.05	0.366	0.410
	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant2	DSI3	18900	1880	17.49	18.40	1.233	0.07	0.426	0.525
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant2	DSI3	18900	1880	17.46	18.40	1.242	-0.01	0.400	0.497
	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant2	DSI3	18900	1880	17.49	18.40	1.233	0.15	0.426	0.525
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant2	DSI3	18900	1880	17.46	18.40	1.242	0.08	0.398	0.494
	LTE Band 2	20M	QPSK	1	0	-	Front	18mm	Ant2	DSI4	18900	1880	21.89	23.00	1.291	0.07	0.166	0.214
	LTE Band 2	20M	QPSK	1	0	-	Back	24mm	Ant2	DSI4	18900	1880	21.89	23.00	1.291	0.08	0.107	0.138
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant1	DSI3	376000	1880	15.21	15.90	1.172	0.04	0.463	0.543
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Front	5mm	Ant1	DSI3	376000	1880	15.26	15.90	1.159	0.11	0.388	0.450
51	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant1	DSI3	376000	1880	15.21	15.90	1.172	-0.01	0.510	**0.598**
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Back	5mm	Ant1	DSI3	376000	1880	15.26	15.90	1.159	0.01	0.502	0.582
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	18mm	Ant1	DSI4	376000	1880	23.70	24.00	1.072	0.03	0.139	0.149
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	24mm	Ant1	DSI4	376000	1880	23.70	24.00	1.072	0.02	0.124	0.133
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	5mm	Ant2	DSI3	376000	1880	16.84	17.60	1.191	0.05	0.318	0.379
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Front	5mm	Ant2	DSI3	376000	1880	16.72	17.60	1.225	0.01	0.316	0.387
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	5mm	Ant2	DSI3	376000	1880	16.84	17.60	1.191	0.05	0.380	0.453
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Back	5mm	Ant2	DSI3	376000	1880	16.72	17.60	1.225	-0.03	0.315	0.386
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	18mm	Ant2	DSI4	376000	1880	23.77	24.00	1.054	0.05	0.116	0.122
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	24mm	Ant2	DSI4	376000	1880	23.77	24.00	1.054	0.02	0.079	0.083

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant1	DSI3	21100	2535	15.60	16.90	1.349	-	1.000	0.17	0.305	0.411
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant1	DSI3	21100	2535	15.51	16.90	1.377	-	1.000	-0.01	0.219	0.302
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	21100	2535	15.60	16.90	1.349	-	1.000	0.03	0.710	0.958
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	20850	2510	15.46	16.90	1.393	-	1.000	0.05	0.747	1.041
52	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant1	DSI3	21350	2560	15.45	16.90	1.396	-	1.000	0.02	0.797	**1.113**
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	21100	2535	15.51	16.90	1.377	-	1.000	0.03	0.739	1.018
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	20850	2510	15.31	16.90	1.442	-	1.000	-0.11	0.726	1.047
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant1	DSI3	21350	2560	15.27	16.90	1.455	-	1.000	0.07	0.703	1.023
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant1	DSI3	21100	2535	15.45	16.90	1.396	-	1.000	0.01	0.725	1.012
	LTE Band 7	20M	QPSK	1	0	-	Front	18mm	Ant1	DSI4	21100	2535	23.63	24.00	1.089	-	1.000	0.04	0.303	0.330
	LTE Band 7	20M	QPSK	1	0	-	Back	24mm	Ant1	DSI4	21100	2535	23.63	24.00	1.089	-	1.000	0.09	0.296	0.322
3500MHz																				
	LTE Band 48	20M	QPSK	1	0	-	Front	5mm	Ant4	DSI3	56150	3641	19.70	20.50	1.202	62.9	1.006	0.05	0.102	0.123
	LTE Band 48	20M	QPSK	50	0	-	Front	5mm	Ant4	DSI3	56150	3641	19.67	20.50	1.211	62.9	1.006	-0.03	0.127	0.155
	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI3	56150	3641	19.70	20.50	1.202	62.9	1.006	0.04	0.631	0.763
53	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI3	55340	3560	19.63	20.50	1.222	62.9	1.006	-0.09	0.803	**0.987**
	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI3	55830	3609	19.65	20.50	1.216	62.9	1.006	0.01	0.796	0.974
	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI3	56640	3690	19.53	20.50	1.250	62.9	1.006	0.06	0.529	0.665
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant4	DSI3	56150	3641	19.67	20.50	1.211	62.9	1.006	0.03	0.650	0.792
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant4	DSI3	55340	3560	19.56	20.50	1.242	62.9	1.006	0.05	0.710	0.887
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant4	DSI3	55830	3609	19.60	20.50	1.230	62.9	1.006	0.02	0.718	0.889
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant4	DSI3	56640	3690	19.56	20.50	1.242	62.9	1.006	0.03	0.531	0.663
	LTE Band 48	20M	QPSK	100	0	-	Back	5mm	Ant4	DSI3	56150	3641	19.41	20.50	1.285	62.9	1.006	-0.01	0.645	0.834
	LTE Band 48	20M	QPSK	1	0	-	Front	18mm	Ant4	DSI4	56150	3641	22.57	24.00	1.390	62.9	1.006	0.02	0.172	0.241
	LTE Band 48	20M	QPSK	1	0	-	Back	24mm	Ant4	DSI4	56150	3641	22.57	24.00	1.390	62.9	1.006	0.05	0.131	0.183
3900MHz																				
	FR1 n77-PC2 &3	100M	QPSK	1	1	DFT-30KHz	Front	5mm	Ant4	DSI3	656000	3840	16.78	17.80	1.265	-	1.000	-0.05	0.251	0.317
	FR1 n77-PC2 &3	100M	QPSK	135	69	DFT-30KHz	Front	5mm	Ant4	DSI3	656000	3840	16.78	17.80	1.265	-	1.000	0.01	0.212	0.268
54	FR1 n77-PC2 &3	100M	QPSK	1	1	DFT-30KHz	Back	5mm	Ant4	DSI3	656000	3840	16.78	17.80	1.265	-	1.000	0.03	0.712	**0.900**
	FR1 n77-PC2 &3	100M	QPSK	135	69	DFT-30KHz	Back	5mm	Ant4	DSI3	656000	3840	16.78	17.80	1.265	-	1.000	0.12	0.678	0.857
	FR1 n77-PC2 &3	100M	QPSK	270	0	DFT-30KHz	Back	5mm	Ant4	DSI3	656000	3840	16.75	17.80	1.274	-	1.000	0.11	0.667	0.849
	FR1 n77-PC2	100M	QPSK	1	1	DFT-30KHz	Front	18mm	Ant4	DSI4	656000	3840	26.92	27.00	1.019	-	1.000	0.01	0.283	0.288
	FR1 n77-PC2	100M	QPSK	1	1	DFT-30KHz	Back	24mm	Ant4	DSI4	656000	3840	26.92	27.00	1.019	-	1.000	-0.03	0.683	0.696

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	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)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	-0.05	0.262	0.321
55	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	-0.05	0.877	**1.074**
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+6	Standalone	11	2462	22.00	23.00	1.259	100	1.000	-0.05	0.742	0.934
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+6	Simultaneous	1	2412	17.45	18.50	1.274	100	1.000	-0.02	0.300	0.382
56	Bluetooth	1Mbps	Back	5mm	Ant 3	Standalone/Simultaneous	78	2480	14.41	15.00	1.146	77.02	1.298	0.18	0.019	**0.028**
5000MHz																
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+6	Standalone	58	5290	13.60	14.50	1.230	93.35	1.071	0.01	0.015	0.020
57	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Standalone	58	5290	13.60	14.50	1.230	93.35	1.071	-0.01	0.899	**1.185**
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Simultaneous	58	5290	8.73	10.00	1.340	93.35	1.071	0.09	0.209	0.300
	WLAN5.3GHz	802.11a 6Mbps	Front	18mm	Ant 5+6	Full	52	5260	20.23	21.00	1.194	98.62	1.014	0.04	0.054	0.065
	WLAN5.3GHz	802.11a 6Mbps	Back	24mm	Ant 5+6	Full	52	5260	20.23	21.00	1.194	98.62	1.014	-0.13	0.448	0.542
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	24mm	Ant 5+6	Reduced _Simultaneous	54	5270	14.39	15.50	1.291	96.32	1.038	0.11	0.207	0.277
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+6	Standalone	106	5530	14.18	14.50	1.076	93.35	1.071	0.02	0.035	0.040
58	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Standalone	106	5530	14.18	14.50	1.076	93.35	1.071	0.03	0.720	**0.830**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Simultaneous	106	5530	7.93	9.00	1.279	93.35	1.071	0.11	0.270	0.370
	WLAN5.5GHz	802.11a 6Mbps	Front	18mm	Ant 5+6	Full	100	5500	20.10	21.00	1.230	98.62	1.014	0.04	0.041	0.051
	WLAN5.5GHz	802.11a 6Mbps	Back	24mm	Ant 5+6	Full	100	5500	20.10	21.00	1.230	98.62	1.014	0.09	0.569	0.710
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	24mm	Ant 5+6	Reduced _Simultaneous	106	5530	14.91	15.50	1.146	93.35	1.071	-0.11	0.179	0.220
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+6	Standalone	155	5775	13.63	14.50	1.222	93.35	1.071	0.02	0.030	0.039
59	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Standalone	155	5775	13.63	14.50	1.222	93.35	1.071	0.07	0.864	**1.131**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Simultaneous	155	5775	8.45	9.50	1.274	93.35	1.071	0.09	0.178	0.243
	WLAN5.8GHz	802.11a 6Mbps	Front	18mm	Ant 5+6	Full	157	5785	19.91	21.00	1.285	98.62	1.014	0.09	0.027	0.035
	WLAN5.8GHz	802.11a 6Mbps	Back	24mm	Ant 5+6	Full	157	5785	19.91	21.00	1.285	98.62	1.014	0.04	0.496	0.646
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	24mm	Ant 5+6	Reduced _Simultaneous	155	5775	15.53	16.50	1.250	93.35	1.071	0.09	0.226	0.303

16.4 Product specific 10g SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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)
1750MHz																		
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant1	DSI6	132322	1745	22.06	23.30	1.330	0.05	1.770	2.355
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant1	DSI6	132072	1720	21.89	23.30	1.384	0.08	1.590	2.200
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant1	DSI6	132572	1770	21.98	23.30	1.355	0.04	1.670	2.263
	LTE Band 66	20M	QPSK	50	0	-	Front	0mm	Ant1	DSI6	132322	1745	21.76	23.00	1.330	0.07	1.780	2.368
	LTE Band 66	20M	QPSK	50	0	-	Front	0mm	Ant1	DSI6	132072	1720	21.70	23.00	1.349	0.02	1.640	2.212
	LTE Band 66	20M	QPSK	50	0	-	Front	0mm	Ant1	DSI6	132572	1770	21.55	23.00	1.396	0.04	1.720	2.402
	LTE Band 66	20M	QPSK	100	0	-	Front	0mm	Ant1	DSI6	132322	1745	21.73	23.00	1.340	-0.08	1.820	2.438
60	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	132322	1745	22.06	23.30	1.330	-0.09	2.400	**3.193**
	LTE Band 66 UL CA 66B	15M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	132322+ 132229	1745+ 1735.7	21.92	23.30	1.374	0.03	2.120	2.913
	LTE Band 66 UL CA 66C	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	132322+ 132124	1745+ 1725.2	22.16	23.30	1.300	0.05	2.130	2.769
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	132072	1720	21.89	23.30	1.384	0.08	2.140	2.961
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	132572	1770	21.98	23.30	1.355	-0.08	2.210	2.995
	LTE Band 66	20M	QPSK	50	0	-	Back	0mm	Ant1	DSI6	132322	1745	21.76	23.00	1.330	0.08	2.180	2.900
	LTE Band 66	20M	QPSK	50	0	-	Back	0mm	Ant1	DSI6	132072	1720	21.70	23.00	1.349	-0.11	2.110	2.846
	LTE Band 66	20M	QPSK	50	0	-	Back	0mm	Ant1	DSI6	132572	1770	21.55	23.00	1.396	0.09	2.010	2.807
	LTE Band 66	20M	QPSK	100	0	-	Back	0mm	Ant1	DSI6	132322	1745	21.73	23.00	1.340	0.07	2.030	2.720
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant1	DSI6	132322	1745	22.06	23.30	1.330	0.09	1.380	1.836
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	0mm	Ant1	DSI6	132322	1745	21.76	23.00	1.330	0.11	1.370	1.823
	LTE Band 66	20M	QPSK	1	0	-	Front	12mm	Ant1	DSI4	132322	1745	23.35	24.00	1.161	0.04	0.504	0.585
	LTE Band 66	20M	QPSK	1	0	-	Back	18mm	Ant1	DSI4	132322	1745	23.35	24.00	1.161	0.08	0.314	0.365
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	19mm	Ant1	DSI4	132322	1745	23.35	24.00	1.161	0.02	0.490	0.569
	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	132322	1745	20.57	21.10	1.130	0.01	2.430	2.745
	LTE Band 66 UL CA 66B	15M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	132322+ 132229	1745+ 1735.7	20.34	21.10	1.191	-0.06	2.180	2.597
	LTE Band 66 UL CA 66C	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	132322+ 132124	1745+ 1725.2	20.41	21.10	1.172	0.02	2.140	2.508
	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	132072	1720	20.42	21.10	1.169	0.01	2.110	2.468
	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	132572	1770	20.56	21.10	1.132	-0.1	2.040	2.310
	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant2	DSI6	132322	1745	20.47	21.10	1.156	0.03	2.130	2.463
	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant2	DSI6	132072	1720	20.43	21.10	1.167	0.05	2.030	2.369
	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant2	DSI6	132572	1770	20.39	21.10	1.178	0.06	1.980	2.332
	LTE Band 66	20M	QPSK	100	0	-	Top Side	0mm	Ant2	DSI6	132322	1745	20.47	21.10	1.156	0.05	2.000	2.312
	LTE Band 66	20M	QPSK	1	0	-	Top Side	12mm	Ant2	DSI4	132322	1745	22.06	23.00	1.242	0.09	0.440	0.546
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Front	0mm	Ant1	DSI6	349000	1745	21.69	23.20	1.416	0.03	1.190	1.685
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Front	0mm	Ant1	DSI6	349000	1745	21.56	23.20	1.459	0.05	1.320	1.926
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	0mm	Ant1	DSI6	349000	1745	21.69	23.20	1.416	0.01	1.320	1.869
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Back	0mm	Ant1	DSI6	349000	1745	21.56	23.20	1.459	0.01	1.340	1.955
61	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	349000	1745	21.69	23.20	1.416	-0.02	2.230	**3.157**
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	349000	1745	21.56	23.20	1.459	0.01	2.040	2.976
	FR1 n66	40M	QPSK	216	0	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	349000	1745	21.15	23.00	1.531	0.11	1.920	2.940
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Front	12mm	Ant1	DSI4	349000	1745	23.83	24.00	1.040	0.08	0.381	0.396
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	18mm	Ant1	DSI4	349000	1745	23.83	24.00	1.040	-0.08	0.263	0.273
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Bottom Side	19mm	Ant1	DSI4	349000	1745	23.83	24.00	1.040	0.03	0.347	0.361
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	0mm	Ant2	DSI6	349000	1745	20.65	21.70	1.274	0.01	1.440	1.834
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Back	0mm	Ant2	DSI6	349000	1745	20.37	21.70	1.358	-0.01	1.310	1.779
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Top Side	0mm	Ant2	DSI6	349000	1745	20.65	21.70	1.274	0.03	2.160	2.751
	FR1 n66	40M	QPSK	108	54	DFT-15KHz	Top Side	0mm	Ant2	DSI6	349000	1745	20.37	21.70	1.358	0.01	1.910	2.594
	FR1 n66	40M	QPSK	216	0	DFT-15KHz	Top Side	0mm	Ant2	DSI6	349000	1745	20.44	21.70	1.337	-0.11	1.950	2.606
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Back	12mm	Ant2	DSI4	349000	1745	23.88	24.00	1.028	0.08	0.477	0.490
	FR1 n66	40M	QPSK	1	1	DFT-15KHz	Top Side	12mm	Ant2	DSI4	349000	1745	23.88	24.00	1.028	-0.08	0.740	0.761

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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)
1900MHz																		
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Front	0mm	Ant1	DSI6	661	1880	25.86	26.50	1.159	0.06	1.560	1.808
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	0mm	Ant1	DSI6	661	1880	25.86	26.50	1.159	-0.08	2.320	2.688
62	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	0mm	Ant1	DSI6	512	1850.2	25.83	26.50	1.167	0.08	2.450	**2.859**
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Back	0mm	Ant1	DSI6	810	1909.8	25.56	26.50	1.242	0.03	2.290	2.843
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Bottom Side	0mm	Ant1	DSI6	661	1880	25.86	26.50	1.159	0.05	1.470	1.703
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Top Side	0mm	Ant2	DSI6	661	1880	24.76	26.00	1.330	0.09	0.901	1.199
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant1	DSI6	9400	1880	21.46	22.10	1.159	0.18	1.830	2.121
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant1	DSI6	9262	1852.4	21.41	22.10	1.172	-0.05	1.870	2.192
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant1	DSI6	9538	1907.6	21.42	22.10	1.169	0.04	1.930	2.257
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant1	DSI6	9400	1880	21.46	22.10	1.159	0.09	2.380	2.758
63	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant1	DSI6	9262	1852.4	21.41	22.10	1.172	0.08	2.700	**3.165**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant1	DSI6	9538	1907.6	21.42	22.10	1.169	0.05	2.170	2.538
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant1	DSI6	9400	1880	21.46	22.10	1.159	0.02	2.380	2.758
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant1	DSI6	9262	1852.4	21.41	22.10	1.172	0.01	2.340	2.743
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant1	DSI6	9538	1907.6	21.42	22.10	1.169	-0.05	2.310	2.702
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	12mm	Ant1	DSI4	9400	1880	24.58	25.00	1.102	-0.03	0.539	0.594
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	18mm	Ant1	DSI4	9400	1880	24.58	25.00	1.102	0.05	0.405	0.446
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	19mm	Ant1	DSI4	9400	1880	24.58	25.00	1.102	-0.01	0.631	0.695
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant2	DSI6	9400	1880	19.28	20.60	1.355	0.09	2.030	2.751
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant2	DSI6	9262	1852.4	19.17	20.60	1.390	-0.11	1.970	2.738
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant2	DSI6	9538	1907.6	19.17	20.60	1.390	0.07	2.010	2.794
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	12mm	Ant2	DSI4	9400	1880	22.72	24.00	1.343	0.12	0.575	0.772
	LTE Band 2	20M	QPSK	1	0	-	Front	0mm	Ant1	DSI6	18900	1880	20.77	21.80	1.268	0.11	1.770	2.244
	LTE Band 2	20M	QPSK	1	0	-	Front	0mm	Ant1	DSI6	18700	1860	20.70	21.80	1.288	0.09	1.800	2.319
	LTE Band 2	20M	QPSK	1	0	-	Front	0mm	Ant1	DSI6	19100	1900	20.65	21.80	1.303	-0.11	1.850	2.411
	LTE Band 2	20M	QPSK	50	0	-	Front	0mm	Ant1	DSI6	18900	1880	20.65	21.80	1.303	-0.12	1.870	2.437
	LTE Band 2	20M	QPSK	50	0	-	Front	0mm	Ant1	DSI6	18700	1860	20.50	21.80	1.349	0.03	1.810	2.442
	LTE Band 2	20M	QPSK	50	0	-	Front	0mm	Ant1	DSI6	19100	1900	20.55	21.80	1.334	0.02	1.780	2.374
	LTE Band 2	20M	QPSK	100	0	-	Front	0mm	Ant1	DSI6	18900	1880	20.35	21.80	1.396	0.06	1.710	2.388
	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	18900	1880	20.77	21.80	1.268	0.03	2.310	2.928
64	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	18700	1860	20.70	21.80	1.288	0.11	2.490	**3.208**
	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	19100	1900	20.65	21.80	1.303	0.08	2.350	3.062
	LTE Band 2	20M	QPSK	50	0	-	Back	0mm	Ant1	DSI6	18900	1880	20.65	21.80	1.303	-0.12	2.350	3.062
	LTE Band 2	20M	QPSK	50	0	-	Back	0mm	Ant1	DSI6	18700	1860	20.50	21.80	1.349	0.09	2.250	3.035
	LTE Band 2	20M	QPSK	50	0	-	Back	0mm	Ant1	DSI6	19100	1900	20.55	21.80	1.334	-0.03	2.310	3.080
	LTE Band 2	20M	QPSK	100	0	-	Back	0mm	Ant1	DSI6	18900	1880	20.35	21.80	1.396	0.08	2.000	2.793
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant1	DSI6	18900	1880	20.77	21.80	1.268	-0.13	1.750	2.218
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant1	DSI6	18700	1860	20.70	21.80	1.288	0.09	2.020	2.602
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant1	DSI6	19100	1900	20.65	21.80	1.303	0.01	1.720	2.241
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	0mm	Ant1	DSI6	18900	1880	20.65	21.80	1.303	0.06	1.780	2.320
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	0mm	Ant1	DSI6	18700	1860	20.50	21.80	1.349	0.12	2.020	2.725
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	0mm	Ant1	DSI6	19100	1900	20.55	21.80	1.334	0.06	1.640	2.187
	LTE Band 2	20M	QPSK	100	0	-	Bottom Side	0mm	Ant1	DSI6	18900	1880	20.35	21.80	1.396	0.07	1.770	2.472
	LTE Band 2	20M	QPSK	1	0	-	Front	12mm	Ant1	DSI4	18900	1880	23.51	24.00	1.119	0.03	0.565	0.632
	LTE Band 2	20M	QPSK	1	0	-	Back	18mm	Ant1	DSI4	18900	1880	23.51	24.00	1.119	0.05	0.318	0.356
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	19mm	Ant1	DSI4	18900	1880	23.51	24.00	1.119	0.07	0.565	0.632
	LTE Band 2	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	18900	1880	20.52	21.30	1.197	0.06	2.190	2.621
	LTE Band 2	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	18700	1860	20.40	21.30	1.230	0.07	1.970	2.424
	LTE Band 2	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	19100	1900	20.32	21.30	1.253	0.03	2.130	2.669
	LTE Band 2	20M	QPSK	50	0	-	Top Side	0mm	Ant2	DSI6	18900	1880	20.33	21.30	1.250	0.05	2.190	2.738
	LTE Band 2	20M	QPSK	50	0	-	Top Side	0mm	Ant2	DSI6	18700	1860	20.30	21.30	1.259	0.03	1.960	2.467
	LTE Band 2	20M	QPSK	50	0	-	Top Side	0mm	Ant2	DSI6	19100	1900	20.21	21.30	1.285	0.01	1.860	2.391
	LTE Band 2	20M	QPSK	100	0	-	Top Side	0mm	Ant2	DSI6	18900	1880	20.13	21.30	1.309	0.02	1.970	2.579

	LTE Band 2	20M	QPSK	1	0	-	Top Side	12mm	Ant2	DSI4	18900	1880	21.89	23.00	1.291	0.18	0.409	0.528
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	0mm	Ant1	DSI6	376000	1880	20.45	21.30	1.216	0.05	2.080	2.530
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	0mm	Ant1	DSI6	372000	1860	20.33	21.30	1.250	-0.11	1.960	2.451
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	0mm	Ant1	DSI6	380000	1900	20.29	21.30	1.262	0.07	1.930	2.435
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Front	0mm	Ant1	DSI6	376000	1880	20.39	21.30	1.233	0.04	1.960	2.417
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Front	0mm	Ant1	DSI6	372000	1860	20.37	21.30	1.239	-0.12	1.890	2.341
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Front	0mm	Ant1	DSI6	380000	1900	20.10	21.30	1.318	0.04	1.930	2.544
	FR1 n2	20M	QPSK	100	0	DFT-15KHz	Front	0mm	Ant1	DSI6	376000	1880	20.36	21.30	1.242	0.07	1.920	2.384
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	0mm	Ant1	DSI6	376000	1880	20.45	21.30	1.216	0.08	2.430	2.955
65	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	0mm	Ant1	DSI6	372000	1860	20.33	21.30	1.250	0.06	2.560	**3.201**
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	0mm	Ant1	DSI6	380000	1900	20.29	21.30	1.262	-0.06	2.280	2.877
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Back	0mm	Ant1	DSI6	376000	1880	20.39	21.30	1.233	-0.11	2.430	2.996
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Back	0mm	Ant1	DSI6	372000	1860	20.37	21.30	1.239	0.02	2.460	3.047
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Back	0mm	Ant1	DSI6	380000	1900	20.10	21.30	1.318	-0.11	2.280	3.006
	FR1 n2	20M	QPSK	100	0	DFT-15KHz	Back	0mm	Ant1	DSI6	376000	1880	20.36	21.30	1.242	0.09	2.120	2.632
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	376000	1880	20.45	21.30	1.216	-0.02	2.020	2.457
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	372000	1860	20.33	21.30	1.250	0.11	2.480	3.101
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	380000	1900	20.29	21.30	1.262	-0.06	1.780	2.246
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	376000	1880	20.39	21.30	1.233	0.07	2.020	2.491
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	372000	1860	20.37	21.30	1.239	-0.03	2.370	2.936
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	380000	1900	20.10	21.30	1.318	-0.12	1.780	2.346
	FR1 n2	20M	QPSK	100	0	DFT-15KHz	Bottom Side	0mm	Ant1	DSI6	376000	1880	20.36	21.30	1.242	-0.07	2.020	2.508
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Front	12mm	Ant1	DSI4	376000	1880	23.70	24.00	1.072	-0.02	0.391	0.419
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	18mm	Ant1	DSI4	376000	1880	23.70	24.00	1.072	0.08	0.392	0.420
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	19mm	Ant1	DSI4	376000	1880	23.70	24.00	1.072	0.04	0.493	0.528
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	0mm	Ant2	DSI6	376000	1880	21.71	22.30	1.146	0.12	0.856	0.981
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Back	0mm	Ant2	DSI6	376000	1880	21.68	22.30	1.153	0.03	0.745	0.859
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Top Side	0mm	Ant2	DSI6	376000	1880	21.71	22.30	1.146	-0.04	2.270	2.600
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Top Side	0mm	Ant2	DSI6	372000	1860	21.51	22.30	1.199	-0.04	2.270	2.723
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Top Side	0mm	Ant2	DSI6	380000	1900	21.53	22.30	1.194	0.02	2.216	2.646
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Top Side	0mm	Ant2	DSI6	376000	1880	21.68	22.30	1.153	-0.09	2.160	2.491
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Top Side	0mm	Ant2	DSI6	372000	1860	21.60	22.30	1.175	0.06	2.100	2.467
	FR1 n2	20M	QPSK	50	28	DFT-15KHz	Top Side	0mm	Ant2	DSI6	380000	1900	21.61	22.30	1.172	0.02	2.230	2.614
	FR1 n2	20M	QPSK	100	0	DFT-15KHz	Top Side	0mm	Ant2	DSI6	376000	1880	21.58	22.30	1.180	-0.04	2.330	2.750
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Back	12mm	Ant2	DSI4	376000	1880	23.77	24.00	1.054	0.06	0.237	0.250
	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Top Side	12mm	Ant2	DSI4	376000	1880	23.77	24.00	1.054	0.03	0.470	0.496

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Ant	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)
2600MHz																			
	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant1	DSI6	21100	2535	20.67	21.40	1.183	-	1.000	-0.01	2.090	2.473
	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant1	DSI6	20850	2510	20.52	21.40	1.225	-	1.000	0.05	2.000	2.449
66	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant1	DSI6	21350	2560	20.26	21.40	1.300	-	1.000	-0.01	2.420	**3.146**
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant1	DSI6	21100	2535	20.57	21.40	1.211	-	1.000	0.02	2.030	2.458
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant1	DSI6	20850	2510	20.43	21.40	1.250	-	1.000	0.09	2.050	2.563
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant1	DSI6	21350	2560	20.30	21.40	1.288	-	1.000	0.02	2.060	2.654
	LTE Band 7	20M	QPSK	100	0	Back	0mm	Ant1	DSI6	21100	2535	20.51	21.40	1.227	-	1.000	0.01	2.030	2.492
	LTE Band 7	20M	QPSK	1	0	Bottom Side	0mm	Ant1	DSI6	21100	2535	20.67	21.40	1.183	-	1.000	0.19	1.740	2.058
	LTE Band 7	20M	QPSK	1	0	Bottom Side	0mm	Ant1	DSI6	20850	2510	20.52	21.40	1.225	-	1.000	0.06	1.780	2.180
	LTE Band 7	20M	QPSK	1	0	Bottom Side	0mm	Ant1	DSI6	21350	2560	20.26	21.40	1.300	-	1.000	-0.01	1.610	2.093
	LTE Band 7	20M	QPSK	50	0	Bottom Side	0mm	Ant1	DSI6	21100	2535	20.57	21.40	1.211	-	1.000	0.09	1.760	2.131
	LTE Band 7	20M	QPSK	50	0	Bottom Side	0mm	Ant1	DSI6	20850	2510	20.43	21.40	1.250	-	1.000	0.02	1.690	2.113
	LTE Band 7	20M	QPSK	50	0	Bottom Side	0mm	Ant1	DSI6	21350	2560	20.30	21.40	1.288	-	1.000	-0.11	1.650	2.126
	LTE Band 7	20M	QPSK	100	0	Bottom Side	0mm	Ant1	DSI6	21100	2535	20.51	21.40	1.227	-	1.000	0.02	1.740	2.136
	LTE Band 7	20M	QPSK	1	0	Back	18mm	Ant1	DSI4	21100	2535	23.63	24.00	1.089	-	1.000	-0.01	0.361	0.393
	LTE Band 7	20M	QPSK	1	0	Bottom Side	19mm	Ant1	DSI4	21100	2535	23.63	24.00	1.089	-	1.000	0.03	0.617	0.672
3500MHz																			
	LTE Band 48	20M	QPSK	1	0	Back	0mm	Ant4	DSI6	56150	3641	22.57	24.00	1.390	62.9	1.006	0.03	1.320	1.846
67	LTE Band 48	20M	QPSK	1	0	Back	0mm	Ant4	DSI6	55340	3560	22.45	24.00	1.429	62.9	1.006	-0.11	1.670	**2.401**
	LTE Band 48	20M	QPSK	1	0	Back	0mm	Ant4	DSI6	55830	3609	22.50	24.00	1.413	62.9	1.006	0.07	1.510	2.146
	LTE Band 48	20M	QPSK	1	0	Back	0mm	Ant4	DSI6	56640	3690	22.44	24.00	1.432	62.9	1.006	0.04	0.972	1.400
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant4	DSI6	56150	3641	21.90	23.00	1.288	62.9	1.006	0.01	1.270	1.646
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant4	DSI6	55340	3560	21.84	23.00	1.306	62.9	1.006	0.11	1.490	1.958
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant4	DSI6	55830	3609	21.82	23.00	1.312	62.9	1.006	0.15	1.300	1.716
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant4	DSI6	56640	3690	21.64	23.00	1.368	62.9	1.006	0.02	0.852	1.172
	LTE Band 48	20M	QPSK	100	0	Back	0mm	Ant4	DSI6	56150	3641	21.88	23.00	1.294	62.9	1.006	-0.02	1.070	1.393
	LTE Band 48	20M	QPSK	1	0	Left Side	0mm	Ant4	DSI6	56150	3641	22.57	24.00	1.390	62.9	1.006	0.11	1.370	1.916
	LTE Band 48	20M	QPSK	1	0	Left Side	0mm	Ant4	DSI6	55340	3560	22.45	24.00	1.429	62.9	1.006	-0.04	1.540	2.214
	LTE Band 48	20M	QPSK	1	0	Left Side	0mm	Ant4	DSI6	55830	3609	22.50	24.00	1.413	62.9	1.006	0.04	1.450	2.060
	LTE Band 48	20M	QPSK	1	0	Left Side	0mm	Ant4	DSI6	56640	3690	22.44	24.00	1.432	62.9	1.006	0.06	1.280	1.844
	LTE Band 48	20M	QPSK	50	0	Left Side	0mm	Ant4	DSI6	56150	3641	21.90	23.00	1.288	62.9	1.006	0.12	1.210	1.568
	LTE Band 48	20M	QPSK	50	0	Left Side	0mm	Ant4	DSI6	55340	3560	21.84	23.00	1.306	62.9	1.006	-0.11	1.350	1.774
	LTE Band 48	20M	QPSK	50	0	Left Side	0mm	Ant4	DSI6	55830	3609	21.82	23.00	1.312	62.9	1.006	0.01	1.240	1.637
	LTE Band 48	20M	QPSK	50	0	Left Side	0mm	Ant4	DSI6	56640	3690	21.64	23.00	1.368	62.9	1.006	0.14	1.130	1.555
	LTE Band 48	20M	QPSK	100	0	Left Side	0mm	Ant4	DSI6	56150	3641	21.88	23.00	1.294	62.9	1.006	0.05	1.210	1.575

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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)
	FR1 n77-PC2 &3	100M	QPSK	1	1	DFT-30KHz	Back	0mm	Ant4	DSI6	656000	3840	20.48	21.50	1.265	0.11	1.820	2.302
	FR1 n77-PC2 &3	100M	QPSK	135	0	DFT-30KHz	Back	0mm	Ant4	DSI6	656000	3840	20.38	21.50	1.294	0.02	2.110	2.731
	FR1 n77-PC2 &3	100M	QPSK	270	0	DFT-30KHz	Back	0mm	Ant4	DSI6	656000	3840	20.37	21.50	1.297	-0.11	1.880	2.439
	FR1 n77-PC2 &3	100M	QPSK	1	1	DFT-30KHz	Left Side	0mm	Ant4	DSI6	656000	3840	20.48	21.50	1.265	0.02	1.670	2.112
	FR1 n77-PC2 &3	100M	QPSK	135	0	DFT-30KHz	Left Side	0mm	Ant4	DSI6	656000	3840	20.38	21.50	1.294	0.09	1.920	2.485
	FR1 n77-PC2 &3	100M	QPSK	270	0	DFT-30KHz	Left Side	0mm	Ant4	DSI6	656000	3840	20.37	21.50	1.297	-0.01	1.890	2.452
	FR1 n77-PC2	100M	QPSK	1	1	DFT-30KHz	Back	17mm	Ant4	DSI4	656000	3840	26.92	27.00	1.019	0.11	0.615	0.626
	FR1 n77-PC2	100M	QPSK	1	1	DFT-30KHz	Left Side	3mm	Ant4	DSI4	656000	3840	26.92	27.00	1.019	0.03	2.670	2.720
	FR1 n77-PC2	100M	QPSK	135	69	DFT-30KHz	Left Side	3mm	Ant4	DSI4	656000	3840	26.76	27.00	1.057	0.09	2.520	2.663
68	FR1 n77-PC2	100M	QPSK	270	0	DFT-30KHz	Left Side	3mm	Ant4	DSI4	656000	3840	26.67	27.00	1.079	-0.06	2.550	**2.751**

Plot No.	Band	Mode	Test Position	Gap (mm)	Ant	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)
2450MHz																
69	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	0.09	0.559	**0.685**
5000MHz																
70	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Ant 5+6	Standalone	44	5220	20.34	21.00	1.164	98.62	1.014	0.01	2.030	**2.396**
	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Ant 5+6	Standalone	40	5200	20.26	21.00	1.186	98.62	1.014	-0.03	1.870	2.248
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5+6	Simultaneous	38	5190	14.89	15.50	1.151	96.32	1.038	0.08	0.525	0.627
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant 5+6	Standalone	52	5260	20.23	21.00	1.194	98.62	1.014	0.06	0.055	0.067
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 5+6	Standalone	52	5260	20.23	21.00	1.194	98.62	1.014	-0.01	1.690	2.046
71	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 5+6	Standalone	56	5280	20.02	21.00	1.253	98.62	1.014	0.02	1.840	**2.338**
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5+6	Simultaneous	54	5270	14.39	15.50	1.291	96.32	1.038	0.02	0.532	0.713
	WLAN5.3GHz	802.11a 6Mbps	Left Side	0mm	Ant 5+6	Standalone	52	5260	20.23	21.00	1.194	98.62	1.014	0.1	0.068	0.082
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 5+6	Standalone	52	5260	20.23	21.00	1.194	98.62	1.014	0.03	0.075	0.091
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 5+6	Standalone	52	5260	20.23	21.00	1.194	98.62	1.014	0.06	0.208	0.252
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant 5+6	Standalone	100	5500	20.10	21.00	1.230	98.62	1.014	0.01	0.127	0.158
72	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 5+6	Standalone	100	5500	20.10	21.00	1.230	98.62	1.014	0.08	1.570	**1.959**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 5+6	Simultaneous	106	5530	14.91	15.50	1.146	93.35	1.071	0.03	0.611	0.750
	WLAN5.5GHz	802.11a 6Mbps	Left Side	0mm	Ant 5+6	Standalone	100	5500	20.10	21.00	1.230	98.62	1.014	0.02	0.163	0.203
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 5+6	Standalone	100	5500	20.10	21.00	1.230	98.62	1.014	0.01	0.332	0.414
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 5+6	Standalone	100	5500	20.10	21.00	1.230	98.62	1.014	0.09	0.407	0.508
73	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Ant 5+6	Standalone	157	5785	19.91	21.00	1.285	98.62	1.014	0.01	1.360	**1.772**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 5+6	Simultaneous	155	5775	15.53	16.50	1.250	93.35	1.071	0.02	0.562	0.753

16.5 Repeated SAR Measurement

<1g>

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	132322	1745	17.36	18.10	1.186	-	1.000	0.04	1.040	1	1.233
2nd	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	132322	1745	17.36	18.10	1.186	-	1.000	-0.12	0.965	1.078	1.144
1st	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	376000	1880	15.21	15.90	1.172	-	1.000	0.08	1.050	1	1.231
2nd	FR1 n2	20M	QPSK	1	1	DFT-15KHz	Bottom Side	5mm	Ant1	DSI7	376000	1880	15.21	15.90	1.172	-	1.000	0.03	0.981	1.070	1.150
1st	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	21350	2560	15.45	16.90	1.396	-	1.000	0.06	0.888	1	1.240
2nd	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant1	DSI7	21350	2560	15.45	16.90	1.396	-	1.000	0.02	0.859	1.034	1.199
1st	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI7/3	55340	3560	19.63	20.50	1.222	62.9	1.006	-0.09	0.803	1	0.987
2nd	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant4	DSI7/3	55340	3560	19.63	20.50	1.222	62.9	1.006	0.11	0.774	1.037	0.951
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Back	5mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	-0.05	0.877	1	1.074
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Back	5mm	Ant 3+6	Standalone	1	2412	22.12	23.00	1.225	100	1.000	0.12	0.864	1.015	1.058
1st	WLAN5.3GHz	-	-	-	-	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Standalone	58	5290	13.60	14.50	1.230	93.35	1.071	-0.01	0.899	1	1.185
2nd	WLAN5.3GHz	-	-	-	-	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Standalone	58	5290	13.60	14.50	1.230	93.35	1.071	0.12	0.871	1.032	1.148
1st	WLAN5.8GHz	-	-	-	-	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Standalone	155	5775	13.63	14.50	1.222	93.35	1.071	0.07	0.864	1	1.131
2nd	WLAN5.8GHz	-	-	-	-	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+6	Standalone	155	5775	13.63	14.50	1.222	93.35	1.071	0.11	0.839	1.030	1.098

<10g>

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Ant	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)	Ratio	Reported 10g SAR (W/kg)
1st	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	132322	1745	20.57	21.10	1.130	-	1.000	0.01	2.430	1	2.745
2nd	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant2	DSI6	132322	1745	20.57	21.10	1.130	-	1.000	0.12	2.330	1.043	2.632
1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant1	DSI6	9262	1852.4	21.41	22.10	1.172	-	1.000	0.08	2.700	1	3.165
2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant1	DSI6	9262	1852.4	21.41	22.10	1.172	-	1.000	-0.09	2.560	1.055	3.001
1st	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	21350	2560	20.26	21.40	1.300	-	1.000	-0.01	2.420	1	3.146
2nd	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant1	DSI6	21350	2560	20.26	21.40	1.300	-	1.000	0.11	2.310	1.048	3.003
1st	FR1 n77-PC2	100M	QPSK	1	1	DFT-30KHz	Left Side	3mm	Ant4	DSI4	656000	3840	26.92	27.00	1.019	-	1.000	0.03	2.670	1	2.720
2nd	FR1 n77-PC2	100M	QPSK	1	1	DFT-30KHz	Left Side	3mm	Ant4	DSI4	656000	3840	26.92	27.00	1.019	-	1.000	-0.12	2.630	1.015	2.679
1st	WLAN5.2GHz	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 5+6	Standalone	44	5220	20.34	21.00	1.164	98.62	1.014	0.01	2.030	1	2.396
2nd	WLAN5.2GHz	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 5+6	Standalone	44	5220	20.34	21.00	1.164	98.62	1.014	0.12	1.940	1.046	2.290

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 10g SAR
1.	WWAN + WLAN2.4GHz MIMO	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz MIMO	Yes	Yes	Yes	Yes
3.	WWAN+ Bluetooth	Yes	Yes	Yes	Yes
4.	WWAN + WLAN5GHz MIMO + Bluetooth	Yes	Yes	Yes	Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA, and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. EUT will choose each GSM, WCDMA, LTE and 5G NR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
3. 5G NR limited to EN-DC mode only.
4. For EN-DC mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from 4G (LTE) and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G NR operation is demonstrated in the Part 2 Report during algorithm validation. In Part 1 Report, simultaneous transmission compliance was evaluated individually with other Radios (WLAN or BT) using either 4G or 5G NR.
5. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications.
6. This device 2.4GHz WLAN/ 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
7. 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 though they have independent antenna.
8. WLAN 2.4GHz and Bluetooth share the same antenna so can't transmit simultaneously.
9. According to the EUT character, WLAN 5GHz and Bluetooth can transmit simultaneously.
10. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
11. For Body-worn, always chose higher SAR between 5mm SAR and sensor off distance SAR to do co-located analysis.
12. For Product Specific Exposure, always chose higher SAR between 0mm SAR and sensor off distance SAR to do co-located analysis.
13. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
14. The reported SAR summation is calculated based on the same configuration and test position.
15. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not do additionally evaluate 2TX combination of simultaneously transmission.
16. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/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 for 1g SAR and SPLSR≤ 0.10 for 10g SAR , simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.

17.1 5G NR + LTE + WLAN + BT Sim-Tx analysis

In 5G NR + LTE + WLAN + BT simultaneous transmission, 5G NR and LTE transmission are managed and controlled by Qualcomm® Smart Transmit, while the RF exposure from WLAN and BT radios is managed using legacy approach, i.e., through a fixed power back-off if needed.

Since WLAN and BT do not employ time-averaging, 1gSAR and 10gSAR measurement for WLAN and BT need to be conducted at their corresponding rated power following current FCC test procedures to determine reported SAR values.

Smart Transmit current implementation assumes hotspots from 5G NR and LTE are collocated. Therefore, for a total of 100% exposure margin, if LTE uses x%, then the exposure margin left for 5G NR is capped to (100-x)%. Thus, the compliance equation for LTE + 5G NR is

*x% * A + (100-x)% * B ≤ 1.0,*

Where, A is normalized reported time-averaged SAR exposure ratio from LTE, and A ≤ 1.0; B is normalized reported time-averaged exposure ratio from 5G NR (i.e., PD exposure for 5G FR2 or SAR exposure for 5G FR1), and B ≤1.0.

Let C = normalized reported SAR exposure ratio from WLAN+BT, then for compliance,

*x% * A + (100-x)% * B + C ≤ 1.0* (1)

x% * A + (100-x)% * B ≤ x% * max(A, B) + (100-x)% * max(A, B) ≤ max(A, B)

*x% * A + (100-x)% * B + C ≤ max(A, B) + C ≤ 1.0* (2)

if A + C ≤ 1.0 and B + C ≤ 1.0 can be proven, then “x% * A + (100-x)% * B + C ≤ 1.0”. Therefore simultaneous transmission analysis for 5G NR + LTE + WLAN + BT can be performed in two steps

Step 1: Prove total exposure ratio (TER) of LTE + WLAN + BT < 1
Step 2: Prove total exposure ratio (TER) of 5G NR + WLAN + BT < 1

Above analysis is also apply to LTE inter band uplink, LTE1 + LTE2 + WLAN + BT simultaneous transmission, So inter band CA uplink no need to do additional simultaneously analysis again. Only required comply with total exposure ratio (TER) of LTE + WLAN + BT < 1.

17.2 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	2.4GHz WLAN Ant 3+6	5GHz WLAN Ant 5+6	Bluetooth Ant 3	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM850	Right Cheek	0.355	0.335	0.323	0.158	0.69	0.84
	Right Tilted	0.349	0.335	0.379	0.158	0.68	0.89
	Left Cheek	0.512	0.335	0.216	0.158	0.85	0.89
	Left Tilted	0.489	0.335	0.255	0.158	0.82	0.90
GSM1900	Right Cheek	0.278	0.335	0.323	0.158	0.61	0.76
	Right Tilted	0.346	0.335	0.379	0.158	0.68	0.88
	Left Cheek	0.933	0.335	0.216	0.158	1.27	1.31
	Left Tilted	1.000	0.335	0.255	0.158	1.34	1.41
WCDMA II	Right Cheek	0.301	0.335	0.323	0.158	0.64	0.78
	Right Tilted	0.390	0.335	0.379	0.158	0.73	0.93
	Left Cheek	0.889	0.335	0.216	0.158	1.22	1.26
	Left Tilted	0.973	0.335	0.255	0.158	1.31	1.39
WCDMA V	Right Cheek	0.580	0.335	0.323	0.158	0.92	1.06
	Right Tilted	0.624	0.335	0.379	0.158	0.96	1.16
	Left Cheek	0.928	0.335	0.216	0.158	1.26	1.30
	Left Tilted	0.880	0.335	0.255	0.158	1.22	1.29
LTE Band 2	Right Cheek	0.346	0.335	0.323	0.158	0.68	0.83
	Right Tilted	0.452	0.335	0.379	0.158	0.79	0.99
	Left Cheek	0.933	0.335	0.216	0.158	1.27	1.31
	Left Tilted	0.988	0.335	0.255	0.158	1.32	1.40
LTE Band 5	Right Cheek	0.589	0.335	0.323	0.158	0.92	1.07
	Right Tilted	0.621	0.335	0.379	0.158	0.96	1.16
	Left Cheek	0.993	0.335	0.216	0.158	1.33	1.37
	Left Tilted	0.983	0.335	0.255	0.158	1.32	1.40
LTE Band 7	Right Cheek	0.063	0.335	0.323	0.158	0.40	0.54
	Right Tilted	0.037	0.335	0.379	0.158	0.37	0.57
	Left Cheek	0.054	0.335	0.216	0.158	0.39	0.43
	Left Tilted	0.057	0.335	0.255	0.158	0.39	0.47
LTE Band 12	Right Cheek	0.410	0.335	0.323	0.158	0.75	0.89
	Right Tilted	0.398	0.335	0.379	0.158	0.73	0.94
	Left Cheek	0.731	0.335	0.216	0.158	1.07	1.11
	Left Tilted	0.668	0.335	0.255	0.158	1.00	1.08
LTE Band 13	Right Cheek	0.210	0.335	0.323	0.158	0.55	0.69
	Right Tilted	0.139	0.335	0.379	0.158	0.47	0.68
	Left Cheek	0.281	0.335	0.216	0.158	0.62	0.66
	Left Tilted	0.212	0.335	0.255	0.158	0.55	0.63
LTE Band 66	Right Cheek	0.460	0.335	0.323	0.158	0.80	0.94
	Right Tilted	0.569	0.335	0.379	0.158	0.90	1.11
	Left Cheek	0.979	0.335	0.216	0.158	1.31	1.35
	Left Tilted	0.979	0.335	0.255	0.158	1.31	1.39
LTE Band 48	Right Cheek	0.487	0.335	0.323	0.158	0.82	0.97
	Right Tilted	0.390	0.335	0.379	0.158	0.73	0.93
	Left Cheek	0.337	0.335	0.216	0.158	0.67	0.71
	Left Tilted	0.243	0.335	0.255	0.158	0.58	0.66
FR1 n2	Right Cheek	0.320	0.335	0.323	0.158	0.66	0.80
	Right Tilted	0.431	0.335	0.379	0.158	0.77	0.97
	Left Cheek	0.994	0.335	0.216	0.158	1.33	1.37
	Left Tilted	0.982	0.335	0.255	0.158	1.32	1.40
FR1 n5	Right Cheek	0.430	0.335	0.323	0.158	0.77	0.91
	Right Tilted	0.416	0.335	0.379	0.158	0.75	0.95

	Left Cheek	0.583	0.335	0.216	0.158	0.92	0.96
	Left Tilted	0.530	0.335	0.255	0.158	0.87	0.94
FR1 n66	Right Cheek	0.384	0.335	0.323	0.158	0.72	0.87
	Right Tilted	0.485	0.335	0.379	0.158	0.82	1.02
	Left Cheek	0.914	0.335	0.216	0.158	1.25	1.29
	Left Tilted	0.986	0.335	0.255	0.158	1.32	1.40
FR1 n77	Right Cheek	0.974	0.335	0.323	0.158	1.31	1.46
	Right Tilted	0.592	0.335	0.379	0.158	0.93	1.13
	Left Cheek	0.428	0.335	0.216	0.158	0.76	0.80
	Left Tilted	0.229	0.335	0.255	0.158	0.56	0.64

17.3 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	2.4GHz WLAN Ant 3+6	5GHz WLAN Ant 5+6	Bluetooth Ant 3	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM850	Front	0.384	0.116	0.094	0.028	0.50	0.51
	Back	0.595	0.382	0.279	0.028	0.98	0.90
	Left side	0.147	0.079	0.065	0.028	0.23	0.24
	Right side	0.255	0.138	0.106	0.028	0.39	0.39
	Top side	0.491	0.255	0.057	0.028	0.75	0.58
	Bottom side	0.417				0.42	0.42
GSM1900	Front	0.572	0.116	0.094	0.028	0.69	0.69
	Back	0.938	0.382	0.279	0.028	1.32	1.25
	Left side	0.059	0.079	0.065	0.028	0.14	0.15
	Right side	0.070	0.138	0.106	0.028	0.21	0.20
	Top side	0.994	0.255	0.057	0.028	1.25	1.08
	Bottom side	1.243				1.24	1.24
WCDMA II	Front	0.517	0.116	0.094	0.028	0.63	0.64
	Back	0.880	0.382	0.279	0.028	1.26	1.19
	Left side	0.061	0.079	0.065	0.028	0.14	0.15
	Right side	0.081	0.138	0.106	0.028	0.22	0.22
	Top side	0.982	0.255	0.057	0.028	1.24	1.07
	Bottom side	1.244				1.24	1.24
WCDMA V	Front	0.735	0.116	0.094	0.028	0.85	0.86
	Back	1.051	0.382	0.279	0.028	1.43	1.36
	Left side	0.193	0.079	0.065	0.028	0.27	0.29
	Right side	0.315	0.138	0.106	0.028	0.45	0.45
	Top side	0.581	0.255	0.057	0.028	0.84	0.67
	Bottom side	0.721				0.72	0.72
LTE Band 2	Front	0.525	0.116	0.094	0.028	0.64	0.65
	Back	0.925	0.382	0.279	0.028	1.31	1.23
	Left side	0.065	0.079	0.065	0.028	0.14	0.16
	Right side	0.127	0.138	0.106	0.028	0.27	0.26
	Top side	0.982	0.255	0.057	0.028	1.24	1.07
	Bottom side	1.257				1.26	1.26
LTE Band 5	Front	0.727	0.116	0.094	0.028	0.84	0.85
	Back	0.919	0.382	0.279	0.028	1.30	1.23
	Left side	0.149	0.079	0.065	0.028	0.23	0.24
	Right side	0.357	0.138	0.106	0.028	0.50	0.49
	Top side	0.772	0.255	0.057	0.028	1.03	0.86
	Bottom side	0.843				0.84	0.84
LTE Band 7	Front	0.411	0.116	0.094	0.028	0.53	0.53
	Back	1.113	0.382	0.279	0.028	**1.50**	1.42
	Left side	0.015	0.079	0.065	0.028	0.09	0.11
	Right side	0.173	0.138	0.106	0.028	0.31	0.31
	Top side		0.255	0.057	0.028	0.26	0.09
	Bottom side	1.240				1.24	1.24
LTE Band 12	Front	0.339	0.116	0.094	0.028	0.46	0.46
	Back	0.393	0.382	0.279	0.028	0.78	0.70
	Left side	0.114	0.079	0.065	0.028	0.19	0.21
	Right side	0.327	0.138	0.106	0.028	0.47	0.46
	Top side	0.484	0.255	0.057	0.028	0.74	0.57
	Bottom side	0.401				0.40	0.40
LTE Band 13	Front	0.460	0.116	0.094	0.028	0.58	0.58
	Back	0.601	0.382	0.279	0.028	0.98	0.91

	Left side	0.143	0.079	0.065	0.028	0.22	0.24
	Right side	0.279	0.138	0.106	0.028	0.42	0.41
	Top side	0.196	0.255	0.057	0.028	0.45	0.28
	Bottom side	0.639				0.64	0.64
LTE Band 66	Front	0.704	0.116	0.094	0.028	0.82	0.83
	Back	1.090	0.382	0.279	0.028	1.47	1.40
	Left side	0.058	0.079	0.065	0.028	0.14	0.15
	Right side	0.123	0.138	0.106	0.028	0.26	0.26
	Top side	0.985	0.255	0.057	0.028	1.24	1.07
	Bottom side	1.233				1.23	1.23
LTE Band 48	Front	0.155	0.116	0.094	0.028	0.27	0.28
	Back	0.987	0.382	0.279	0.028	1.37	1.29
	Left side	0.835	0.079	0.065	0.028	0.91	0.93
	Right side		0.138	0.106	0.028	0.14	0.13
	Top side	0.252	0.255	0.057	0.028	0.51	0.34
	Bottom side					0.00	0.00
FR1 n2	Front	0.543	0.116	0.094	0.028	0.66	0.67
	Back	0.598	0.382	0.279	0.028	0.98	0.91
	Left side	0.056	0.079	0.065	0.028	0.14	0.15
	Right side	0.091	0.138	0.106	0.028	0.23	0.23
	Top side	0.979	0.255	0.057	0.028	1.23	1.06
	Bottom side	1.231				1.23	1.23
FR1 n5	Front	0.522	0.116	0.094	0.028	0.64	0.64
	Back	0.768	0.382	0.279	0.028	1.15	1.08
	Left side	0.157	0.079	0.065	0.028	0.24	0.25
	Right side	0.243	0.138	0.106	0.028	0.38	0.38
	Top side	0.449	0.255	0.057	0.028	0.70	0.53
	Bottom side	0.663				0.66	0.66
FR1 n66	Front	0.704	0.116	0.094	0.028	0.82	0.83
	Back	1.031	0.382	0.279	0.028	1.41	1.34
	Left side	0.052	0.079	0.065	0.028	0.13	0.15
	Right side	0.199	0.138	0.106	0.028	0.34	0.33
	Top side	0.974	0.255	0.057	0.028	1.23	1.06
	Bottom side	1.249				1.25	1.25
FR1 n77	Front	0.317	0.116	0.094	0.028	0.43	0.44
	Back	0.900	0.382	0.279	0.028	1.28	1.21
	Left side	0.992	0.079	0.065	0.028	1.07	1.09
	Right side		0.138	0.106	0.028	0.14	0.13
	Top side	0.099	0.255	0.057	0.028	0.35	0.18
	Bottom side					0.00	0.00

17.4 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	2.4GHz WLAN Ant 3+6	5GHz WLAN Ant 5+6	Bluetooth Ant 3	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM850	Front	0.384	0.382	0.370	0.028	0.77	0.78
	Back	0.595	0.382	0.370	0.028	0.98	0.99
GSM1900	Front	0.572	0.382	0.370	0.028	0.95	0.97
	Back	0.938	0.382	0.370	0.028	1.32	1.34
WCDMA II	Front	0.517	0.382	0.370	0.028	0.90	0.92
	Back	0.880	0.382	0.370	0.028	1.26	1.28
WCDMA V	Front	0.735	0.382	0.370	0.028	1.12	1.13
	Back	1.051	0.382	0.370	0.028	1.43	1.45
LTE Band 2	Front	0.525	0.382	0.370	0.028	0.91	0.92
	Back	0.925	0.382	0.370	0.028	1.31	1.32
LTE Band 5	Front	0.727	0.382	0.370	0.028	1.11	1.13
	Back	0.919	0.382	0.370	0.028	1.30	1.32
LTE Band 7	Front	0.411	0.382	0.370	0.028	0.79	0.81
	Back	1.113	0.382	0.370	0.028	1.50	**1.51**
LTE Band 12	Front	0.339	0.382	0.370	0.028	0.72	0.74
	Back	0.393	0.382	0.370	0.028	0.78	0.79
LTE Band 13	Front	0.460	0.382	0.370	0.028	0.84	0.86
	Back	0.601	0.382	0.370	0.028	0.98	1.00
LTE Band 66	Front	0.704	0.382	0.370	0.028	1.09	1.10
	Back	1.090	0.382	0.370	0.028	1.47	1.49
LTE Band 48	Front	0.155	0.382	0.370	0.028	0.54	0.55
	Back	0.987	0.382	0.370	0.028	1.37	1.39
FR1 n2	Front	0.543	0.382	0.370	0.028	0.93	0.94
	Back	0.598	0.382	0.370	0.028	0.98	1.00
FR1 n5	Front	0.522	0.382	0.370	0.028	0.90	0.92
	Back	0.768	0.382	0.370	0.028	1.15	1.17
FR1 n66	Front	0.704	0.382	0.370	0.028	1.09	1.10
	Back	1.031	0.382	0.370	0.028	1.41	1.43
FR1 n77	Front	0.317	0.382	0.370	0.028	0.70	0.72
	Back	0.900	0.382	0.370	0.028	1.28	1.30

Sensor off

WWAN Band	Exposure Position	1	2	1+2
		WWAN	5GHz WLAN Ant 5+6	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM1900	Front at 18mm	0.503	0.065	0.57
	Back at 24mm	0.514	0.303	0.82
WCDMA II	Front at 18mm	0.417	0.065	0.48
	Back at 24mm	0.482	0.303	0.79
LTE Band 2	Front at 18mm	0.360	0.065	0.43
	Back at 24mm	0.410	0.303	0.71
LTE Band 7	Front at 18mm	0.330	0.065	0.40
	Back at 24mm	0.322	0.303	0.63
LTE Band 66	Front at 18mm	0.408	0.065	0.47
	Back at 24mm	0.366	0.303	0.67
LTE Band 48	Front at 18mm	0.241	0.065	0.31
	Back at 24mm	0.183	0.303	0.49
FR1 n2	Front at 18mm	0.149	0.065	0.21
	Back at 24mm	0.133	0.303	0.44
FR1 n66	Front at 18mm	0.294	0.065	0.36
	Back at 24mm	0.345	0.303	0.65
FR1 n77	Front at 18mm	0.288	0.065	0.35
	Back at 24mm	0.696	0.303	1.00

17.5 Product specific 10g SAR Exposure Conditions

WWAN Band	Exposure Position	1 WWAN 10g SAR (W/kg)	2 2.4GHz WLAN Ant 3+6 10g SAR (W/kg)	3 5GHz WLAN Ant 5+6 10g SAR (W/kg)	1+2 Summed 10g SAR (W/kg)	1+3 Summed 10g SAR (W/kg)
GSM1900	Front	1.808	0.685	0.753	2.49	2.56
	Back	2.859	0.685	0.753	3.54	3.61
	Left side				0.00	0.00
	Right side				0.00	0.00
	Top side	1.199	0.685	0.753	1.88	1.95
	Bottom side	1.703	0.685	0.753	2.39	2.46
WCDMA II	Front	2.257	0.685	0.753	2.94	3.01
	Back	3.165	0.685	0.753	3.85	3.92
	Left side				0.00	0.00
	Right side				0.00	0.00
	Top side	2.794	0.685	0.753	3.48	3.55
	Bottom side	2.758	0.685	0.753	3.44	3.51
LTE Band 2	Front	2.442	0.685	0.753	3.13	3.20
	Back	3.208	0.685	0.753	**3.89**	**3.96**
	Left side				0.00	0.00
	Right side				0.00	0.00
	Top side	2.738	0.685	0.753	3.42	3.49
	Bottom side	2.725	0.685	0.753	3.41	3.48
LTE Band 7	Front				0.00	0.00
	Back	3.146	0.685	0.753	3.83	3.90
	Left side				0.00	0.00
	Right side				0.00	0.00
	Top side				0.00	0.00
	Bottom side	2.180	0.685	0.753	2.87	2.93
LTE Band 66	Front	2.438	0.685	0.753	3.12	3.19
	Back	3.193	0.685	0.753	3.88	3.95
	Left side				0.00	0.00
	Right side				0.00	0.00
	Top side	2.745	0.685	0.753	3.43	3.50
	Bottom side	1.836	0.685	0.753	2.52	2.59
LTE Band 48	Front				0.00	0.00
	Back	2.401	0.685	0.753	3.09	3.15
	Left side	2.214	0.685	0.753	2.90	2.97
	Right side				0.00	0.00
	Top side				0.00	0.00
	Bottom side				0.00	0.00
FR1 n2	Front	2.544	0.685	0.753	3.23	3.30
	Back	3.201	0.685	0.753	3.89	3.95
	Left side				0.00	0.00
	Right side				0.00	0.00
	Top side	2.750	0.685	0.753	3.44	3.50
	Bottom side	3.101	0.685	0.753	3.79	3.85
FR1 n66	Front	1.926	0.685	0.753	2.61	2.68
	Back	1.955	0.685	0.753	2.64	2.71
	Left side				0.00	0.00
	Right side				0.00	0.00
	Top side	2.751	0.685	0.753	3.44	3.50
	Bottom side	3.157	0.685	0.753	3.84	3.91
FR1 n77	Front				0.00	0.00
	Back	2.731	0.685	0.753	3.42	3.48
	Left side	2.485	0.685	0.753	3.17	3.24
	Right side				0.00	0.00
	Top side				0.00	0.00
	Bottom side				0.00	0.00

Remark:
1. For Bluetooth Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.
3. For Front/Back/Top/Bottom/Left side, always chose higher SAR between 0mm 10g SAR and sensor off distance SAR to do co-located analysis.

18. Supplemental Tuner Tests Results

General Note:

1. 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. The additional tuner hardware has no influence to the antenna characteristics, other than impedance matching.
2. To evaluate all of the tuner states, the 144 tuner states are divided evenly among bands (except for GSM850/1900, LTE Band13 located at Ant1; GSM850/1900, 5GNR n2/n66 located at Ant 2; LTE Band48, 5GNR n77 at Ant 4)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.
3. This device supports LTE B4 / B17 and B66 / B12. Since the supported frequency span for L LTE B4 / B17 falls completely within the supports frequency span for B66 / B12, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, chose LTE B66 / B12 for dynamic antenna analysis.
4. According to workshop 2019, 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. So we verified the single point SAR that bands with SAR value high than 1.2W/Kg.
5. The operational decryption contains more information about the design and implementation of the dynamic antenna tuning.

18.1 Supplemental Tuner Head & Body SAR Results

Please refer to Appendix F.

Test Engineer : Nick Hu, Hank Chang, Bruce Li

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 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[6] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.

[7] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[8] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.

[9] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[10] FCC KDB 616217 D04 v01r02, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, Oct 2015

[11] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[12] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[13] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

[14] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.

------THE END------

Appendix A. Plots of System Performance Check

The plots are shown as follows.

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.3.10

System Check_Head_750MHz

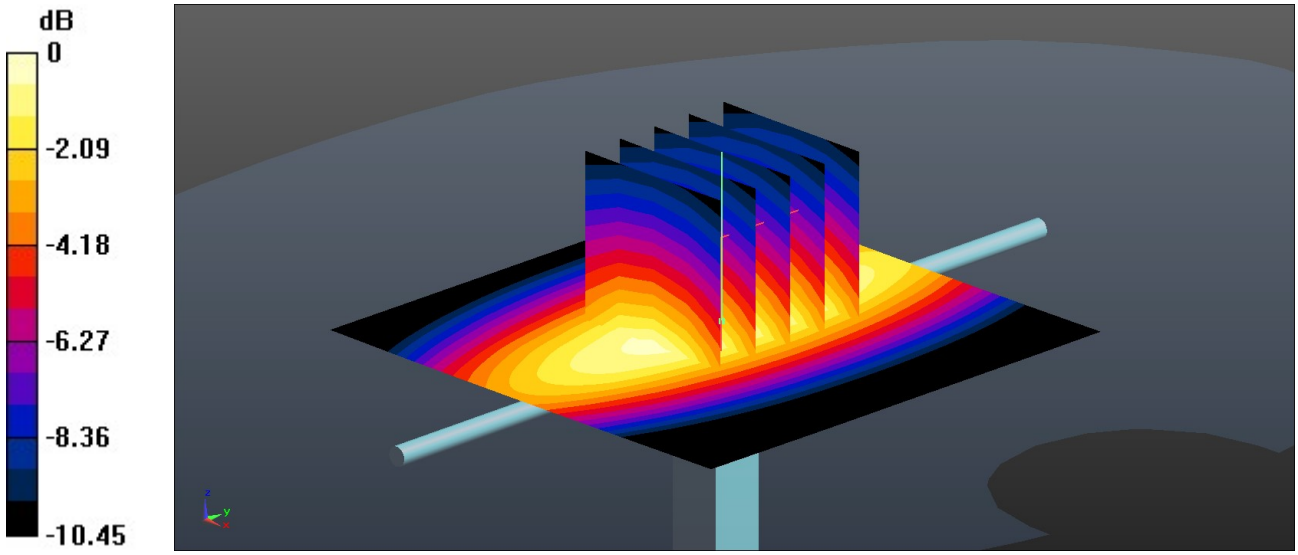
DUT: D750V3 - SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750 Medium parameters used: f = 750 MHz; σ = 0.902 S/m; ε_r = 41.62; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.5, 9.5, 9.5); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.74 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 57.97 V/m; Power Drift = -0.15 dB
Peak SAR (extrapolated) = 3.17 W/kg
SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.37 W/kg
Maximum value of SAR (measured) = 2.80 W/kg



0 dB = 2.80 W/kg = 4.47 dBW/kg

System Check_Head_835MHz

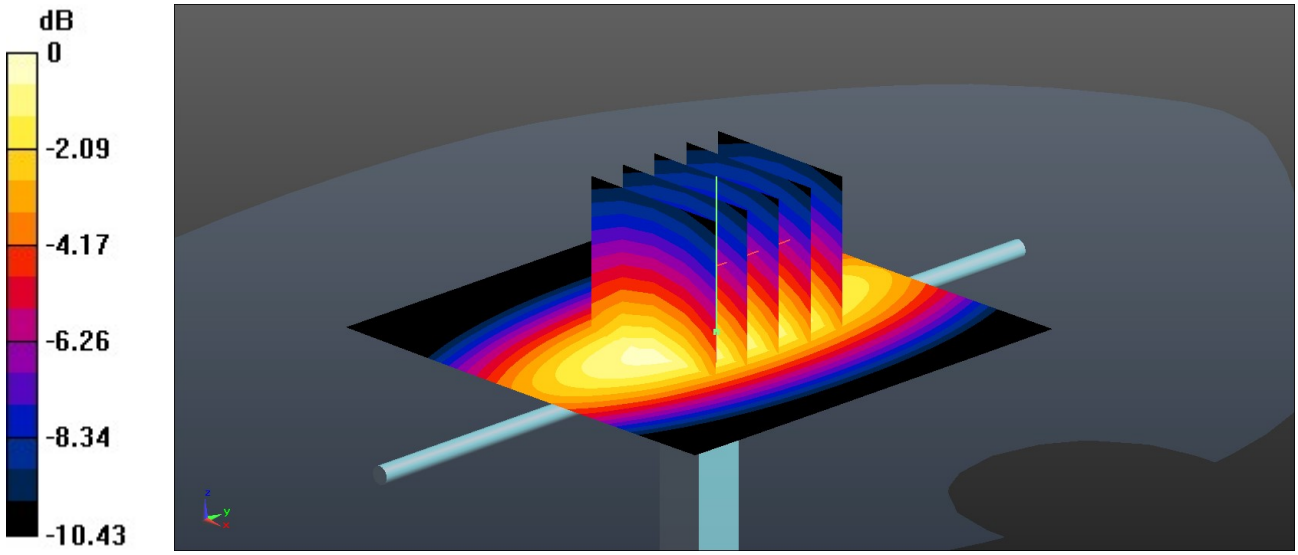
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.921 S/m; ε_r = 40.872; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(9.18, 9.18, 9.18); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.95 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.37 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 3.77 W/kg
SAR(1 g) = 2.52 W/kg; SAR(10 g) = 1.65 W/kg
Maximum value of SAR (measured) = 2.95 W/kg



0 dB = 2.95 W/kg = 4.70 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.14

System Check_Head_1750MHz

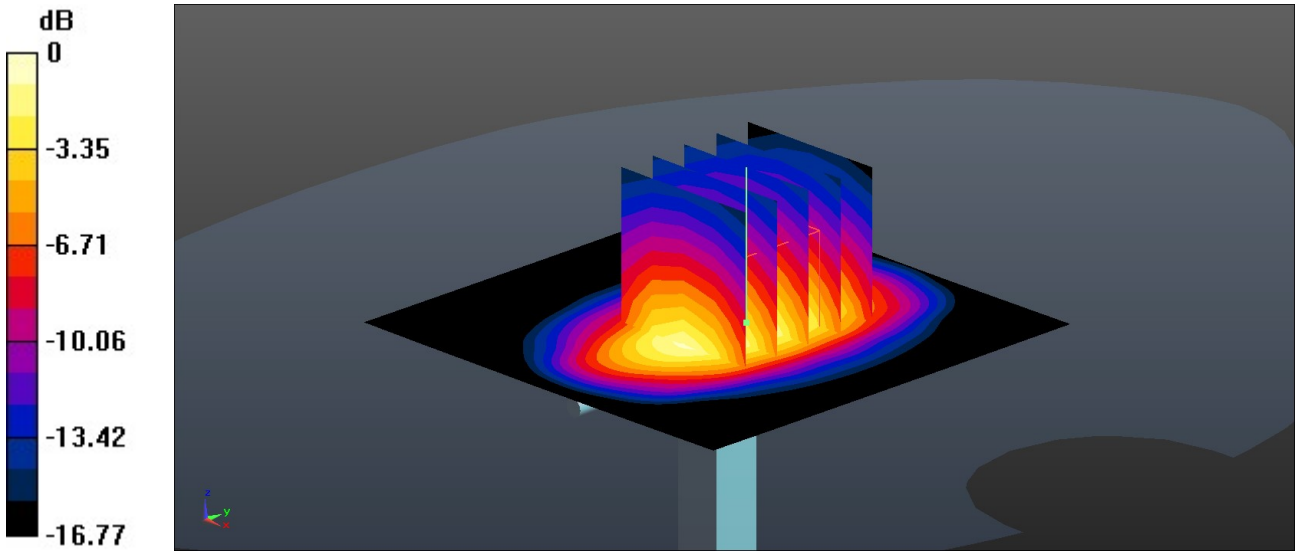
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.352 S/m; ε_r = 40.08; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(8.06, 8.06, 8.06); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 11.5 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 88.88 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 16.1 W/kg
SAR(1 g) = 9.02 W/kg; SAR(10 g) = 4.86 W/kg
Maximum value of SAR (measured) = 11.2 W/kg



0 dB = 11.2 W/kg = 10.49 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.18

System Check_Head_1900MHz

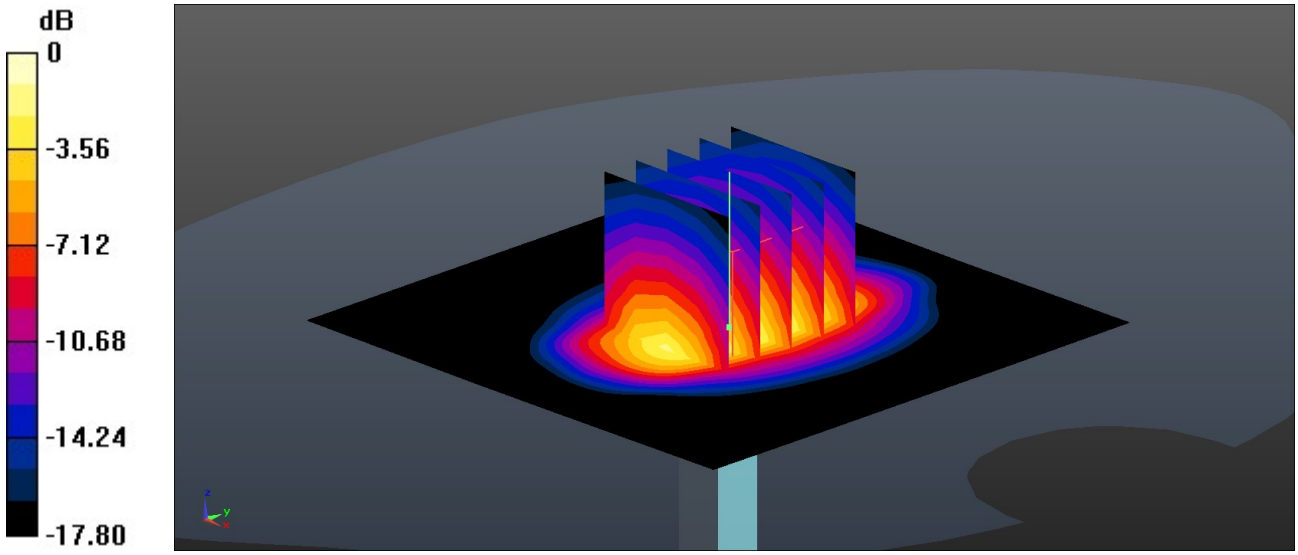
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.433 S/m; ε_r = 39.856; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.81, 7.81, 7.81); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 15.6 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 107.5 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 19.0 W/kg
SAR(1 g) = 10.4 W/kg; SAR(10 g) = 5.43 W/kg
Maximum value of SAR (measured) = 16.0 W/kg



0 dB = 16.0 W/kg = 12.04 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.20

System Check_Head_2600MHz

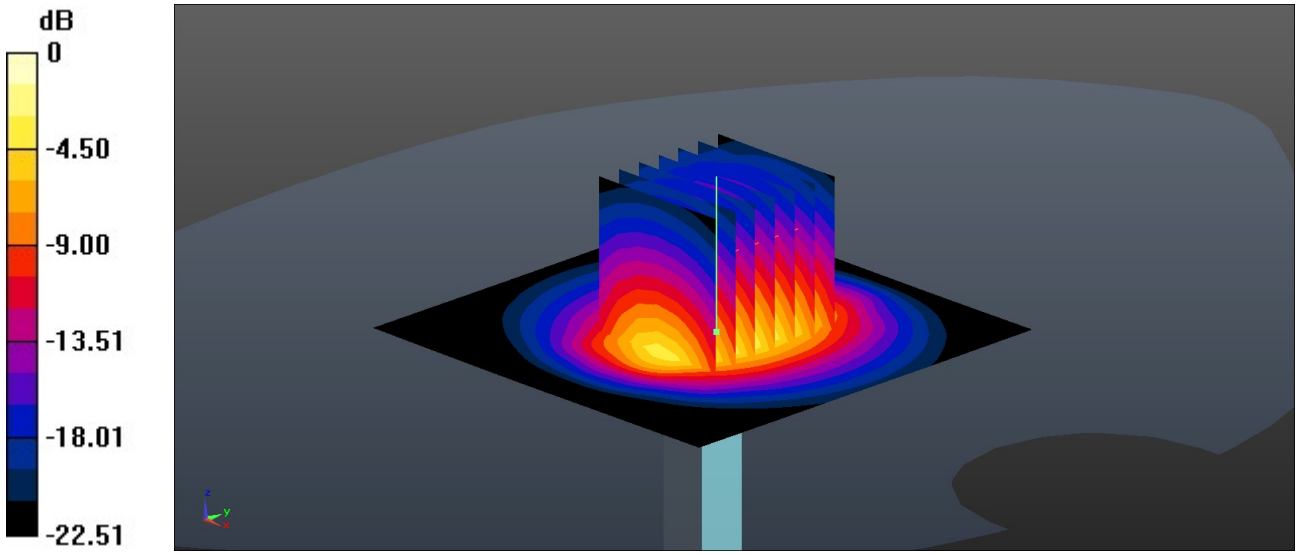
DUT: D2600V2 - SN:1061

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600 Medium parameters used: f = 2600 MHz; σ = 1.887 S/m; ε_r = 39.26; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.19, 7.19, 7.19); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 24.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 113.4 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 30.0 W/kg
SAR(1 g) = 14.4 W/kg; SAR(10 g) = 6.56 W/kg
Maximum value of SAR (measured) = 24.2 W/kg



0 dB = 24.2 W/kg = 13.84 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.22

System Check_Head_3500MHz

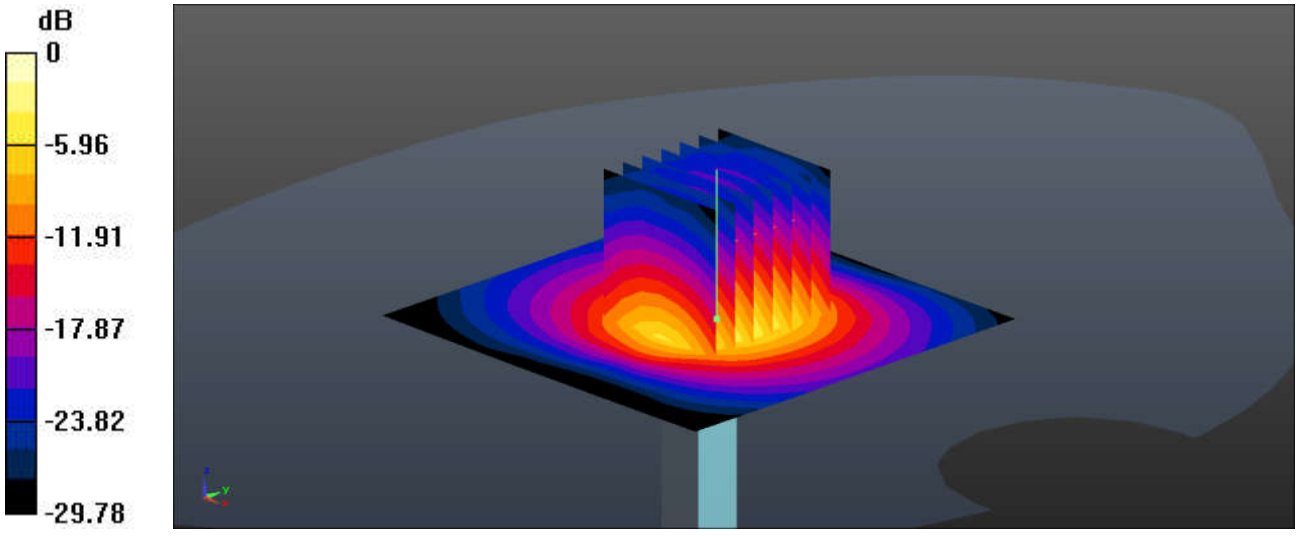
DUT: D3500V2 - SN:1037

Communication System: UID 0, CW (0); Frequency: 3500 MHz;Duty Cycle: 1:1
Medium: HSL_3500 Medium parameters used: f = 3500 MHz; σ = 2.783 S/m; ε_r = 39.68; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(6.67, 6.67, 6.67); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 11.2 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 65.18 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 15.1 W/kg
SAR(1 g) = 6.32 W/kg; SAR(10 g) = 2.48 W/kg
Maximum value of SAR (measured) = 11.8 W/kg



0 dB = 11.8 W/kg = 10.72 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.22

System Check_Head_3700MHz

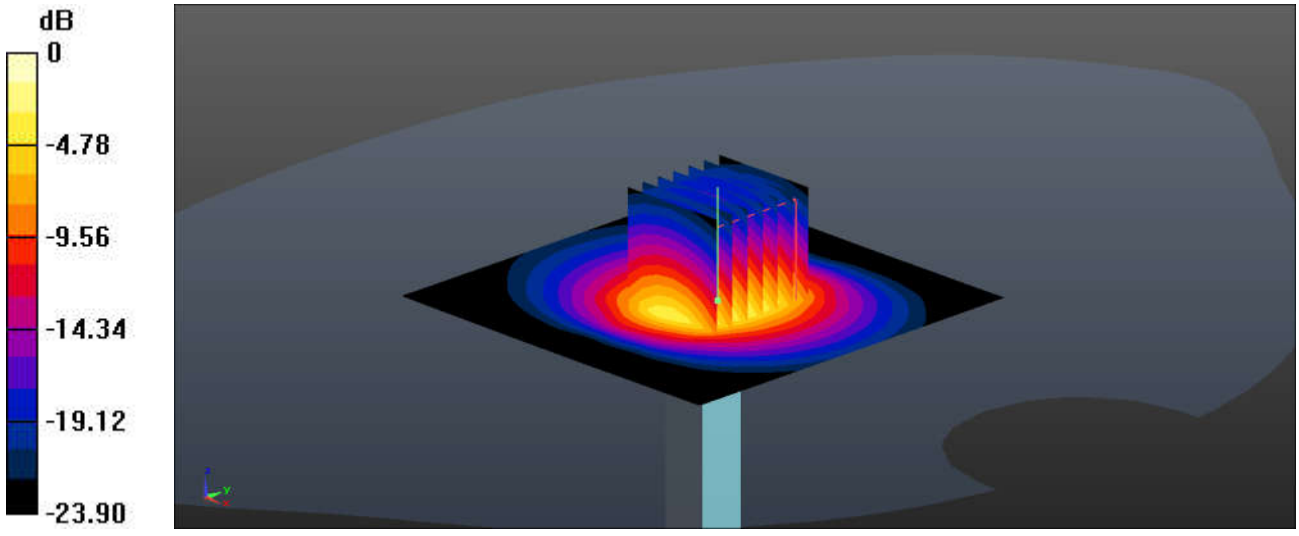
DUT: D3700V2 - SN:1008

Communication System: UID 0, CW (0); Frequency: 3700 MHz;Duty Cycle: 1:1
Medium: HSL_3700 Medium parameters used: f = 3700 MHz; σ = 2.967 S/m; ε_r = 39.362; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(6.61, 6.61, 6.61); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (81x81x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 13.2 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 50.73 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 17.5 W/kg
SAR(1 g) = 6.71 W/kg; SAR(10 g) = 2.54 W/kg
Maximum value of SAR (measured) = 13.0 W/kg



0 dB = 13.0 W/kg = 11.14 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.6

System Check_Head_835MHz

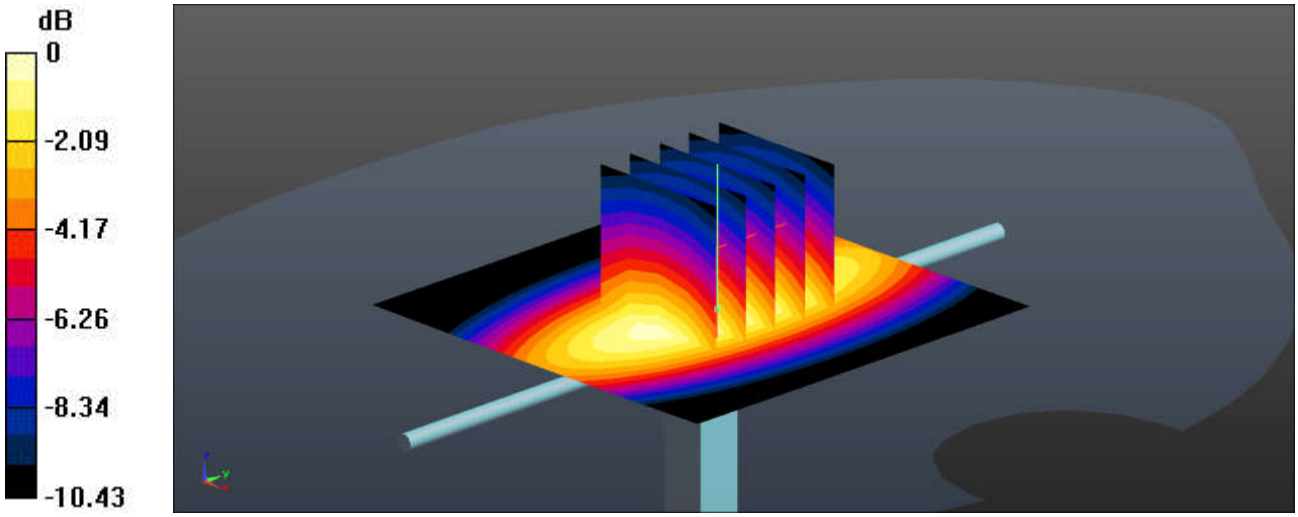
DUT: D835V2 - SN:4d258

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835 Medium parameters used: f = 835 MHz; σ = 0.915 S/m; ε_r = 41.263; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.5 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3935; ConvF(10.31, 10.31, 10.31); Calibrated: 2020.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2020.8.25
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 2.93 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 56.37 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 3.74 W/kg
SAR(1 g) = 2.5 W/kg; SAR(10 g) = 1.64 W/kg
Maximum value of SAR (measured) = 2.93 W/kg



0 dB = 2.93 W/kg = 4.67 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.8

System Check_Head_1750MHz

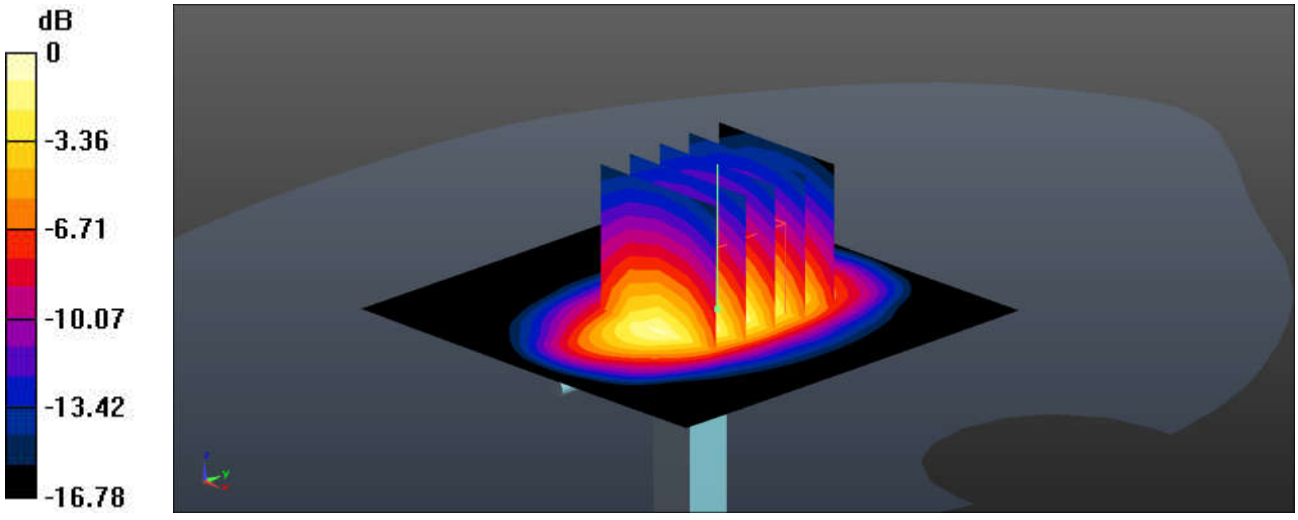
DUT: D1750V2 - SN:1090

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750 Medium parameters used: f = 1750 MHz; σ = 1.383 S/m; ε_r = 41.08; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3935; ConvF(8.6, 8.6, 8.6); Calibrated: 2020.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2020.8.25
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 12.4 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 89.62 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 17.3 W/kg
SAR(1 g) = 9.71 W/kg; SAR(10 g) = 5.23 W/kg
Maximum value of SAR (measured) = 12.1 W/kg



0 dB = 12.1 W/kg = 10.83 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.16

System Check_Head_1900MHz

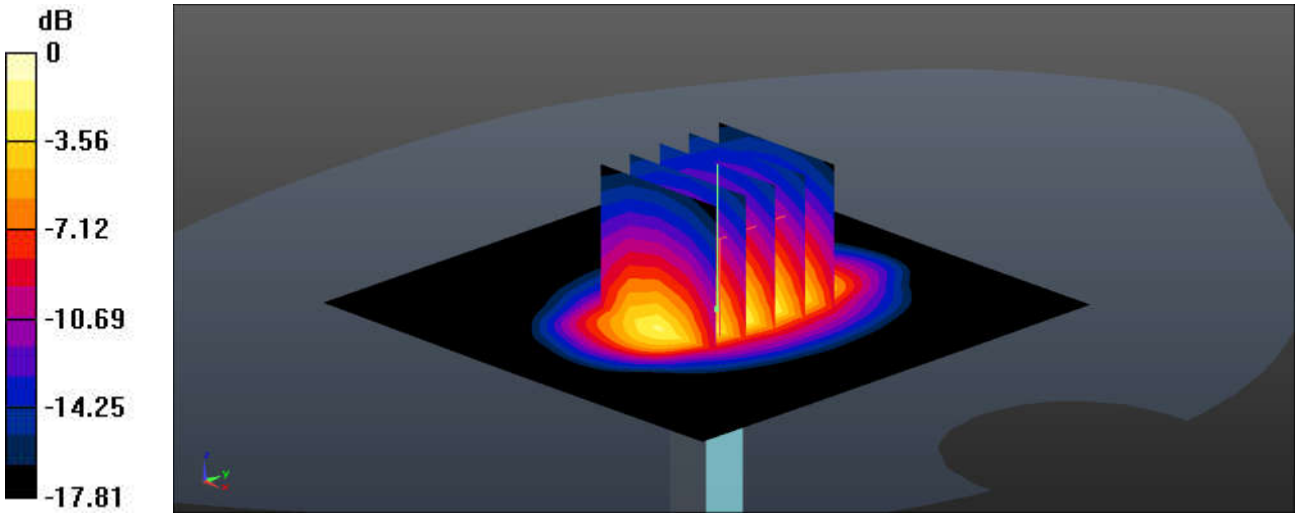
DUT: D1900V2 - SN:5d170

Communication System: UID 0, CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900 Medium parameters used: f = 1900 MHz; σ = 1.401 S/m; ε_r = 40.146; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3935; ConvF(8.35, 8.35, 8.35); Calibrated: 2020.5.27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2020.8.25
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 15.2 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 107.5 V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 18.5 W/kg
SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.31 W/kg
Maximum value of SAR (measured) = 15.7 W/kg



0 dB = 15.7 W/kg = 11.96 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.20

System Check_Head_3900MHz

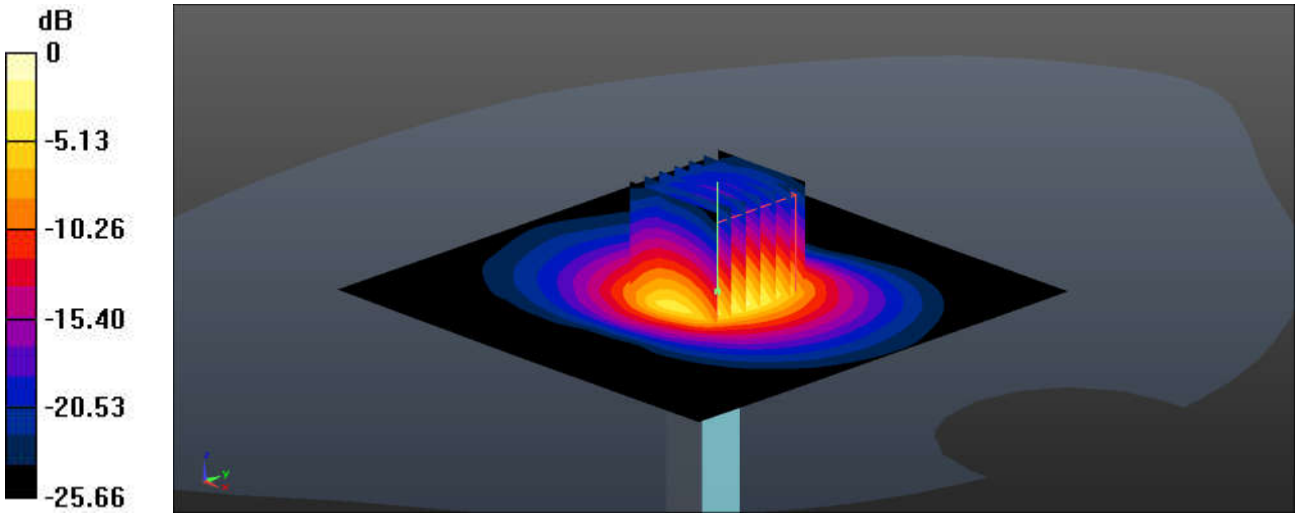
DUT: D3900V2 - SN:1048

Communication System: UID 0, CW (0); Frequency: 3900 MHz;Duty Cycle: 1:1
Medium: HSL_3900 Medium parameters used: f = 3900 MHz; σ = 3.193 S/m; ε_r = 38.383; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN7592; ConvF(6.43, 6.43, 6.43); Calibrated: 2020.5.22
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1279; Calibrated: 2020.8.25
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1503
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 12.3 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 47.32 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 15.9 W/kg
SAR(1 g) = 6.37 W/kg; SAR(10 g) = 2.24 W/kg
Maximum value of SAR (measured) = 12.3 W/kg



0 dB = 12.3 W/kg = 10.90 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.3.31

System Check_Head_2450MHz

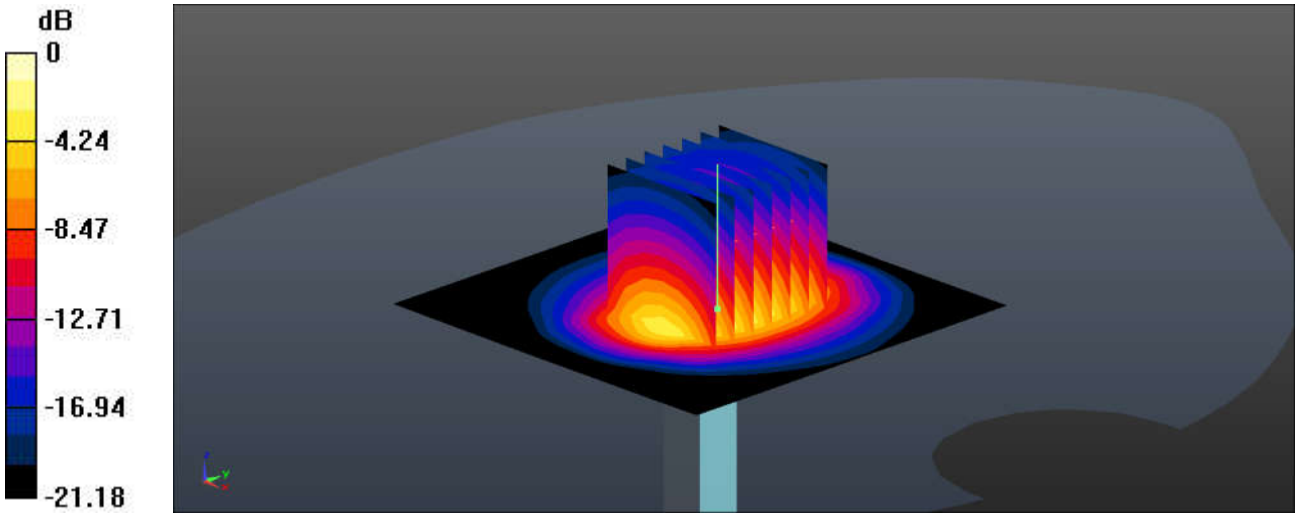
DUT: D2450V2 - SN:908

Communication System: UID 0, CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450 Medium parameters used: f = 2450 MHz; σ = 1.772 S/m; ε_r = 39.465; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(7.44, 7.44, 7.44); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 17.5 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 92.64 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 26.4 W/kg
SAR(1 g) = 13.1 W/kg; SAR(10 g) = 6.17 W/kg
Maximum value of SAR (measured) = 17.1 W/kg



0 dB = 17.1 W/kg = 12.33 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.21

System Check_Head_5250MHz

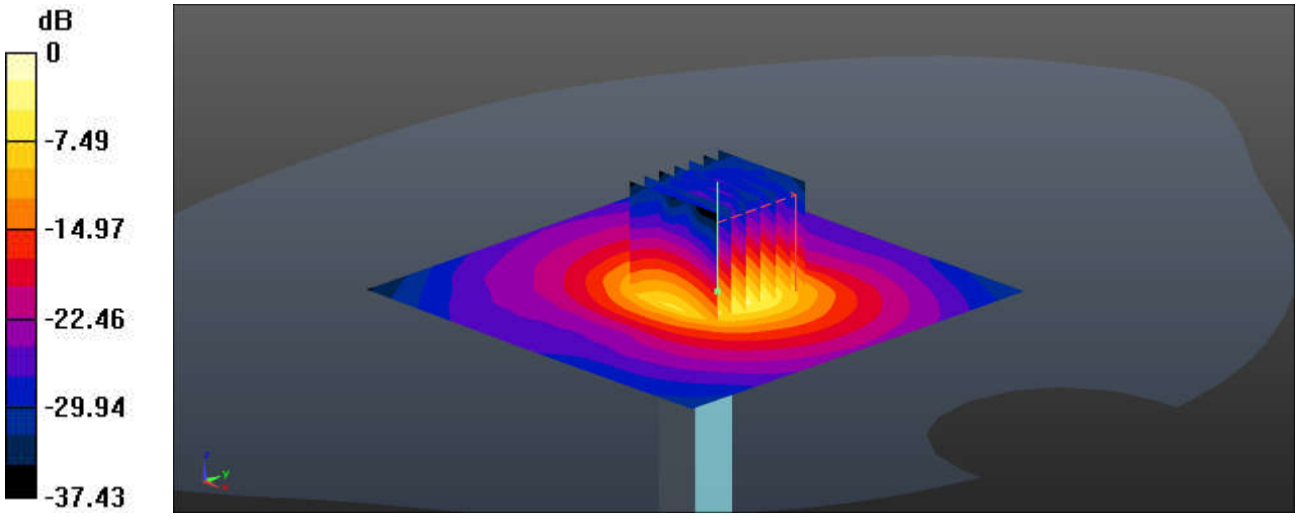
DUT: D5GHzV2 - SN:1113

Communication System: UID 0, CW (0); Frequency: 5250 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5250 MHz; σ = 4.637 S/m; ε_r = 36.507; ρ = 1000 kg/m^3
Ambient Temperature：23.3 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(5.04, 5.04, 5.04); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (91x91x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.0 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 42.10 V/m; Power Drift = -0.02 dB
Peak SAR (extrapolated) = 30.5 W/kg
SAR(1 g) = 7.99 W/kg; SAR(10 g) = 2.32 W/kg
Maximum value of SAR (measured) = 19.8 W/kg



0 dB = 19.8 W/kg = 12.97 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.23

System Check_Head_5600MHz

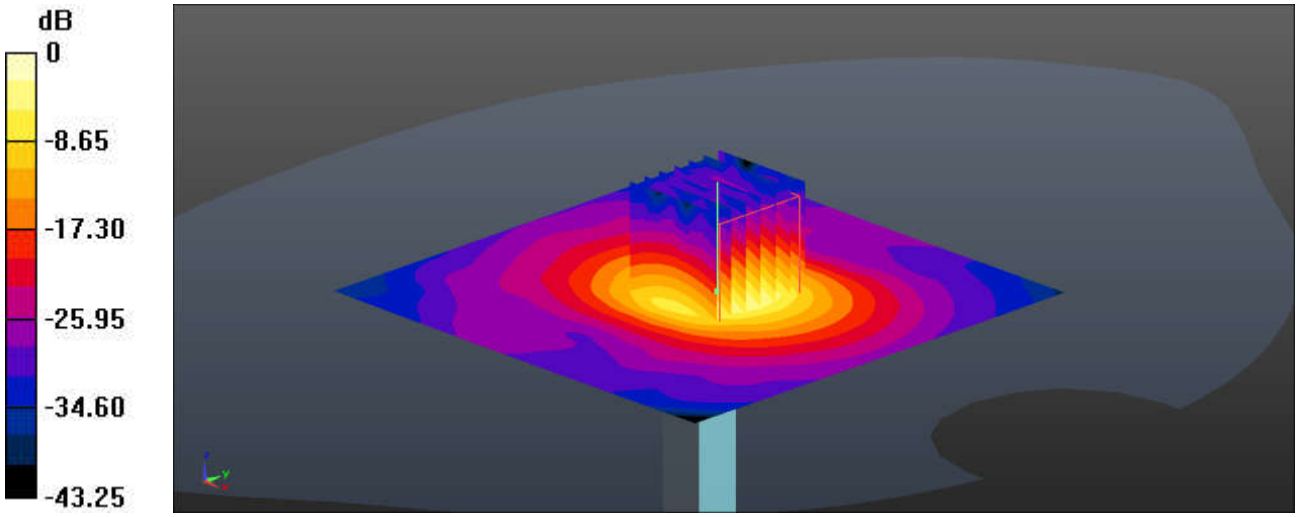
DUT: D5GHzV2 - SN:1113

Communication System: UID 0, CW (0); Frequency: 5600 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5600 MHz; σ = 4.983 S/m; ε_r = 35.92; ρ = 1000 kg/m^3
Ambient Temperature：23.1 ℃; Liquid Temperature：22.6 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.67, 4.67, 4.67); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.9 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 39.95 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 33.5 W/kg
SAR(1 g) = 8.24 W/kg; SAR(10 g) = 2.39 W/kg
Maximum value of SAR (measured) = 20.7 W/kg



0 dB = 20.7 W/kg = 13.16 dBW/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2021.4.25

System Check_Head_5750MHz

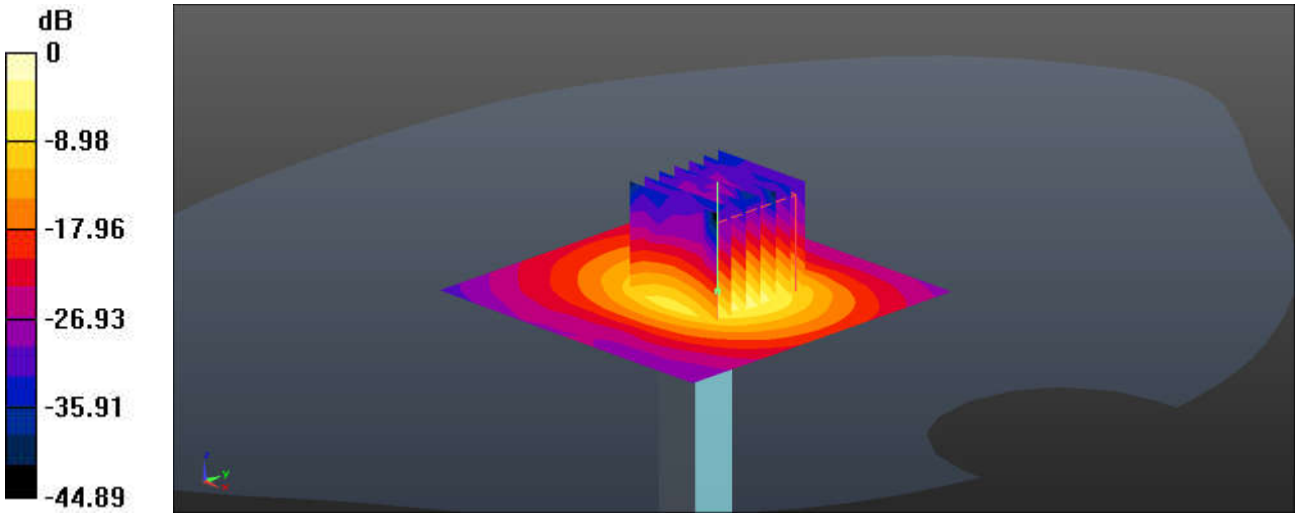
DUT: D5GHzV2 - SN:1113

Communication System: UID 0, CW (0); Frequency: 5750 MHz;Duty Cycle: 1:1
Medium: HSL_5000 Medium parameters used: f = 5750 MHz; σ = 5.215 S/m; ε_r = 35.588; ρ = 1000 kg/m^3
Ambient Temperature：23.2 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3857; ConvF(4.93, 4.93, 4.93); Calibrated: 2020.9.25
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1338; Calibrated: 2020.11.27
- Phantom: SAM Twin Phantom; Type: SAM Twin; Serial: TP-1753
- Measurement SW: DASY52, Version 52.10 (4); SEMCAD X Version 14.6.14 (7483)

Pin=100mW/Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 19.4 W/kg

Pin=100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 37.75 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 33.8 W/kg
SAR(1 g) = 7.84 W/kg; SAR(10 g) = 2.25 W/kg
Maximum value of SAR (measured) = 20.2 W/kg



0 dB = 20.2 W/kg = 13.05 dBW/kg

Appendix B. Plots of High SAR Measurement

The plots are shown as follows.