FCC SAR Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT2215-1
FCC ID	:	IHDT56AA5
STANDARD	:	FCC 47 CFR Part 2 (2.1093)

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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

Hank Huang

Reviewed by: Hank Huang / Supervisor

Johnny Chen

Approved by: Johnny Chen / Manager

Sporton International Inc. (Shenzhen)
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People's Republic of China

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA1N0903-01	Rev. 01	Initial issue of report.	Feb. 23, 2022

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2215-1, a**re 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	0.19	0.99	0.99	1.57
		GSM1900	0.10	1.05	1.26	
	WCDMA	Band V	0.32	1.12	1.12	
		Band II	0.15	1.21	**1.27**	
	LTE	Band 12	1.13	0.95	0.95	
		Band 13	1.18	0.96	0.97	
		Band 5	1.21	1.14	1.14	
		Band 66/ 4	1.04	1.10	1.23	
		Band 2	1.26	1.22	1.14	
		Band 7	<0.10	1.23	1.23	
		Band 48	1.17	0.59	**1.27**	
	5G NR	n5	1.20	0.89	0.89	
		n66	1.06	1.10	1.21	
		n2	**1.27**	**1.27**	1.18	
		n77/n78	**1.27**	0.61	**1.27**	
DTS	WLAN	2.4GHz WLAN	1.10	0.57	0.91	1.54
NII		5GHz WLAN	0.70	0.61	1.15	1.57
DSS	Bluetooth	2.4GHz Bluetooth	0.24	0.15	0.15	1.29

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	GSM850	1.11	3.84
		GSM1900	2.92	
	WCDMA	Band II	2.70	
	LTE	Band 66/ 4	3.03	
		Band 2	3.09	
		Band 7	2.40	
		Band 48	3.16	
	5G NR	n66	2.78	
		n2	3.15	
		n77/n78	3.05	
NII	WLAN	5GHz WLAN	**3.19**	3.84
Date of Testing:			2021/12/27 ~ 2022/2/15	

Remark:

1. This device supports LTE B4 and B66. Since the supported frequency span for LTE B4 falls completely within the supports frequency span for LTE B66, 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.
2. This device supports 5GNR n77 and 5GNR n78. Since the supported frequency span for 5GNR n78 falls completely within the supports frequency span for 5GNR n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for 5GNR n77.

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 Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Testing Laboratory			
Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	SAR03-SZ SAR04-SZ	CN1256	421272

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	XT2215-1
FCC ID	IHDT56AA5
IMEI Code	351626420009414
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 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: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz 5G NR n260 : 37 GHz~40 GHz 5G NR n261 : 27.5 GHz~28.35 GHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 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, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ac VHT20/VHT40 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	S1SD32.29
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 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). WIFI 6E has no hotspot function.
4. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
5. The device implements the power management and proximity sensor /receiver detection/hotspot mode 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. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.

6. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head and Handheld. For WLAN when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn.
7. For some WWAN bands, sensor on reduced power level is higher than hotspot reduced power level, so front/back sensor on SAR can represent hotspot conservatively.
8. 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 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 can be referred to section 18 and appendix F.
9. 5G NR n77 at ant 4 supports HPUE, HPUE power and SAR testing performed separately.
10. 5G NR n77 at ant 4 HUPE with higher power, 5G NR n77 at ant 4 HUPE SAR can represent power class 3 level SAR.
11. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
12. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
13. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
14. 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.
15. 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.
16. SAR Power density test report for 5G NR FR2 will be separately submitted.
17. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.

<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, 30, 40, 50, 60, 70, 80, 90, 100
SA	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, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r05</th></tr>
<tr><td>FCC ID</td><td>IHDT56AA5</td></tr>
<tr><td>Equipment Name</td><td>Mobile Cellular Phone</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>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 48: 3550 MHz ~ 3700 MHz
LTE Band 66: 1710 MHz ~ 1780 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>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 48: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK / 16QAM / 64QAM /256QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15, Cat18</td></tr>
<tr><td>CA Support</td><td>Supported, Uplink and Downlink</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>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)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>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.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body -worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 14.</td></tr>
<tr><td>LTE Carrier Aggregation Combinations</td><td>Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-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 and 2 carriers in the uplink.</td></tr>
</table>

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 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: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz
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, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n78: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 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 n2	LTE B5/13/66/48
LTE Anchor Bands for n5	LTE B2/48/66
LTE Anchor Bands for n66	LTE B2/5/13
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

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

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 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	664666	3969.99	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78																		
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	652666	3789.99	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		

For <3450 MHz ~ 3550 MHz >

NR Band 77																		
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

NR Band 78																		
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

5. Smart Transmit feature for RF Exposure compliance

The 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 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.

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_target.
P_{max}	Maximum target power level
SAR_design_target:	The design target for SAR compliance. It should be less than regulatory SAR limit to account for all device design related uncertainty.
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>

	Uncertainty dB (k=2)
Total uncertainty	1.5

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

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

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit, for each characterized technology and band.

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)>

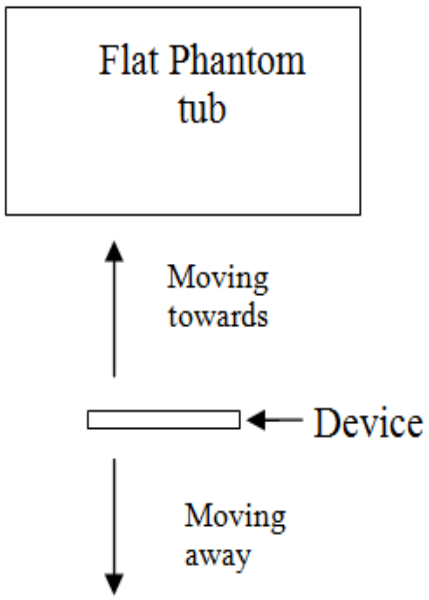
Band	Antenna	Head		Body Worn		Hotspot	Extremity		Sensor Off	Pmax*
		DSI2	DSI2_Sim TX	DSI3	DSI3_Sim TX	DSI3_Sim TX	DSI6	DSI6_Sim TX	DSI4	
GSM850(4 Tx slots)	1	35.3	35.3	24.0	24.0	24.0	28.8	28.8	26.0	26.0
GSM1900(3 Tx slots)	1	34.6	34.6	17.7	15.2	15.2	20.2	20.2	22.7	22.7
WCDMA V	1	30.0	30.0	23.0	23.0	23.0	23.0	23.0	23.0	23.0
WCDMA II	1	33.2	33.2	16.5	15.0	15.0	19.5	19.5	23.0	23.0
LTE Band 12	1	32.1	32.1	25.2	25.2	25.2	23.0	23.0	23.0	23.0
LTE Band 12	2	24.5	21.5	25.6	22.5	22.5	23.0	23.0	23.0	23.0
LTE Band 13	1	31.4	31.4	25.2	25.2	25.2	23.0	23.0	23.0	23.0
LTE Band 13	2	22.5	21.0	25.2	21.5	21.5	23.0	23.0	23.0	23.0
LTE Band 5	1	30.4	30.4	23.0	23.0	23.0	24.3	24.3	23.0	23.0
LTE Band 5	2	22.0	20.5	23.0	20.5	20.5	25.1	24.3	23.0	23.0
LTE Band 66/4	1	31.0	31.0	17.0	15.5	15.5	21.0	21.0	23.0	23.0
LTE Band 66/4	2	23.0	20.5	23.0	20.0	20.0	23.0	19.5	23.0	23.0
LTE Band 2	1	33.0	33.0	16.5	15.5	15.5	20.0	20.0	23.0	23.0
LTE Band 2	2	21.0	19.5	21.0	18.0	18.0	23.0	20.0	23.0	23.0
LTE Band 7	1	38.4	38.4	15.5	14.0	14.0	18.5	18.5	23.0	23.0
LTE Band 48	4	22.4	20.5	17.5	14.5	14.5	17.5	14.5	21.0	21.0
FR1 N5	1	42.0	42.0	25.5	25.5	25.5	23.0	23.0	23.0	23.0
FR1 N5	2	24.5	21.5	26.3	22.0	22.0	23.0	23.0	23.0	23.0
FR1 N66	1	31.8	31.8	16.5	15.0	15.0	20.0	20.0	23.0	23.0
FR1 N66	2	24.8	22.0	25.6	21.5	21.5	23.0	23.0	23.0	23.0
FR1 N2	1	33.0	33.0	16.0	15.5	15.5	19.5	19.5	23.0	23.0
FR1 N2	2	22.0	20.5	21.5	19.0	19.0	22.0	19.0	23.0	23.0
FR1 N77 PC3/N78	4	21.5	20.0	14.0	11.0	11.0	16.5	13.5	23.0	23.0
FR1 N77 PC2	4	21.5	20.0	14.0	11.0	11.0	16.5	13.5	26.0	26.0
FR1 N77/N78 (SRS)	5	24.9	23.3	13.0	9.5	9.5	18.5	15.5	19.5	19.5
FR1 N77/N78 (SRS)	6	32.0	30.3	10.0	7.0	7.0	19.2	17.0	17.0	17.0
FR1 N77/N78 (SRS)	10	35.7	35.0	18.1	13.0	13.0	19.5	17.0	17.0	17.0

Note: 1) *P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + 1.0 dB uncertainty.
2) 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).
3) The max allowed output power is the Plimit + 1.0 dB device uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.
4) 5G NR n77/78 Ant 5/ Ant 6/ Ant 10 support SRS (Sounding Reference Signal) functionality.

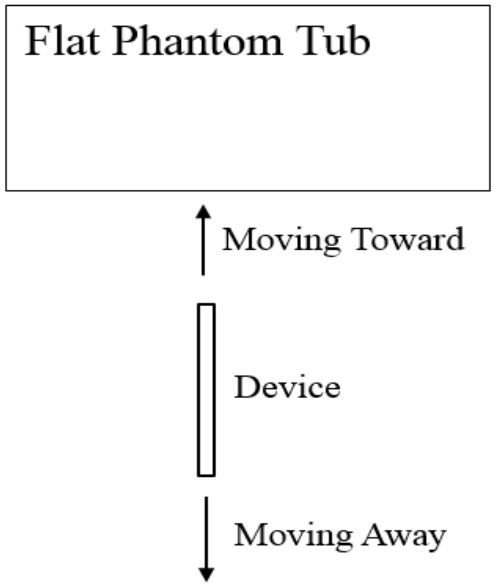
6. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according 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 (5850MHz) and lowest (835MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s). When front or back body worn condition is detected reduced power will be active.
5. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left sides of the device. When front/back/top/bottom/left sides of handheld condition is detected reduced power will be active.
6. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed:



Sensor detection test set-up, front and back sides



Sensor detection test set-up, Left Side, Bottom Side and Top Side

<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	22	25	28	33

<Handheld for ANT1>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	5	6	8	9	13	15

<Handheld for ANT2>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	11	11	14	11	16	13	17

<Handheld for ANT4>

Proximity Sensor Triggering Distance (mm)				
Position	Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	13	16	11	16

<Handheld for ANT10>

Proximity Sensor Triggering Distance (mm)		
Position	Back	
	Moving towards	Moving away
Minimum	13	16

<Handheld for ANT5>

Proximity Sensor Triggering Distance (mm)		
Position	Back	
	Moving towards	Moving away
Minimum	8	10

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:

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

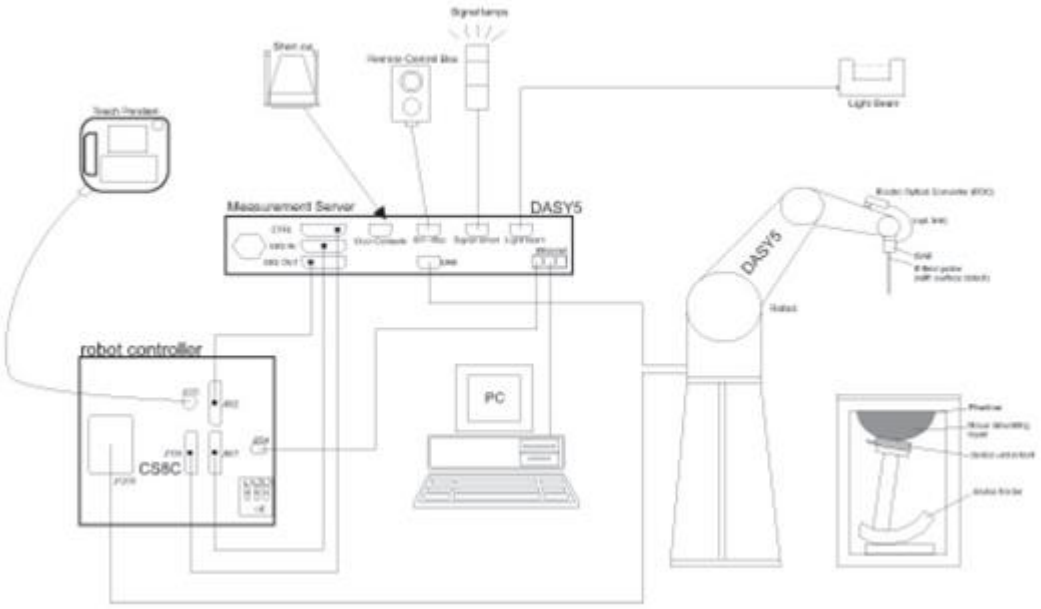
SAR is expressed in units of Watts per kilogram (W/kg)

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

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 DASY5 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 Win10 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.

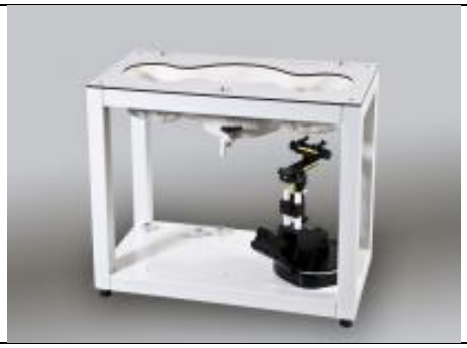
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

9.3 Phantom

<SAM Twin Phantom>

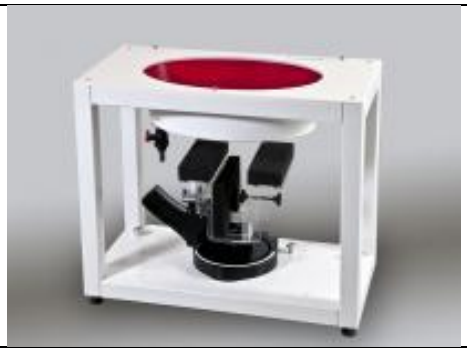
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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	2022/3/24
SPEAG	835MHz System Validation Kit	D835V2	4d258	2020/5/7	2023/5/6
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	924	2020/9/2	2023/9/1
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2023/11/25
SPEAG	3500MHz System Validation Kit	D3500V2	1076	2019/4/29	2022/4/14
SPEAG	3700MHz System Validation Kit	D3700V2	1037	2019/4/29	2022/4/14
SPEAG	3900MHz System Validation Kit	D3900V2	1022	2019/7/11	2022/7/6
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2019/9/24	2022/9/22
SPEAG	Data Acquisition Electronics	DAE4	1210	2021/8/25	2022/8/24
SPEAG	Dosimetric E-Field Probe	EX3DV4	3819	2021/4/30	2022/4/29
SPEAG	SAM Twin Phantom	QD 000 P40 CC	TP-1500	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	2021/7/14	2022/7/13
Anritsu	Radio communication analyzer	MT8821C	6262314715	2021/6/29	2022/6/28
Agilent	Wireless Communication Test Set	E5515C	MY50267224	2021/7/14	2022/7/13
Keysight	Network Analyzer	E5071C	MY46523671	2021/10/25	2022/10/24
Speag	Dielectric Assessment KIT	DAK-3.5	1138	2021/6/9	2022/6/8
Anritsu	Vector Signal Generator	MG3710A	6201682672	2021/1/7	2022/1/6
Agilent	Signal Generator	N5181A	MY50145381	2021/12/28	2022/12/27
Anritsu	Power Sensor	MA2411B	1306099	2021/9/29	2022/9/28
Anritsu	Power Meter	ML2495A	1349001	2021/9/29	2022/9/28
R&S	Power Sensor	NRP50S	101254	2021/4/9	2022/4/8
R&S	Power Sensor	NRP8S	109228	2021/4/9	2022/4/8
R&S	CBT BLUETOOTH TESTER	CBT	100963	2021/12/28	2022/12/27
R&S	Spectrum Analyzer	FSP7	100818	2021/7/14	2022/7/13
TES	Hygrometer	1310	200505600	2021/7/17	2022/7/16
Anymetre	Thermo-Hygrometer	JR593	2018100802	2021/10/29	2022/10/28
SPEAG	Device Holder	N/A	N/A	N/A	N/A
AR	Amplifier	5S1G4	0333096	Note 1	
mini-circuits	Amplifier	ZVE-3W-83+	599201528	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
ET Industries	Dual Directional Coupler	C-058-10	N/A	Note 1	
Weinschel	Attenuator 1	3M-10	N/A	Note 1	
Weinschel	Attenuator 2	3M-20	N/A	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. 11.1. 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. 11.2.

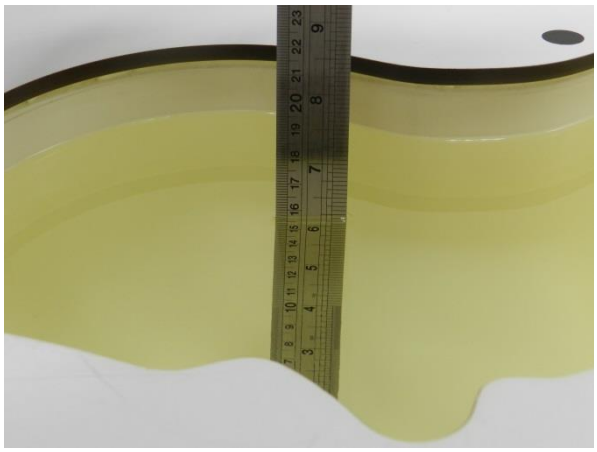


Fig 11.1 Photo of Liquid Height for Head SAR

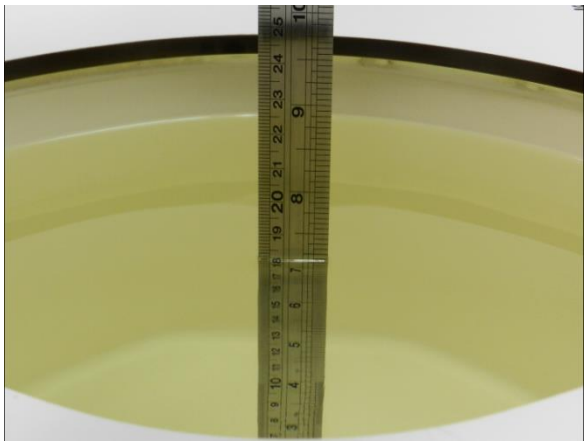


Fig 11.2 Photo of Liquid Height for Body SAR

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	0.885	40.830	0.89	41.90	-0.56	-2.55	±5	2022/1/7
750	Head	22.2	0.896	40.991	0.89	41.90	0.67	-2.17	±5	2022/1/15
835	Head	22.4	0.910	42.910	0.90	41.50	1.11	3.40	±5	2021/12/30
835	Head	22.1	0.902	40.749	0.90	41.50	0.22	-1.81	±5	2022/1/19
1750	Head	22.3	1.377	41.330	1.37	40.10	0.51	3.07	±5	2022/1/4
1750	Head	22.2	1.405	41.417	1.37	40.10	2.55	3.28	±5	2022/1/20
1900	Head	22.4	1.455	40.068	1.40	40.00	3.93	0.17	±5	2022/1/3
1900	Head	22.5	1.439	40.038	1.40	40.00	2.79	0.09	±5	2022/1/22
2450	Head	22.6	1.858	38.099	1.80	39.20	3.22	-2.81	±5	2022/1/8
2450	Head	22.3	1.821	37.950	1.80	39.20	1.17	-3.19	±5	2022/1/25
2600	Head	22.5	2.053	37.779	1.96	39.00	4.74	-3.13	±5	2021/12/29
2600	Head	22.6	2.041	38.335	1.96	39.00	4.13	-1.71	±5	2022/1/27
3500	Head	22.4	2.983	39.141	2.91	37.90	2.51	3.27	±5	2021/12/27
3500	Head	22.4	2.866	37.003	2.91	37.90	-1.51	-2.37	±5	2022/2/12
3700	Head	22.3	3.055	38.376	3.12	37.70	-2.08	1.79	±5	2021/12/28
3700	Head	22.3	3.010	36.788	3.12	37.70	-3.53	-2.42	±5	2022/2/14
3900	Head	22.5	3.225	38.145	3.33	37.51	-3.15	1.69	±5	2022/1/5
3900	Head	22.4	3.165	36.583	3.33	37.51	-4.95	-2.47	±5	2022/2/15
5250	Head	22.4	4.767	36.980	4.71	35.95	1.21	2.87	±5	2022/1/10
5250	Head	22.7	4.726	36.478	4.71	35.95	0.34	1.47	±5	2022/1/30
5600	Head	22.6	5.211	36.228	5.07	35.50	2.78	2.05	±5	2022/1/11
5600	Head	22.3	5.154	35.866	5.07	35.50	1.66	1.03	±5	2022/2/4
5750	Head	22.3	5.385	35.954	5.22	35.35	3.16	1.71	±5	2022/1/12
5750	Head	22.5	5.329	35.584	5.22	35.35	2.09	0.66	±5	2022/2/8

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 (%)
2022/1/7	750	Head	250	1087	3819	1210	2.110	8.36	8.44	0.96
2022/1/15	750	Head	250	1087	3819	1210	2.210	8.36	8.84	5.74
2021/12/30	835	Head	250	4d258	3819	1210	2.490	9.44	9.96	5.51
2022/1/19	835	Head	250	4d258	3819	1210	2.440	9.44	9.76	3.39
2022/1/4	1750	Head	250	1090	3819	1210	8.900	36.40	35.6	-2.20
2022/1/20	1750	Head	250	1090	3819	1210	9.060	36.40	36.24	-0.44
2022/1/3	1900	Head	250	5d170	3819	1210	9.850	39.00	39.4	1.03
2022/1/22	1900	Head	250	5d170	3819	1210	10.300	39.00	41.2	5.64
2022/1/8	2450	Head	250	924	3819	1210	13.300	51.40	53.2	3.50
2022/1/25	2450	Head	250	924	3819	1210	13.500	51.40	54	5.06
2021/12/29	2600	Head	250	1061	3819	1210	14.700	56.60	58.8	3.89
2022/1/27	2600	Head	250	1061	3819	1210	15.100	56.60	60.4	6.71
2021/12/27	3500	Head	100	1076	3819	1210	6.160	67.90	61.6	-9.28
2022/2/12	3500	Head	100	1076	3819	1210	6.510	67.90	65.1	-4.12
2021/12/28	3700	Head	100	1037	3819	1210	6.370	68.50	63.7	-7.01
2022/2/14	3700	Head	100	1037	3819	1210	6.550	68.50	65.5	-4.38
2022/1/5	3900	Head	100	1022	3819	1210	6.440	70.50	64.4	-8.65
2022/2/15	3900	Head	100	1022	3819	1210	6.850	70.50	68.5	-2.84
2022/1/10	5250	Head	100	1113	3819	1210	8.820	80.50	88.2	9.57
2022/1/30	5250	Head	100	1113	3819	1210	8.480	80.50	84.8	5.34
2022/1/11	5600	Head	100	1113	3819	1210	8.740	80.40	87.4	8.71
2022/2/4	5600	Head	100	1113	3819	1210	8.550	80.40	85.5	6.34
2022/1/12	5750	Head	100	1113	3819	1210	8.690	80.00	86.9	8.62
2022/2/8	5750	Head	100	1113	3819	1210	8.530	80.00	85.3	6.63

<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 (%)
2022/1/7	750	Head	250	1087	3819	1210	1.410	5.65	5.64	-0.18
2022/1/15	750	Head	250	1087	3819	1210	1.490	5.65	5.96	5.49
2021/12/30	835	Head	250	4d258	3819	1210	1.620	6.13	6.48	5.71
2022/1/19	835	Head	250	4d258	3819	1210	1.590	6.13	6.36	3.75
2022/1/4	1750	Head	250	1090	3819	1210	4.750	19.20	19	-1.04
2022/1/20	1750	Head	250	1090	3819	1210	4.790	19.20	19.16	-0.21
2022/1/3	1900	Head	250	5d170	3819	1210	4.990	20.30	19.96	-1.67
2022/1/22	1900	Head	250	5d170	3819	1210	5.300	20.30	21.2	4.43
2022/1/8	2450	Head	250	924	3819	1210	6.170	24.00	24.68	2.83
2022/1/25	2450	Head	250	924	3819	1210	6.250	24.00	25	4.17
2021/12/29	2600	Head	250	1061	3819	1210	6.460	25.10	25.84	2.95
2022/1/27	2600	Head	250	1061	3819	1210	6.740	25.10	26.96	7.41
2021/12/27	3500	Head	100	1076	3819	1210	2.390	25.30	23.9	-5.53
2022/2/12	3500	Head	100	1076	3819	1210	2.440	25.30	24.4	-3.56
2021/12/28	3700	Head	100	1037	3819	1210	2.350	24.80	23.5	-5.24
2022/2/14	3700	Head	100	1037	3819	1210	2.380	24.80	23.8	-4.03
2022/1/5	3900	Head	100	1022	3819	1210	2.270	24.60	22.7	-7.72
2022/2/15	3900	Head	100	1022	3819	1210	2.520	24.60	25.2	2.44
2022/1/10	5250	Head	100	1113	3819	1210	2.450	23.10	24.5	6.06
2022/1/30	5250	Head	100	1113	3819	1210	2.410	23.10	24.1	4.33
2022/1/11	5600	Head	100	1113	3819	1210	2.440	23.80	24.4	2.52
2022/2/4	5600	Head	100	1113	3819	1210	2.370	23.80	23.7	-0.42
2022/1/12	5750	Head	100	1113	3819	1210	2.460	22.80	24.6	7.89
2022/2/8	5750	Head	100	1113	3819	1210	2.330	22.80	23.3	2.19

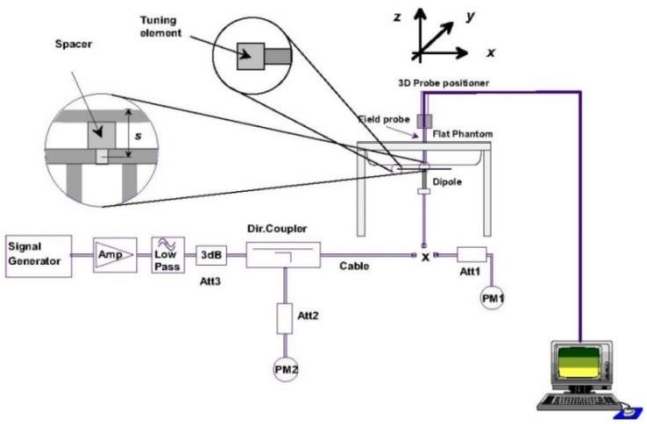


Fig 11.3.1 System Performance Check Setup

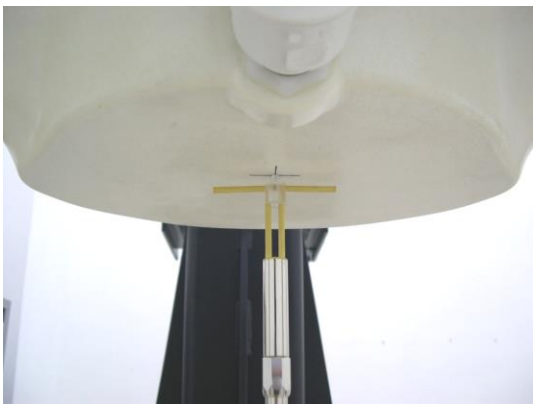


Fig 11.3.2 Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

Figure 12.1.1 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 12.1.2 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 12.1.3). 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 12.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

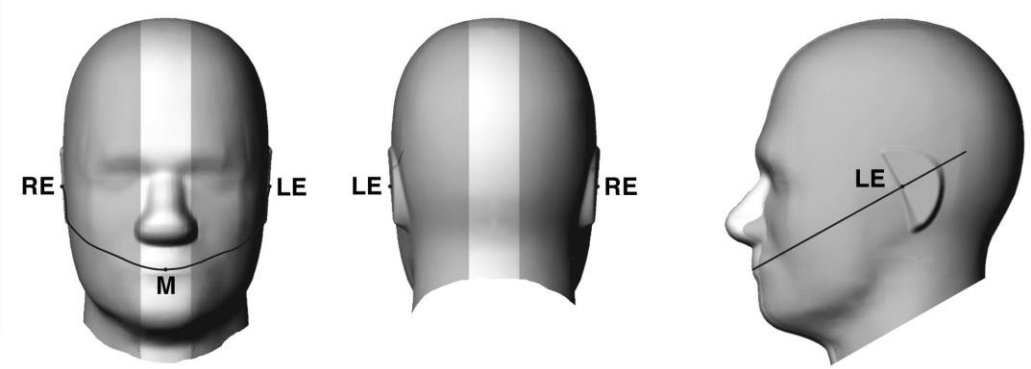


Fig 12.1.1 Front, back, and side views of SAM twin phantom

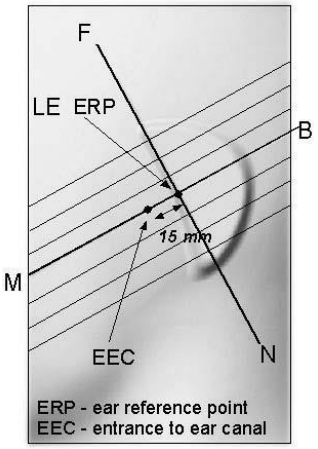


Fig 12.1.2 Close-up side view of phantom showing the ear region.

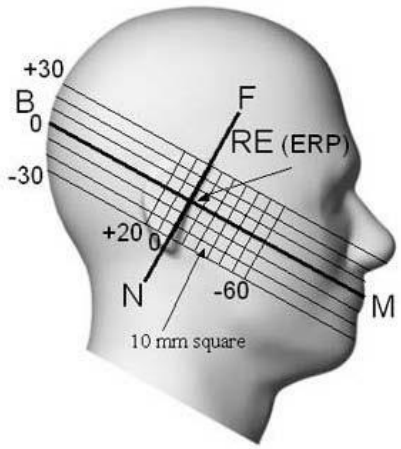


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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 12.2.1 and Figure 12.2.2), 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 12.2.1). 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 12.2.2), 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 12.2.3), 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 12.2.3. The actual rotation angles should be documented in the test report.

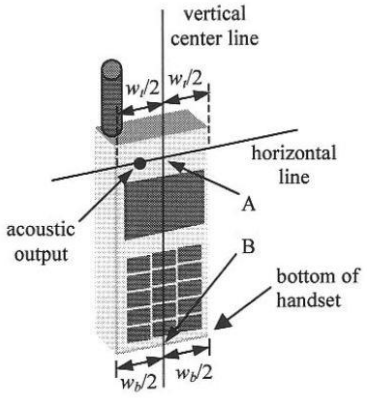


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

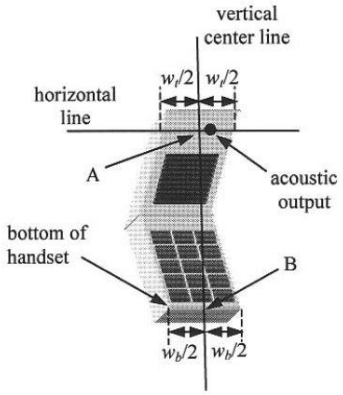


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

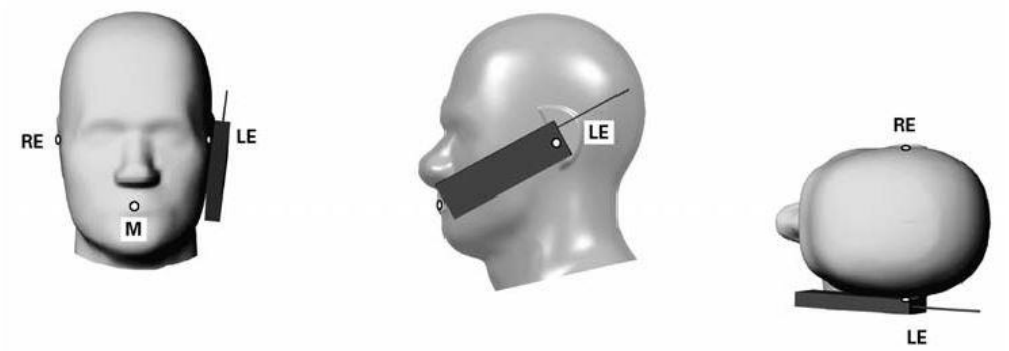


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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 12.3.1. 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

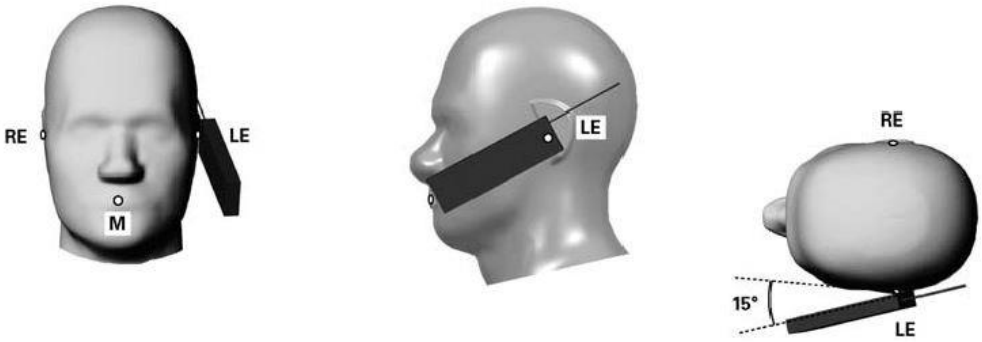


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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.

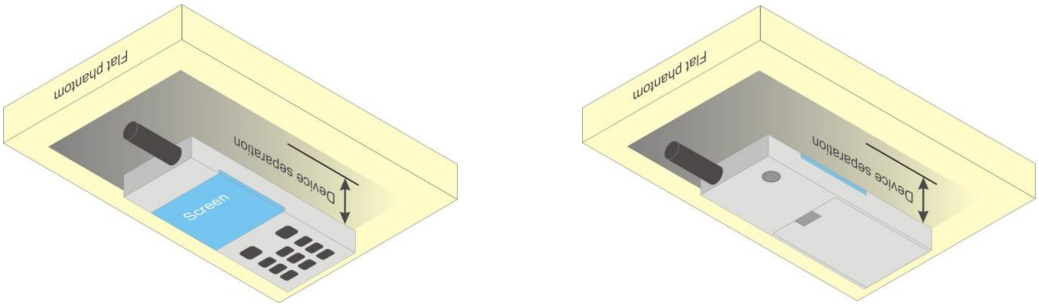


Fig 12.4 Body Worn Position

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.
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.		

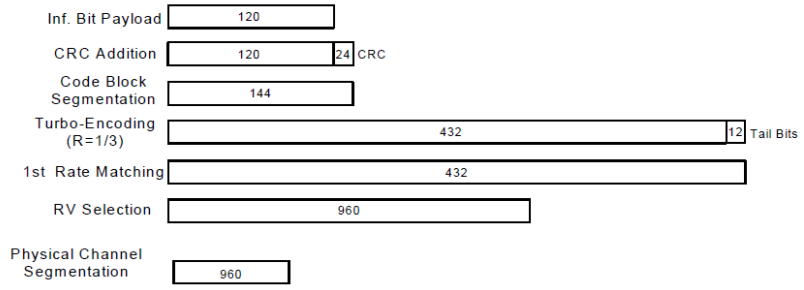


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

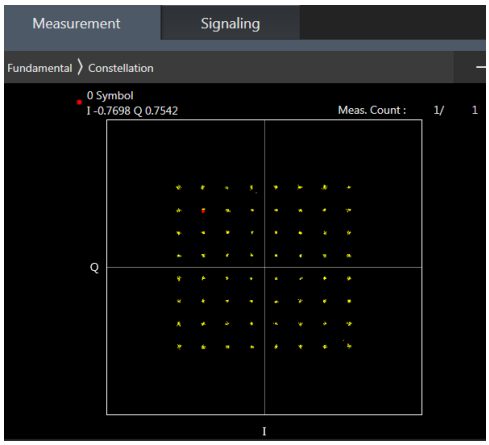
General Note:

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

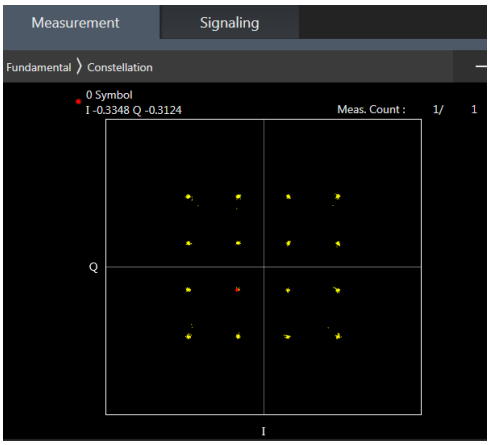
<LTE Conducted Power>

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/256QAM 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/256QAM 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 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 SAR test was covered by B66; 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.

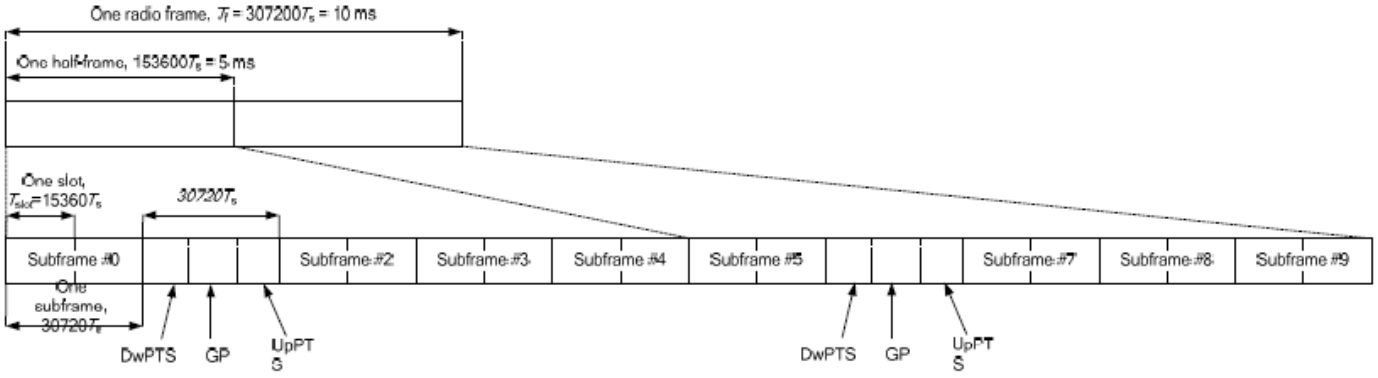


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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:

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. All permutations exist. No restrictions on Pcell & Scell combinations.
4. The gray color table is covered by other combinations and no need to verify power.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation			4CC Downlink Carrier Aggregation		
Number	Combination	4X4 MIMO	Number	Combination	4X4 MIMO	Number	Combination	4X4 MIMO
1	CA_2A-2A	2A	1	CA_2A-2A-4A	2A,4A	1	CA_2A-2A-4A-4A	
2	CA_2A-4A	2A,4A	2	CA_2A-2A-5A	2A	2	CA_2A-2A-4A-5A	
3	CA_2A-5A	2A	3	CA_2A-2A-13A	2A	3	CA_2A-2A-5A-66A	
4	CA_2A-13A	2A	4	CA_2A-2A-66A	2A,66A	4	CA_2A-2A-13A-66A	
5	CA_2A-48A	2A,48A	5	CA_2A-4A-4A	2A,4A	5	CA_2A-2A-66A-66A	
6	CA_2A-66A	2A,66A	6	CA_2A-4A-5A	2A,4A	6	CA_2A-4A-4A-5A	
7	CA_4A-4A	4A	7	CA_2A-4A-13A	2A,4A	7	CA_2A-5A-66A-66A	
8	CA_4A-5A	4A	8	CA_2A-5A-48A	2A,48A	8	CA_2A-13A-66A-66A	
9	CA_4A-13A	4A	9	CA_2A-5A-66A	2A,66A	9	CA_2A-2A-5B	
10	CA_4A-48A	4A,48A	10	CA_2A-13A-48A	2A,48A	10	CA_2A-2A-66B	
11	CA_5A-5A		11	CA_2A-13A-66A	2A,66A	11	CA_2A-4A-5B	
12	CA_5A-48A	48A	12	CA_2A-48A-48A	2A,48A	12	CA_2A-5A-66B	
13	CA_5A-66A	66A	13	CA_2A-48A-66A	2A,48A,66A	13	CA_2A-13A-66B	
14	CA_5B		14	CA_2A-66A-66A	2A,66A	14	CA_2A-66A-66B	
15	CA_7A-7A	7A	15	CA_2A-5B	2A	15	CA_2A-2A-66C	
16	CA_7A-13A	7A	16	CA_2A-66B	2A	16	CA_2A-5A-48C	
17	CA_7A-66A	7A,66A	17	CA_2A-48C	2A	17	CA_2A-5A-66C	
18	CA_7B	7B	18	CA_2A-66C	2A	18	CA_2A-13A-48C	
19	CA_7C	7C	19	CA_4A-4A-5A	4A	19	CA_2A-13A-66C	
20	CA_13A-48A	48A	20	CA_4A-4A-13A	4A	20	CA_2A-48A-48C	
21	CA_13A-66A	66A	21	CA_4A-5B	4A	21	CA_2A-5B-66A	
22	CA_48A-48A	48A	22	CA_4A-48C	4A,48C	22	CA_2A-48C-66A	
23	CA_48A-66A	48A,66A	23	CA_5A-5A-66A	66A	23	CA_2A-48D	
24	CA_48B	48B	24	CA_5A-48A-66A	48A,66A	24	CA_4A-4A-5B	
25	CA_48C	48C	25	CA_5A-66A-66A	66A	25	CA_4A-48D	
26	CA_66A-66A	66A	26	CA_5A-66B		26	CA_5A-5A-66A-66A	
27	CA_66B	66B	27	CA_5A-48C		27	CA_5A-5A-66B	
28	CA_66C	66C	28	CA_5A-66C		28	CA_5A-5A-66C	
			29	CA_5B-66A	66A	29	CA_5A-48D	
			30	CA_7A-7A-66A	7A,66A	30	CA_5A-48C-66A	
			31	CA_7C-66A	66A	31	CA_5B-66A-66A	
			32	CA_13A-66A-66A	66A	32	CA_5B-66B	
			33	CA_13A-66B		33	CA_5B-66C	
			34	CA_13A-66C		34	CA_13A-48A-66B	
			35	CA_48A-48A-48A	48A	35	CA_13A-66A-66B	
			36	CA_48A-48A-66A	48A,66A	36	CA_13A-48A-48C	
			37	CA_48A-66A-66A	48A,66A	37	CA_13A-48A-66C	
			38	CA_48A-66B	48A	38	CA_13A-48C-66A	
			39	CA_48A-48C	48A	39	CA_13A-48D	
			40	CA_48A-66C	48A	40	CA_48A-48A-66A-66A	
			41	CA_48C-66A	66A	41	CA_48A-48A-66B	
			42	CA_48D	48A	42	CA_48A-48A-66C	
			43	CA_66A-66A-66A	66A	43	CA_48A-48C-66A	
			44	CA_66A-66B	66A	44	CA_48A-48D	

			45	CA_66A-66C	66A	45	CA_48C-66A-66A	
						46	CA_48C-66B	
						47	CA_48C-48C	
						48	CA_48C-66C	
						49	CA_48D-66A	
						50	CA_48E	

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 four 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 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Bands 2/4/48/66 only. 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 Band 2/4/7/48/66

LTE Carrier Aggregation Conducted Power (Uplink)

2CC Uplink Carrier Aggregation		
Number	Combination	Ant No.
1	5B	ANT1/2
2	48C	ANT4
3	66B	ANT1/2
4	66C	ANT1/2

<Intra-band>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B5/B48/B66 with a maximum of two uplink 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 uplink 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. 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.

v. LTE CA_66B test was covered by CA_66C; therefore, SAR was only assessed for CA_66C.

<Inter-band uplink carrier aggregation consideration>

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Combination	Band&Ant No.	Band&Ant No.
CA_2A-4A	LTE B2:ANT1/2	LTE B4:ANT1/2
CA_2A-5A	LTE B2:ANT1/2	LTE B5: ANT1/2
CA_2A-13A	LTE B2:ANT1/2	LTE B13: ANT1/2
CA_2A-66A	LTE B2:ANT1/2	LTE B66: ANT1/2
CA_4A-5A	LTE B4:ANT1/2	LTE B5: ANT1/2
CA_4A-13A	LTE B4: ANT1/2	LTE B13: ANT1/2
CA_5A-66A	LTE B5: ANT1/2	LTE B66: ANT1/2
CA_12A-66A	LTE B12: ANT1/2	LTE B66: ANT1/2

General Note:

1. The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level.
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 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. 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:

1. 5G NR n2 / n5 / n66 / n77 is NSA mode.
2. 5G NR n2 / n5 / n66 / n77 / n78 is SA mode.
3. 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- PI/2 BPSK and the reported SAR for the DFT- PI/2 BPSK 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/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/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 PI/2 BPSK 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 PI/2 BPSK SAR testing follows 1RB PI/2 BPSK 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. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK /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
4. 5G NR n77 at ant 4 supports HPUE, HPUE power and SAR testing performed separately.
5. 5G NR n77 at ant 4 HUPE with higher power, 5G NR n77 at ant 4 HUPE SAR can represent power class 3 level SAR.
6. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
7. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
8. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
9. 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.
10. 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.

<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	LTE	5G-NR	LTE	5G-NR
DC_5A_n2A	ANT1	ANT2	ANT2	ANT1
DC_13A_n2A	ANT1	ANT2	ANT2	ANT1
DC_66A-n2A	ANT1	ANT2	ANT2	ANT1
DC_48A-n2A	ANT4	ANT1		
DC_2A-n5A	ANT1	ANT2	ANT2	ANT1
DC_66A-n5A	ANT1	ANT2	ANT2	ANT1
DC_48A-n5A	ANT4	ANT1		
DC_2A-n66A	ANT1	ANT2	ANT2	ANT1
DC_5A-n66A	ANT1	ANT2	ANT2	ANT1
DC_13A-n66A	ANT1	ANT2	ANT2	ANT1
DC_2A-n77A	ANT1	ANT4		
DC_5A-n77A	ANT1	ANT4		
DC_13A-n77A	ANT1	ANT4		
DC_66A-n77A	ANT1	ANT4		

<WLAN Conducted Power>

General Note:

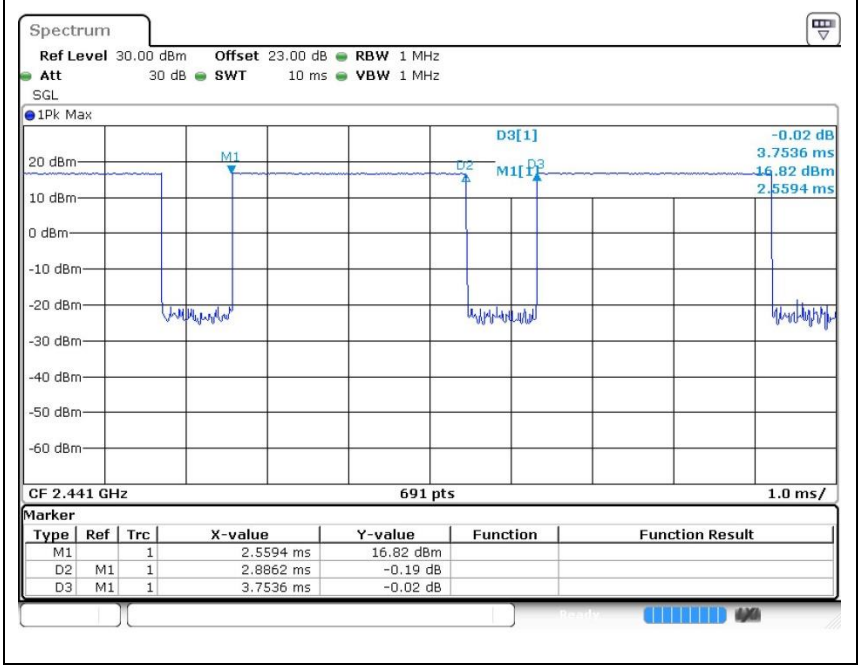
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. 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 are 76.89 % 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 to100% 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 BT/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 of power class 3, 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 (W/kg) = 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. The device implements the power management and proximity sensor /receiver detection/hotspot mode 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. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head and Handheld. For WLAN when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn.
6. For some WWAN bands, sensor on reduced power level is higher than hotspot reduced power level, so front/back sensor on SAR can represent hotspot conservatively.
7. 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 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 can be referred to section 18 and appendix F.
8. 5G NR n77 at ant 4 supports HPUE, HPUE power and SAR testing performed separately.
9. 5G NR n77 at ant 4 HUPE with higher power, 5G NR n77 at ant 4 HUPE SAR can represent power class 3 level SAR.
10. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
11. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
12. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
13. 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.
14. 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.
15. This device supports 5GNR FR1 bands, including NSA mode and SA mode. NSA and SA mode performed SAR separately.
16. 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, 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 GSM850/1900, WCDMA Band II, LTE Band 2/4/7/66/48, 5GNR n2/n66/n77/n78, WLAN5.2GHz/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.

17. The mark “(Sim)“ in the test result means that simultaneous transmit.

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.
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/256QAM 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/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 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.
7. LTE B4 SAR test was covered by LTE B66; 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

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 PI/2 BPSK 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 PI/2 BPSKSAR testing follows 1RB PI/2 BPSK allocation procedure
   c. 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.
   d. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK /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 n2/n5/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.

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, and so the SAR will use Pmax power to do the testing.

Exposure Condition	DSI
Head SAR-Standalone	DSI 2
Head SAR-Simultaneous	DSI 2
Body worn Mode SAR-Standalone	DSI 3
Body worn Mode SAR- Simultaneous	DSI 3
Hotspot Mode SAR	DSI 3
Extremity(Handheld) SAR-Standalone	DSI 6
Extremity(Handheld) SAR- Simultaneous	DSI 6
Sensor off SAR	DSI 4

16.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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)
01	GSM850	GPRS 4 Tx slots	Right Cheek	0mm	Ant 1	DSI2	Full	128	824.2	28.37	30.00	1.455	0.18	0.128	**0.186**
	GSM850	GPRS 4 Tx slots	Right Tilted	0mm	Ant 1	DSI2	Full	128	824.2	28.37	30.00	1.455	-0.07	0.059	0.086
	GSM850	GPRS 4 Tx slots	Left Cheek	0mm	Ant 1	DSI2	Full	128	824.2	28.37	30.00	1.455	-0.11	0.096	0.140
	GSM850	GPRS 4 Tx slots	Left Tilted	0mm	Ant 1	DSI2	Full	128	824.2	28.37	30.00	1.455	-0.09	0.058	0.084
02	GSM1900	GPRS 3 Tx slots	Right Cheek	0mm	Ant 1	DSI2	Full	810	1909.8	27.28	28.00	1.180	-0.11	0.087	**0.103**
	GSM1900	GPRS 3 Tx slots	Right Tilted	0mm	Ant 1	DSI2	Full	810	1909.8	27.28	28.00	1.180	0.03	0.040	0.047
	GSM1900	GPRS 3 Tx slots	Left Cheek	0mm	Ant 1	DSI2	Full	810	1909.8	27.28	28.00	1.180	-0.14	0.068	0.080
	GSM1900	GPRS 3 Tx slots	Left Tilted	0mm	Ant 1	DSI2	Full	810	1909.8	27.28	28.00	1.180	-0.13	0.056	0.066

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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)
03	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI2	Full	4132	826.4	23.26	24.00	1.186	0.15	0.271	**0.321**
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI2	Full	4132	826.4	23.26	24.00	1.186	-0.19	0.097	0.115
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI2	Full	4132	826.4	23.26	24.00	1.186	-0.1	0.248	0.294
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI2	Full	4132	826.4	23.26	24.00	1.186	0.1	0.131	0.155
04	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI2	Full	9262	1852.4	23.36	24.00	1.159	0.04	0.131	**0.152**
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI2	Full	9262	1852.4	23.36	24.00	1.159	0.15	0.098	0.114
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI2	Full	9262	1852.4	23.36	24.00	1.159	-0.12	0.124	0.144
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI2	Full	9262	1852.4	23.36	24.00	1.159	-0.12	0.089	0.103

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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)
05	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Full	23095	707.5	23.11	24.00	1.227	0.13	0.924	**1.134**
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI2	Full	23095	707.5	23.11	24.00	1.227	-0.13	0.917	1.126
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI2	Full	23095	707.5	23.11	24.00	1.227	0.16	0.566	0.695
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI2	Full	23095	707.5	23.11	24.00	1.227	0.16	0.562	0.690
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 2	DSI2	Full	23095	707.5	22.31	23.00	1.172	-0.07	0.763	0.894
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 2	DSI2	Full	23095	707.5	22.31	23.00	1.172	0.12	0.737	0.864
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 2	DSI2	Full	23095	707.5	22.31	23.00	1.172	0.08	0.461	0.540
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 2	DSI2	Full	23095	707.5	22.31	23.00	1.172	-0.13	0.444	0.520
	LTE Band 12	10M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI2	Full	23095	707.5	22.26	23.00	1.186	0.01	0.726	0.861
	LTE Band 12	10M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI2	Full	23095	707.5	22.26	23.00	1.186	0.14	0.722	0.856
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	21.79	22.50	1.178	0.06	0.744	0.876
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	21.79	22.50	1.178	-0.16	0.672	0.791
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	21.79	22.50	1.178	0.11	0.435	0.512
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	21.79	22.50	1.178	-0.17	0.422	0.497
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	20.59	21.50	1.233	-0.01	0.573	0.707
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	20.59	21.50	1.233	-0.08	0.555	0.684
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	20.59	21.50	1.233	-0.12	0.343	0.423
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	20.59	21.50	1.233	-0.03	0.334	0.412
	LTE Band 12	10M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23095	707.5	20.45	21.50	1.274	0.11	0.532	0.678
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI2	Full	23095	707.5	23.09	24.00	1.233	-0.09	0.158	0.195
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI2	Full	23095	707.5	23.09	24.00	1.233	-0.14	0.068	0.084
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI2	Full	23095	707.5	23.09	24.00	1.233	0.14	0.139	0.171
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI2	Full	23095	707.5	23.09	24.00	1.233	0.06	0.061	0.075
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI2	Full	23095	707.5	22.30	23.00	1.175	0.09	0.082	0.096
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI2	Full	23095	707.5	22.30	23.00	1.175	-0.03	0.059	0.069
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI2	Full	23095	707.5	22.30	23.00	1.175	-0.15	0.081	0.095
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI2	Full	23095	707.5	22.30	23.00	1.175	0.02	0.050	0.059
06	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	23230	782	22.26	23.50	1.330	-0.06	0.890	**1.184**
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	23230	782	22.26	23.50	1.330	-0.19	0.665	0.885
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI2	Standalone	23230	782	22.26	23.50	1.330	-0.17	0.413	0.549
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI2	Standalone	23230	782	22.26	23.50	1.330	-0.05	0.392	0.522
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	23230	782	21.75	23.00	1.334	-0.06	0.838	1.117
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	23230	782	21.75	23.00	1.334	-0.12	0.662	0.883
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 2	DSI2	Standalone	23230	782	21.75	23.00	1.334	-0.1	0.404	0.539
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 2	DSI2	Standalone	23230	782	21.75	23.00	1.334	-0.04	0.384	0.512
	LTE Band 13	10M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	23230	782	21.71	23.00	1.346	0.11	0.825	1.110
	LTE Band 13	10M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	23230	782	21.71	23.00	1.346	-0.05	0.657	0.884
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23230	782	20.85	22.00	1.303	0.09	0.582	0.758
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23230	782	20.85	22.00	1.303	0.05	0.477	0.622
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23230	782	20.85	22.00	1.303	0.15	0.312	0.407
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23230	782	20.85	22.00	1.303	-0.12	0.296	0.386
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23230	782	20.81	22.00	1.315	0.02	0.595	0.783
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23230	782	20.81	22.00	1.315	-0.07	0.504	0.663
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23230	782	20.81	22.00	1.315	-0.08	0.347	0.456
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	23230	782	20.81	22.00	1.315	0.1	0.340	0.447
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI2	Full	23230	782	22.97	24.00	1.268	-0.03	0.182	0.231
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI2	Full	23230	782	22.97	24.00	1.268	0.15	0.099	0.125
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI2	Full	23230	782	22.97	24.00	1.268	0.17	0.146	0.185
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI2	Full	23230	782	22.97	24.00	1.268	-0.18	0.091	0.115
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI2	Full	23230	782	21.91	23.00	1.285	0.12	0.120	0.154
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI2	Full	23230	782	21.91	23.00	1.285	0.09	0.069	0.089
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI2	Full	23230	782	21.91	23.00	1.285	-0.11	0.099	0.127
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI2	Full	23230	782	21.91	23.00	1.285	-0.13	0.085	0.109

	LTE Band 5	10M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.87	23.00	1.297	0.08	0.877	1.138
	LTE Band 5	10M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.87	23.00	1.297	0.02	0.794	1.030
	LTE Band 5	10M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.87	23.00	1.297	-0.15	0.448	0.581
	LTE Band 5	10M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.87	23.00	1.297	0.13	0.430	0.558
07	LTE Band 5	10M	QPSK	25	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.68	23.00	1.355	-0.06	0.893	**1.210**
	LTE Band 5	10M	QPSK	25	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.68	23.00	1.355	-0.16	0.801	1.086
	LTE Band 5	10M	QPSK	25	0	Left Cheek	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.68	23.00	1.355	0.03	0.469	0.636
	LTE Band 5	10M	QPSK	25	0	Left Tilted	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.68	23.00	1.355	-0.18	0.448	0.607
	LTE Band 5B	10M	QPSK	1	49	Right Cheek	0mm	Ant 2	DSI2	Standalone	20450+ 20549	829+ 838.9	21.59	23.00	1.384	-0.02	0.605	0.837
	LTE Band 5	10M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.62	23.00	1.374	0.02	0.855	1.175
	LTE Band 5	10M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	20525	836.5	21.62	23.00	1.374	0.02	0.787	1.081
	LTE Band 5	10M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.39	21.50	1.291	0.19	0.653	0.843
	LTE Band 5	10M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.39	21.50	1.291	-0.08	0.622	0.803
	LTE Band 5	10M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.39	21.50	1.291	0.18	0.342	0.442
	LTE Band 5	10M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.39	21.50	1.291	-0.07	0.328	0.424
	LTE Band 5B	10M	QPSK	1	49	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20450+ 20549	829+ 838.9	20.25	21.50	1.334	-0.07	0.512	0.683
	LTE Band 5	10M	QPSK	25	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.29	21.50	1.321	-0.17	0.599	0.791
	LTE Band 5	10M	QPSK	25	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.29	21.50	1.321	0.15	0.567	0.749
	LTE Band 5	10M	QPSK	25	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.29	21.50	1.321	-0.01	0.337	0.445
	LTE Band 5	10M	QPSK	25	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.29	21.50	1.321	-0.18	0.316	0.418
	LTE Band 5	10M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.25	21.50	1.334	0.01	0.587	0.783
	LTE Band 5	10M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	20525	836.5	20.25	21.50	1.334	0.03	0.561	0.748
	LTE Band 5	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI2	Full	20525	836.5	22.99	24.00	1.262	0.15	0.231	0.291
	LTE Band 5	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI2	Full	20525	836.5	22.99	24.00	1.262	-0.01	0.045	0.057
	LTE Band 5	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI2	Full	20525	836.5	22.99	24.00	1.262	-0.12	0.173	0.218
	LTE Band 5	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI2	Full	20525	836.5	22.99	24.00	1.262	0.15	0.088	0.111
	LTE Band 5B	10M	QPSK	1	49	Right Cheek	0mm	Ant 1	DSI2	Full	20575+ 20476	841.5+ 831.6	22.65	24.00	1.365	0.07	0.211	0.288
	LTE Band 5	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI2	Full	20525	836.5	22.27	23.00	1.183	-0.02	0.170	0.201
	LTE Band 5	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI2	Full	20525	836.5	22.27	23.00	1.183	0.03	0.032	0.038
	LTE Band 5	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI2	Full	20525	836.5	22.27	23.00	1.183	-0.1	0.098	0.116
	LTE Band 5	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI2	Full	20525	836.5	22.27	23.00	1.183	-0.04	0.067	0.079
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	132072	1720	23.16	24.00	1.213	0.05	0.728	0.883
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	132072	1720	23.16	24.00	1.213	0.09	0.591	0.717
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI2	Standalone	132072	1720	23.16	24.00	1.213	0.19	0.262	0.318
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI2	Standalone	132072	1720	23.16	24.00	1.213	0.18	0.156	0.189
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	132322	1745	22.91	24.00	1.285	-0.11	0.741	0.952
08	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	132572	1770	22.82	24.00	1.312	0.13	0.789	**1.035**
	LTE Band 66C	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	132572+ 132374	1770+ 1750.2	22.76	24.00	1.330	0.06	0.776	1.032
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	132072	1720	22.22	23.00	1.197	-0.12	0.479	0.573
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	132072	1720	22.22	23.00	1.197	-0.05	0.354	0.424
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 2	DSI2	Standalone	132072	1720	22.22	23.00	1.197	-0.1	0.196	0.235
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 2	DSI2	Standalone	132072	1720	22.22	23.00	1.197	-0.16	0.156	0.187
	LTE Band 66	20M	QPSK	100	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	132072	1720	22.18	23.00	1.208	0.03	0.491	0.593
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072	1720	20.62	21.50	1.225	0.09	0.526	0.644
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072	1720	20.62	21.50	1.225	-0.08	0.404	0.495
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072	1720	20.62	21.50	1.225	0.17	0.211	0.258
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072	1720	20.62	21.50	1.225	0.03	0.089	0.109
	LTE Band 66C	20M	QPSK	1	99	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072+ 132270	1720+ 1739.8	20.51	21.50	1.256	-0.08	0.507	0.637
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072	1720	20.43	21.50	1.279	-0.04	0.214	0.406
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072	1720	20.43	21.50	1.279	-0.11	0.282	0.361
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072	1720	20.43	21.50	1.279	-0.03	0.193	0.247
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	132072	1720	20.43	21.50	1.279	-0.15	0.013	0.129
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI2	Full	132072	1720	23.16	24.00	1.213	-0.19	0.210	0.255
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI2	Full	132072	1720	23.16	24.00	1.213	-0.01	0.048	0.058

	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI2	Full	132072	1720	23.16	24.00	1.213	0.02	0.059	0.072
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI2	Full	132072	1720	23.16	24.00	1.213	0.01	0.030	0.036
	LTE Band 66C	20M	QPSK	1	99	Right Cheek	0mm	Ant 1	DSI2	Full	132072+ 132270	1720+ 1739.8	22.69	24.00	1.352	0.07	0.170	0.230
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 1	DSI2	Full	132072	1720	22.35	23.00	1.161	-0.05	0.108	0.125
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 1	DSI2	Full	132072	1720	22.35	23.00	1.161	0.03	0.040	0.046
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI2	Full	132072	1720	22.35	23.00	1.161	0.04	0.051	0.059
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 1	DSI2	Full	132072	1720	22.35	23.00	1.161	-0.09	0.023	0.027
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	18700	1860	20.98	22.00	1.265	-0.04	0.791	1.000
	LTE Band 2	20M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	18700	1860	20.98	22.00	1.265	0.02	0.609	0.770
	LTE Band 2	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI2	Standalone	18700	1860	20.98	22.00	1.265	-0.03	0.209	0.264
	LTE Band 2	20M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI2	Standalone	18700	1860	20.98	22.00	1.265	-0.14	0.146	0.185
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	18900	1880	20.87	22.00	1.297	0.14	0.443	0.575
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	19100	1900	20.68	22.00	1.355	0.13	0.776	1.052
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	18700	1860	20.96	22.00	1.271	0.18	0.842	1.070
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI2	Standalone	18700	1860	20.96	22.00	1.271	0.01	0.610	0.775
	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	Ant 2	DSI2	Standalone	18700	1860	20.96	22.00	1.271	-0.17	0.216	0.274
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	Ant 2	DSI2	Standalone	18700	1860	20.96	22.00	1.271	0.19	0.151	0.192
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	18900	1880	20.86	22.00	1.300	0.08	0.822	1.069
09	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	19100	1900	20.80	22.00	1.318	-0.04	0.959	**1.264**
	LTE Band 2	20M	QPSK	100	0	Right Cheek	0mm	Ant 2	DSI2	Standalone	18700	1860	20.83	22.00	1.309	0.03	0.790	1.034
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	18700	1860	19.42	20.50	1.282	0	0.511	0.655
	LTE Band 2	20M	QPSK	1	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	18700	1860	19.42	20.50	1.282	0.06	0.238	0.305
	LTE Band 2	20M	QPSK	1	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	18700	1860	19.42	20.50	1.282	-0.14	0.104	0.133
	LTE Band 2	20M	QPSK	1	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	18700	1860	19.42	20.50	1.282	-0.01	0.074	0.095
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	18700	1860	19.35	20.50	1.303	0.04	0.562	0.732
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	18700	1860	19.35	20.50	1.303	0.18	0.252	0.328
	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	18700	1860	19.35	20.50	1.303	-0.07	0.106	0.138
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	18700	1860	19.35	20.50	1.303	-0.14	0.076	0.099
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI2	Full	18700	1860	23.13	24.00	1.222	-0.14	0.130	0.159
	LTE Band 2	20M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI2	Full	18700	1860	23.13	24.00	1.222	0.14	0.062	0.076
	LTE Band 2	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI2	Full	18700	1860	23.13	24.00	1.222	-0.03	0.096	0.117
	LTE Band 2	20M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI2	Full	18700	1860	23.13	24.00	1.222	-0.19	0.079	0.097
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 1	DSI2	Full	18700	1860	22.29	23.00	1.178	-0.03	0.077	0.091
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	Ant 1	DSI2	Full	18700	1860	22.29	23.00	1.178	0.01	0.058	0.068
	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI2	Full	18700	1860	22.29	23.00	1.178	0.17	0.055	0.065
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	Ant 1	DSI2	Full	18700	1860	22.29	23.00	1.178	0.19	0.045	0.053
10	LTE Band 7	20M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI2	Full	20850	2510	23.14	24.00	1.219	0.13	0.038	**0.046**
	LTE Band 7	20M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI2	Full	20850	2510	23.14	24.00	1.219	0.02	0.020	0.024
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI2	Full	20850	2510	23.14	24.00	1.219	0.09	0.035	0.043
	LTE Band 7	20M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI2	Full	20850	2510	23.14	24.00	1.219	0.09	0.014	0.017
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	Ant 1	DSI2	Full	20850	2510	22.32	23.00	1.169	0.05	0.031	0.036
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	Ant 1	DSI2	Full	20850	2510	22.32	23.00	1.169	0.01	0.014	0.016
	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI2	Full	20850	2510	22.32	23.00	1.169	0.09	0.024	0.028
	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	Ant 1	DSI2	Full	20850	2510	22.32	23.00	1.169	-0.04	0.010	0.012

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 48	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI2	Full	55830	3609	23.56	24.00	1.107	62.9	1.006	0.16	0.972	1.082
	LTE Band 48	20M	QPSK	1	99	Right Tilted	0mm	Ant 4	DSI2	Full	55830	3609	23.56	24.00	1.107	62.9	1.006	-0.14	0.801	0.892
	LTE Band 48	20M	QPSK	1	99	Left Cheek	0mm	Ant 4	DSI2	Full	55830	3609	23.56	24.00	1.107	62.9	1.006	0.02	0.366	0.407
	LTE Band 48	20M	QPSK	1	99	Left Tilted	0mm	Ant 4	DSI2	Full	55830	3609	23.56	24.00	1.107	62.9	1.006	0.15	0.355	0.395
	LTE Band 48	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI2	Full	55340	3560	23.52	24.00	1.117	62.9	1.006	0.07	0.972	1.092
	LTE Band 48	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI2	Full	56150	3641	23.41	24.00	1.146	62.9	1.006	0.07	0.993	1.144
11	LTE Band 48	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI2	Full	56640	3690	23.34	24.00	1.164	62.9	1.006	0.03	1.000	**1.171**
	LTE Band 48	20M	QPSK	1	99	Right Tilted	0mm	Ant 4	DSI2	Full	55340	3560	23.52	24.00	1.117	62.9	1.006	-0.02	0.795	0.893
	LTE Band 48	20M	QPSK	1	99	Right Tilted	0mm	Ant 4	DSI2	Full	56150	3641	23.41	24.00	1.146	62.9	1.006	0.07	0.812	0.936
	LTE Band 48	20M	QPSK	1	99	Right Tilted	0mm	Ant 4	DSI2	Full	56640	3690	23.34	24.00	1.164	62.9	1.006	0.03	0.816	0.956
	LTE Band 48C	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI2	Full	56640+ 56442	3690+ 3670.2	22.99	24.00	1.262	62.9	1.006	-0.01	0.751	0.953
	LTE Band 48	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI2	Full	55830	3609	21.31	23.00	1.476	62.9	1.006	0.19	0.616	0.914
	LTE Band 48	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI2	Full	55830	3609	21.31	23.00	1.476	62.9	1.006	0.17	0.463	0.687
	LTE Band 48	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI2	Full	55830	3609	21.31	23.00	1.476	62.9	1.006	-0.18	0.206	0.306
	LTE Band 48	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI2	Full	55830	3609	21.31	23.00	1.476	62.9	1.006	-0.16	0.202	0.300
	LTE Band 48	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI2	Full	55340	3560	21.27	23.00	1.489	62.9	1.006	-0.09	0.584	0.875
	LTE Band 48	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI2	Full	56150	3641	21.27	23.00	1.489	62.9	1.006	-0.18	0.573	0.859
	LTE Band 48	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI2	Full	56640	3690	21.18	23.00	1.521	62.9	1.006	-0.03	0.562	0.860
	LTE Band 48	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI2	Full	55340	3560	21.27	23.00	1.489	62.9	1.006	0.02	0.452	0.677
	LTE Band 48	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI2	Full	56150	3641	21.27	23.00	1.489	62.9	1.006	0.04	0.447	0.670
	LTE Band 48	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI2	Full	56640	3690	21.18	23.00	1.521	62.9	1.006	-0.05	0.445	0.681
	LTE Band 48	20M	QPSK	100	0	Right Cheek	0mm	Ant 4	DSI2	Full	55830	3609	21.30	23.00	1.479	62.9	1.006	0.06	0.548	0.815
	LTE Band 48	20M	QPSK	100	0	Right Tilted	0mm	Ant 4	DSI2	Full	55830	3609	21.30	23.00	1.479	62.9	1.006	0.01	0.432	0.643
	LTE Band 48	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	22.90	23.50	1.148	62.9	1.006	0.05	0.740	0.855
	LTE Band 48	20M	QPSK	1	99	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	22.90	23.50	1.148	62.9	1.006	0.06	0.653	0.754
	LTE Band 48	20M	QPSK	1	99	Left Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	22.90	23.50	1.148	62.9	1.006	0.15	0.293	0.338
	LTE Band 48	20M	QPSK	1	99	Left Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	22.90	23.50	1.148	62.9	1.006	0.04	0.286	0.330
	LTE Band 48	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55340	3560	22.86	23.50	1.159	62.9	1.006	0.03	0.731	0.852
	LTE Band 48	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56150	3641	22.77	23.50	1.183	62.9	1.006	0.11	0.716	0.852
	LTE Band 48	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56640	3690	22.80	23.50	1.175	62.9	1.006	0.16	0.740	0.875
	LTE Band 48	20M	QPSK	1	99	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55340	3560	22.86	23.50	1.159	62.9	1.006	-0.02	0.637	0.743
	LTE Band 48	20M	QPSK	1	99	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56150	3641	22.77	23.50	1.183	62.9	1.006	0.04	0.623	0.741
	LTE Band 48	20M	QPSK	1	99	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56640	3690	22.80	23.50	1.175	62.9	1.006	0.02	0.641	0.758
	LTE Band 48C	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56640+ 56442	3690+ 3670.2	22.89	23.50	1.151	62.9	1.006	-0.06	0.691	0.800
	LTE Band 48	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	21.00	22.50	1.413	62.9	1.006	0.08	0.542	0.770
	LTE Band 48	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	21.00	22.50	1.413	62.9	1.006	-0.03	0.476	0.676
	LTE Band 48	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	21.00	22.50	1.413	62.9	1.006	-0.07	0.201	0.286
	LTE Band 48	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	21.00	22.50	1.413	62.9	1.006	0.04	0.199	0.283
	LTE Band 48	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55340	3560	20.98	22.50	1.419	62.9	1.006	0.01	0.533	0.761
	LTE Band 48	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56150	3641	20.85	22.50	1.462	62.9	1.006	-0.09	0.521	0.766
	LTE Band 48	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56640	3690	20.99	22.50	1.416	62.9	1.006	-0.02	0.546	0.778
	LTE Band 48	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55340	3560	20.98	22.50	1.419	62.9	1.006	0.03	0.468	0.668
	LTE Band 48	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56150	3641	20.85	22.50	1.462	62.9	1.006	0.04	0.457	0.672
	LTE Band 48	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	56640	3690	20.99	22.50	1.416	62.9	1.006	0.04	0.473	0.674
	LTE Band 48	20M	QPSK	100	0	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	20.95	22.50	1.429	62.9	1.006	0.09	0.541	0.778
	LTE Band 48	20M	QPSK	100	0	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	55830	3609	20.95	22.50	1.429	62.9	1.006	0.02	0.468	0.673

<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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)
12	FR1 N5	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Full	167300	836.5	23.07	24.00	1.239	-0.08	0.972	**1.204**
	FR1 N5	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	DSI2	Full	167300	836.5	23.07	24.00	1.239	0.1	0.926	1.147
	FR1 N5	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	DSI2	Full	167300	836.5	23.07	24.00	1.239	-0.01	0.553	0.685
	FR1 N5	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	DSI2	Full	167300	836.5	23.07	24.00	1.239	-0.05	0.523	0.648
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Full	167300	836.5	23.03	24.00	1.250	0.03	0.908	1.135
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 2	DSI2	Full	167300	836.5	23.03	24.00	1.250	-0.12	0.909	1.136
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 2	DSI2	Full	167300	836.5	23.03	24.00	1.250	0.12	0.610	0.763
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 2	DSI2	Full	167300	836.5	23.03	24.00	1.250	-0.13	0.552	0.690
	FR1 N5	20M	BPSK	100	0	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Full	167300	836.5	23.00	24.00	1.259	0.15	0.928	1.168
	FR1 N5	20M	BPSK	100	0	DFT-15	Right Tilted	0mm	Ant 2	DSI2	Full	167300	836.5	23.00	24.00	1.259	0.11	0.903	1.137
	FR1 N5	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.46	22.50	1.271	0.03	0.644	0.818
	FR1 N5	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.46	22.50	1.271	-0.01	0.612	0.778
	FR1 N5	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.46	22.50	1.271	-0.02	0.390	0.496
	FR1 N5	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.46	22.50	1.271	0.09	0.353	0.449
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.34	22.50	1.306	0.16	0.645	0.842
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.34	22.50	1.306	0.13	0.643	0.840
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.34	22.50	1.306	-0.07	0.420	0.549
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.34	22.50	1.306	-0.13	0.360	0.470
	FR1 N5	20M	BPSK	100	0	DFT-15	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.25	22.50	1.334	0.18	0.637	0.849
	FR1 N5	20M	BPSK	100	0	DFT-15	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	167300	836.5	21.25	22.50	1.334	0.18	0.619	0.825
	FR1 N5	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI2	Full	167300	836.5	23.25	24.00	1.189	0.16	0.017	0.020
	FR1 N5	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI2	Full	167300	836.5	23.25	24.00	1.189	0.05	0.010	0.012
	FR1 N5	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI2	Full	167300	836.5	23.25	24.00	1.189	-0.01	0.013	0.015
	FR1 N5	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI2	Full	167300	836.5	23.25	24.00	1.189	-0.13	0.008	0.010
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 1	DSI2	Full	167300	836.5	23.23	24.00	1.194	0.05	0.016	0.019
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 1	DSI2	Full	167300	836.5	23.23	24.00	1.194	0.09	0.007	0.008
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 1	DSI2	Full	167300	836.5	23.23	24.00	1.194	0.04	0.011	0.013
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 1	DSI2	Full	167300	836.5	23.23	24.00	1.194	-0.16	0.005	0.006
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Full	349000	1745	23.23	24.00	1.194	0.13	0.792	0.946
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	DSI2	Full	349000	1745	23.23	24.00	1.194	0.16	0.578	0.690
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	DSI2	Full	349000	1745	23.23	24.00	1.194	0.13	0.391	0.467
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	DSI2	Full	349000	1745	23.23	24.00	1.194	0.17	0.246	0.294
13	FR1 N66	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Full	349000	1745	23.17	24.00	1.211	-0.19	0.877	**1.062**
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 2	DSI2	Full	349000	1745	23.17	24.00	1.211	-0.11	0.623	0.754
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 2	DSI2	Full	349000	1745	23.17	24.00	1.211	-0.04	0.309	0.374
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 2	DSI2	Full	349000	1745	23.17	24.00	1.211	0.16	0.252	0.305
	FR1 N66	40M	BPSK	216	0	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Full	349000	1745	22.63	23.50	1.222	-0.02	0.604	0.738
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	349000	1745	22.28	23.00	1.180	-0.19	0.667	0.787
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	349000	1745	22.28	23.00	1.180	0.19	0.492	0.581
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	349000	1745	22.28	23.00	1.180	0.02	0.288	0.340
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	349000	1745	22.28	23.00	1.180	-0.04	0.214	0.253
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	349000	1745	22.24	23.00	1.191	0.13	0.642	0.765
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	349000	1745	22.24	23.00	1.191	-0.14	0.574	0.684
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	349000	1745	22.24	23.00	1.191	-0.07	0.291	0.347
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	349000	1745	22.24	23.00	1.191	-0.14	0.210	0.250
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI2	Full	349000	1745	23.28	24.00	1.180	0.08	0.177	0.209
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI2	Full	349000	1745	23.28	24.00	1.180	-0.05	0.081	0.096
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI2	Full	349000	1745	23.28	24.00	1.180	0.01	0.100	0.118
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI2	Full	349000	1745	23.28	24.00	1.180	-0.08	0.080	0.094
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	DSI2	Full	349000	1745	23.22	24.00	1.197	0.13	0.121	0.145
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 1	DSI2	Full	349000	1745	23.22	24.00	1.197	-0.03	0.072	0.086
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 1	DSI2	Full	349000	1745	23.22	24.00	1.197	-0.16	0.081	0.097
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 1	DSI2	Full	349000	1745	23.22	24.00	1.197	-0.05	0.070	0.084

	FR1 N2	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Standalone	376000	1880	22.27	23.00	1.183	0.07	1.060	1.254
	FR1 N2	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	DSI2	Standalone	376000	1880	22.27	23.00	1.183	0.19	0.768	0.909
	FR1 N2	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	DSI2	Standalone	376000	1880	22.27	23.00	1.183	0.02	0.330	0.390
	FR1 N2	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	DSI2	Standalone	376000	1880	22.27	23.00	1.183	-0.14	0.290	0.343
14	FR1 N2	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Standalone	376000	1880	22.14	23.00	1.219	0.16	1.040	**1.268**
	FR1 N2	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 2	DSI2	Standalone	376000	1880	22.14	23.00	1.219	-0.19	0.688	0.839
	FR1 N2	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 2	DSI2	Standalone	376000	1880	22.14	23.00	1.219	0.09	0.305	0.372
	FR1 N2	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 2	DSI2	Standalone	376000	1880	22.14	23.00	1.219	-0.04	0.251	0.306
	FR1 N2	20M	BPSK	100	0	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Standalone	376000	1880	22.13	23.00	1.222	0	1.030	1.258
	FR1 N2	20M	BPSK	100	0	DFT-15	Right Tilted	0mm	Ant 2	DSI2	Standalone	376000	1880	22.13	23.00	1.222	-0.19	0.686	0.838
	FR1 N2	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.65	21.50	1.216	0.11	0.635	0.772
	FR1 N2	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.65	21.50	1.216	0.05	0.458	0.557
	FR1 N2	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.65	21.50	1.216	0.15	0.220	0.268
	FR1 N2	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.65	21.50	1.216	0.04	0.182	0.221
	FR1 N2	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.51	21.50	1.256	0.12	0.701	0.880
	FR1 N2	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.51	21.50	1.256	-0.15	0.461	0.579
	FR1 N2	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.51	21.50	1.256	0.15	0.210	0.264
	FR1 N2	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.51	21.50	1.256	0.13	0.162	0.203
	FR1 N2	20M	BPSK	100	0	DFT-15	Right Cheek	0mm	Ant 2	DSI 2 (Sim)	Simultaneous	376000	1880	20.44	21.50	1.276	0.05	0.600	0.766
	FR1 N2	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	DSI2	Full	376000	1880	23.25	24.00	1.189	0.12	0.133	0.158
	FR1 N2	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	DSI2	Full	376000	1880	23.25	24.00	1.189	0.05	0.055	0.065
	FR1 N2	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	DSI2	Full	376000	1880	23.25	24.00	1.189	-0.04	0.071	0.084
	FR1 N2	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	DSI2	Full	376000	1880	23.25	24.00	1.189	0.1	0.066	0.078
	FR1 N2	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 1	DSI2	Full	376000	1880	23.24	24.00	1.191	0.07	0.081	0.096
	FR1 N2	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 1	DSI2	Full	376000	1880	23.24	24.00	1.191	0.07	0.056	0.067
	FR1 N2	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 1	DSI2	Full	376000	1880	23.24	24.00	1.191	0.1	0.080	0.095
	FR1 N2	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 1	DSI2	Full	376000	1880	23.24	24.00	1.191	-0.04	0.068	0.081
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.84	22.50	1.164	0.14	0.932	1.085
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.84	22.50	1.164	-0.07	0.404	0.470
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.84	22.50	1.164	0.1	0.226	0.263
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.84	22.50	1.164	0.16	0.215	0.250
15	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.80	22.50	1.175	-0.17	1.080	**1.269**
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.80	22.50	1.175	0.14	0.445	0.523
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.80	22.50	1.175	0.19	0.298	0.350
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.80	22.50	1.175	0.07	0.261	0.307
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	270	0	DFT-30	Right Cheek	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.64	22.50	1.219	0.03	0.920	1.121
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	20.06	21.00	1.242	-0.14	0.676	0.839
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	20.06	21.00	1.242	-0.11	0.235	0.292
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	20.06	21.00	1.242	0.07	0.138	0.171
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	20.06	21.00	1.242	0.15	0.140	0.174
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	19.98	21.00	1.265	0.1	0.694	0.878
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	19.98	21.00	1.265	0.14	0.275	0.348
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	19.98	21.00	1.265	0	0.186	0.235
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	19.98	21.00	1.265	-0.11	0.173	0.219
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	270	0	DFT-30	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	633334	3500.01	19.86	21.00	1.300	-0.03	0.672	0.874
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI2	Standalone	656000	3840	21.57	22.50	1.239	-0.06	0.697	0.863
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI2	Standalone	656000	3840	21.57	22.50	1.239	-0.07	0.410	0.508
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI2	Standalone	656000	3840	21.57	22.50	1.239	0	0.263	0.326
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI2	Standalone	656000	3840	21.57	22.50	1.239	0	0.270	0.334
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI2	Standalone	656000	3840	21.52	22.50	1.253	-0.11	0.584	0.732
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	DSI2	Standalone	656000	3840	21.52	22.50	1.253	-0.11	0.299	0.375
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	DSI2	Standalone	656000	3840	21.52	22.50	1.253	-0.07	0.222	0.278
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	DSI2	Standalone	656000	3840	21.52	22.50	1.253	0.08	0.203	0.254
	FR1 N77_Part 27O(HPUE)	100M	BPSK	270	0	DFT-30	Right Cheek	0mm	Ant 4	DSI2	Standalone	656000	3840	21.48	22.50	1.265	0.05	0.581	0.735
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	656000	3840	19.37	21.00	1.455	0	0.384	0.559
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	656000	3840	19.37	21.00	1.455	-0.14	0.270	0.393

	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	656000	3840	19.37	21.00	1.455	0.01	0.164	0.239
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	656000	3840	19.37	21.00	1.455	0.05	0.172	0.250
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	656000	3840	19.34	21.00	1.466	0.09	0.358	0.525
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	656000	3840	19.34	21.00	1.466	-0.01	0.224	0.328
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	656000	3840	19.34	21.00	1.466	-0.05	0.155	0.227
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	DSI 2 (Sim)	Simultaneous	656000	3840	19.34	21.00	1.466	-0.04	0.168	0.246
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 5	DSI2	Full	633334	3500.01	19.72	20.50	1.197	-0.17	0.034	0.041
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 5	DSI2	Full	633334	3500.01	19.72	20.50	1.197	-0.01	0.038	0.045
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 5	DSI2	Full	633334	3500.01	19.72	20.50	1.197	-0.06	0.054	0.065
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 5	DSI2	Full	633334	3500.01	19.72	20.50	1.197	-0.05	0.058	0.069
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 5	DSI2	Full	633334	3500.01	19.64	20.50	1.219	-0.04	0.080	0.098
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 5	DSI2	Full	633334	3500.01	19.64	20.50	1.219	-0.04	0.070	0.085
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	DSI2	Full	633334	3500.01	19.64	20.50	1.219	-0.16	0.111	0.135
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 5	DSI2	Full	633334	3500.01	19.64	20.50	1.219	0.15	0.207	0.252
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 5	DSI2	Full	656000	3840	19.74	20.50	1.191	0.08	0.281	0.335
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 5	DSI2	Full	656000	3840	19.74	20.50	1.191	0.08	0.343	0.409
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 5	DSI2	Full	656000	3840	19.74	20.50	1.191	-0.17	0.381	0.454
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 5	DSI2	Full	656000	3840	19.74	20.50	1.191	-0.11	0.387	0.461
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 5	DSI2	Full	656000	3840	19.69	20.50	1.205	-0.17	0.289	0.348
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 5	DSI2	Full	656000	3840	19.69	20.50	1.205	0.04	0.352	0.424
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	DSI2	Full	656000	3840	19.69	20.50	1.205	0.13	0.377	0.454
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 5	DSI2	Full	656000	3840	19.69	20.50	1.205	0	0.380	0.458
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 6	DSI2	Full	633334	3500.01	16.96	18.00	1.271	-0.15	0.009	0.011
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 6	DSI2	Full	633334	3500.01	16.96	18.00	1.271	0.09	0.005	0.006
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 6	DSI2	Full	633334	3500.01	16.96	18.00	1.271	-0.19	0.007	0.009
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 6	DSI2	Full	633334	3500.01	16.96	18.00	1.271	0.17	0.003	0.004
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 6	DSI2	Full	633334	3500.01	16.94	18.00	1.276	-0.02	0.015	0.019
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 6	DSI2	Full	633334	3500.01	16.94	18.00	1.276	0.03	0.007	0.009
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 6	DSI2	Full	633334	3500.01	16.94	18.00	1.276	0.14	0.013	0.017
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 6	DSI2	Full	633334	3500.01	16.94	18.00	1.276	0.06	0.002	0.003
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 6	DSI2	Full	656000	3840	16.98	18.00	1.265	-0.08	0.027	0.034
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 6	DSI2	Full	656000	3840	16.98	18.00	1.265	-0.14	0.011	0.014
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 6	DSI2	Full	656000	3840	16.98	18.00	1.265	-0.1	0.016	0.020
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 6	DSI2	Full	656000	3840	16.98	18.00	1.265	-0.09	0.009	0.011
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 6	DSI2	Full	656000	3840	16.96	18.00	1.271	-0.06	0.040	0.051
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 6	DSI2	Full	656000	3840	16.96	18.00	1.271	-0.02	0.013	0.017
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 6	DSI2	Full	656000	3840	16.96	18.00	1.271	-0.15	0.014	0.018
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 6	DSI2	Full	656000	3840	16.96	18.00	1.271	-0.08	0.019	0.024
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI2	Full	633334	3500.01	17.13	18.00	1.222	0.04	0.010	0.012
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI2	Full	633334	3500.01	17.13	18.00	1.222	0.08	0.011	0.013
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI2	Full	633334	3500.01	17.13	18.00	1.222	-0.03	0.013	0.016
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI2	Full	633334	3500.01	17.13	18.00	1.222	0.14	0.009	0.011
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI2	Full	633334	3500.01	17.09	18.00	1.233	0.06	0.012	0.015
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI2	Full	633334	3500.01	17.09	18.00	1.233	0.06	0.011	0.014
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI2	Full	633334	3500.01	17.09	18.00	1.233	0.09	0.020	0.025
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI2	Full	633334	3500.01	17.09	18.00	1.233	0.01	0.014	0.017
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	DSI2	Full	656000	3840	17.16	18.00	1.213	-0.19	0.014	0.017
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	DSI2	Full	656000	3840	17.16	18.00	1.213	-0.05	0.007	0.008
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	DSI2	Full	656000	3840	17.16	18.00	1.213	-0.14	0.016	0.019
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	DSI2	Full	656000	3840	17.16	18.00	1.213	-0.17	0.012	0.015
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 10	DSI2	Full	656000	3840	17.14	18.00	1.219	0.19	0.012	0.015
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 10	DSI2	Full	656000	3840	17.14	18.00	1.219	-0.18	0.010	0.012
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 10	DSI2	Full	656000	3840	17.14	18.00	1.219	-0.12	0.022	0.027
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 10	DSI2	Full	656000	3840	17.14	18.00	1.219	-0.08	0.018	0.022

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	DH5 1Mbps	Right Cheek	0mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	0.11	0.062	0.099
	Bluetooth	DH5 1Mbps	Right Tilted	0mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	0.15	0.065	0.104
16	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	0.14	0.147	**0.235**
	Bluetooth	DH5 1Mbps	Left Tilted	0mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	0.12	0.082	0.131

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	Standalone	1	2412	18.70	20.00	1.349	99.54	1.005	0.01	0.412	0.559
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3	Standalone	1	2412	18.70	20.00	1.349	99.54	1.005	-0.16	0.480	0.651
17	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3	Standalone	1	2412	18.70	20.00	1.349	99.54	1.005	0.1	0.813	**1.102**
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3	Standalone	1	2412	18.70	20.00	1.349	99.54	1.005	0.17	0.585	0.793
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3	Standalone	6	2437	18.60	20.00	1.380	99.54	1.005	-0.09	0.760	1.054
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3	Standalone	11	2462	18.60	20.00	1.380	99.54	1.005	0.14	0.691	0.959
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3	Simultaneous	1	2412	14.30	15.50	1.318	99.54	1.005	-0.03	0.129	0.171
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3	Simultaneous	1	2412	14.30	15.50	1.318	99.54	1.005	-0.17	0.164	0.217
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3	Simultaneous	1	2412	14.30	15.50	1.318	99.54	1.005	0.13	0.326	0.432
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3	Simultaneous	1	2412	14.30	15.50	1.318	99.54	1.005	0.06	0.196	0.260

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.20	1.029	0.05	0.173	0.274
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.20	1.029	-0.07	0.225	0.356
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.20	1.029	0.04	0.270	0.427
18	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.20	1.029	-0.18	0.344	**0.544**
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 5	Simultaneous	54	5270	17.05	19.00	1.568	96.24	1.039	-0.16	0.139	0.226
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 5	Simultaneous	54	5270	17.05	19.00	1.568	96.24	1.039	0.15	0.161	0.262
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5	Simultaneous	54	5270	17.05	19.00	1.568	96.24	1.039	-0.04	0.181	0.295
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 5	Simultaneous	54	5270	17.05	19.00	1.568	96.24	1.039	0.08	0.227	0.370
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.20	1.029	-0.02	0.179	0.269
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.20	1.029	-0.16	0.209	0.314
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.20	1.029	0	0.260	0.391
19	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.20	1.029	-0.06	0.393	**0.591**
	WLAN5.5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 5	Simultaneous	110	5550	17.25	18.50	1.335	96.24	1.039	0.07	0.095	0.132
	WLAN5.5GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 5	Simultaneous	110	5550	17.25	18.50	1.335	96.24	1.039	-0.14	0.091	0.126
	WLAN5.5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5	Simultaneous	110	5550	17.25	18.50	1.335	96.24	1.039	0.15	0.125	0.173
	WLAN5.5GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 5	Simultaneous	110	5550	17.25	18.50	1.335	96.24	1.039	-0.14	0.321	0.445
	WLAN5.8GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5	Full	157	5785	18.17	20.00	1.523	97.20	1.029	0.12	0.195	0.306
	WLAN5.8GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5	Full	157	5785	18.17	20.00	1.523	97.20	1.029	-0.01	0.250	0.392
	WLAN5.8GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5	Full	157	5785	18.17	20.00	1.523	97.20	1.029	-0.08	0.286	0.448
20	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Full	157	5785	18.17	20.00	1.523	97.20	1.029	-0.01	0.444	**0.696**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5	Simultaneous	157	5785	16.17	18.00	1.525	92.52	1.081	0.16	0.113	0.186
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5	Simultaneous	157	5785	16.17	18.00	1.525	92.52	1.081	-0.07	0.162	0.267
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5	Simultaneous	157	5785	16.17	18.00	1.525	92.52	1.081	-0.16	0.164	0.270
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5	Simultaneous	157	5785	16.17	18.00	1.525	92.52	1.081	0.16	0.272	0.448

16.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS 4 Tx slots	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	128	824.2	26.75	28.00	1.334	0.02	0.401	0.535
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	128	824.2	26.75	28.00	1.334	0.06	0.697	0.929
	GSM850	GPRS 4 Tx slots	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	128	824.2	26.75	28.00	1.334	-0.06	0.054	0.072
	GSM850	GPRS 4 Tx slots	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	128	824.2	26.75	28.00	1.334	0.02	0.079	0.105
	GSM850	GPRS 4 Tx slots	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	128	824.2	26.75	28.00	1.334	0.04	0.531	0.708
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	189	836.4	26.55	28.00	1.396	0.01	0.659	0.920
21	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	251	848.8	26.44	28.00	1.432	-0.03	0.691	**0.990**
	GSM1900	GPRS 3 Tx slots	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	810	1909.8	19.40	20.50	1.288	0.01	0.401	0.517
	GSM1900	GPRS 3 Tx slots	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	810	1909.8	19.40	20.50	1.288	0.01	0.548	0.706
	GSM1900	GPRS 3 Tx slots	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	810	1909.8	19.40	20.50	1.288	0.05	0.064	0.082
	GSM1900	GPRS 3 Tx slots	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	810	1909.8	19.40	20.50	1.288	-0.06	0.038	0.049
	GSM1900	GPRS 3 Tx slots	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	810	1909.8	19.40	20.50	1.288	-0.03	0.797	1.027
22	GSM1900	GPRS 3 Tx slots	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	512	1850.2	19.00	20.50	1.413	0.1	0.743	**1.050**
	GSM1900	GPRS 3 Tx slots	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	661	1880	18.80	20.50	1.479	-0.15	0.698	1.032

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4132	826.4	23.26	24.00	1.186	0.08	0.462	0.548
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4132	826.4	23.26	24.00	1.186	0.05	0.939	1.113
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4132	826.4	23.26	24.00	1.186	-0.02	0.107	0.127
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4132	826.4	23.26	24.00	1.186	0.04	0.248	0.294
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4132	826.4	23.26	24.00	1.186	-0.13	0.812	0.963
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4182	836.4	23.13	24.00	1.222	-0.19	0.878	1.073
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4233	846.6	23.05	24.00	1.245	0.01	0.899	1.119
23	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4182	836.4	23.13	24.00	1.222	0.01	0.917	**1.120**
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	4233	846.6	23.05	24.00	1.245	0.08	0.864	1.075
	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9262	1852.4	15.27	16.00	1.183	0.01	0.589	0.697
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9262	1852.4	15.27	16.00	1.183	0.09	0.881	1.042
	WCDMA II	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9262	1852.4	15.27	16.00	1.183	-0.07	0.082	0.097
	WCDMA II	RMC 12.2Kbps	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9262	1852.4	15.27	16.00	1.183	-0.11	0.035	0.041
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9262	1852.4	15.27	16.00	1.183	0.08	0.993	1.175
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9400	1880	15.26	16.00	1.186	0.01	0.795	0.943
24	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9538	1907.6	15.23	16.00	1.194	0.18	1.010	**1.206**
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9400	1880	15.26	16.00	1.186	0.18	0.627	0.743
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	9538	1907.6	15.23	16.00	1.194	0	0.640	0.764

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.66	23.50	1.213	0.06	0.248	0.301
	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.66	23.50	1.213	0.06	0.444	0.539
	LTE Band 12	10M	QPSK	1	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.66	23.50	1.213	-0.1	0.288	0.349
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.66	23.50	1.213	-0.19	0.078	0.095
	LTE Band 12	10M	QPSK	1	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.66	23.50	1.213	0.02	0.333	0.404
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.26	23.00	1.186	0.09	0.217	0.257
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.26	23.00	1.186	-0.12	0.404	0.479
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.26	23.00	1.186	-0.13	0.207	0.245
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.26	23.00	1.186	0.17	0.063	0.075
	LTE Band 12	10M	QPSK	25	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23095	707.5	22.26	23.00	1.186	-0.12	0.291	0.345
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	23.09	24.00	1.233	-0.09	0.426	0.525
25	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	23.09	24.00	1.233	-0.19	0.772	**0.952**
	LTE Band 12	10M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	23.09	24.00	1.233	-0.01	0.184	0.227
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	23.09	24.00	1.233	0.14	0.335	0.413
	LTE Band 12	10M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	23.09	24.00	1.233	0.16	0.459	0.566
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	22.30	23.00	1.175	-0.11	0.240	0.282
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	22.30	23.00	1.175	0.17	0.332	0.390
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	22.30	23.00	1.175	-0.05	0.104	0.122
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	22.30	23.00	1.175	-0.17	0.199	0.234
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	22.30	23.00	1.175	-0.04	0.300	0.352
	LTE Band 12	10M	QPSK	50	0	Back	5mm	Ant 1	DSI 3 (Sim)	Full	23095	707.5	22.28	23.00	1.180	0.02	0.327	0.386
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.47	22.50	1.268	0.01	0.219	0.278
	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.47	22.50	1.268	0.06	0.445	0.564
	LTE Band 13	10M	QPSK	1	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.47	22.50	1.268	0.16	0.221	0.280
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.47	22.50	1.268	0.07	0.091	0.115
	LTE Band 13	10M	QPSK	1	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.47	22.50	1.268	-0.05	0.309	0.392
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.45	22.50	1.274	0.16	0.401	0.511
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.45	22.50	1.274	0.14	0.439	0.559
	LTE Band 13	10M	QPSK	25	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.45	22.50	1.274	0.01	0.220	0.280
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.45	22.50	1.274	-0.08	0.087	0.111
	LTE Band 13	10M	QPSK	25	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	23230	782	21.45	22.50	1.274	-0.07	0.309	0.394
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	22.97	24.00	1.268	0.05	0.497	0.630
26	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	22.97	24.00	1.268	0.04	0.756	**0.958**
	LTE Band 13	10M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	22.97	24.00	1.268	0.04	0.196	0.248
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	22.97	24.00	1.268	-0.02	0.332	0.421
	LTE Band 13	10M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	22.97	24.00	1.268	-0.1	0.571	0.724
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	21.91	23.00	1.285	-0.11	0.360	0.463
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	21.91	23.00	1.285	0.1	0.701	0.901
	LTE Band 13	10M	QPSK	25	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	21.91	23.00	1.285	0.11	0.137	0.176
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	21.91	23.00	1.285	-0.05	0.239	0.307
	LTE Band 13	10M	QPSK	25	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	21.91	23.00	1.285	-0.01	0.429	0.551
	LTE Band 13	10M	QPSK	50	0	Back	5mm	Ant 1	DSI 3 (Sim)	Full	23230	782	21.88	23.00	1.294	0.06	0.689	0.892
	LTE Band 5	10M	QPSK	1	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.53	21.50	1.250	0.03	0.254	0.318
	LTE Band 5	10M	QPSK	1	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.53	21.50	1.250	0.08	0.446	0.558
	LTE Band 5	10M	QPSK	1	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.53	21.50	1.250	-0.09	0.249	0.311
	LTE Band 5	10M	QPSK	1	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.53	21.50	1.250	-0.17	0.071	0.089
	LTE Band 5	10M	QPSK	1	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.53	21.50	1.250	0.11	0.340	0.425
	LTE Band 5B	10M	QPSK	1	49	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20450+ 20549	829+ 838.9	20.51	21.50	1.256	0.06	0.421	0.529
	LTE Band 5	10M	QPSK	25	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.52	21.50	1.253	0.17	0.407	0.510
	LTE Band 5	10M	QPSK	25	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.52	21.50	1.253	0.01	0.435	0.545
	LTE Band 5	10M	QPSK	25	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.52	21.50	1.253	0.14	0.242	0.303
	LTE Band 5	10M	QPSK	25	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.52	21.50	1.253	0.01	0.067	0.084

	LTE Band 5	10M	QPSK	25	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	20525	836.5	20.52	21.50	1.253	0.11	0.329	0.412
	LTE Band 5	10M	QPSK	1	0	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.99	24.00	1.262	0.12	0.495	0.625
27	LTE Band 5	10M	QPSK	1	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.99	24.00	1.262	-0.16	0.900	**1.136**
	LTE Band 5	10M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.99	24.00	1.262	0.05	0.078	0.098
	LTE Band 5	10M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.99	24.00	1.262	-0.1	0.201	0.254
	LTE Band 5	10M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.99	24.00	1.262	-0.03	0.399	0.503
	LTE Band 5B	10M	QPSK	1	49	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20575+ 20476	841.5+ 831.6	22.78	24.00	1.324	0.01	0.601	0.796
	LTE Band 5	10M	QPSK	25	0	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.27	23.00	1.183	0.14	0.434	0.513
	LTE Band 5	10M	QPSK	25	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.27	23.00	1.183	0.07	0.763	0.903
	LTE Band 5	10M	QPSK	25	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.27	23.00	1.183	0.15	0.057	0.067
	LTE Band 5	10M	QPSK	25	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.27	23.00	1.183	0.19	0.157	0.186
	LTE Band 5	10M	QPSK	25	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.27	23.00	1.183	0.08	0.378	0.447
	LTE Band 5	10M	QPSK	50	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20525	836.5	22.26	23.00	1.186	-0.01	0.753	0.893
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.89	21.00	1.291	0.02	0.214	0.276
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.89	21.00	1.291	-0.09	0.469	0.606
	LTE Band 66	20M	QPSK	1	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.89	21.00	1.291	0.09	0.466	0.602
	LTE Band 66	20M	QPSK	1	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.89	21.00	1.291	0.14	0.028	0.036
	LTE Band 66	20M	QPSK	1	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.89	21.00	1.291	0.13	0.173	0.223
	LTE Band 66C	20M	QPSK	1	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572+ 132374	1770+ 1750.2	19.87	21.00	1.297	0.03	0.377	0.489
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.74	21.00	1.337	0.08	0.205	0.274
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.74	21.00	1.337	-0.01	0.405	0.541
	LTE Band 66	20M	QPSK	50	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.74	21.00	1.337	-0.14	0.400	0.535
	LTE Band 66	20M	QPSK	50	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.74	21.00	1.337	0.02	0.025	0.033
	LTE Band 66	20M	QPSK	50	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	132572	1770	19.74	21.00	1.337	-0.12	0.171	0.229
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.66	16.50	1.213	0.09	0.441	0.535
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.66	16.50	1.213	-0.02	0.621	0.754
	LTE Band 66	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.66	16.50	1.213	0.05	0.052	0.063
	LTE Band 66	20M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.66	16.50	1.213	0.07	0.041	0.050
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.66	16.50	1.213	-0.19	0.827	1.003
28	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132322	1745	15.54	16.50	1.247	-0.11	0.883	**1.101**
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132572	1770	15.65	16.50	1.216	-0.16	0.639	0.777
	LTE Band 66C	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132322 +132520	1745+ 1764.8	15.60	16.50	1.230	0.09	0.360	0.443
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.57	16.50	1.239	0.11	0.437	0.541
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.57	16.50	1.239	0.03	0.602	0.746
	LTE Band 66	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.57	16.50	1.239	-0.14	0.048	0.059
	LTE Band 66	20M	QPSK	50	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.57	16.50	1.239	0.14	0.038	0.047
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.57	16.50	1.239	0.03	0.854	1.058
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132322	1745	15.52	16.50	1.253	0.12	0.849	1.064
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132572	1770	15.53	16.50	1.250	-0.15	0.797	0.996
	LTE Band 66	20M	QPSK	100	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	132072	1720	15.53	16.50	1.250	0.03	0.825	1.031
	LTE Band 2	20M	QPSK	1	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	18.00	19.00	1.259	-0.12	0.160	0.201
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	18.00	19.00	1.259	0.01	0.433	0.545
	LTE Band 2	20M	QPSK	1	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	18.00	19.00	1.259	-0.18	0.303	0.381
	LTE Band 2	20M	QPSK	1	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	18.00	19.00	1.259	0.02	0.010	0.013
	LTE Band 2	20M	QPSK	1	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	18.00	19.00	1.259	0.16	0.154	0.194
	LTE Band 2	20M	QPSK	50	0	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	17.91	19.00	1.285	-0.1	0.152	0.195
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	17.91	19.00	1.285	0.02	0.366	0.470
	LTE Band 2	20M	QPSK	50	0	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	17.91	19.00	1.285	0.09	0.298	0.383
	LTE Band 2	20M	QPSK	50	0	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	17.91	19.00	1.285	0.09	0.007	0.009
	LTE Band 2	20M	QPSK	50	0	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	18700	1860	17.91	19.00	1.285	-0.13	0.147	0.189
	LTE Band 2	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.56	16.50	1.242	0.06	0.442	0.549
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.56	16.50	1.242	0.07	0.539	0.669
	LTE Band 2	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.56	16.50	1.242	-0.18	0.065	0.081
	LTE Band 2	20M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.56	16.50	1.242	0.04	0.026	0.032
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.56	16.50	1.242	0.11	0.851	1.057

29	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18900	1880	15.50	16.50	1.259	-0.19	0.966	**1.216**
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	19100	1900	15.31	16.50	1.315	-0.09	0.921	1.211
	LTE Band 2	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.50	16.50	1.259	0	0.446	0.561
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.50	16.50	1.259	-0.04	0.611	0.769
	LTE Band 2	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.50	16.50	1.259	0.19	0.061	0.077
	LTE Band 2	20M	QPSK	50	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.50	16.50	1.259	0.12	0.021	0.026
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.50	16.50	1.259	0.09	0.888	1.118
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18900	1880	15.45	16.50	1.274	0.06	0.942	1.200
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	19100	1900	15.43	16.50	1.279	0.09	0.907	1.160
	LTE Band 2	20M	QPSK	100	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	18700	1860	15.46	16.50	1.271	0.02	0.849	1.079
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.19	15.00	1.205	-0.01	0.398	0.480
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.19	15.00	1.205	0.18	0.738	0.889
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.19	15.00	1.205	0.09	0.025	0.030
	LTE Band 7	20M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.19	15.00	1.205	-0.18	0.023	0.028
30	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.19	15.00	1.205	-0.19	1.020	**1.229**
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	21100	2535	14.11	15.00	1.227	-0.1	0.789	0.968
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	21350	2560	14.10	15.00	1.230	-0.1	0.919	1.131
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	21100	2535	14.11	15.00	1.227	-0.14	0.610	0.749
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	21350	2560	14.10	15.00	1.230	-0.16	0.811	0.998
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.10	15.00	1.230	-0.18	0.411	0.506
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.10	15.00	1.230	0.11	0.729	0.897
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.10	15.00	1.230	0.1	0.021	0.026
	LTE Band 7	20M	QPSK	50	0	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.10	15.00	1.230	0.15	0.017	0.021
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	14.10	15.00	1.230	-0.08	0.981	1.207
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	21100	2535	14.09	15.00	1.233	0	0.870	1.073
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	21350	2560	14.08	15.00	1.236	-0.14	0.988	1.221
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	21100	2535	14.09	15.00	1.233	0.03	0.894	1.102
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	21350	2560	14.08	15.00	1.236	-0.13	0.872	1.078
	LTE Band 7	20M	QPSK	100	0	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	13.95	15.00	1.274	0.15	0.694	0.884
	LTE Band 7	20M	QPSK	100	0	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	20850	2510	13.95	15.00	1.274	0.03	0.932	1.187

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 48	20M	QPSK	1	99	Front	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.91	17.50	1.146	62.9	1.006	-0.04	0.122	0.141
31	LTE Band 48	20M	QPSK	1	99	Back	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.91	17.50	1.146	62.9	1.006	-0.06	0.509	**0.587**
	LTE Band 48	20M	QPSK	1	99	Left Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.91	17.50	1.146	62.9	1.006	0.1	0.346	0.399
	LTE Band 48	20M	QPSK	1	99	Right Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.91	17.50	1.146	62.9	1.006	-0.18	0.028	0.032
	LTE Band 48	20M	QPSK	1	99	Top Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.91	17.50	1.146	62.9	1.006	0.09	0.147	0.169
	LTE Band 48C	20M	QPSK	1	99	Back	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830+ 56028	3609+ 3628.8	16.64	17.50	1.219	62.9	1.006	0.05	0.382	0.468
	LTE Band 48	20M	QPSK	50	0	Front	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.79	17.50	1.178	62.9	1.006	-0.01	0.125	0.148
	LTE Band 48	20M	QPSK	50	0	Back	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.79	17.50	1.178	62.9	1.006	0.12	0.435	0.515
	LTE Band 48	20M	QPSK	50	0	Left Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.79	17.50	1.178	62.9	1.006	-0.06	0.374	0.443
	LTE Band 48	20M	QPSK	50	0	Right Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.79	17.50	1.178	62.9	1.006	-0.11	0.018	0.021
	LTE Band 48	20M	QPSK	50	0	Top Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	55830	3609	16.79	17.50	1.178	62.9	1.006	0.05	0.152	0.180

<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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)
	FR1 N5	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.02	23.00	1.253	-0.15	0.276	0.346
	FR1 N5	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.02	23.00	1.253	0.18	0.483	0.605
	FR1 N5	20M	BPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.02	23.00	1.253	-0.15	0.211	0.264
	FR1 N5	20M	BPSK	1	1	DFT-15	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.02	23.00	1.253	0.12	0.075	0.094
	FR1 N5	20M	BPSK	1	1	DFT-15	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.02	23.00	1.253	-0.07	0.418	0.524
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.00	23.00	1.259	-0.03	0.298	0.375
	FR1 N5	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.00	23.00	1.259	-0.11	0.487	0.613
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.00	23.00	1.259	-0.02	0.231	0.291
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.00	23.00	1.259	0.1	0.083	0.104
	FR1 N5	20M	BPSK	50	28	DFT-15	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	167300	836.5	22.00	23.00	1.259	0.14	0.430	0.541
	FR1 N5	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.25	24.00	1.189	0.19	0.415	0.493
	FR1 N5	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.25	24.00	1.189	0.17	0.675	0.802
	FR1 N5	20M	BPSK	1	1	DFT-15	Left Side	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.25	24.00	1.189	0.18	0.059	0.070
	FR1 N5	20M	BPSK	1	1	DFT-15	Right Side	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.25	24.00	1.189	-0.1	0.152	0.181
	FR1 N5	20M	BPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.25	24.00	1.189	0.06	0.589	0.700
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.23	24.00	1.194	0.05	0.503	0.601
32	FR1 N5	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.23	24.00	1.194	0.01	0.743	**0.887**
	FR1 N5	20M	BPSK	50	28	DFT-15	Left Side	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.23	24.00	1.194	0.15	0.083	0.099
	FR1 N5	20M	BPSK	50	28	DFT-15	Right Side	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.23	24.00	1.194	-0.05	0.197	0.235
	FR1 N5	20M	BPSK	50	28	DFT-15	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.23	24.00	1.194	0.13	0.622	0.743
	FR1 N5	20M	BPSK	100	0	DFT-15	Back	5mm	Ant 1	DSI 3 (Sim)	Full	167300	836.5	23.16	24.00	1.213	-0.09	0.712	0.864
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.74	22.50	1.191	0.18	0.269	0.320
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.74	22.50	1.191	-0.14	0.472	0.562
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.74	22.50	1.191	0.07	0.467	0.556
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.74	22.50	1.191	0.12	0.035	0.042
	FR1 N66	40M	BPSK	1	1	DFT-15	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.74	22.50	1.191	0.12	0.174	0.207
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.68	22.50	1.208	-0.05	0.304	0.367
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.68	22.50	1.208	-0.02	0.508	0.614
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.68	22.50	1.208	-0.02	0.509	0.615
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.68	22.50	1.208	0.08	0.042	0.051
	FR1 N66	40M	BPSK	108	54	DFT-15	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	349000	1745	21.68	22.50	1.208	0	0.211	0.255
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.17	16.00	1.211	-0.12	0.400	0.484
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.17	16.00	1.211	-0.19	0.551	0.667
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.17	16.00	1.211	0.16	0.049	0.059
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.17	16.00	1.211	0.06	0.041	0.050
33	FR1 N66	40M	BPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.17	16.00	1.211	0.03	0.911	**1.103**
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.15	16.00	1.216	0.17	0.361	0.439
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.15	16.00	1.216	0.01	0.521	0.634
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.15	16.00	1.216	-0.04	0.038	0.046
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.15	16.00	1.216	0.03	0.035	0.043
	FR1 N66	40M	BPSK	108	54	DFT-15	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.15	16.00	1.216	0.14	0.737	0.896
	FR1 N66	40M	BPSK	216	0	DFT-15	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	349000	1745	15.14	16.00	1.219	0.07	0.705	0.859
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.29	20.00	1.178	-0.14	0.221	0.260
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.29	20.00	1.178	-0.05	0.420	0.495
	FR1 N2	20M	BPSK	1	1	DFT-15	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.29	20.00	1.178	-0.06	0.345	0.406
	FR1 N2	20M	BPSK	1	1	DFT-15	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.29	20.00	1.178	-0.06	0.018	0.021
	FR1 N2	20M	BPSK	1	1	DFT-15	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.29	20.00	1.178	0.03	0.211	0.248
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.25	20.00	1.189	-0.03	0.226	0.269
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.25	20.00	1.189	0.06	0.516	0.613
	FR1 N2	20M	BPSK	50	28	DFT-15	Left Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.25	20.00	1.189	0.13	0.362	0.430
	FR1 N2	20M	BPSK	50	28	DFT-15	Right Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.25	20.00	1.189	-0.1	0.023	0.027
	FR1 N2	20M	BPSK	50	28	DFT-15	Top Side	5mm	Ant 2	DSI 3 (Sim)	Hotspot on	376000	1880	19.25	20.00	1.189	-0.11	0.224	0.266
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.65	16.50	1.216	0.01	0.468	0.569

	FR1 N2	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.65	16.50	1.216	-0.11	0.740	0.900
	FR1 N2	20M	BPSK	1	1	DFT-15	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.65	16.50	1.216	-0.08	0.073	0.089
	FR1 N2	20M	BPSK	1	1	DFT-15	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.65	16.50	1.216	-0.05	0.029	0.035
34	FR1 N2	20M	BPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.65	16.50	1.216	-0.08	1.040	**1.265**
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.41	16.50	1.285	0.14	0.455	0.585
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.41	16.50	1.285	-0.1	0.721	0.927
	FR1 N2	20M	BPSK	50	28	DFT-15	Left Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.41	16.50	1.285	-0.18	0.066	0.085
	FR1 N2	20M	BPSK	50	28	DFT-15	Right Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.41	16.50	1.285	0.05	0.025	0.032
	FR1 N2	20M	BPSK	50	28	DFT-15	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.41	16.50	1.285	0	0.978	1.257
	FR1 N2	20M	BPSK	100	0	DFT-15	Back	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.32	16.50	1.312	0.04	0.701	0.920
	FR1 N2	20M	BPSK	100	0	DFT-15	Bottom Side	5mm	Ant 1	DSI 3 (Sim)	Hotspot on	376000	1880	15.32	16.50	1.312	0.04	0.931	1.222
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.88	12.00	1.294	0.18	0.061	0.079
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.88	12.00	1.294	0.1	0.123	0.159
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Left Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.88	12.00	1.294	0.18	0.100	0.129
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Right Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.88	12.00	1.294	-0.13	0.007	0.009
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	1	1	DFT-30	Top Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.88	12.00	1.294	-0.12	0.026	0.034
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.74	12.00	1.337	0.09	0.065	0.087
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.74	12.00	1.337	0.12	0.127	0.170
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Left Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.74	12.00	1.337	-0.07	0.103	0.138
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Right Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.74	12.00	1.337	-0.18	0.010	0.013
	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Top Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	633334	3500.01	10.74	12.00	1.337	0.1	0.021	0.028
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.55	12.00	1.396	-0.07	0.012	0.017
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.55	12.00	1.396	0.18	0.291	0.406
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Left Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.55	12.00	1.396	-0.18	0.101	0.141
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Right Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.55	12.00	1.396	-0.15	0.002	0.003
	FR1 N77_Part 27O(HPUE)	100M	BPSK	1	1	DFT-30	Top Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.55	12.00	1.396	-0.07	0.035	0.049
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.30	12.00	1.479	0.09	0.027	0.040
35	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.30	12.00	1.479	-0.1	0.411	**0.608**
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Left Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.30	12.00	1.479	-0.11	0.125	0.185
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Right Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.30	12.00	1.479	-0.18	0.003	0.004
	FR1 N77_Part 27O(HPUE)	100M	BPSK	135	69	DFT-30	Top Side	5mm	Ant 4	DSI 3 (Sim)	Hotspot on	656000	3840	10.30	12.00	1.479	0.17	0.043	0.064
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.74	10.50	1.191	0.09	0.012	0.014
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.74	10.50	1.191	0.16	0.398	0.474
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.74	10.50	1.191	-	n/a	n/a
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.74	10.50	1.191	-0.02	0.007	0.008
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Top Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.74	10.50	1.191	0.01	0.045	0.054
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.67	10.50	1.211	0.03	0.015	0.018
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.67	10.50	1.211	-0.08	0.446	0.540
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.67	10.50	1.211	-	n/a	n/a
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.67	10.50	1.211	0.12	0.009	0.011
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Top Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	633334	3500.01	9.67	10.50	1.211	-0.04	0.058	0.070
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.67	10.50	1.211	0.05	0.008	0.010
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.67	10.50	1.211	-0.17	0.322	0.390
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.67	10.50	1.211	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.67	10.50	1.211	-0.08	0.004	0.005
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Top Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.67	10.50	1.211	0.16	0.045	0.054
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.61	10.50	1.227	-0.16	0.010	0.012
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.61	10.50	1.227	-0.19	0.334	0.410
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.61	10.50	1.227	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.61	10.50	1.227	0.11	0.006	0.007
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Top Side	5mm	Ant 5	DSI 3 (Sim)	Hotspot on	656000	3840	9.61	10.50	1.227	0.19	0.051	0.063
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.05	8.00	1.245	-0.05	0.005	0.006
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.05	8.00	1.245	0.15	0.367	0.457
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.05	8.00	1.245	0.19	0.004	0.005
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.05	8.00	1.245	0.01	0.003	0.004
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Top Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.05	8.00	1.245	-0.06	0.009	0.011

	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.02	8.00	1.253	-0.09	0.006	0.008
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.02	8.00	1.253	-0.13	0.460	0.576
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.02	8.00	1.253	0.08	0.006	0.008
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.02	8.00	1.253	-0.13	0.005	0.006
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Top Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	633334	3500.01	7.02	8.00	1.253	0.11	0.011	0.014
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.96	8.00	1.271	-0.06	0.012	0.015
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.96	8.00	1.271	-0.04	0.066	0.084
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.96	8.00	1.271	0.17	0.008	0.010
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.96	8.00	1.271	0.07	0.002	0.003
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Top Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.96	8.00	1.271	-0.07	0.022	0.028
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.86	8.00	1.300	-0.1	0.009	0.012
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.86	8.00	1.300	0.16	0.048	0.062
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.86	8.00	1.300	0.03	0.006	0.008
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.86	8.00	1.300	0.09	0.001	0.001
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Top Side	5mm	Ant 6	DSI 3 (Sim)	Hotspot on	656000	3840	6.86	8.00	1.300	0.13	0.018	0.023
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.08	14.00	1.236	0.08	0.002	0.002
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.08	14.00	1.236	0.18	0.230	0.284
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Left Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.08	14.00	1.236	0.05	0.002	0.002
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Right Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.08	14.00	1.236	-0.07	0.027	0.033
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Top Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.08	14.00	1.236	0.02	0.005	0.006
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.02	14.00	1.253	-0.05	0.004	0.005
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.02	14.00	1.253	-0.03	0.265	0.332
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Left Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.02	14.00	1.253	0.07	0.003	0.004
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Right Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.02	14.00	1.253	-0.14	0.035	0.044
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Top Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	633334	3500.01	13.02	14.00	1.253	0.07	0.008	0.010
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.38	14.00	1.153	-0.16	0.002	0.002
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.38	14.00	1.153	-0.05	0.446	0.514
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Left Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.38	14.00	1.153	0.09	0.001	0.001
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Right Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.38	14.00	1.153	-0.15	0.035	0.040
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Top Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.38	14.00	1.153	-0.19	0.006	0.007
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.18	14.00	1.208	-0.13	0.002	0.002
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.18	14.00	1.208	0.16	0.425	0.513
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Left Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.18	14.00	1.208	-0.18	0.001	0.001
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Right Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.18	14.00	1.208	0.01	0.033	0.040
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Top Side	5mm	Ant 10	DSI 3 (Sim)	Hotspot on	656000	3840	13.18	14.00	1.208	-0.13	0.005	0.006

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	DH5 1Mbps	Front	5mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	0.01	0.042	0.067
36	Bluetooth	DH5 1Mbps	Back	5mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	-0.12	0.095	**0.153**
	Bluetooth	DH5 1Mbps	Left Side	5mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	-	n/a	n/a
	Bluetooth	DH5 1Mbps	Right Side	5mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	-	n/a	n/a
	Bluetooth	DH5 1Mbps	Top Side	5mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	0.13	0.080	0.128

<WLAN2.4G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3	Hotspot on	1	2412	18.30	19.50	1.318	99.54	1.005	0.04	0.253	0.335
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3	Hotspot on	1	2412	18.30	19.50	1.318	99.54	1.005	0.16	0.372	0.493
	WLAN2.4GHz	802.11b 1Mbps	Left Side	5mm	Ant 3	Hotspot on	1	2412	18.30	19.50	1.318	99.54	1.005	-0.04	0.076	0.101
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 3	Hotspot on	1	2412	18.30	19.50	1.318	99.54	1.005	0.06	0.082	0.109
37	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 3	Hotspot on	1	2412	18.30	19.50	1.318	99.54	1.005	0.11	0.428	**0.567**

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Hotspot on	42	5210	10.08	11.50	1.387	92.52	1.081	-	n/a	n/a
38	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Hotspot on	42	5210	10.08	11.50	1.387	92.52	1.081	0.06	0.384	**0.576**
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 5	Hotspot on	42	5210	10.08	11.50	1.387	92.52	1.081	-	n/a	n/a
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 5	Hotspot on	42	5210	10.08	11.50	1.387	92.52	1.081	-	n/a	n/a
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5	Hotspot on	42	5210	10.08	11.50	1.387	92.52	1.081	-	n/a	n/a
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Hotspot on	155	5775	9.21	11.00	1.510	92.52	1.081	-	n/a	n/a
39	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Hotspot on	155	5775	9.21	11.00	1.510	92.52	1.081	0.06	0.374	**0.611**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 5	Hotspot on	155	5775	9.21	11.00	1.510	92.52	1.081	-	n/a	n/a
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 5	Hotspot on	155	5775	9.21	11.00	1.510	92.52	1.081	-	n/a	n/a
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5	Hotspot on	155	5775	9.21	11.00	1.510	92.52	1.081	-0.1	0.109	0.178

16.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS 4 Tx slots	Front	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	128	824.2	26.75	28.00	1.334	0.02	0.401	0.535
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	128	824.2	26.75	28.00	1.334	0.06	0.697	0.929
	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	189	836.4	26.55	28.00	1.396	0.01	0.659	0.920
40	GSM850	GPRS 4 Tx slots	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	251	848.8	26.44	28.00	1.432	-0.03	0.691	**0.990**
	GSM850	GPRS 4 Tx slots	Front	21mm	Ant 1	-	DSI4	Full	128	824.2	28.37	30.00	1.455	0.07	0.144	0.210
	GSM850	GPRS 4 Tx slots	Back	27mm	Ant 1	-	DSI4	Full	251	848.8	28.22	30.00	1.507	-0.18	0.100	0.150
	GSM1900	GPRS 3 Tx slots	Front	5mm	Ant 1	-	DSI3	Standalone	810	1909.8	21.96	23.00	1.271	0.01	0.765	0.972
41	GSM1900	GPRS 3 Tx slots	Back	5mm	Ant 1	-	DSI3	Standalone	810	1909.8	21.96	23.00	1.271	0.12	0.988	**1.255**
	GSM1900	GPRS 3 Tx slots	Front	5mm	Ant 1	-	DSI3	Standalone	512	1850.2	21.45	23.00	1.429	0.06	0.542	0.774
	GSM1900	GPRS 3 Tx slots	Front	5mm	Ant 1	-	DSI3	Standalone	661	1880	21.31	23.00	1.476	-0.08	0.499	0.736
	GSM1900	GPRS 3 Tx slots	Back	5mm	Ant 1	-	DSI3	Standalone	512	1850.2	21.45	23.00	1.429	0.01	0.688	0.983
	GSM1900	GPRS 3 Tx slots	Back	5mm	Ant 1	-	DSI3	Standalone	661	1880	21.31	23.00	1.476	0.12	0.629	0.928
	GSM1900	GPRS 3 Tx slots	Back	5mm	Ant 1	Headset	DSI3	Standalone	810	1909.8	21.96	23.00	1.271	-0.15	0.962	1.222
	GSM1900	GPRS 3 Tx slots	Front	21mm	Ant 1	-	DSI4	Full	810	1909.8	27.28	28.00	1.180	0.14	0.273	0.322
	GSM1900	GPRS 3 Tx slots	Back	27mm	Ant 1	-	DSI4	Full	810	1909.8	27.28	28.00	1.180	-0.17	0.269	0.318
	GSM1900	GPRS 3 Tx slots	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	810	1909.8	19.40	20.50	1.288	0.01	0.401	0.517
	GSM1900	GPRS 3 Tx slots	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	810	1909.8	19.40	20.50	1.288	0.01	0.548	0.706

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	4132	826.4	23.26	24.00	1.186	0.08	0.462	0.548
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	4132	826.4	23.26	24.00	1.186	0.05	0.939	1.113
42	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	4182	836.4	23.13	24.00	1.222	0.01	0.917	**1.120**
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	4233	846.6	23.05	24.00	1.245	0.08	0.864	1.075
	WCDMA V	RMC 12.2Kbps	Front	21mm	Ant 1	-	DSI4	Full	4132	826.4	23.26	24.00	1.186	-0.04	0.122	0.145
	WCDMA V	RMC 12.2Kbps	Back	27mm	Ant 1	-	DSI4	Full	4182	836.4	23.13	24.00	1.222	0.05	0.082	0.100
	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI3	Standalone	9262	1852.4	16.72	17.50	1.197	0.15	0.837	1.002
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI3	Standalone	9262	1852.4	16.72	17.50	1.197	0.05	1.010	1.209
	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI3	Standalone	9400	1880	16.71	17.50	1.199	-0.13	0.771	0.925
	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI3	Standalone	9538	1907.6	16.70	17.50	1.202	0.02	0.838	1.007
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI3	Standalone	9400	1880	16.71	17.50	1.199	0.06	0.964	1.156
43	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI3	Standalone	9538	1907.6	16.70	17.50	1.202	-0.02	1.060	**1.274**
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	Headset	DSI3	Standalone	9538	1907.6	16.70	17.50	1.202	0.03	0.979	1.177
	WCDMA II	RMC 12.2Kbps	Front	21mm	Ant 1	-	DSI4	Full	9538	1907.6	23.35	24.00	1.161	-0.13	0.232	0.269
	WCDMA II	RMC 12.2Kbps	Back	27mm	Ant 1	-	DSI4	Full	9538	1907.6	23.35	24.00	1.161	0.04	0.288	0.334
	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	9262	1852.4	15.27	16.00	1.183	0.01	0.589	0.697
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	9262	1852.4	15.27	16.00	1.183	0.09	0.881	1.042
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	9400	1880	15.26	16.00	1.186	0.18	0.627	0.743
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	9538	1907.6	15.23	16.00	1.194	0	0.640	0.764

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Headset	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant 2	-	DSI3	Full	23095	707.5	23.11	24.00	1.227	0.15	0.446	0.547
	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Full	23095	707.5	23.11	24.00	1.227	0.09	0.711	0.873
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant 2	-	DSI3	Full	23095	707.5	22.31	23.00	1.172	0.17	0.242	0.284
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant 2	-	DSI3	Full	23095	707.5	22.31	23.00	1.172	-0.17	0.396	0.464
	LTE Band 12	10M	QPSK	50	0	Back	5mm	Ant 2	-	DSI3	Full	23095	707.5	22.26	23.00	1.186	0.03	0.387	0.459
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	23095	707.5	22.66	23.50	1.213	0.06	0.248	0.301
	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	23095	707.5	22.66	23.50	1.213	0.06	0.444	0.539
	LTE Band 12	10M	QPSK	1	0	Front	21mm	Ant 2	-	DSI4	Full	23095	707.5	23.11	24.00	1.227	-0.12	0.126	0.155
	LTE Band 12	10M	QPSK	1	0	Back	27mm	Ant 2	-	DSI4	Full	23095	707.5	23.11	24.00	1.227	0.02	0.116	0.142
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	23095	707.5	22.26	23.00	1.186	0.09	0.217	0.257
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	23095	707.5	22.26	23.00	1.186	-0.12	0.404	0.479
	LTE Band 12	10M	QPSK	25	0	Front	21mm	Ant 2	-	DSI4	Full	23095	707.5	22.31	23.00	1.172	0.05	0.102	0.120
	LTE Band 12	10M	QPSK	25	0	Back	27mm	Ant 2	-	DSI4	Full	23095	707.5	22.31	23.00	1.172	-0.01	0.095	0.111
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant 1	-	DSI3	Full	23095	707.5	23.09	24.00	1.233	-0.09	0.426	0.525
44	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Full	23095	707.5	23.09	24.00	1.233	-0.19	0.772	**0.952**
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant 1	-	DSI3	Full	23095	707.5	22.30	23.00	1.175	-0.11	0.240	0.282
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant 1	-	DSI3	Full	23095	707.5	22.30	23.00	1.175	0.17	0.332	0.390
	LTE Band 12	10M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Full	23095	707.5	22.28	23.00	1.180	0.02	0.327	0.386
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant 2	-	DSI3	Full	23230	782	22.90	24.00	1.288	-0.11	0.483	0.622
45	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Full	23230	782	22.90	24.00	1.288	-0.14	0.751	**0.967**
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant 2	-	DSI3	Full	23230	782	21.91	23.00	1.285	0.01	0.354	0.455
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant 2	-	DSI3	Full	23230	782	21.91	23.00	1.285	0.13	0.567	0.729
	LTE Band 13	10M	QPSK	50	0	Back	5mm	Ant 2	-	DSI3	Full	23230	782	21.76	23.00	1.330	-0.04	0.532	0.708
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	23230	782	21.47	22.50	1.268	0.01	0.219	0.278
	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	23230	782	21.47	22.50	1.268	0.06	0.445	0.564
	LTE Band 13	10M	QPSK	1	0	Front	21mm	Ant 2	-	DSI4	Full	23230	782	22.90	24.00	1.288	-0.16	0.133	0.171
	LTE Band 13	10M	QPSK	1	0	Back	27mm	Ant 2	-	DSI4	Full	23230	782	22.90	24.00	1.288	0.05	0.126	0.162
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	23230	782	21.45	22.50	1.274	0.16	0.401	0.511
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	23230	782	21.45	22.50	1.274	0.14	0.439	0.559
	LTE Band 13	10M	QPSK	25	0	Front	21mm	Ant 2	-	DSI4	Full	23230	782	21.91	23.00	1.285	0.09	0.126	0.162
	LTE Band 13	10M	QPSK	25	0	Back	27mm	Ant 2	-	DSI4	Full	23230	782	21.91	23.00	1.285	-0.07	0.121	0.156
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant 1	-	DSI3	Full	23230	782	22.97	24.00	1.268	0.05	0.497	0.630
	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Full	23230	782	22.97	24.00	1.268	0.04	0.756	0.958
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant 1	-	DSI3	Full	23230	782	21.91	23.00	1.285	-0.11	0.360	0.463
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant 1	-	DSI3	Full	23230	782	21.91	23.00	1.285	0.1	0.701	0.901
	LTE Band 13	10M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Full	23230	782	21.88	23.00	1.294	0.06	0.689	0.892
	LTE Band 5	10M	QPSK	1	0	Front	5mm	Ant 2	-	DSI3	Standalone	20525	836.5	22.99	24.00	1.262	-0.01	0.487	0.615
	LTE Band 5	10M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Standalone	20525	836.5	22.99	24.00	1.262	-0.04	0.820	1.035
	LTE Band 5	10M	QPSK	1	0	Front	21mm	Ant 2	-	DSI4	Full	20525	836.5	22.99	24.00	1.262	-0.18	0.064	0.081
	LTE Band 5	10M	QPSK	1	0	Back	27mm	Ant 2	-	DSI4	Full	20525	836.5	22.99	24.00	1.262	-0.08	0.052	0.066
	LTE Band 5B	10M	QPSK	1	49	Back	5mm	Ant 2	-	DSI3	Standalone	20450+ 20549	829+ 838.9	22.56	24.00	1.393	-0.09	0.721	1.004
	LTE Band 5	10M	QPSK	25	0	Front	5mm	Ant 2	-	DSI3	Standalone	20525	836.5	22.16	23.00	1.213	-0.15	0.364	0.442
	LTE Band 5	10M	QPSK	25	0	Back	5mm	Ant 2	-	DSI3	Standalone	20525	836.5	22.16	23.00	1.213	-0.01	0.687	0.834
	LTE Band 5	10M	QPSK	25	0	Front	21mm	Ant 2	-	DSI4	Full	20525	836.5	22.16	23.00	1.213	-0.05	0.054	0.066
	LTE Band 5	10M	QPSK	25	0	Back	27mm	Ant 2	-	DSI4	Full	20525	836.5	22.16	23.00	1.213	0.13	0.046	0.056
	LTE Band 5	10M	QPSK	50	0	Back	5mm	Ant 2	-	DSI3	Standalone	20525	836.5	22.05	23.00	1.245	0.07	0.665	0.828
	LTE Band 5	10M	QPSK	1	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	20525	836.5	20.53	21.50	1.250	0.03	0.254	0.318
	LTE Band 5	10M	QPSK	1	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	20525	836.5	20.53	21.50	1.250	0.08	0.446	0.558
	LTE Band 5B	10M	QPSK	1	49	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	20450+ 20549	829+ 838.9	20.51	21.50	1.256	0.06	0.421	0.529
	LTE Band 5	10M	QPSK	25	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	20525	836.5	20.52	21.50	1.253	0.17	0.407	0.510
	LTE Band 5	10M	QPSK	25	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	20525	836.5	20.52	21.50	1.253	0.01	0.435	0.545
	LTE Band 5	10M	QPSK	1	0	Front	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	20525	836.5	22.99	24.00	1.262	0.12	0.495	0.625

46	LTE Band 5	10M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	20525	836.5	22.99	24.00	1.262	-0.16	0.900	**1.136**
	LTE Band 5	10M	QPSK	1	0	Front	21mm	Ant 1	-	DSI4	Full	20525	836.5	22.99	24.00	1.262	-0.15	0.068	0.086
	LTE Band 5	10M	QPSK	1	0	Back	27mm	Ant 1	-	DSI4	Full	20525	836.5	22.99	24.00	1.262	0.01	0.050	0.063
	LTE Band 5B	10M	QPSK	1	49	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	20575 +20476	841.5+ 831.6	22.78	24.00	1.324	0.01	0.601	0.796
	LTE Band 5	10M	QPSK	25	0	Front	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	20525	836.5	22.27	23.00	1.183	0.14	0.434	0.513
	LTE Band 5	10M	QPSK	25	0	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	20525	836.5	22.27	23.00	1.183	0.07	0.763	0.903
	LTE Band 5	10M	QPSK	25	0	Front	21mm	Ant 1	-	DSI4	Full	20525	836.5	22.27	23.00	1.183	0.08	0.060	0.071
	LTE Band 5	10M	QPSK	25	0	Back	27mm	Ant 1	-	DSI4	Full	20525	836.5	22.27	23.00	1.183	0.01	0.045	0.053
	LTE Band 5	10M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone/ Simultaneous	20525	836.5	22.26	23.00	1.186	-0.01	0.753	0.893
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 2	-	DSI3	Standalone	132072	1720	23.16	24.00	1.213	0.06	0.395	0.479
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Standalone	132072	1720	23.16	24.00	1.213	0.08	0.831	1.008
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Standalone	132322	1745	22.91	24.00	1.285	-0.05	0.736	0.946
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Standalone	132572	1770	22.82	24.00	1.312	0.09	0.464	0.609
	LTE Band 66	20M	QPSK	1	0	Front	21mm	Ant 2	-	DSI4	Full	132072	1720	23.16	24.00	1.213	0.12	0.046	0.056
	LTE Band 66	20M	QPSK	1	0	Back	27mm	Ant 2	-	DSI4	Full	132072	1720	23.16	24.00	1.213	0.03	0.035	0.042
	LTE Band 66C	20M	QPSK	1	99	Back	5mm	Ant 2	-	DSI3	Standalone	132072+ 132270	1720+ 1739.8	22.79	24.00	1.321	0.07	0.751	0.992
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 2	-	DSI3	Standalone	132072	1720	22.22	23.00	1.197	0.15	0.387	0.463
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 2	-	DSI3	Standalone	132072	1720	22.22	23.00	1.197	0.05	0.663	0.793
	LTE Band 66	20M	QPSK	50	0	Front	21mm	Ant 2	-	DSI4	Full	132072	1720	22.22	23.00	1.197	0.12	0.031	0.037
	LTE Band 66	20M	QPSK	50	0	Back	27mm	Ant 2	-	DSI4	Full	132072	1720	22.22	23.00	1.197	-0.05	0.022	0.026
	LTE Band 66	20M	QPSK	100	0	Back	5mm	Ant 2	-	DSI3	Standalone	132072	1720	22.18	23.00	1.208	0.03	0.657	0.794
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	132572	1770	19.89	21.00	1.291	0.02	0.214	0.276
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	132572	1770	19.89	21.00	1.291	-0.09	0.469	0.606
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	132572	1770	19.74	21.00	1.337	0.08	0.205	0.274
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	132572	1770	19.74	21.00	1.337	-0.01	0.405	0.541
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 1	-	DSI3	Standalone	132072	1720	17.26	18.00	1.186	0.03	0.594	0.704
47	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	132072	1720	17.26	18.00	1.186	0.19	1.040	**1.233**
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	132322	1745	17.23	18.00	1.194	0.16	0.998	1.192
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	132572	1770	17.20	18.00	1.202	0.04	0.961	1.155
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 1	Headset	DSI3	Standalone	132072	1720	17.26	18.00	1.186	0.02	0.997	1.182
	LTE Band 66	20M	QPSK	1	0	Front	21mm	Ant 1	-	DSI4	Full	132072	1720	23.16	24.00	1.213	0.04	0.287	0.348
	LTE Band 66	20M	QPSK	1	0	Back	27mm	Ant 1	-	DSI4	Full	132072	1720	23.16	24.00	1.213	-0.09	0.207	0.251
	LTE Band 66C	20M	QPSK	1	99	Back	5mm	Ant 1	-	DSI3	Standalone	132072+ 132270	1720+ 1739.8	16.89	18.00	1.291	-0.05	0.567	0.732
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 1	-	DSI3	Standalone	132072	1720	17.23	18.00	1.194	0.17	0.581	0.694
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	132072	1720	17.23	18.00	1.194	-0.19	0.945	1.128
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	132322	1745	17.20	18.00	1.202	-0.08	0.910	1.094
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	132572	1770	17.19	18.00	1.205	-0.01	0.753	0.907
	LTE Band 66	20M	QPSK	50	0	Front	21mm	Ant 1	-	DSI4	Full	132072	1720	22.35	23.00	1.161	-0.16	0.224	0.260
	LTE Band 66	20M	QPSK	50	0	Back	27mm	Ant 1	-	DSI4	Full	132072	1720	22.35	23.00	1.161	0.04	0.171	0.199
	LTE Band 66	20M	QPSK	100	0	Back	5mm	Ant 1	-	DSI3	Standalone	132072	1720	17.20	18.00	1.202	0.02	0.931	1.119
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	132072	1720	15.66	16.50	1.213	0.09	0.441	0.535
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	132072	1720	15.66	16.50	1.213	-0.02	0.621	0.754
	LTE Band 66C	20M	QPSK	1	99	Back	5mm	Ant 1	-	DSI 3 (Sim)	Standalone	132072+ 132270	1720+ 1739.8	15.55	16.50	1.245	0.09	0.360	0.448
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	132072	1720	15.57	16.50	1.239	0.11	0.437	0.541
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	132072	1720	15.57	16.50	1.239	0.03	0.602	0.746
	LTE Band 2	20M	QPSK	1	0	Front	5mm	Ant 2	-	DSI3	Standalone	18700	1860	20.90	22.00	1.288	0.09	0.311	0.401
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Standalone	18700	1860	20.90	22.00	1.288	0.05	0.717	0.924
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Standalone	18900	1880	20.73	22.00	1.340	0.09	0.769	1.030
48	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 2	-	DSI3	Standalone	19100	1900	20.74	22.00	1.337	-0.03	0.850	**1.136**
	LTE Band 2	20M	QPSK	1	0	Front	21mm	Ant 2	-	DSI4	Full	18700	1860	23.15	24.00	1.216	0.13	0.055	0.067
	LTE Band 2	20M	QPSK	1	0	Back	27mm	Ant 2	-	DSI4	Full	19100	1900	22.74	24.00	1.337	-0.08	0.060	0.080
	LTE Band 2	20M	QPSK	50	0	Front	5mm	Ant 2	-	DSI3	Standalone	18700	1860	20.78	22.00	1.324	0.09	0.302	0.400
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 2	-	DSI3	Standalone	18700	1860	20.78	22.00	1.324	0.19	0.766	1.014

	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 2	-	DSI3	Standalone	18900	1880	20.64	22.00	1.368	-0.05	0.789	1.079
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 2	-	DSI3	Standalone	19100	1900	20.66	22.00	1.361	0.12	0.825	1.123
	LTE Band 2	20M	QPSK	50	0	Front	21mm	Ant 2	-	DSI4	Full	18700	1860	22.21	23.00	1.199	0.13	0.056	0.067
	LTE Band 2	20M	QPSK	50	0	Back	27mm	Ant 2	-	DSI4	Full	19100	1900	21.97	23.00	1.268	0.13	0.053	0.067
	LTE Band 2	20M	QPSK	100	0	Back	5mm	Ant 2	-	DSI3	Standalone	18700	1860	20.71	22.00	1.346	0.16	0.732	0.985
	LTE Band 2	20M	QPSK	1	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	18700	1860	18.00	19.00	1.259	-0.12	0.160	0.201
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	18700	1860	18.00	19.00	1.259	0.01	0.433	0.545
	LTE Band 2	20M	QPSK	50	0	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	18700	1860	17.91	19.00	1.285	-0.1	0.152	0.195
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	18700	1860	17.91	19.00	1.285	0.02	0.366	0.470
	LTE Band 2	20M	QPSK	1	0	Front	5mm	Ant 1	-	DSI3	Standalone	18700	1860	16.47	17.50	1.268	-0.13	0.512	0.649
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	18700	1860	16.47	17.50	1.268	-0.17	0.811	1.028
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	18900	1880	16.38	17.50	1.294	-0.07	0.777	1.006
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	19100	1900	16.37	17.50	1.297	-0.11	0.790	1.025
	LTE Band 2	20M	QPSK	1	0	Front	21mm	Ant 1	-	DSI4	Full	18700	1860	23.13	24.00	1.222	-0.09	0.064	0.078
	LTE Band 2	20M	QPSK	1	0	Back	27mm	Ant 1	-	DSI4	Full	18700	1860	23.13	24.00	1.222	-0.06	0.049	0.060
	LTE Band 2	20M	QPSK	50	0	Front	5mm	Ant 1	-	DSI3	Standalone	18700	1860	16.32	17.50	1.312	0.19	0.511	0.671
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	18700	1860	16.32	17.50	1.312	-0.08	0.775	1.017
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	18900	1880	16.31	17.50	1.315	0.04	0.778	1.023
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	19100	1900	16.30	17.50	1.318	-0.06	0.768	1.012
	LTE Band 2	20M	QPSK	50	0	Front	21mm	Ant 1	-	DSI4	Full	18700	1860	22.29	23.00	1.178	0.07	0.056	0.066
	LTE Band 2	20M	QPSK	50	0	Back	27mm	Ant 1	-	DSI4	Full	18900	1880	22.17	23.00	1.211	0.19	0.042	0.051
	LTE Band 2	20M	QPSK	100	0	Back	5mm	Ant 1	-	DSI3	Standalone	18700	1860	16.30	17.50	1.318	0.08	0.757	0.998
	LTE Band 2	20M	QPSK	1	0	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	18700	1860	15.56	16.50	1.242	0.06	0.442	0.549
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	18700	1860	15.56	16.50	1.242	0.07	0.539	0.669
	LTE Band 2	20M	QPSK	50	0	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	18700	1860	15.50	16.50	1.259	0	0.446	0.561
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	18700	1860	15.50	16.50	1.259	-0.04	0.611	0.769
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Ant 1	-	DSI3	Standalone	20850	2510	15.78	16.50	1.180	0.1	0.578	0.682
49	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	20850	2510	15.78	16.50	1.180	0.16	1.040	**1.228**
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	21100	2535	15.65	16.50	1.216	0.15	0.819	0.996
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI3	Standalone	21350	2560	15.48	16.50	1.265	0.06	0.744	0.941
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	Headset	DSI3	Standalone	20850	2510	15.78	16.50	1.180	-0.11	0.985	1.163
	LTE Band 7	20M	QPSK	1	0	Front	21mm	Ant 1	-	DSI4	Full	20850	2510	23.14	24.00	1.219	0.13	0.231	0.282
	LTE Band 7	20M	QPSK	1	0	Back	27mm	Ant 1	-	DSI4	Full	20850	2510	23.14	24.00	1.219	-0.04	0.227	0.277
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Ant 1	-	DSI3	Standalone	20850	2510	15.68	16.50	1.208	0.08	0.571	0.690
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	20850	2510	15.68	16.50	1.208	-0.17	1.010	1.220
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	21100	2535	15.61	16.50	1.227	-0.09	0.847	1.040
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI3	Standalone	21350	2560	15.59	16.50	1.233	-0.15	0.770	0.949
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	Headset	DSI3	Standalone	20850	2510	15.68	16.50	1.208	0.05	0.967	1.168
	LTE Band 7	20M	QPSK	50	0	Front	21mm	Ant 1	-	DSI4	Full	20850	2510	22.32	23.00	1.169	0.04	0.185	0.216
	LTE Band 7	20M	QPSK	50	0	Back	27mm	Ant 1	-	DSI4	Full	20850	2510	22.32	23.00	1.169	-0.06	0.187	0.219
	LTE Band 7	20M	QPSK	100	0	Back	5mm	Ant 1	-	DSI3	Standalone	20850	2510	15.66	16.50	1.213	-0.17	0.985	1.195
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	20850	2510	14.19	15.00	1.205	-0.01	0.398	0.480
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	20850	2510	14.19	15.00	1.205	0.18	0.738	0.889
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	21100	2535	14.11	15.00	1.227	-0.14	0.610	0.749
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	21350	2560	14.10	15.00	1.230	-0.16	0.811	0.998
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	20850	2510	14.10	15.00	1.230	-0.18	0.411	0.506
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	20850	2510	14.10	15.00	1.230	0.11	0.729	0.897
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	21100	2535	14.09	15.00	1.233	0.03	0.894	1.102
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	21350	2560	14.08	15.00	1.236	-0.13	0.872	1.078
	LTE Band 7	20M	QPSK	100	0	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	20850	2510	13.95	15.00	1.274	0.15	0.694	0.884

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Headset	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 48	20M	QPSK	1	99	Front	5mm	Ant 4	-	DSI3	Standalone	55830	3609	19.99	20.50	1.125	62.9	1.006	-0.03	0.238	0.269
	LTE Band 48	20M	QPSK	1	99	Back	5mm	Ant 4	-	DSI3	Standalone	55830	3609	19.99	20.50	1.125	62.9	1.006	-0.13	0.736	0.833
	LTE Band 48	20M	QPSK	1	99	Back	5mm	Ant 4	-	DSI3	Standalone	55340	3560	19.94	20.50	1.138	62.9	1.006	0.04	0.663	0.759
	LTE Band 48	20M	QPSK	1	99	Back	5mm	Ant 4	-	DSI3	Standalone	56150	3641	19.85	20.50	1.161	62.9	1.006	0.17	0.847	0.990
50	LTE Band 48	20M	QPSK	1	99	Back	5mm	Ant 4	-	DSI3	Standalone	56640	3690	19.91	20.50	1.146	62.9	1.006	-0.16	1.100	**1.268**
	LTE Band 48	20M	QPSK	1	99	Back	5mm	Ant 4	Headset	DSI3	Standalone	56640	3690	19.91	20.50	1.146	62.9	1.006	0.01	0.923	1.064
	LTE Band 48	20M	QPSK	1	99	Front	21mm	Ant 4	-	DSI4	Full	55830	3609	23.56	24.00	1.107	62.9	1.006	-0.15	0.072	0.080
	LTE Band 48	20M	QPSK	1	99	Back	27mm	Ant 4	-	DSI4	Full	56640	3690	23.34	24.00	1.164	62.9	1.006	-0.17	0.173	0.203
	LTE Band 48C	20M	QPSK	1	0	Back	5mm	Ant 4	-	DSI3	Standalone	56640+ 56442	3690+ 3670.2	19.82	20.50	1.169	62.9	1.006	0.06	0.858	1.009
	LTE Band 48	20M	QPSK	50	0	Front	5mm	Ant 4	-	DSI3	Standalone	55830	3609	19.93	20.50	1.140	62.9	1.006	0.13	0.227	0.260
	LTE Band 48	20M	QPSK	50	0	Back	5mm	Ant 4	-	DSI3	Standalone	55830	3609	19.93	20.50	1.140	62.9	1.006	-0.13	0.718	0.824
	LTE Band 48	20M	QPSK	50	0	Back	5mm	Ant 4	-	DSI3	Standalone	55340	3560	19.92	20.50	1.143	62.9	1.006	-0.19	0.613	0.705
	LTE Band 48	20M	QPSK	50	0	Back	5mm	Ant 4	-	DSI3	Standalone	56150	3641	19.81	20.50	1.172	62.9	1.006	0.16	0.849	1.001
	LTE Band 48	20M	QPSK	50	0	Back	5mm	Ant 4	-	DSI3	Standalone	56640	3690	19.84	20.50	1.164	62.9	1.006	0.08	0.911	1.067
	LTE Band 48	20M	QPSK	50	0	Front	21mm	Ant 4	-	DSI4	Full	55830	3609	21.31	23.00	1.476	62.9	1.006	0.15	0.089	0.132
	LTE Band 48	20M	QPSK	50	0	Back	27mm	Ant 4	-	DSI4	Full	56640	3690	21.18	23.00	1.521	62.9	1.006	-0.11	0.201	0.307
	LTE Band 48	20M	QPSK	100	0	Back	5mm	Ant 4	-	DSI3	Standalone	55830	3609	19.86	20.50	1.159	62.9	1.006	-0.03	0.699	0.815
	LTE Band 48	20M	QPSK	1	99	Front	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	55830	3609	16.91	17.50	1.146	62.9	1.006	-0.04	0.122	0.141
	LTE Band 48	20M	QPSK	1	99	Back	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	55830	3609	16.91	17.50	1.146	62.9	1.006	-0.06	0.509	0.587
	LTE Band 48C	20M	QPSK	1	0	Back	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	55830+ 56028	3609+ 3628.8	16.64	17.50	1.219	62.9	1.006	0.05	0.382	0.468
	LTE Band 48	20M	QPSK	50	0	Front	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	55830	3609	16.79	17.50	1.178	62.9	1.006	-0.01	0.125	0.148
	LTE Band 48	20M	QPSK	50	0	Back	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	55830	3609	16.79	17.50	1.178	62.9	1.006	0.12	0.435	0.515

<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Power Reduction	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)
	FR1 N5	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI3	Full	167300	836.5	23.07	24.00	1.239	0.16	0.419	0.519
	FR1 N5	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	-	DSI3	Full	167300	836.5	23.07	24.00	1.239	0.13	0.598	0.741
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 2	-	DSI3	Full	167300	836.5	23.03	24.00	1.250	0.19	0.432	0.540
	FR1 N5	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 2	-	DSI3	Full	167300	836.5	23.03	24.00	1.250	-0.18	0.601	0.751
	FR1 N5	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	167300	836.5	22.02	23.00	1.253	-0.15	0.276	0.346
	FR1 N5	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	167300	836.5	22.02	23.00	1.253	0.18	0.483	0.605
	FR1 N5	20M	BPSK	1	1	DFT-15	Front	21mm	Ant 2	-	DSI4	Full	167300	836.5	23.07	24.00	1.239	0.08	0.058	0.072
	FR1 N5	20M	BPSK	1	1	DFT-15	Back	27mm	Ant 2	-	DSI4	Full	167300	836.5	23.07	24.00	1.239	0.06	0.043	0.053
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	167300	836.5	22.00	23.00	1.259	-0.03	0.298	0.375
	FR1 N5	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	167300	836.5	22.00	23.00	1.259	-0.11	0.487	0.613
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	21mm	Ant 2	-	DSI4	Full	167300	836.5	23.03	24.00	1.250	-0.05	0.069	0.086
	FR1 N5	20M	BPSK	50	28	DFT-15	Back	27mm	Ant 2	-	DSI4	Full	167300	836.5	23.03	24.00	1.250	0.01	0.047	0.059
	FR1 N5	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 1	-	DSI3	Full	167300	836.5	23.25	24.00	1.189	0.19	0.415	0.493
	FR1 N5	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI3	Full	167300	836.5	23.25	24.00	1.189	0.17	0.675	0.802
	FR1 N5	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 1	-	DSI3	Full	167300	836.5	23.23	24.00	1.194	0.05	0.503	0.601
51	FR1 N5	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 1	-	DSI3	Full	167300	836.5	23.23	24.00	1.194	0.01	0.743	**0.887**
	FR1 N5	20M	BPSK	100	0	DFT-15	Back	5mm	Ant 1	-	DSI3	Full	167300	836.5	23.16	24.00	1.213	-0.09	0.712	0.864
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI3	Full	349000	1745	23.23	24.00	1.194	0.14	0.485	0.579
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	-	DSI3	Full	349000	1745	23.23	24.00	1.194	0.17	0.727	0.868
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	5mm	Ant 2	-	DSI3	Full	349000	1745	23.17	24.00	1.211	-0.18	0.519	0.628
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	5mm	Ant 2	-	DSI3	Full	349000	1745	23.17	24.00	1.211	0.05	0.722	0.874
	FR1 N66	40M	BPSK	216	0	DFT-15	Back	5mm	Ant 2	-	DSI3	Full	349000	1745	22.63	23.50	1.222	0.01	0.623	0.761
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	349000	1745	21.74	22.50	1.191	0.18	0.269	0.320
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	349000	1745	21.74	22.50	1.191	-0.14	0.472	0.562
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	21mm	Ant 2	-	DSI4	Full	349000	1745	23.23	24.00	1.194	0.01	0.042	0.050
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	27mm	Ant 2	-	DSI4	Full	349000	1745	23.23	24.00	1.194	0.19	0.025	0.030
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	349000	1745	21.68	22.50	1.208	-0.05	0.304	0.367
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	349000	1745	21.68	22.50	1.208	-0.02	0.508	0.614
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	21mm	Ant 2	-	DSI4	Full	349000	1745	23.17	24.00	1.211	0.03	0.046	0.056
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	27mm	Ant 2	-	DSI4	Full	349000	1745	23.17	24.00	1.211	0.012	0.029	0.036
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	5mm	Ant 1	-	DSI3	Standalone	349000	1745	16.71	17.50	1.199	0.03	0.551	0.661
52	FR1 N66	40M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI3	Standalone	349000	1745	16.71	17.50	1.199	-0.07	1.010	**1.211**
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	Headset	DSI3	Standalone	349000	1745	16.71	17.50	1.199	0.08	0.968	1.161
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	21mm	Ant 1	-	DSI4	Full	349000	1745	23.28	24.00	1.180	-0.13	0.065	0.077
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	27mm	Ant 1	-	DSI4	Full	349000	1745	23.28	24.00	1.180	-0.01	0.052	0.061
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	5mm	Ant 1	-	DSI3	Standalone	349000	1745	16.65	17.50	1.216	0.11	0.488	0.593
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI3	Standalone	349000	1745	16.65	17.50	1.216	-0.02	0.631	0.767
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	21mm	Ant 1	-	DSI4	Full	349000	1745	23.22	24.00	1.197	0.12	0.048	0.057
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	27mm	Ant 1	-	DSI4	Full	349000	1745	23.22	24.00	1.197	-0.02	0.042	0.050
	FR1 N66	40M	BPSK	216	0	DFT-15	Back	5mm	Ant 1	-	DSI3	Standalone	349000	1745	16.55	17.50	1.245	-0.02	0.618	0.769
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	349000	1745	15.17	16.00	1.211	-0.12	0.400	0.484
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	349000	1745	15.17	16.00	1.211	-0.19	0.551	0.667
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	349000	1745	15.15	16.00	1.216	0.17	0.361	0.439
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	349000	1745	15.15	16.00	1.216	0.01	0.521	0.634
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI3	Standalone	376000	1880	21.80	22.50	1.175	0.08	0.358	0.421
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	-	DSI3	Standalone	376000	1880	21.80	22.50	1.175	0.16	0.877	1.030
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	21mm	Ant 2	-	DSI4	Full	376000	1880	23.26	24.00	1.186	-0.15	0.054	0.064
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	27mm	Ant 2	-	DSI4	Full	376000	1880	23.26	24.00	1.186	0.02	0.038	0.045
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 2	-	DSI3	Standalone	376000	1880	21.71	22.50	1.199	-0.06	0.377	0.452
53	FR1 N2	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 2	-	DSI3	Standalone	376000	1880	21.71	22.50	1.199	-0.05	0.984	**1.180**
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	21mm	Ant 2	-	DSI4	Full	376000	1880	23.21	24.00	1.199	0.06	0.057	0.068
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	27mm	Ant 2	-	DSI4	Full	376000	1880	23.21	24.00	1.199	0.07	0.042	0.050
	FR1 N2	20M	BPSK	100	0	DFT-15	Back	5mm	Ant 2	-	DSI3	Standalone	376000	1880	21.58	22.50	1.236	0.12	0.946	1.169

	FR1 N2	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	376000	1880	19.29	20.00	1.178	-0.14	0.221	0.260
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	376000	1880	19.29	20.00	1.178	-0.05	0.420	0.495
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	376000	1880	19.25	20.00	1.189	-0.03	0.226	0.269
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 2	-	DSI 3 (Sim)	Simultaneous	376000	1880	19.25	20.00	1.189	0.06	0.516	0.613
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 1	-	DSI3	Standalone	376000	1880	15.94	17.00	1.276	-0.15	0.497	0.634
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI3	Standalone	376000	1880	15.94	17.00	1.276	0.17	0.840	1.072
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	21mm	Ant 1	-	DSI4	Full	376000	1880	23.25	24.00	1.189	-0.13	0.063	0.075
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	27mm	Ant 1	-	DSI4	Full	376000	1880	23.25	24.00	1.189	0.01	0.055	0.065
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 1	-	DSI3	Standalone	376000	1880	15.81	17.00	1.315	0.04	0.509	0.669
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 1	-	DSI3	Standalone	376000	1880	15.81	17.00	1.315	0.02	0.844	1.110
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	21mm	Ant 1	-	DSI4	Full	376000	1880	23.24	24.00	1.191	-0.1	0.379	0.451
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	27mm	Ant 1	-	DSI4	Full	376000	1880	23.24	24.00	1.191	-0.14	0.324	0.386
	FR1 N2	20M	BPSK	100	0	DFT-15	Back	5mm	Ant 1	-	DSI3	Standalone	376000	1880	15.61	17.00	1.377	0.08	0.803	1.106
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	376000	1880	15.65	16.50	1.216	0.01	0.468	0.569
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	376000	1880	15.65	16.50	1.216	-0.11	0.740	0.900
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	376000	1880	15.41	16.50	1.285	0.14	0.455	0.585
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	376000	1880	15.41	16.50	1.285	-0.1	0.721	0.927
	FR1 N2	20M	BPSK	100	0	DFT-15	Back	5mm	Ant 1	-	DSI 3 (Sim)	Simultaneous	376000	1880	15.32	16.50	1.312	0.04	0.701	0.920
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 4	-	DSI3	Standalone	633334	3500.01	13.98	15.00	1.265	0.16	0.123	0.156
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 4	-	DSI3	Standalone	633334	3500.01	13.98	15.00	1.265	0.16	0.255	0.323
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Front	21mm	Ant 4	-	DSI4	Full	633334	3500.01	26.10	27.00	1.230	-0.05	0.100	0.123
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Back	27mm	Ant 4	-	DSI4	Full	633334	3500.01	26.10	27.00	1.230	0.06	0.232	0.285
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 4	-	DSI3	Standalone	633334	3500.01	13.75	15.00	1.334	0.19	0.127	0.169
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 4	-	DSI3	Standalone	633334	3500.01	13.75	15.00	1.334	-0.12	0.260	0.347
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Front	21mm	Ant 4	-	DSI4	Full	633334	3500.01	26.05	27.00	1.245	0.02	0.122	0.152
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Back	27mm	Ant 4	-	DSI4	Full	633334	3500.01	26.05	27.00	1.245	0.03	0.245	0.305
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	10.88	12.00	1.294	0.18	0.061	0.079
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	10.88	12.00	1.294	0.1	0.123	0.159
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	10.74	12.00	1.337	0.09	0.065	0.087
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	10.74	12.00	1.337	0.12	0.127	0.170
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 4	-	DSI3	Standalone	656000	3840	13.50	15.00	1.413	0.14	0.023	0.032
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 4	-	DSI3	Standalone	656000	3840	13.50	15.00	1.413	-0.16	0.573	0.809
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Front	21mm	Ant 4	-	DSI4	Full	656000	3840	25.31	27.00	1.476	0.07	0.101	0.054
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Back	27mm	Ant 4	-	DSI4	Full	656000	3840	25.31	27.00	1.476	0.03	0.663	0.978
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 4	-	DSI3	Standalone	656000	3840	13.39	15.00	1.449	0.05	0.056	0.081
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 4	-	DSI3	Standalone	656000	3840	13.39	15.00	1.449	-0.11	0.838	1.214
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 4	Headset	DSI3	Standalone	656000	3840	13.39	15.00	1.449	0.03	0.816	1.182
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Front	21mm	Ant 4	-	DSI4	Full	656000	3840	25.30	27.00	1.479	-0.15	0.078	0.116
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Back	27mm	Ant 4	-	DSI4	Full	656000	3840	25.30	27.00	1.479	0.03	0.790	1.168
	FR1 N77_Part 27O (HPUE)	100M	BPSK	270	0	DFT-30	Back	5mm	Ant 4	-	DSI3	Standalone	656000	3840	13.25	15.00	1.496	0.01	0.796	1.191
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	656000	3840	10.55	12.00	1.396	-0.07	0.012	0.017
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	656000	3840	10.55	12.00	1.396	0.18	0.291	0.406
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	656000	3840	10.30	12.00	1.479	0.09	0.027	0.040
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 4	-	DSI 3 (Sim)	Simultaneous	656000	3840	10.30	12.00	1.479	-0.1	0.411	0.608
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 5	-	DSI3	Standalone	633334	3500.01	13.18	14.00	1.208	-	n/a	n/a
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 5	-	DSI3	Standalone	633334	3500.01	13.18	14.00	1.208	-0.08	0.941	1.137
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	21mm	Ant 5	-	DSI4	Full	633334	3500.01	19.72	20.50	1.197	0.07	0.009	0.011
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	27mm	Ant 5	-	DSI4	Full	633334	3500.01	19.72	20.50	1.197	0.03	0.087	0.104

	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 5	-	DSI3	Standalone	633334	3500.01	13.12	14.00	1.225	-	n/a	n/a
54	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 5	-	DSI3	Standalone	633334	3500.01	13.12	14.00	1.225	-0.11	1.040	**1.274**
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 5	Headset	DSI3	Standalone	633334	3500.01	13.12	14.00	1.225	0.17	1.010	1.237
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	21mm	Ant 5	-	DSI4	Full	633334	3500.01	19.64	20.50	1.219	-	n/a	n/a
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	27mm	Ant 5	-	DSI4	Full	633334	3500.01	19.64	20.50	1.219	0.03	0.091	0.111
	FR1 N77_Part 27Q	100M	BPSK	270	0	DFT-30	Back	5mm	Ant 5	-	DSI3	Standalone	633334	3500.01	13.06	14.00	1.242	0.05	0.959	1.191
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 5	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	9.74	10.50	1.191	0.09	0.012	0.014
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 5	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	9.74	10.50	1.191	0.16	0.398	0.474
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 5	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	9.67	10.50	1.211	0.03	0.015	0.018
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 5	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	9.67	10.50	1.211	-0.08	0.446	0.540
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 5	-	DSI3	Standalone	656000	3840	13.28	14.00	1.180	0.13	0.039	0.046
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 5	-	DSI3	Standalone	656000	3840	13.28	14.00	1.180	0.05	0.568	0.670
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	21mm	Ant 5	-	DSI4	Full	656000	3840	19.74	20.50	1.191	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	27mm	Ant 5	-	DSI4	Full	656000	3840	19.74	20.50	1.191	-0.07	0.145	0.173
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 5	-	DSI3	Standalone	656000	3840	13.23	14.00	1.194	0.07	0.037	0.044
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 5	-	DSI3	Standalone	656000	3840	13.23	14.00	1.194	0.04	0.571	0.682
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	21mm	Ant 5	-	DSI4	Full	656000	3840	19.69	20.50	1.205	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	27mm	Ant 5	-	DSI4	Full	656000	3840	19.69	20.50	1.205	0.01	0.153	0.184
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 5	-	DSI 3 (Sim)	Simultaneous	656000	3840	9.67	10.50	1.211	0.05	0.080	0.097
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 5	-	DSI 3 (Sim)	Simultaneous	656000	3840	9.67	10.50	1.211	-0.17	0.322	0.390
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 5	-	DSI 3 (Sim)	Simultaneous	656000	3840	9.61	10.50	1.227	-0.16	0.010	0.012
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 5	-	DSI 3 (Sim)	Simultaneous	656000	3840	9.61	10.50	1.227	-0.19	0.334	0.410
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 6	-	DSI3	Standalone	633334	3500.01	10.02	11.00	1.253	0.09	0.003	0.004
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 6	-	DSI3	Standalone	633334	3500.01	10.02	11.00	1.253	0.05	0.646	0.810
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	21mm	Ant 6	-	DSI4	Full	633334	3500.01	16.96	18.00	1.271	0.07	0.037	0.047
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	27mm	Ant 6	-	DSI4	Full	633334	3500.01	16.96	18.00	1.271	0.01	0.079	0.100
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 6	-	DSI3	Standalone	633334	3500.01	9.99	11.00	1.262	0.06	0.005	0.006
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 6	-	DSI3	Standalone	633334	3500.01	9.99	11.00	1.262	0.09	0.887	1.119
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	21mm	Ant 6	-	DSI4	Full	633334	3500.01	16.94	18.00	1.276	-0.05	0.042	0.054
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	27mm	Ant 6	-	DSI4	Full	633334	3500.01	16.94	18.00	1.276	0.01	0.090	0.115
	FR1 N77_Part 27Q	100M	BPSK	270	0	DFT-30	Back	5mm	Ant 6	-	DSI3	Standalone	633334	3500.01	9.95	11.00	1.274	0.1	0.850	1.082
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 6	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	7.05	8.00	1.245	-0.05	0.005	0.006
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 6	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	7.05	8.00	1.245	0.15	0.367	0.457
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 6	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	7.02	8.00	1.253	-0.09	0.006	0.008
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 6	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	7.02	8.00	1.253	-0.13	0.460	0.576
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 6	-	DSI3	Standalone	656000	3840	10.04	11.00	1.247	0.06	0.004	0.005
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 6	-	DSI3	Standalone	656000	3840	10.04	11.00	1.247	0.01	0.136	0.170
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	21mm	Ant 6	-	DSI4	Full	656000	3840	16.98	18.00	1.265	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	27mm	Ant 6	-	DSI4	Full	656000	3840	16.98	18.00	1.265	0.02	0.051	0.064
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 6	-	DSI3	Standalone	656000	3840	9.97	11.00	1.268	-0.03	0.003	0.004
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 6	-	DSI3	Standalone	656000	3840	9.97	11.00	1.268	0.07	0.122	0.155
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	21mm	Ant 6	-	DSI4	Full	656000	3840	16.96	18.00	1.271	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	27mm	Ant 6	-	DSI4	Full	656000	3840	16.96	18.00	1.271	0.08	0.046	0.058
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 6	-	DSI 3 (Sim)	Simultaneous	656000	3840	6.96	8.00	1.271	-0.06	0.012	0.015
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 6	-	DSI 3 (Sim)	Simultaneous	656000	3840	6.96	8.00	1.271	-0.04	0.066	0.084
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 6	-	DSI 3 (Sim)	Simultaneous	656000	3840	6.86	8.00	1.300	-0.1	0.009	0.012
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 6	-	DSI 3 (Sim)	Simultaneous	656000	3840	6.86	8.00	1.300	0.16	0.048	0.062
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 10	-	DSI3	Full	633334	3500.01	17.13	18.00	1.222	-	n/a	n/a
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	-	DSI3	Full	633334	3500.01	17.13	18.00	1.222	0.03	0.678	0.828
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 10	-	DSI3	Full	633334	3500.01	17.09	18.00	1.233	-	n/a	n/a
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 10	-	DSI3	Full	633334	3500.01	17.09	18.00	1.233	-0.17	0.669	0.825
	FR1 N77_Part 27Q	100M	BPSK	270	0	DFT-30	Back	5mm	Ant 10	-	DSI3	Full	633334	3500.01	16.83	18.00	1.309	0.06	0.580	0.759
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 10	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	13.08	14.00	1.236	0.08	0.002	0.002
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	13.08	14.00	1.236	0.18	0.230	0.284
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Front	21mm	Ant 10	-	DSI4	Full	633334	3500.01	17.13	18.00	1.222	-	n/a	n/a
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	27mm	Ant 10	-	DSI4	Full	633334	3500.01	17.13	18.00	1.222	0.02	0.028	0.034

	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 10	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	13.02	14.00	1.253	-0.05	0.004	0.005
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 10	-	DSI 3 (Sim)	Simultaneous	633334	3500.01	13.02	14.00	1.253	-0.03	0.265	0.332
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Front	21mm	Ant 10	-	DSI4	Full	633334	3500.01	17.09	18.00	1.233	-	n/a	n/a
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	27mm	Ant 10	-	DSI4	Full	633334	3500.01	17.09	18.00	1.233	-0.06	0.032	0.039
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 10	-	DSI3	Full	656000	3840	17.16	18.00	1.213	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	-	DSI3	Full	656000	3840	17.16	18.00	1.213	0.05	1.020	1.238
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	Headset	DSI3	Full	656000	3840	17.16	18.00	1.213	0.13	0.986	1.196
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 10	-	DSI3	Full	656000	3840	17.14	18.00	1.219	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 10	-	DSI3	Full	656000	3840	17.14	18.00	1.219	0.13	0.709	0.864
	FR1 N77_Part 27O	100M	BPSK	270	0	DFT-30	Back	5mm	Ant 10	-	DSI3	Full	656000	3840	17.10	18.00	1.230	0.01	0.727	0.894
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	5mm	Ant 10	-	DSI 3 (Sim)	Simultaneous	656000	3840	13.38	14.00	1.153	-0.16	0.002	0.002
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	-	DSI 3 (Sim)	Simultaneous	656000	3840	13.38	14.00	1.153	-0.05	0.446	0.514
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Front	21mm	Ant 10	-	DSI4	Full	656000	3840	17.16	18.00	1.213	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	27mm	Ant 10	-	DSI4	Full	656000	3840	17.16	18.00	1.213	0.08	0.044	0.053
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	5mm	Ant 10	-	DSI 3 (Sim)	Simultaneous	656000	3840	13.18	14.00	1.208	-0.13	0.002	0.002
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	5mm	Ant 10	-	DSI 3 (Sim)	Simultaneous	656000	3840	13.18	14.00	1.208	0.16	0.425	0.513
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Front	21mm	Ant 10	-	DSI4	Full	656000	3840	17.14	18.00	1.219	-	n/a	n/a
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	27mm	Ant 10	-	DSI4	Full	656000	3840	17.14	18.00	1.219	0.02	0.042	0.051

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	DH5 1Mbps	Front	5mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	0.01	0.042	0.067
55	Bluetooth	DH5 1Mbps	Back	5mm	Ant 3	Full	78	2480	17.10	18.00	1.230	76.89	1.301	-0.12	0.095	**0.153**

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3	Full	1	2412	19.20	20.50	1.349	99.54	1.005	0.03	0.300	0.407
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3	Full	1	2412	19.20	20.50	1.349	99.54	1.005	-0.03	0.621	0.842
56	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3	Full	6	2437	19.10	20.50	1.380	99.54	1.005	0.15	0.658	**0.913**
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3	Full	11	2462	19.00	20.50	1.413	99.54	1.005	0.04	0.630	0.894
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3	Simultaneous	1	2412	18.30	19.50	1.318	99.54	1.005	0.04	0.253	0.335
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3	Simultaneous	1	2412	18.30	19.50	1.318	99.54	1.005	0.16	0.372	0.493

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Standalone	58	5290	12.17	13.00	1.211	92.52	1.081	-	n/a	n/a
57	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Standalone	58	5290	12.17	13.00	1.211	92.52	1.081	0.09	0.619	**0.811**
	WLAN5.3GHz	802.11a 6Mbps	Front	21mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.2	1.029	0.05	0.021	0.033
	WLAN5.3GHz	802.11a 6Mbps	Back	27mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.2	1.029	-0.01	0.273	0.432
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Simultaneous	58	5290	10.60	11.50	1.230	92.52	1.081	-	n/a	n/a
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Simultaneous	58	5290	10.60	11.50	1.230	92.52	1.081	0.14	0.422	0.561
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	21mm	Ant 5	Simultaneous	54	5270	14.86	16.50	1.459	96.24	1.039	-	n/a	n/a
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	27mm	Ant 5	Simultaneous	54	5270	14.86	16.50	1.459	96.24	1.039	0.03	0.106	0.161
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Standalone	106	5530	10.66	12.00	1.361	92.52	1.081	-0.12	0.160	0.235
58	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Standalone	106	5530	10.66	12.00	1.361	92.52	1.081	-0.12	0.729	**1.073**
	WLAN5.5GHz	802.11a 6Mbps	Front	21mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.2	1.029	-0.09	0.031	0.047
	WLAN5.5GHz	802.11a 6Mbps	Back	27mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.2	1.029	-0.15	0.427	0.642
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Simultaneous	106	5530	8.00	10.00	1.585	92.52	1.081	0.03	0.079	0.135
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Simultaneous	106	5530	8.00	10.00	1.585	92.52	1.081	0.04	0.436	0.747
	WLAN5.5GHz	802.11n-HT40 MCS0	Front	21mm	Ant 5	Simultaneous	110	5550	14.82	16.00	1.312	96.24	1.039	-	n/a	n/a
	WLAN5.5GHz	802.11n-HT40 MCS0	Back	27mm	Ant 5	Simultaneous	110	5550	14.82	16.00	1.312	96.24	1.039	0	0.164	0.224
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Standalone	155	5775	11.75	13.50	1.497	92.52	1.081	-	n/a	n/a
59	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Standalone	155	5775	11.75	13.50	1.497	92.52	1.081	0.07	0.713	**1.153**
	WLAN5.8GHz	802.11a 6Mbps	Front	21mm	Ant 5	Full	157	5785	18.17	20.00	1.523	97.2	1.029	0.05	0.040	0.063
	WLAN5.8GHz	802.11a 6Mbps	Back	27mm	Ant 5	Full	157	5785	18.17	20.00	1.523	97.2	1.029	-0.09	0.295	0.462
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Simultaneous	155	5775	9.21	11.00	1.510	92.52	1.081	-	n/a	n/a
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Simultaneous	155	5775	9.21	11.00	1.510	92.52	1.081	0.06	0.374	0.611
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	21mm	Ant 5	Simultaneous	155	5775	15.71	17.50	1.510	92.52	1.081	-	n/a	n/a
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	27mm	Ant 5	Simultaneous	155	5775	15.71	17.50	1.510	92.52	1.081	0.01	0.172	0.281

16.4 Product specific 10g SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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)
60	GSM850	GPRS 4 Tx slots	Back	0mm	Ant 1	DSI6	Full	128	824.2	28.37	30.00	1.455	-0.15	0.759	**1.105**
	GSM1900	GPRS 3 Tx slots	Front	0mm	Ant 1	DSI6	Handheld	810	1909.8	24.48	25.50	1.265	-0.07	2.050	2.593
	GSM1900	GPRS 3 Tx slots	Front	0mm	Ant 1	DSI6	Handheld	512	1850.2	23.89	25.50	1.449	-0.18	1.530	2.217
	GSM1900	GPRS 3 Tx slots	Front	0mm	Ant 1	DSI6	Handheld	661	1880	24.06	25.50	1.393	0.09	1.580	2.201
61	GSM1900	GPRS 3 Tx slots	Back	0mm	Ant 1	DSI6	Handheld	810	1909.8	24.48	25.50	1.265	0.03	2.310	**2.922**
	GSM1900	GPRS 3 Tx slots	Back	0mm	Ant 1	DSI6	Handheld	512	1850.2	23.89	25.50	1.449	0.06	1.980	2.869
	GSM1900	GPRS 3 Tx slots	Back	0mm	Ant 1	DSI6	Handheld	661	1880	24.06	25.50	1.393	0.04	1.720	2.396
	GSM1900	GPRS 3 Tx slots	Bottom Side	0mm	Ant 1	DSI6	Handheld	810	1909.8	24.48	25.50	1.265	-0.14	2.140	2.707
	GSM1900	GPRS 3 Tx slots	Bottom Side	0mm	Ant 1	DSI6	Handheld	512	1850.2	23.89	25.50	1.449	-0.15	1.850	2.680
	GSM1900	GPRS 3 Tx slots	Bottom Side	0mm	Ant 1	DSI6	Handheld	661	1880	24.06	25.50	1.393	-0.02	1.830	2.549
	GSM1900	GPRS 3 Tx slots	Front	4mm	Ant 1	DSI4	Full	810	1909.8	27.28	28.00	1.180	-0.09	1.450	1.711
	GSM1900	GPRS 3 Tx slots	Back	7mm	Ant 1	DSI4	Full	810	1909.8	27.28	28.00	1.180	0.12	1.460	1.723
	GSM1900	GPRS 3 Tx slots	Bottom Side	12mm	Ant 1	DSI4	Full	810	1909.8	27.28	28.00	1.180	-0.11	1.220	1.440

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	0mm	Ant 1	DSI6	Handheld	9262	1852.4	19.70	20.50	1.202	0.04	2.080	2.501
	WCDMA II	RMC 12.2Kbps	Front	0mm	Ant 1	DSI6	Handheld	9400	1880	19.67	20.50	1.211	-0.05	1.940	2.349
	WCDMA II	RMC 12.2Kbps	Front	0mm	Ant 1	DSI6	Handheld	9538	1907.6	19.65	20.50	1.216	-0.09	1.950	2.372
	WCDMA II	RMC 12.2Kbps	Back	0mm	Ant 1	DSI6	Handheld	9262	1852.4	19.70	20.50	1.202	0.06	2.230	2.681
62	WCDMA II	RMC 12.2Kbps	Back	0mm	Ant 1	DSI6	Handheld	9400	1880	19.67	20.50	1.211	-0.14	2.230	**2.700**
	WCDMA II	RMC 12.2Kbps	Back	0mm	Ant 1	DSI6	Handheld	9538	1907.6	19.65	20.50	1.216	0.04	2.130	2.590
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI6	Handheld	9262	1852.4	19.70	20.50	1.202	-0.11	2.240	2.693
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI6	Handheld	9400	1880	19.67	20.50	1.211	0.08	2.120	2.566
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI6	Handheld	9538	1907.6	19.65	20.50	1.216	-0.1	2.150	2.615
	WCDMA II	RMC 12.2Kbps	Front	4mm	Ant 1	DSI4	Full	9262	1852.4	23.36	24.00	1.159	0.19	1.410	1.634
	WCDMA II	RMC 12.2Kbps	Back	7mm	Ant 1	DSI4	Full	9400	1880	23.27	24.00	1.183	0.14	1.230	1.455
	WCDMA II	RMC 12.2Kbps	Bottom Side	12mm	Ant 1	DSI4	Full	9262	1852.4	23.36	24.00	1.159	-0.05	0.953	1.104

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 2	DSI6	Handheld	132072	1720	23.16	24.00	1.213	0.09	2.130	2.585
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 2	DSI6	Handheld	132322	1745	22.91	24.00	1.285	0.08	1.540	1.979
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 2	DSI6	Handheld	132572	1770	22.82	24.00	1.312	-0.06	1.460	1.916
	LTE Band 66	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI6	Handheld	132072	1720	23.16	24.00	1.213	0.02	1.940	2.354
	LTE Band 66	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI6	Handheld	132322	1745	22.91	24.00	1.285	0.07	2.250	2.892
63	LTE Band 66	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI6	Handheld	132572	1770	22.82	24.00	1.312	-0.11	2.310	**3.031**
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 2	DSI4	Full	132072	1720	23.16	24.00	1.213	0.02	0.218	0.264
	LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 2	DSI4	Full	132572	1770	22.82	24.00	1.312	0.06	0.210	0.276
	LTE Band 66C	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI6	Handheld	132572+ 132374	1770+ 1750.2	22.78	24.00	1.324	0.09	2.100	2.781
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 2	DSI6	Handheld	132072	1720	22.22	23.00	1.197	0.03	1.830	2.190
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 2	DSI6	Handheld	132322	1745	22.04	23.00	1.247	-0.08	1.290	1.609
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 2	DSI6	Handheld	132572	1770	21.92	23.00	1.282	0.09	1.330	1.705
	LTE Band 66	20M	QPSK	50	0	Left Side	0mm	Ant 2	DSI6	Handheld	132072	1720	22.22	23.00	1.197	0.07	1.830	2.190
	LTE Band 66	20M	QPSK	50	0	Left Side	0mm	Ant 2	DSI6	Handheld	132322	1745	22.04	23.00	1.247	0.04	1.860	2.320
	LTE Band 66	20M	QPSK	50	0	Left Side	0mm	Ant 2	DSI6	Handheld	132572	1770	21.92	23.00	1.282	-0.09	1.600	2.052
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 2	DSI4	Full	132072	1720	22.22	23.00	1.197	-0.01	0.189	0.226
	LTE Band 66	20M	QPSK	50	0	Left Side	10mm	Ant 2	DSI4	Full	132322	1745	22.04	23.00	1.247	-0.11	0.121	0.151
	LTE Band 66	20M	QPSK	100	0	Back	0mm	Ant 2	DSI6	Handheld	132072	1720	22.18	23.00	1.208	0.12	1.790	2.162
	LTE Band 66	20M	QPSK	100	0	Left Side	0mm	Ant 2	DSI6	Handheld	132072	1720	22.18	23.00	1.208	0.05	1.770	2.138
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	132072	1720	19.66	20.50	1.213	-0.02	0.682	0.828
	LTE Band 66	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	132072	1720	19.66	20.50	1.213	0.07	1.060	1.286
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	132072	1720	19.58	20.50	1.236	-0.06	0.724	0.895
	LTE Band 66	20M	QPSK	50	0	Left Side	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	132072	1720	19.58	20.50	1.236	0.05	1.150	1.421
	LTE Band 66C	20M	QPSK	1	99	Left Side	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	132072+ 132270	1720+ 1739.8	19.36	20.50	1.300	0.03	1.050	1.365
	LTE Band 66	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	132072	1720	21.17	22.00	1.211	0.06	2.150	2.603
	LTE Band 66	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	132322	1745	21.10	22.00	1.230	0.02	2.320	2.854
	LTE Band 66	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	132572	1770	21.13	22.00	1.222	-0.11	2.320	2.835
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	132072	1720	21.17	22.00	1.211	-0.05	2.430	2.942
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	132322	1745	21.10	22.00	1.230	0.04	2.340	2.879
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	132572	1770	21.13	22.00	1.222	0.06	2.360	2.883
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	132072	1720	21.17	22.00	1.211	-0.17	2.080	2.518
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	132322	1745	21.10	22.00	1.230	0.14	2.400	2.953
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	132572	1770	21.13	22.00	1.222	-0.09	1.990	2.431
	LTE Band 66	20M	QPSK	1	0	Front	4mm	Ant 1	DSI4	Full	132322	1745	22.94	24.00	1.276	-0.19	0.071	0.091
	LTE Band 66	20M	QPSK	1	0	Back	7mm	Ant 1	DSI4	Full	132072	1720	23.16	24.00	1.213	0.05	0.058	0.070
	LTE Band 66	20M	QPSK	1	0	Bottom Side	12mm	Ant 1	DSI4	Full	132322	1745	22.94	24.00	1.276	-	n/a	n/a
	LTE Band 66C	20M	QPSK	1	99	Bottom Side	0mm	Ant 1	DSI6	Handheld	132322+ 132520	1745+ 1764.8	20.98	22.00	1.265	0.06	1.930	2.441
	LTE Band 66	20M	QPSK	50	0	Front	0mm	Ant 1	DSI6	Handheld	132072	1720	21.08	22.00	1.236	0.02	2.150	2.657
	LTE Band 66	20M	QPSK	50	0	Front	0mm	Ant 1	DSI6	Handheld	132322	1745	21.06	22.00	1.242	-0.09	2.330	2.893
	LTE Band 66	20M	QPSK	50	0	Front	0mm	Ant 1	DSI6	Handheld	132572	1770	21.02	22.00	1.253	0.04	2.350	2.945
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	132072	1720	21.08	22.00	1.236	0.02	2.370	2.929
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	132322	1745	21.06	22.00	1.242	-0.03	2.330	2.893
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	132572	1770	21.02	22.00	1.253	0.12	2.310	2.895
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	132072	1720	21.08	22.00	1.236	0.08	2.160	2.670
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	132322	1745	21.06	22.00	1.242	-0.11	2.190	2.719
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	132572	1770	21.02	22.00	1.253	-0.05	2.130	2.669
	LTE Band 66	20M	QPSK	50	0	Front	4mm	Ant 1	DSI4	Full	132572	1770	22.10	23.00	1.230	0.09	0.055	0.067
	LTE Band 66	20M	QPSK	50	0	Back	7mm	Ant 1	DSI4	Full	132072	1720	22.35	23.00	1.161	0.14	0.049	0.057
	LTE Band 66	20M	QPSK	50	0	Bottom Side	12mm	Ant 1	DSI4	Full	132322	1745	22.25	23.00	1.189	-	n/a	n/a
	LTE Band 66	20M	QPSK	100	0	Front	0mm	Ant 1	DSI6	Handheld	132072	1720	20.99	22.00	1.262	0.01	2.010	2.536
	LTE Band 66	20M	QPSK	100	0	Back	0mm	Ant 1	DSI6	Handheld	132072	1720	20.99	22.00	1.262	0.07	2.150	2.713
	LTE Band 66	20M	QPSK	100	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	132072	1720	20.99	22.00	1.262	0.12	1.990	2.511

	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 2	DSI6	Handheld	18700	1860	23.15	24.00	1.216	0.03	1.740	2.116
	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 2	DSI6	Handheld	18900	1880	22.87	24.00	1.297	0.05	1.920	2.491
	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 2	DSI6	Handheld	19100	1900	22.74	24.00	1.337	-0.04	2.030	2.713
	LTE Band 2	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI6	Handheld	18700	1860	23.15	24.00	1.216	0.05	1.910	2.323
	LTE Band 2	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI6	Handheld	18900	1880	22.87	24.00	1.297	-0.11	1.970	2.555
64	LTE Band 2	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI6	Handheld	19100	1900	22.74	24.00	1.337	0.17	2.310	**3.088**
	LTE Band 2	20M	QPSK	1	0	Back	10mm	Ant 2	DSI4	Full	19100	1900	22.74	24.00	1.337	0.15	0.194	0.259
	LTE Band 2	20M	QPSK	1	0	Left Side	10mm	Ant 2	DSI4	Full	19100	1900	22.74	24.00	1.337	-0.01	0.254	0.339
	LTE Band 2	20M	QPSK	50	0	Back	0mm	Ant 2	DSI6	Handheld	18700	1860	22.21	23.00	1.199	-0.16	1.360	1.631
	LTE Band 2	20M	QPSK	50	0	Left Side	0mm	Ant 2	DSI6	Handheld	18700	1860	22.21	23.00	1.199	0.1	1.470	1.763
	LTE Band 2	20M	QPSK	50	0	Back	10mm	Ant 2	DSI4	Full	18700	1860	22.21	23.00	1.199	0.16	0.172	0.207
	LTE Band 2	20M	QPSK	50	0	Left Side	10mm	Ant 2	DSI4	Full	18700	1860	22.21	23.00	1.199	-0.16	0.159	0.191
	LTE Band 2	20M	QPSK	100	0	Back	0mm	Ant 2	DSI6	Handheld	18700	1860	22.06	23.00	1.242	0.18	1.220	1.515
	LTE Band 2	20M	QPSK	100	0	Left Side	0mm	Ant 2	DSI6	Handheld	18700	1860	22.06	23.00	1.242	0.06	1.360	1.689
	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	18700	1860	20.32	21.00	1.169	0.12	0.894	1.046
	LTE Band 2	20M	QPSK	1	0	Left Side	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	18700	1860	20.32	21.00	1.169	0.08	1.340	1.567
	LTE Band 2	20M	QPSK	50	0	Back	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	18700	1860	20.25	21.00	1.189	0.08	0.910	1.082
	LTE Band 2	20M	QPSK	50	0	Left Side	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	18700	1860	20.25	21.00	1.189	0.09	1.310	1.557
	LTE Band 2	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	18700	1860	20.10	21.00	1.230	-0.03	1.920	2.362
	LTE Band 2	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	18900	1880	19.98	21.00	1.265	-0.03	1.750	2.213
	LTE Band 2	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	19100	1900	19.88	21.00	1.294	-0.06	1.690	2.187
	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	18700	1860	20.10	21.00	1.230	0.19	2.250	2.768
	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	18900	1880	19.98	21.00	1.265	0.03	2.140	2.707
	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	19100	1900	19.88	21.00	1.294	-0.07	1.980	2.563
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	18700	1860	20.10	21.00	1.230	-0.05	2.160	2.657
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	18900	1880	19.98	21.00	1.265	0.15	2.200	2.782
	LTE Band 2	20M	QPSK	1	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	19100	1900	19.88	21.00	1.294	0.14	2.090	2.705
	LTE Band 2	20M	QPSK	1	0	Front	4mm	Ant 1	DSI4	Full	18700	1860	23.13	24.00	1.222	-0.09	0.381	0.465
	LTE Band 2	20M	QPSK	1	0	Back	7mm	Ant 1	DSI4	Full	18700	1860	23.13	24.00	1.222	0.07	0.778	0.951
	LTE Band 2	20M	QPSK	1	0	Bottom Side	12mm	Ant 1	DSI4	Full	18900	1880	22.91	24.00	1.285	-0.18	0.427	0.549
	LTE Band 2	20M	QPSK	50	0	Front	0mm	Ant 1	DSI6	Handheld	18700	1860	20.07	21.00	1.239	-0.07	1.890	2.341
	LTE Band 2	20M	QPSK	50	0	Front	0mm	Ant 1	DSI6	Handheld	18900	1880	19.95	21.00	1.274	-0.07	1.780	2.267
	LTE Band 2	20M	QPSK	50	0	Front	0mm	Ant 1	DSI6	Handheld	19100	1900	19.83	21.00	1.309	-0.14	1.730	2.265
	LTE Band 2	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	18700	1860	20.07	21.00	1.239	-0.14	2.220	2.750
	LTE Band 2	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	18900	1880	19.95	21.00	1.274	0.14	2.110	2.687
	LTE Band 2	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	19100	1900	19.83	21.00	1.309	-0.14	2.080	2.723
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	18700	1860	20.07	21.00	1.239	0.03	2.230	2.763
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	18900	1880	19.95	21.00	1.274	-0.16	1.770	2.254
	LTE Band 2	20M	QPSK	50	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	19100	1900	19.83	21.00	1.309	-0.09	2.110	2.762
	LTE Band 2	20M	QPSK	50	0	Front	4mm	Ant 1	DSI4	Full	18700	1860	22.29	23.00	1.178	0.03	0.322	0.379
	LTE Band 2	20M	QPSK	50	0	Back	7mm	Ant 1	DSI4	Full	18700	1860	22.29	23.00	1.178	-0.14	0.377	0.444
	LTE Band 2	20M	QPSK	50	0	Bottom Side	12mm	Ant 1	DSI4	Full	18700	1860	22.29	23.00	1.178	-	n/a	n/a
	LTE Band 2	20M	QPSK	100	0	Front	0mm	Ant 1	DSI6	Handheld	18700	1860	19.97	21.00	1.268	0.1	1.810	2.294
	LTE Band 2	20M	QPSK	100	0	Back	0mm	Ant 1	DSI6	Handheld	18700	1860	19.97	21.00	1.268	-0.05	2.060	2.611
	LTE Band 2	20M	QPSK	100	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	18700	1860	19.97	21.00	1.268	0.09	2.090	2.649
	LTE Band 7	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	20850	2510	18.57	19.50	1.239	-0.16	1.680	2.081
	LTE Band 7	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	21100	2535	18.48	19.50	1.265	-0.17	1.550	1.960
	LTE Band 7	20M	QPSK	1	0	Front	0mm	Ant 1	DSI6	Handheld	21350	2560	18.54	19.50	1.247	-0.01	1.460	1.821
	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	20850	2510	18.57	19.50	1.239	-0.06	1.920	2.378
65	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	21100	2535	18.48	19.50	1.265	-0.14	1.900	**2.403**
	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant 1	DSI6	Handheld	21350	2560	18.54	19.50	1.247	0.17	1.780	2.220
	LTE Band 7	20M	QPSK	1	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	20850	2510	18.57	19.50	1.239	-0.1	0.969	1.200
	LTE Band 7	20M	QPSK	1	0	Front	4mm	Ant 1	DSI4	Full	20850	2510	23.14	24.00	1.219	0.12	1.230	1.499
	LTE Band 7	20M	QPSK	1	0	Back	7mm	Ant 1	DSI4	Full	21100	2535	23.05	24.00	1.245	0.01	1.100	1.369
	LTE Band 7	20M	QPSK	1	0	Bottom Side	12mm	Ant 1	DSI4	Full	20850	2510	23.14	24.00	1.219	0.06	0.861	1.049
	LTE Band 7	20M	QPSK	50	0	Front	0mm	Ant 1	DSI6	Handheld	20850	2510	18.53	19.50	1.250	0.03	1.590	1.988

	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	20850	2510	18.53	19.50	1.250	0.14	1.920	2.400
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	21100	2535	18.46	19.50	1.271	-0.17	1.650	2.096
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant 1	DSI6	Handheld	21350	2560	18.50	19.50	1.259	0.07	1.840	2.316
	LTE Band 7	20M	QPSK	50	0	Bottom Side	0mm	Ant 1	DSI6	Handheld	20850	2510	18.53	19.50	1.250	0.12	1.000	1.250
	LTE Band 7	20M	QPSK	50	0	Front	4mm	Ant 1	DSI4	Full	20850	2510	22.32	23.00	1.169	0.04	1.010	1.181
	LTE Band 7	20M	QPSK	50	0	Back	7mm	Ant 1	DSI4	Full	20850	2510	22.32	23.00	1.169	-0.13	0.913	1.068
	LTE Band 7	20M	QPSK	50	0	Bottom Side	12mm	Ant 1	DSI4	Full	20850	2510	22.32	23.00	1.169	-0.12	0.694	0.812
	LTE Band 7	20M	QPSK	100	0	Front	0mm	Ant 1	DSI6	Handheld	20850	2510	18.41	19.50	1.285	0.07	1.500	1.928
	LTE Band 7	20M	QPSK	100	0	Back	0mm	Ant 1	DSI6	Handheld	20850	2510	18.41	19.50	1.285	0.11	1.840	2.365

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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)
	LTE Band 48	20M	QPSK	1	99	Back	0mm	Ant 4	DSI6	Handheld	55830	3609	19.99	20.50	1.125	62.9	1.006	0.13	2.360	2.670
	LTE Band 48	20M	QPSK	1	99	Back	0mm	Ant 4	DSI6	Handheld	55340	3560	19.94	20.50	1.138	62.9	1.006	0.07	2.370	2.712
	LTE Band 48	20M	QPSK	1	99	Back	0mm	Ant 4	DSI6	Handheld	56150	3641	19.85	20.50	1.161	62.9	1.006	0.01	2.640	3.085
66	LTE Band 48	20M	QPSK	1	99	Back	0mm	Ant 4	DSI6	Handheld	56640	3690	19.91	20.50	1.146	62.9	1.006	0.08	2.740	**3.158**
	LTE Band 48	20M	QPSK	1	99	Left Side	0mm	Ant 4	DSI6	Handheld	55830	3609	19.99	20.50	1.125	62.9	1.006	0.17	0.736	0.833
	LTE Band 48	20M	QPSK	1	99	Back	12mm	Ant 4	DSI4	Full	56640	3690	23.34	24.00	1.164	62.9	1.006	0.03	0.339	0.397
	LTE Band 48	20M	QPSK	1	99	Left Side	10mm	Ant 4	DSI4	Full	55830	3609	23.56	24.00	1.107	62.9	1.006	-0.08	0.296	0.330
	LTE Band 48C	20M	QPSK	1	0	Back	0mm	Ant 4	DSI6	Handheld	56640+ 56442	3690+ 3670.2	19.82	20.50	1.169	62.9	1.006	0.08	2.510	2.953
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant 4	DSI6	Handheld	55830	3609	19.93	20.50	1.140	62.9	1.006	0.04	2.570	2.948
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant 4	DSI6	Handheld	55340	3560	19.92	20.50	1.143	62.9	1.006	-0.01	2.520	2.897
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant 4	DSI6	Handheld	56150	3641	19.81	20.50	1.172	62.9	1.006	-0.14	2.640	3.113
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant 4	DSI6	Handheld	56640	3690	19.84	20.50	1.164	62.9	1.006	0.03	2.650	3.103
	LTE Band 48	20M	QPSK	50	0	Left Side	0mm	Ant 4	DSI6	Handheld	55830	3609	19.93	20.50	1.140	62.9	1.006	0.18	0.741	0.850
	LTE Band 48	20M	QPSK	50	0	Back	12mm	Ant 4	DSI4	Full	56150	3641	21.27	23.00	1.489	62.9	1.006	0.09	0.204	0.306
	LTE Band 48	20M	QPSK	50	0	Left Side	10mm	Ant 4	DSI4	Full	55830	3609	21.31	23.00	1.476	62.9	1.006	0.09	0.169	0.251
	LTE Band 48	20M	QPSK	100	0	Back	0mm	Ant 4	DSI6	Handheld	55830	3609	19.86	20.50	1.159	62.9	1.006	0.03	2.510	2.926
	LTE Band 48	20M	QPSK	1	99	Back	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	55830	3609	16.91	17.50	1.146	62.9	1.006	-0.07	1.290	1.487
	LTE Band 48	20M	QPSK	1	99	Left Side	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	55830	3609	16.91	17.50	1.146	62.9	1.006	0.01	0.383	0.441
	LTE Band 48C	20M	QPSK	1	99	Back	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	55830+ 56028	3609+ 3628.8	16.64	17.50	1.219	62.9	1.006	0.06	1.000	1.226
	LTE Band 48	20M	QPSK	50	0	Back	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	55830	3609	16.79	17.50	1.178	62.9	1.006	0.15	1.260	1.493
	LTE Band 48	20M	QPSK	50	0	Left Side	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	55830	3609	16.79	17.50	1.178	62.9	1.006	0.02	0.389	0.461

<5GNR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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 N66	40M	BPSK	1	1	DFT-15	Front	0mm	Ant 1	DSI6	Handheld	349000	1745	20.06	21.00	1.242	0.15	1.690	2.098
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	0mm	Ant 1	DSI6	Handheld	349000	1745	20.06	21.00	1.242	0.18	2.050	2.545
67	FR1 N66	40M	BPSK	1	1	DFT-15	Bottom Side	0mm	Ant 1	DSI6	Handheld	349000	1745	20.06	21.00	1.242	0.03	2.240	**2.781**
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	4mm	Ant 1	DSI4	Full	349000	1745	23.28	24.00	1.180	0.08	0.695	0.820
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	7mm	Ant 1	DSI4	Full	349000	1745	23.28	24.00	1.180	-0.15	0.506	0.597
	FR1 N66	40M	BPSK	1	1	DFT-15	Bottom Side	12mm	Ant 1	DSI4	Full	349000	1745	23.28	24.00	1.180	-0.11	0.464	0.548
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	0mm	Ant 1	DSI6	Handheld	349000	1745	19.91	21.00	1.285	-0.07	1.510	1.941
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	0mm	Ant 1	DSI6	Handheld	349000	1745	19.91	21.00	1.285	0.19	1.950	2.506
	FR1 N66	40M	BPSK	108	54	DFT-15	Bottom Side	0mm	Ant 1	DSI6	Handheld	349000	1745	19.91	21.00	1.285	0.16	1.880	2.416
	FR1 N66	40M	BPSK	108	54	DFT-15	Front	4mm	Ant 1	DSI4	Full	349000	1745	23.22	24.00	1.197	0.09	0.622	0.744
	FR1 N66	40M	BPSK	108	54	DFT-15	Back	7mm	Ant 1	DSI4	Full	349000	1745	23.22	24.00	1.197	-0.09	0.540	0.646
	FR1 N66	40M	BPSK	108	54	DFT-15	Bottom Side	12mm	Ant 1	DSI4	Full	349000	1745	23.22	24.00	1.197	0.05	0.408	0.488
	FR1 N66	40M	BPSK	216	0	DFT-15	Front	0mm	Ant 1	DSI6	Handheld	349000	1745	19.88	21.00	1.294	-0.07	1.470	1.902
	FR1 N66	40M	BPSK	216	0	DFT-15	Back	0mm	Ant 1	DSI6	Handheld	349000	1745	19.88	21.00	1.294	0.19	1.910	2.472
	FR1 N66	40M	BPSK	216	0	DFT-15	Bottom Side	0mm	Ant 1	DSI6	Handheld	349000	1745	19.88	21.00	1.294	0.16	1.830	2.368
68	FR1 N2	20M	BPSK	1	1	DFT-15	Back	0mm	Ant 2	DSI6	Handheld	376000	1880	22.33	23.00	1.167	0.06	2.700	**3.150**
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 2	DSI4	Full	376000	1880	23.26	24.00	1.186	0.15	0.125	0.148
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	0mm	Ant 2	DSI6	Handheld	376000	1880	22.30	23.00	1.175	0.1	2.670	3.137
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 2	DSI4	Full	376000	1880	23.21	24.00	1.199	-0.09	0.127	0.152
	FR1 N2	20M	BPSK	100	0	DFT-15	Back	0mm	Ant 2	DSI6	Handheld	376000	1880	22.14	23.00	1.219	0.01	2.520	3.072
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	376000	1880	19.29	20.00	1.178	0.17	1.070	1.260
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	0mm	Ant 2	DSI 6 (Sim)	Handheld/Simultaneous	376000	1880	19.25	20.00	1.189	0.02	1.320	1.569
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	0mm	Ant 1	DSI6	Handheld	376000	1880	19.54	20.50	1.247	0.19	1.570	1.958
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	0mm	Ant 1	DSI6	Handheld	376000	1880	19.54	20.50	1.247	-0.18	2.060	2.570
	FR1 N2	20M	BPSK	1	1	DFT-15	Bottom Side	0mm	Ant 1	DSI6	Handheld	376000	1880	19.54	20.50	1.247	0.02	2.250	2.807
	FR1 N2	20M	BPSK	1	1	DFT-15	Front	4mm	Ant 1	DSI4	Full	376000	1880	23.25	24.00	1.189	-0.16	0.743	0.883
	FR1 N2	20M	BPSK	1	1	DFT-15	Back	7mm	Ant 1	DSI4	Full	376000	1880	23.25	24.00	1.189	-0.1	0.592	0.704
	FR1 N2	20M	BPSK	1	1	DFT-15	Bottom Side	12mm	Ant 1	DSI4	Full	376000	1880	23.25	24.00	1.189	0.15	0.194	0.231
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	0mm	Ant 1	DSI6	Handheld	376000	1880	19.39	20.50	1.291	0.18	1.510	1.950
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	0mm	Ant 1	DSI6	Handheld	376000	1880	19.39	20.50	1.291	0.17	1.980	2.557
	FR1 N2	20M	BPSK	50	28	DFT-15	Bottom Side	0mm	Ant 1	DSI6	Handheld	376000	1880	19.39	20.50	1.291	-0.15	2.170	2.802
	FR1 N2	20M	BPSK	50	28	DFT-15	Front	4mm	Ant 1	DSI4	Full	376000	1880	23.24	24.00	1.191	-0.19	0.722	0.860
	FR1 N2	20M	BPSK	50	28	DFT-15	Back	7mm	Ant 1	DSI4	Full	376000	1880	23.24	24.00	1.191	-0.08	0.563	0.671
	FR1 N2	20M	BPSK	50	28	DFT-15	Bottom Side	12mm	Ant 1	DSI4	Full	376000	1880	23.24	24.00	1.191	-0.16	0.186	0.222
	FR1 N2	20M	BPSK	100	0	DFT-15	Back	0mm	Ant 1	DSI6	Handheld	376000	1880	19.38	20.50	1.294	0.11	1.870	2.420
	FR1 N2	20M	BPSK	100	0	DFT-15	Bottom Side	0mm	Ant 1	DSI6	Handheld	376000	1880	19.38	20.50	1.294	0.02	2.020	2.614
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Front	0mm	Ant 4	DSI4	Full	633334	3500.01	26.10	27.00	1.230	0.12	1.040	1.279
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 4	DSI6	Handheld	633334	3500.01	16.40	17.50	1.288	-0.19	1.110	1.430
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Left Side	0mm	Ant 4	DSI6	Handheld	633334	3500.01	16.40	17.50	1.288	0.19	0.482	0.621
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Back	12mm	Ant 4	DSI4	Full	633334	3500.01	26.10	27.00	1.230	0.13	0.041	0.050
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 4	DSI4	Full	633334	3500.01	26.10	27.00	1.230	0.15	0.042	0.052
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Front	0mm	Ant 4	DSI4	Full	633334	3500.01	26.05	27.00	1.245	-0.03	0.837	1.042
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 4	DSI6	Handheld	633334	3500.01	16.33	17.50	1.309	-0.01	1.260	1.650
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Left Side	0mm	Ant 4	DSI6	Handheld	633334	3500.01	16.33	17.50	1.309	0	0.492	0.644
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Back	12mm	Ant 4	DSI4	Full	633334	3500.01	26.05	27.00	1.245	-0.14	0.039	0.049
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 4	DSI4	Full	633334	3500.01	26.05	27.00	1.245	0.11	0.040	0.050
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	633334	3500.01	13.47	14.50	1.268	-0.11	0.618	0.783
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	1	1	DFT-30	Left Side	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	633334	3500.01	13.47	14.50	1.268	0.14	0.249	0.316
	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	633334	3500.01	13.28	14.50	1.324	-0.19	0.635	0.841

	FR1 N77_Part 27Q (HPUE)	100M	BPSK	135	69	DFT-30	Left Side	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	633334	3500.01	13.28	14.50	1.324	0.01	0.258	0.342
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Front	0mm	Ant 4	DSI4	Full	656000	3840	25.31	27.00	1.476	0.07	0.802	1.184
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 4	DSI6	Handheld	656000	3840	15.98	17.50	1.419	0.19	1.870	2.654
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Left Side	0mm	Ant 4	DSI6	Handheld	656000	3840	15.98	17.50	1.419	0	0.531	0.754
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Top Side	0mm	Ant 4	DSI4	Full	656000	3840	25.31	27.00	1.476	-0.06	1.060	1.564
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Back	12mm	Ant 4	DSI4	Full	656000	3840	25.31	27.00	1.476	0.19	0.958	1.414
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 4	DSI4	Full	656000	3840	25.31	27.00	1.476	-0.08	0.620	0.915
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Front	0mm	Ant 4	DSI4	Full	656000	3840	25.30	27.00	1.479	0.11	0.590	0.873
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 4	DSI6	Handheld	656000	3840	15.89	17.50	1.449	0.04	1.760	2.550
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Left Side	0mm	Ant 4	DSI6	Handheld	656000	3840	15.89	17.50	1.449	-0.18	0.565	0.819
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Top Side	0mm	Ant 4	DSI4	Full	656000	3840	25.30	27.00	1.479	0.05	0.814	1.204
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Back	12mm	Ant 4	DSI4	Full	656000	3840	25.30	27.00	1.479	0.03	0.930	1.376
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 4	DSI4	Full	656000	3840	25.30	27.00	1.479	0.08	0.603	0.892
	FR1 N77_Part 27O (HPUE)	100M	BPSK	270	0	DFT-30	Back	0mm	Ant 4	DSI6	Handheld	656000	3840	15.75	17.50	1.496	0.13	1.750	2.618
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	656000	3840	12.97	14.50	1.422	0.05	0.821	1.168
	FR1 N77_Part 27O (HPUE)	100M	BPSK	1	1	DFT-30	Left Side	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	656000	3840	12.97	14.50	1.422	-0.14	0.258	0.367
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	656000	3840	12.92	14.50	1.439	0.04	0.868	1.249
	FR1 N77_Part 27O (HPUE)	100M	BPSK	135	69	DFT-30	Left Side	0mm	Ant 4	DSI 6 (Sim)	Handheld/Simultaneous	656000	3840	12.92	14.50	1.439	0.1	0.283	0.407
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 5	DSI6	Handheld	633334	3500.01	18.66	19.50	1.213	0.04	1.830	2.221
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	7mm	Ant 5	DSI4	Full	633334	3500.01	19.72	20.50	1.197	0.06	0.414	0.495
69	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 5	DSI6	Handheld	633334	3500.01	18.60	19.50	1.230	-0.16	2.480	**3.051**
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	7mm	Ant 5	DSI4	Full	633334	3500.01	19.64	20.50	1.219	-0.06	0.653	0.796
	FR1 N77_Part 27Q	100M	BPSK	270	0	DFT-30	Back	0mm	Ant 5	DSI6	Handheld	633334	3500.01	18.55	19.50	1.245	0.08	2.330	2.900
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 5	DSI 6 (Sim)	Handheld/Simultaneous	633334	3500.01	15.69	16.50	1.205	0.03	0.900	1.085
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 5	DSI 6 (Sim)	Handheld/Simultaneous	633334	3500.01	15.65	16.50	1.216	0.08	1.240	1.508
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 5	DSI6	Handheld	656000	3840	18.72	19.50	1.197	0.08	2.210	2.645
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	7mm	Ant 5	DSI4	Full	656000	3840	19.74	20.50	1.191	0.05	0.456	0.543
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 5	DSI6	Handheld	656000	3840	18.68	19.50	1.208	0.02	1.620	1.957
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	7mm	Ant 5	DSI4	Full	656000	3840	19.69	20.50	1.205	-0.14	0.465	0.560
	FR1 N77_Part 27O	100M	BPSK	270	0	DFT-30	Back	0mm	Ant 5	DSI6	Handheld	656000	3840	18.61	19.50	1.227	0.04	1.690	2.074
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 5	DSI 6 (Sim)	Handheld/Simultaneous	656000	3840	15.82	16.50	1.169	0.03	0.829	0.970
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 5	DSI 6 (Sim)	Handheld/Simultaneous	656000	3840	15.76	16.50	1.186	0.06	0.798	0.946
	FR1 N77_Part 27Q	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 6	DSI6	Full	633334	3500.01	16.96	18.00	1.271	0.01	1.700	2.160
	FR1 N77_Part 27Q	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 6	DSI6	Full	633334	3500.01	16.94	18.00	1.276	0.02	1.700	2.170
	FR1 N77_Part 27Q	100M	BPSK	270	0	DFT-30	Back	0mm	Ant 6	DSI6	Full	633334	3500.01	16.93	18.00	1.279	0.02	1.670	2.137
	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 10	DSI6	Full	656000	3840	17.16	18.00	1.213	0.05	1.530	1.856
	FR1 N77_Part 27O	100M	BPSK	135	69	DFT-30	Back	0mm	Ant 10	DSI6	Full	656000	3840	17.14	18.00	1.219	0.06	1.470	1.792

<WLAN5G SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	44	5220	17.91	19.50	1.442	97.2	1.029	0.16	1.610	2.389
	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	36	5180	17.87	19.50	1.455	97.2	1.029	0.07	1.540	2.306
70	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	40	5200	17.85	19.50	1.462	97.2	1.029	0.16	1.870	**2.814**
	WLAN5.2GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	48	5240	17.88	19.50	1.452	97.2	1.029	-0.05	1.670	2.495
	WLAN5.2GHz	802.11a 6Mbps	Back	7mm	Ant 5	Full	40	5200	18.06	20.00	1.563	97.2	1.029	0.03	0.437	0.702
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5	Simultaneous	46	5230	15.45	17.00	1.429	96.24	1.039	0.06	1.080	1.603
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.2	1.029	0.09	0.155	0.245
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	60	5300	17.78	19.50	1.486	97.2	1.029	0.19	1.710	2.615
	WLAN5.3GHz	802.11a 6Mbps	Left Side	0mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.2	1.029	0.16	0.082	0.130
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.2	1.029	0.1	0.255	0.403
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 5	Full	60	5300	18.13	20.00	1.537	97.2	1.029	-0.15	0.554	0.876
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	52	5260	17.71	19.50	1.509	97.2	1.029	-0.02	1.790	2.779
71	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	56	5280	17.59	19.50	1.552	97.2	1.029	0.02	1.950	**3.115**
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	64	5320	17.56	19.50	1.562	97.2	1.029	0.11	1.870	3.006
	WLAN5.3GHz	802.11a 6Mbps	Back	7mm	Ant 5	Full	56	5280	18.09	20.00	1.552	97.2	1.029	0.03	0.463	0.740
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	0mm	Ant 5	Simultaneous	54	5270	14.86	16.50	1.459	96.24	1.039	0.03	0.058	0.088
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5	Simultaneous	54	5270	14.86	16.50	1.459	96.24	1.039	-0.19	1.020	1.546
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant 5	Simultaneous	54	5270	14.86	16.50	1.459	96.24	1.039	-0.05	0.058	0.088
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 5	Simultaneous	54	5270	14.86	16.50	1.459	96.24	1.039	0.18	0.095	0.144
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5	Simultaneous	54	5270	14.86	16.50	1.459	96.24	1.039	-0.01	0.223	0.338
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.2	1.029	0.19	0.188	0.283
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	116	5580	17.91	19.50	1.441	97.2	1.029	-0.17	1.650	2.447
	WLAN5.5GHz	802.11a 6Mbps	Left Side	0mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.2	1.029	-0.03	0.081	0.122
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.2	1.029	0.09	0.187	0.281
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 5	Full	116	5580	18.35	20.00	1.461	97.2	1.029	0.12	0.531	0.798
72	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	100	5500	17.85	19.50	1.461	97.2	1.029	0.16	2.020	**3.037**
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	132	5660	17.74	19.50	1.500	97.2	1.029	0.15	1.670	2.577
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	140	5700	17.85	19.50	1.461	97.2	1.029	0.05	1.620	2.436
	WLAN5.5GHz	802.11a 6Mbps	Back	7mm	Ant 5	Full	100	5500	18.33	20.00	1.468	97.2	1.029	-0.11	0.607	0.917
	WLAN5.5GHz	802.11n-HT40 MCS0	Front	0mm	Ant 5	Simultaneous	110	5550	14.82	16.00	1.312	96.24	1.039	-0.19	0.131	0.178
	WLAN5.5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5	Simultaneous	110	5550	14.82	16.00	1.312	96.24	1.039	-0.02	1.000	1.364
	WLAN5.5GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant 5	Simultaneous	110	5550	14.82	16.00	1.312	96.24	1.039	-0.09	0.050	0.068
	WLAN5.5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 5	Simultaneous	110	5550	14.82	16.00	1.312	96.24	1.039	-0.18	0.106	0.144
	WLAN5.5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5	Simultaneous	110	5550	14.82	16.00	1.312	96.24	1.039	0.01	0.356	0.485
	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	157	5785	17.76	19.50	1.493	97.2	1.029	0.04	1.830	2.811
73	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	149	5745	17.70	19.50	1.514	97.2	1.029	0.16	2.050	**3.193**
	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Ant 5	Standalone	165	5825	17.68	19.50	1.521	97.2	1.029	0.11	1.740	2.722
	WLAN5.8GHz	802.11a 6Mbps	Back	7mm	Ant 5	Standalone	149	5745	18.24	20.00	1.499	97.2	1.029	0.07	0.486	0.749
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 5	Simultaneous	155	5775	15.71	17.50	1.510	92.52	1.081	-0.06	1.020	1.665

16.5 Repeated SAR Measurement

<1g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI2	Full	23095	707.5	23.11	24.00	1.227	-	-	0.13	0.924	1	1.134
2nd	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI2	Full	23095	707.5	23.11	24.00	1.227	-	-	0.07	0.910	1.015	1.117
1st	FR1 N5	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Full	167300	836.5	23.07	24.00	1.239	-	-	-0.08	0.972	1	1.204
2nd	FR1 N5	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Full	167300	836.5	23.07	24.00	1.239	-	-	0.05	0.955	1.018	1.183
1st	FR1 N2	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Standalone	376000	1880	22.27	23.00	1.183	-	-	0.07	1.060	1	1.254
2nd	FR1 N2	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	DSI2	Standalone	376000	1880	22.27	23.00	1.183	-	-	0.12	0.999	1.061	1.182
1st	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.80	22.50	1.175	-	-	-0.17	1.080	1	1.269
2nd	FR1 N77_Part 27Q(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	DSI2	Standalone	633334	3500.01	21.80	22.50	1.175	-	-	0.12	1.020	1.05	1.198
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 3	-	Standalone	1	2412	18.70	20.00	1.349	99.54	1.005	0.1	0.813	1	1.102
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 3	-	Standalone	1	2412	18.70	20.00	1.349	99.54	1.005	0.03	0.805	1.010	1.091
1st	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI3	Standalone	132072	1720	17.26	18.00	1.186	-	-	0.19	1.040	1	1.233
2nd	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI3	Standalone	132072	1720	17.26	18.00	1.186	-	-	-0.06	0.996	1.044	1.181
1st	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI3	Standalone	20850	2510	15.78	16.50	1.180	-	-	0.16	1.040	1	1.228
2nd	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI3	Standalone	20850	2510	15.78	16.50	1.180	-	-	0.05	1.000	1.040	1.180
1st	LTE Band 48	20M	QPSK	1	99	-	Back	5mm	Ant 4	DSI3	Standalone	56640	3690	19.91	20.50	1.146	62.9	1.006	-0.16	1.100	1	1.268
2nd	LTE Band 48	20M	QPSK	1	99	-	Back	5mm	Ant 4	DSI3	Standalone	56640	3690	19.91	20.50	1.146	62.9	1.006	0.09	1.050	1.048	1.210
1st	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI3	Full	656000	3840	17.16	18.00	1.213	-	-	0.05	1.020	1	1.238
2nd	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	5mm	Ant 10	DSI3	Full	656000	3840	17.16	18.00	1.213	-	-	-0.01	0.989	1.031	1.200

<10g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Power Reduction	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	-	Back	0mm	Ant 1	DSI6	Handheld	132072	1720	21.17	22.00	1.211	-	-	-0.05	2.430	1	2.942
2nd	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI6	Handheld	132072	1720	21.17	22.00	1.211	-	-	0.11	2.380	1.021	2.881
1st	LTE Band 48	20M	QPSK	1	99	-	Back	0mm	Ant 4	DSI6	Handheld	56640	3690	19.91	20.50	1.146	62.9	1.006	0.08	2.740	1	3.158
2nd	LTE Band 48	20M	QPSK	1	99	-	Back	0mm	Ant 4	DSI6	Handheld	56640	3690	19.91	20.50	1.146	62.9	1.006	-0.11	2.680	1.022	3.088
1st	LTE Band 48	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI6	Handheld	55340	3560	19.92	20.50	1.143	62.9	1.006	-0.01	2.520	1	2.897
2nd	LTE Band 48	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI6	Handheld	55340	3560	19.92	20.50	1.143	62.9	1.006	0.18	2.450	1.029	2.817
1st	FR1 N2	20M	BPSK	1	1	DFT-15	Back	0mm	Ant 2	DSI6	Handheld	376000	1880	22.33	23.00	1.167	-	-	0.06	2.700	1	3.150
2nd	FR1 N2	20M	BPSK	1	1	DFT-15	Back	0mm	Ant 2	DSI6	Handheld	376000	1880	22.33	23.00	1.167	-	-	0.03	2.640	1.023	3.080
1st	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 5	DSI6	Handheld	656000	3840	18.72	19.50	1.197	-	-	0.08	2.210	1	2.645
2nd	FR1 N77_Part 27O	100M	BPSK	1	1	DFT-30	Back	0mm	Ant 5	DSI6	Handheld	656000	3840	18.72	19.50	1.197	-	-	0.13	2.170	1.018	2.597
1st	WLAN5.5GHz	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 5	-	Standalone	100	5500	17.85	19.50	1.461	97.2	1.029	0.16	2.020	1	3.037
2nd	WLAN5.5GHz	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 5	-	Standalone	100	5500	17.85	19.50	1.461	97.2	1.029	0.01	1.970	1.025	2.962
1st	WLAN5.8GHz	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 5	-	Standalone	149	5745	17.70	19.50	1.514	97.2	1.029	0.16	2.050	1	3.193
2nd	WLAN5.8GHz	-	-	-	-	802.11a 6Mbps	Back	0mm	Ant 5	-	Standalone	149	5745	17.70	19.50	1.514	97.2	1.029	-0.07	2.000	1.025	3.115

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	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
3.	WWAN + 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. WWAN above includes 5G NR bands.
3. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
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 one of 4G or 5G NR.
5. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
6. This device 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).WIFI 6E has no hotspot function.
7. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
8. WLAN 2.4GHz and Bluetooth share the same antenna so can't transmit simultaneously.
9. According to the EUT characteristic, WLAN 5GHz and Bluetooth can't transmit simultaneously.
10. According to the EUT characteristic, WLAN 5GHz and WLAN 2.4GHz can't transmit simultaneously.
11. The maximum SAR summation is calculated based on the same configuration and test position.
12. 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.
    v) The SPLSR calculated results please refer to section 17.6.

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. 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	4	6	10	1+4	1+6	1+10
			WWAN	2.4GHz WLAN Ant 3	5GHz WLAN Ant 5	Bluetooth Ant 3	Summed	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)	1g SAR (W/kg)
GSM	GSM850Ant 1	Right Cheek	0.186	0.171	0.226	0.099	0.36	0.41	0.29
		Right Tilted	0.086	0.217	0.267	0.104	0.30	0.35	0.19
		Left Cheek	0.140	0.432	0.295	0.235	0.57	0.44	0.38
		Left Tilted	0.084	0.260	0.448	0.131	0.34	0.53	0.22
	GSM1900Ant 1	Right Cheek	0.103	0.171	0.226	0.099	0.27	0.33	0.20
		Right Tilted	0.047	0.217	0.267	0.104	0.26	0.31	0.15
		Left Cheek	0.080	0.432	0.295	0.235	0.51	0.38	0.32
		Left Tilted	0.066	0.260	0.448	0.131	0.33	0.51	0.20
WCDMA	WCDMA VAnt 1	Right Cheek	0.321	0.171	0.226	0.099	0.49	0.55	0.42
		Right Tilted	0.115	0.217	0.267	0.104	0.33	0.38	0.22
		Left Cheek	0.294	0.432	0.295	0.235	0.73	0.59	0.53
		Left Tilted	0.155	0.260	0.448	0.131	0.42	0.60	0.29
	WCDMA IIAnt 1	Right Cheek	0.152	0.171	0.226	0.099	0.32	0.38	0.25
		Right Tilted	0.114	0.217	0.267	0.104	0.33	0.38	0.22
		Left Cheek	0.144	0.432	0.295	0.235	0.58	0.44	0.38
		Left Tilted	0.103	0.260	0.448	0.131	0.36	0.55	0.23
LTE	LTE Band 12Ant 1	Right Cheek	0.195	0.171	0.226	0.099	0.37	0.42	0.29
		Right Tilted	0.084	0.217	0.267	0.104	0.30	0.35	0.19
		Left Cheek	0.171	0.432	0.295	0.235	0.60	0.47	0.41
		Left Tilted	0.075	0.260	0.448	0.131	0.34	0.52	0.21
	LTE Band 12 Ant 2	Right Cheek	0.876	0.171	0.226	0.099	1.05	1.10	0.98
		Right Tilted	0.791	0.217	0.267	0.104	1.01	1.06	0.90
		Left Cheek	0.512	0.432	0.295	0.235	0.94	0.81	0.75
		Left Tilted	0.497	0.260	0.448	0.131	0.76	0.95	0.63
	LTE Band 13Ant 1	Right Cheek	0.231	0.171	0.226	0.099	0.40	0.46	0.33
		Right Tilted	0.125	0.217	0.267	0.104	0.34	0.39	0.23
		Left Cheek	0.185	0.432	0.295	0.235	0.62	0.48	0.42
		Left Tilted	0.115	0.260	0.448	0.131	0.38	0.56	0.25
	LTE Band 13 Ant 2	Right Cheek	0.783	0.171	0.226	0.099	0.95	1.01	0.88
		Right Tilted	0.663	0.217	0.267	0.104	0.88	0.93	0.77
		Left Cheek	0.456	0.432	0.295	0.235	0.89	0.75	0.69
		Left Tilted	0.447	0.260	0.448	0.131	0.71	0.90	0.58
	LTE Band 5Ant 1	Right Cheek	0.291	0.171	0.226	0.099	0.46	0.52	0.39
		Right Tilted	0.057	0.217	0.267	0.104	0.27	0.32	0.16
		Left Cheek	0.218	0.432	0.295	0.235	0.65	0.51	0.45
		Left Tilted	0.111	0.260	0.448	0.131	0.37	0.56	0.24
	LTE Band 5 Ant 2	Right Cheek	0.843	0.171	0.226	0.099	1.01	1.07	0.94
		Right Tilted	0.803	0.217	0.267	0.104	1.02	1.07	0.91
		Left Cheek	0.445	0.432	0.295	0.235	0.88	0.74	0.68
		Left Tilted	0.424	0.260	0.448	0.131	0.68	0.87	0.56
	LTE Band 66Ant 1	Right Cheek	0.255	0.171	0.226	0.099	0.43	0.48	0.35
		Right Tilted	0.058	0.217	0.267	0.104	0.28	0.33	0.16
		Left Cheek	0.072	0.432	0.295	0.235	0.50	0.37	0.31
		Left Tilted	0.036	0.260	0.448	0.131	0.30	0.48	0.17
	LTE Band 66 Ant 2	Right Cheek	0.644	0.171	0.226	0.099	0.82	0.87	0.74
		Right Tilted	0.495	0.217	0.267	0.104	0.71	0.76	0.60
		Left Cheek	0.258	0.432	0.295	0.235	0.69	0.55	0.49
		Left Tilted	0.129	0.260	0.448	0.131	0.39	0.58	0.26
	LTE Band 2Ant 1	Right Cheek	0.159	0.171	0.226	0.099	0.33	0.39	0.26
		Right Tilted	0.076	0.217	0.267	0.104	0.29	0.34	0.18

		Left Cheek	0.117	0.432	0.295	0.235	0.55	0.41	0.35
		Left Tilted	0.097	0.260	0.448	0.131	0.36	0.55	0.23
	LTE Band 2 Ant 2	Right Cheek	0.732	0.171	0.226	0.099	0.90	0.96	0.83
		Right Tilted	0.328	0.217	0.267	0.104	0.55	0.60	0.43
		Left Cheek	0.138	0.432	0.295	0.235	0.57	0.43	0.37
		Left Tilted	0.099	0.260	0.448	0.131	0.36	0.55	0.23
	LTE Band 7Ant 1	Right Cheek	0.046	0.171	0.226	0.099	0.22	0.27	0.15
		Right Tilted	0.024	0.217	0.267	0.104	0.24	0.29	0.13
		Left Cheek	0.043	0.432	0.295	0.235	0.48	0.34	0.28
		Left Tilted	0.017	0.260	0.448	0.131	0.28	0.47	0.15
	LTE Band 48 Ant 4	Right Cheek	0.875	0.171	0.226	0.099	1.05	1.10	0.97
		Right Tilted	0.758	0.217	0.267	0.104	0.98	1.03	0.86
		Left Cheek	0.338	0.432	0.295	0.235	0.77	0.63	0.57
		Left Tilted	0.330	0.260	0.448	0.131	0.59	0.78	0.46
SA	FR1 N5Ant 1	Right Cheek	0.020	0.171	0.226	0.099	0.19	0.25	0.12
		Right Tilted	0.012	0.217	0.267	0.104	0.23	0.28	0.12
		Left Cheek	0.015	0.432	0.295	0.235	0.45	0.31	0.25
		Left Tilted	0.010	0.260	0.448	0.131	0.27	0.46	0.14
	FR1 N5 Ant 2	Right Cheek	0.849	0.171	0.226	0.099	1.02	1.08	0.95
		Right Tilted	0.840	0.217	0.267	0.104	1.06	1.11	0.94
		Left Cheek	0.549	0.432	0.295	0.235	0.98	0.84	0.78
		Left Tilted	0.470	0.260	0.448	0.131	0.73	0.92	0.60
	FR1 N66Ant 1	Right Cheek	0.209	0.171	0.226	0.099	0.38	0.44	0.31
		Right Tilted	0.096	0.217	0.267	0.104	0.31	0.36	0.20
		Left Cheek	0.118	0.432	0.295	0.235	0.55	0.41	0.35
		Left Tilted	0.094	0.260	0.448	0.131	0.35	0.54	0.23
	FR1 N66 Ant 2	Right Cheek	0.787	0.171	0.226	0.099	0.96	1.01	0.89
		Right Tilted	0.684	0.217	0.267	0.104	0.90	0.95	0.79
		Left Cheek	0.347	0.432	0.295	0.235	0.78	0.64	0.58
		Left Tilted	0.253	0.260	0.448	0.131	0.51	0.70	0.38
	FR1 N2Ant 1	Right Cheek	0.158	0.171	0.226	0.099	0.33	0.38	0.26
		Right Tilted	0.067	0.217	0.267	0.104	0.28	0.33	0.17
		Left Cheek	0.095	0.432	0.295	0.235	0.53	0.39	0.33
		Left Tilted	0.081	0.260	0.448	0.131	0.34	0.53	0.21
	FR1 N2 Ant 2	Right Cheek	0.880	0.171	0.226	0.099	1.05	1.11	0.98
		Right Tilted	0.579	0.217	0.267	0.104	0.80	0.85	0.68
		Left Cheek	0.268	0.432	0.295	0.235	0.70	0.56	0.50
		Left Tilted	0.221	0.260	0.448	0.131	0.48	0.67	0.35
	FR1 N77_Part 27Q(HPUE) Ant 4	Right Cheek	0.878	0.171	0.226	0.099	1.05	1.10	0.98
		Right Tilted	0.348	0.217	0.267	0.104	0.57	0.62	0.45
		Left Cheek	0.235	0.432	0.295	0.235	0.67	0.53	0.47
		Left Tilted	0.219	0.260	0.448	0.131	0.48	0.67	0.35
	FR1 N77_Part 27O(HPUE) Ant 4	Right Cheek	0.559	0.171	0.226	0.099	0.73	0.79	0.66
		Right Tilted	0.393	0.217	0.267	0.104	0.61	0.66	0.50
		Left Cheek	0.239	0.432	0.295	0.235	0.67	0.53	0.47
		Left Tilted	0.250	0.260	0.448	0.131	0.51	0.70	0.38
	FR1 N77_Part 27QAnt 5	Right Cheek	0.098	0.171	0.226	0.099	0.27	0.32	0.20
		Right Tilted	0.085	0.217	0.267	0.104	0.30	0.35	0.19
		Left Cheek	0.135	0.432	0.295	0.235	0.57	0.43	0.37
		Left Tilted	0.252	0.260	0.448	0.131	0.51	0.70	0.38
	FR1 N77_Part 27OAnt 5	Right Cheek	0.348	0.171	0.226	0.099	0.52	0.57	0.45
		Right Tilted	0.424	0.217	0.267	0.104	0.64	0.69	0.53
		Left Cheek	0.454	0.432	0.295	0.235	0.89	0.75	0.69
		Left Tilted	0.461	0.260	0.448	0.131	0.72	0.91	0.59
	FR1 N77_Part 27QAnt 6	Right Cheek	0.019	0.171	0.226	0.099	0.19	0.25	0.12
		Right Tilted	0.009	0.217	0.267	0.104	0.23	0.28	0.11

		Left Cheek	0.017	0.432	0.295	0.235	0.45	0.31	0.25
		Left Tilted	0.004	0.260	0.448	0.131	0.26	0.45	0.14
	FR1 N77_Part 27OAnt 6	Right Cheek	0.051	0.171	0.226	0.099	0.22	0.28	0.15
		Right Tilted	0.017	0.217	0.267	0.104	0.23	0.28	0.12
		Left Cheek	0.020	0.432	0.295	0.235	0.45	0.32	0.26
		Left Tilted	0.024	0.260	0.448	0.131	0.28	0.47	0.16
	FR1 N77_Part 27QAnt 10	Right Cheek	0.015	0.171	0.226	0.099	0.19	0.24	0.11
		Right Tilted	0.014	0.217	0.267	0.104	0.23	0.28	0.12
		Left Cheek	0.025	0.432	0.295	0.235	0.46	0.32	0.26
		Left Tilted	0.017	0.260	0.448	0.131	0.28	0.47	0.15
	FR1 N77_Part 27OAnt 10	Right Cheek	0.017	0.171	0.226	0.099	0.19	0.24	0.12
		Right Tilted	0.012	0.217	0.267	0.104	0.23	0.28	0.12
		Left Cheek	0.027	0.432	0.295	0.235	0.46	0.32	0.26
		Left Tilted	0.022	0.260	0.448	0.131	0.28	0.47	0.15

17.3 Hotspot Exposure Conditions

WWAN Band		Exposure Position	1	4	6	10	1+4	1+6	1+10	SPLSR
			WWAN	2.4GHz WLAN Ant 3	5GHz WLAN Ant 5	Bluetooth Ant 3	Summed	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)	1g SAR (W/kg)	
GSM	GSM850 Ant 1	Front	0.535	0.335		0.067	0.87	0.54	0.60	
		Back	0.990	0.493	0.611	0.153	1.48	**1.60**	1.14	**Case No 1**
		Left side	0.072	0.101			0.17	0.07	0.07	
		Right side	0.105	0.109			0.21	0.11	0.11	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	0.708				0.71	0.71	0.71	
	GSM1900 Ant 1	Front	0.517	0.335		0.067	0.85	0.52	0.58	
		Back	0.706	0.493	0.611	0.153	1.20	1.32	0.86	
		Left side	0.082	0.101			0.18	0.08	0.08	
		Right side	0.049	0.109			0.16	0.05	0.05	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	1.050				1.05	1.05	1.05	
WCDMA	WCDMA V Ant 1	Front	0.548	0.335		0.067	0.88	0.55	0.62	
		Back	1.120	0.493	0.611	0.153	**1.61**	**1.73**	1.27	**Case No 2/3**
		Left side	0.127	0.101			0.23	0.13	0.13	
		Right side	0.294	0.109			0.40	0.29	0.29	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	1.119				1.12	1.12	1.12	
	WCDMA II Ant 1	Front	0.697	0.335		0.067	1.03	0.70	0.76	
		Back	1.042	0.493	0.611	0.153	**1.54**	**1.65**	1.20	**Case No 4**
		Left side	0.097	0.101			0.20	0.10	0.10	
		Right side	0.041	0.109			0.15	0.04	0.04	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	1.206				1.21	1.21	1.21	
LTE	LTE Band 12 Ant 1	Front	0.525	0.335		0.067	0.86	0.53	0.59	
		Back	0.952	0.493	0.611	0.153	1.45	1.56	1.11	
		Left side	0.227	0.101			0.33	0.23	0.23	
		Right side	0.413	0.109			0.52	0.41	0.41	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	0.566				0.57	0.57	0.57	
	LTE Band 12 Ant 2	Front	0.301	0.335		0.067	0.64	0.30	0.37	
		Back	0.539	0.493	0.611	0.153	1.03	1.15	0.69	
		Left side	0.349	0.101			0.45	0.35	0.35	
		Right side	0.095	0.109			0.20	0.10	0.10	
		Top side	0.404	0.567	0.178	0.128	0.97	0.58	0.53	
		Bottom side					0.00	0.00	0.00	
	LTE Band 13 Ant 1	Front	0.630	0.335		0.067	0.97	0.63	0.70	
		Back	0.958	0.493	0.611	0.153	1.45	**1.57**	1.11	
		Left side	0.248	0.101			0.35	0.25	0.25	
		Right side	0.421	0.109			0.53	0.42	0.42	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	0.724				0.72	0.72	0.72	
	LTE Band 13 Ant 2	Front	0.511	0.335		0.067	0.85	0.51	0.58	
		Back	0.564	0.493	0.611	0.153	1.06	1.18	0.72	
		Left side	0.280	0.101			0.38	0.28	0.28	
		Right side	0.115	0.109			0.22	0.12	0.12	
		Top side	0.394	0.567	0.178	0.128	0.96	0.57	0.52	
		Bottom side					0.00	0.00	0.00	
	LTE Band 5 Ant 1	Front	0.625	0.335		0.067	0.96	0.63	0.69	
		Back	1.136	0.493	0.611	0.153	**1.63**	**1.75**	**1.29**	**Case No 5/6**

		Left side	0.098	0.101			0.20	0.10	0.10	
		Right side	0.254	0.109			0.36	0.25	0.25	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	0.503				0.50	0.50	0.50	
	LTE Band 5 Ant 2	Front	0.510	0.335		0.067	0.85	0.51	0.58	
		Back	0.558	0.493	0.611	0.153	1.05	1.17	0.71	
		Left side	0.311	0.101			0.41	0.31	0.31	
		Right side	0.089	0.109			0.20	0.09	0.09	
		Top side	0.425	0.567	0.178	0.128	0.99	0.60	0.55	
		Bottom side					0.00	0.00	0.00	
	LTE Band 66 Ant 1	Front	0.541	0.335		0.067	0.88	0.54	0.61	
		Back	0.754	0.493	0.611	0.153	1.25	1.37	0.91	
		Left side	0.063	0.101			0.16	0.06	0.06	
		Right side	0.050	0.109			0.16	0.05	0.05	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	1.101				1.10	1.10	1.10	
	LTE Band 66 Ant 2	Front	0.276	0.335		0.067	0.61	0.28	0.34	
		Back	0.606	0.493	0.611	0.153	1.10	1.22	0.76	
		Left side	0.602	0.101			0.70	0.60	0.60	
		Right side	0.036	0.109			0.15	0.04	0.04	
		Top side	0.229	0.567	0.178	0.128	0.80	0.41	0.36	
		Bottom side					0.00	0.00	0.00	
	LTE Band 2 Ant 1	Front	0.561	0.335		0.067	0.90	0.56	0.63	
		Back	0.769	0.493	0.611	0.153	1.26	1.38	0.92	
		Left side	0.081	0.101			0.18	0.08	0.08	
		Right side	0.032	0.109			0.14	0.03	0.03	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	1.216				1.22	1.22	1.22	
	LTE Band 2 Ant 2	Front	0.201	0.335		0.067	0.54	0.20	0.27	
		Back	0.545	0.493	0.611	0.153	1.04	1.16	0.70	
		Left side	0.383	0.101			0.48	0.38	0.38	
		Right side	0.013	0.109			0.12	0.01	0.01	
		Top side	0.194	0.567	0.178	0.128	0.76	0.37	0.32	
		Bottom side					0.00	0.00	0.00	
	LTE Band 7 Ant 1	Front	0.506	0.335		0.067	0.84	0.51	0.57	
		Back	1.102	0.493	0.611	0.153	**1.60**	**1.71**	1.26	**Case No 7/8**
		Left side	0.030	0.101			0.13	0.03	0.03	
		Right side	0.028	0.109			0.14	0.03	0.03	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	1.229				1.23	1.23	1.23	
	LTE Band 48 Ant 4	Front	0.148	0.335		0.067	0.48	0.15	0.22	
		Back	0.587	0.493	0.611	0.153	1.08	1.20	0.74	
		Left side	0.443	0.101			0.54	0.44	0.44	
		Right side	0.032	0.109			0.14	0.03	0.03	
		Top side	0.180	0.567	0.178	0.128	0.75	0.36	0.31	
		Bottom side					0.00	0.00	0.00	
SA	FR1 N5 Ant 1	Front	0.601	0.335		0.067	0.94	0.60	0.67	
		Back	0.887	0.493	0.611	0.153	1.38	1.50	1.04	
		Left side	0.099	0.101			0.20	0.10	0.10	
		Right side	0.235	0.109			0.34	0.24	0.24	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	0.743				0.74	0.74	0.74	
	FR1 N5 Ant 2	Front	0.375	0.335		0.067	0.71	0.38	0.44	
		Back	0.613	0.493	0.611	0.153	1.11	1.22	0.77	
		Left side	0.291	0.101			0.39	0.29	0.29	
		Right side	0.104	0.109			0.21	0.10	0.10	

		Top side	0.541	0.567	0.178	0.128	1.11	0.72	0.67	
		Bottom side					0.00	0.00	0.00	
	FR1 N66 Ant 1	Front	0.484	0.335		0.067	0.82	0.48	0.55	
		Back	0.667	0.493	0.611	0.153	1.16	1.28	0.82	
		Left side	0.059	0.101			0.16	0.06	0.06	
		Right side	0.050	0.109			0.16	0.05	0.05	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	1.103				1.10	1.10	1.10	
	FR1 N66 Ant 2	Front	0.367	0.335		0.067	0.70	0.37	0.43	
		Back	0.614	0.493	0.611	0.153	1.11	1.23	0.77	
		Left side	0.615	0.101			0.72	0.62	0.62	
		Right side	0.051	0.109			0.16	0.05	0.05	
		Top side	0.255	0.567	0.178	0.128	0.82	0.43	0.38	
		Bottom side					0.00	0.00	0.00	
	FR1 N2 Ant 1	Front	0.585	0.335		0.067	0.92	0.59	0.65	
		Back	0.927	0.493	0.611	0.153	1.42	1.54	1.08	
		Left side	0.089	0.101			0.19	0.09	0.09	
		Right side	0.035	0.109			0.14	0.04	0.04	
		Top side		0.567	0.178	0.128	0.57	0.18	0.13	
		Bottom side	1.265				1.27	1.27	1.27	
	FR1 N2 Ant 2	Front	0.269	0.335		0.067	0.60	0.27	0.34	
		Back	0.613	0.493	0.611	0.153	1.11	1.22	0.77	
		Left side	0.430	0.101			0.53	0.43	0.43	
		Right side	0.027	0.109			0.14	0.03	0.03	
		Top side	0.266	0.567	0.178	0.128	0.83	0.44	0.39	
		Bottom side					0.00	0.00	0.00	
	FR1 N77_Part 27Q(HPUE) Ant 4	Front	0.087	0.335		0.067	0.42	0.09	0.15	
		Back	0.170	0.493	0.611	0.153	0.66	0.78	0.32	
		Left side	0.138	0.101			0.24	0.14	0.14	
		Right side	0.013	0.109			0.12	0.01	0.01	
		Top side	0.034	0.567	0.178	0.128	0.60	0.21	0.16	
		Bottom side					0.00	0.00	0.00	
	FR1 N77_Part 27O(HPUE) Ant 4	Front	0.040	0.335		0.067	0.38	0.04	0.11	
		Back	0.608	0.493	0.611	0.153	1.10	1.22	0.76	
		Left side	0.185	0.101			0.29	0.19	0.19	
		Right side	0.004	0.109			0.11	0.00	0.00	
		Top side	0.064	0.567	0.178	0.128	0.63	0.24	0.19	
		Bottom side					0.00	0.00	0.00	
	FR1 N77_Part 27Q Ant 5	Front	0.018	0.335		0.067	0.35	0.02	0.09	
		Back	0.540	0.493	0.611	0.153	1.03	1.15	0.69	
		Left side		0.101			0.10	0.00	0.00	
		Right side	0.011	0.109			0.12	0.01	0.01	
		Top side	0.070	0.567	0.178	0.128	0.64	0.25	0.20	
		Bottom side					0.00	0.00	0.00	
	FR1 N77_Part 27O Ant 5	Front	0.012	0.335		0.067	0.35	0.01	0.08	
		Back	0.410	0.493	0.611	0.153	0.90	1.02	0.56	
		Left side		0.101			0.10	0.00	0.00	
		Right side	0.007	0.109			0.12	0.01	0.01	
		Top side	0.063	0.567	0.178	0.128	0.63	0.24	0.19	
		Bottom side					0.00	0.00	0.00	
	FR1 N77_Part 27Q Ant 6	Front	0.008	0.335		0.067	0.34	0.01	0.08	
		Back	0.576	0.493	0.611	0.153	1.07	1.19	0.73	
		Left side	0.008	0.101			0.11	0.01	0.01	
		Right side	0.006	0.109			0.12	0.01	0.01	
		Top side	0.014	0.567	0.178	0.128	0.58	0.19	0.14	
		Bottom side					0.00	0.00	0.00	

	FR1 N77_Part 27O Ant 6	Front	0.015	0.335		0.067	0.35	0.02	0.08	
		Back	0.084	0.493	0.611	0.153	0.58	0.70	0.24	
		Left side	0.010	0.101			0.11	0.01	0.01	
		Right side	0.003	0.109			0.11	0.00	0.00	
		Top side	0.028	0.567	0.178	0.128	0.60	0.21	0.16	
		Bottom side					0.00	0.00	0.00	
	FR1 N77_Part 27Q Ant 10	Front	0.005	0.335		0.067	0.34	0.01	0.07	
		Back	0.332	0.493	0.611	0.153	0.83	0.94	0.49	
		Left side	0.004	0.101			0.11	0.00	0.00	
		Right side	0.044	0.109			0.15	0.04	0.04	
		Top side	0.010	0.567	0.178	0.128	0.58	0.19	0.14	
		Bottom side					0.00	0.00	0.00	
	FR1 N77_Part 27O Ant 10	Front	0.002	0.335		0.067	0.34	0.00	0.07	
		Back	0.514	0.493	0.611	0.153	1.01	1.13	0.67	
		Left side	0.001	0.101			0.10	0.00	0.00	
		Right side	0.040	0.109			0.15	0.04	0.04	
		Top side	0.007	0.567	0.178	0.128	0.57	0.19	0.14	
		Bottom side					0.00	0.00	0.00	

17.4 Body-Worn Accessory Exposure Conditions

WWAN Band		Exposure Position	1	4	6	10	1+4	1+6	1+10	SPLSR
			WWAN	2.4GHz WLAN Ant 3	5GHz WLAN Ant 5	Bluetooth Ant 3	Summed	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)	1g SAR (W/kg)	
GSM	GSM850Ant 1	Front	0.535	0.335	0.135	0.067	0.87	0.67	0.60	
		Back	0.990	0.493	0.747	0.153	1.48	**1.74**	1.14	**Case No 9**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	GSM1900 Ant 1	Front	0.517	0.335	0.135	0.067	0.85	0.65	0.58	
		Back	0.706	0.493	0.747	0.153	1.20	1.45	0.86	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
WCDMA	WCDMA VAnt 1	Front	0.548	0.335	0.135	0.067	0.88	0.68	0.62	
		Back	1.120	0.493	0.747	0.153	**1.61**	**1.87**	1.27	**Case No 2/10**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	WCDMA II Ant 1	Front	0.697	0.335	0.135	0.067	1.03	0.83	0.76	
		Back	1.042	0.493	0.747	0.153	1.54	**1.79**	1.20	**Case No 11**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
LTE	LTE Band 12Ant 1	Front	0.525	0.335	0.135	0.067	0.86	0.66	0.59	
		Back	0.952	0.493	0.747	0.153	1.45	**1.70**	1.11	**Case No 12**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 12 Ant 2	Front	0.301	0.335	0.135	0.067	0.64	0.44	0.37	
		Back	0.539	0.493	0.747	0.153	1.03	1.29	0.69	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 13Ant 1	Front	0.630	0.335	0.135	0.067	0.97	0.77	0.70	
		Back	0.958	0.493	0.747	0.153	1.45	**1.71**	1.11	**Case No 13**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 13 Ant 2	Front	0.511	0.335	0.135	0.067	0.85	0.65	0.58	
		Back	0.564	0.493	0.747	0.153	1.06	1.31	0.72	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 5Ant 1	Front	0.625	0.335	0.135	0.067	0.96	0.76	0.69	
		Back	1.136	0.493	0.747	0.153	**1.63**	**1.88**	1.29	**Case No 5/14**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 5 Ant 2	Front	0.510	0.335	0.135	0.067	0.85	0.65	0.58	
		Back	0.558	0.493	0.747	0.153	1.05	1.31	0.71	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 66 Ant 1	Front	0.541	0.335	0.135	0.067	0.88	0.68	0.61	
		Back	0.754	0.493	0.747	0.153	1.25	1.50	0.91	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 66 Ant 2	Front	0.276	0.335	0.135	0.067	0.61	0.41	0.34	
		Back	0.606	0.493	0.747	0.153	1.10	1.35	0.76	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 2 Ant 1	Front	0.561	0.335	0.135	0.067	0.90	0.70	0.63	
		Back	0.769	0.493	0.747	0.153	1.26	1.52	0.92	

		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 2 Ant 2	Front	0.201	0.335	0.135	0.067	0.54	0.34	0.27	
		Back	0.545	0.493	0.747	0.153	1.04	1.29	0.70	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 7 Ant 1	Front	0.506	0.335	0.135	0.067	0.84	0.64	0.57	
		Back	1.102	0.493	0.747	0.153	**1.60**	**1.85**	1.26	**Case No 7/15**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	LTE Band 48 Ant 4	Front	0.148	0.335	0.135	0.067	0.48	0.28	0.22	
		Back	0.587	0.493	0.747	0.153	1.08	1.33	0.74	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
SA	FR1 N5Ant 1	Front	0.601	0.335	0.135	0.067	0.94	0.74	0.67	
		Back	0.887	0.493	0.747	0.153	1.38	**1.63**	1.04	**Case No 16**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N5 Ant 2	Front	0.375	0.335	0.135	0.067	0.71	0.51	0.44	
		Back	0.613	0.493	0.747	0.153	1.11	1.36	0.77	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N66 Ant 1	Front	0.484	0.335	0.135	0.067	0.82	0.62	0.55	
		Back	0.667	0.493	0.747	0.153	1.16	1.41	0.82	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N66 Ant 2	Front	0.367	0.335	0.135	0.067	0.70	0.50	0.43	
		Back	0.614	0.493	0.747	0.153	1.11	1.36	0.77	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N2 Ant 1	Front	0.585	0.335	0.135	0.067	0.92	0.72	0.65	
		Back	0.927	0.493	0.747	0.153	1.42	**1.67**	1.08	**Case No 17**
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N2 Ant 2	Front	0.269	0.335	0.135	0.067	0.60	0.40	0.34	
		Back	0.613	0.493	0.747	0.153	1.11	1.36	0.77	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N77_Part 27Q(HPUE) Ant 4	Front	0.087	0.335	0.135	0.067	0.42	0.22	0.15	
		Back	0.170	0.493	0.747	0.153	0.66	0.92	0.32	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N77_Part 27O(HPUE) Ant 4	Front	0.040	0.335	0.135	0.067	0.38	0.18	0.11	
		Back	0.608	0.493	0.747	0.153	1.10	1.36	0.76	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N77_Part 27Q Ant 5	Front	0.018	0.335	0.135	0.067	0.35	0.15	0.09	
		Back	0.540	0.493	0.747	0.153	1.03	1.29	0.69	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N77_Part 27O Ant 5	Front	0.097	0.335	0.135	0.067	0.43	0.23	0.16	
		Back	0.410	0.493	0.747	0.153	0.90	1.16	0.56	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N77_Part 27Q Ant 6	Front	0.008	0.335	0.135	0.067	0.34	0.14	0.08	
		Back	0.576	0.493	0.747	0.153	1.07	1.32	0.73	

		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N77_Part 27O Ant 6	Front	0.015	0.335	0.135	0.067	0.35	0.15	0.08	
		Back	0.084	0.493	0.747	0.153	0.58	0.83	0.24	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N77_Part 27Q Ant 10	Front	0.005	0.335	0.135	0.067	0.34	0.14	0.07	
		Back	0.332	0.493	0.747	0.153	0.83	1.08	0.49	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	
	FR1 N77_Part 27O Ant 10	Front	0.002	0.335	0.135	0.067	0.34	0.14	0.07	
		Back	0.514	0.493	0.747	0.153	1.01	1.26	0.67	
		Front with Headset					0.00	0.00	0.00	
		Back with Headset					0.00	0.00	0.00	

<Sensor off>

WWAN Band		Exposure Position	1	6	1+6
			WWAN	5GHz WLAN Ant 5	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM	GSM850Ant 1	Front	0.210		0.21
		Back	0.150	0.281	0.43
		Front with Headset			0.00
		Back with Headset			0.00
	GSM1900Ant 1	Front	0.322		0.32
		Back	0.318	0.281	0.60
		Front with Headset			0.00
		Back with Headset			0.00
WCDMA	WCDMA VAnt 1	Front	0.145		0.15
		Back	0.100	0.281	0.38
		Front with Headset			0.00
		Back with Headset			0.00
	WCDMA IIAnt 1	Front	0.269		0.27
		Back	0.334	0.281	0.62
		Front with Headset			0.00
		Back with Headset			0.00
LTE	LTE Band 12Ant 2	Front	0.155		0.16
		Back	0.142	0.281	0.42
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 13Ant 2	Front	0.171		0.17
		Back	0.162	0.281	0.44
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 5Ant 1	Front	0.086		0.09
		Back	0.063	0.281	0.34
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 5Ant 2	Front	0.081		0.08
		Back	0.066	0.281	0.35
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 66Ant 1	Front	0.348		0.35
		Back	0.251	0.281	0.53
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 66Ant 2	Front	0.056		0.06

		Back	0.042	0.281	0.32
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 2Ant 1	Front	0.078		0.08
		Back	0.060	0.281	0.34
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 2Ant 2	Front	0.067		0.07
		Back	0.080	0.281	0.36
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 7Ant 1	Front	0.282		0.28
		Back	0.277	0.281	0.56
		Front with Headset			0.00
		Back with Headset			0.00
	LTE Band 48Ant 4	Front	0.132		0.13
		Back	0.307	0.281	0.59
		Front with Headset			0.00
		Back with Headset			0.00
SA	FR1 N5Ant 2	Front	0.086		0.09
		Back	0.059	0.281	0.34
		Front with Headset			0.00
		Back with Headset			0.00
	FR1 N66Ant 1	Front	0.077		0.08
		Back	0.061	0.281	0.34
		Front with Headset			0.00
		Back with Headset			0.00
	FR1 N66Ant 2	Front	0.056		0.06
		Back	0.036	0.281	0.32
		Front with Headset			0.00
		Back with Headset			0.00
	FR1 N2Ant 1	Front	0.451		0.45
		Back	0.386	0.281	0.67
		Front with Headset			0.00
		Back with Headset			0.00
	FR1 N2Ant 2	Front	0.068		0.07
		Back	0.050	0.281	0.33
		Front with Headset			0.00
		Back with Headset			0.00
	FR1 N77(HPUE)Ant 4	Front	0.152		0.15
		Back	1.168	0.281	1.45
		Front with Headset			0.00
		Back with Headset			0.00
	FR1 N77Ant 5	Front	0.011		0.01
		Back	0.184	0.281	0.47
		Front with Headset			0.00
		Back with Headset			0.00
	FR1 N77Ant 6	Front	0.054		0.05
		Back	0.115	0.281	0.40
		Front with Headset			0.00
		Back with Headset			0.00
	FR1 N77Ant 10	Front			0.00
		Back	0.053	0.281	0.33
		Front with Headset			0.00
		Back with Headset			0.00

17.5 Product specific 10g SAR Exposure Conditions

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.

WWAN Band		Exposure Position	1	6	1+6	SPLSR
			WWAN	5GHz WLAN Ant 5	Summed	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
GSM	GSM850Ant 1	Front		0.178	0.18	
		Back	1.105	1.665	2.77	
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	GSM1900Ant 1	Front	2.593	0.178	2.77	
		Back	2.922	1.665	**4.59**	**Case No 18**
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side	2.707		2.71	
WCDMA	WCDMA IIAnt 1	Front	2.501	0.178	2.68	
		Back	2.700	1.665	**4.37**	**Case No 19**
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side	2.693		2.69	
LTE	LTE Band 66Ant 1	Front	2.945	0.178	3.12	
		Back	2.942	1.665	**4.61**	**Case No 20**
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side	2.953		2.95	
	LTE Band 66 Ant 2	Front		0.178	0.18	
		Back	0.895	1.665	2.56	
		Left side	1.421	0.088	1.51	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	LTE Band 2Ant 1	Front	2.362	0.178	2.54	
		Back	2.768	1.665	**4.43**	**Case No 21**
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side	2.782		2.78	
	LTE Band 2 Ant 2	Front		0.178	0.18	
		Back	1.082	1.665	2.75	
		Left side	1.567	0.088	1.66	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	LTE Band 7Ant 1	Front	2.081	0.178	2.26	
		Back	2.403	1.665	**4.07**	**Case No 22**
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side	1.250		1.25	
	LTE Band 48 Ant 4	Front		0.178	0.18	
		Back	1.493	1.665	3.16	

		Left side	0.461	0.088	0.55	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
SA	FR1 N66Ant 1	Front	2.098	0.178	2.28	
		Back	2.545	1.665	**4.21**	**Case No 23**
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side	2.781		2.78	
	FR1 N2Ant 1	Front	1.958	0.178	2.14	
		Back	2.570	1.665	**4.24**	**Case No 24**
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side	2.807		2.81	
	FR1 N2 Ant 2	Front		0.178	0.18	
		Back	1.569	1.665	3.23	
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	FR1 N77_Part 27Q(HPUE) Ant 4	Front		0.178	0.18	
		Back	0.841	1.665	2.51	
		Left side	0.342	0.088	0.43	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	FR1 N77_Part 27O(HPUE) Ant 4	Front		0.178	0.18	
		Back	1.249	1.665	2.91	
		Left side	0.407	0.088	0.50	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	FR1 N77_Part 27Q Ant 5	Front		0.178	0.18	
		Back	1.508	1.665	3.17	
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	FR1 N77_Part 27O Ant 5	Front		0.178	0.18	
		Back	0.970	1.665	2.64	
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	FR1 N77_Part 27QAnt 6	Front		0.178	0.18	
		Back	2.170	1.665	**3.84**	
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	
	FR1 N77_Part 27OAnt 10	Front		0.178	0.18	
		Back	1.856	1.665	3.52	
		Left side		0.088	0.09	
		Right side		0.144	0.14	
		Top side		0.485	0.49	
		Bottom side			0.00	

<Sensor off>

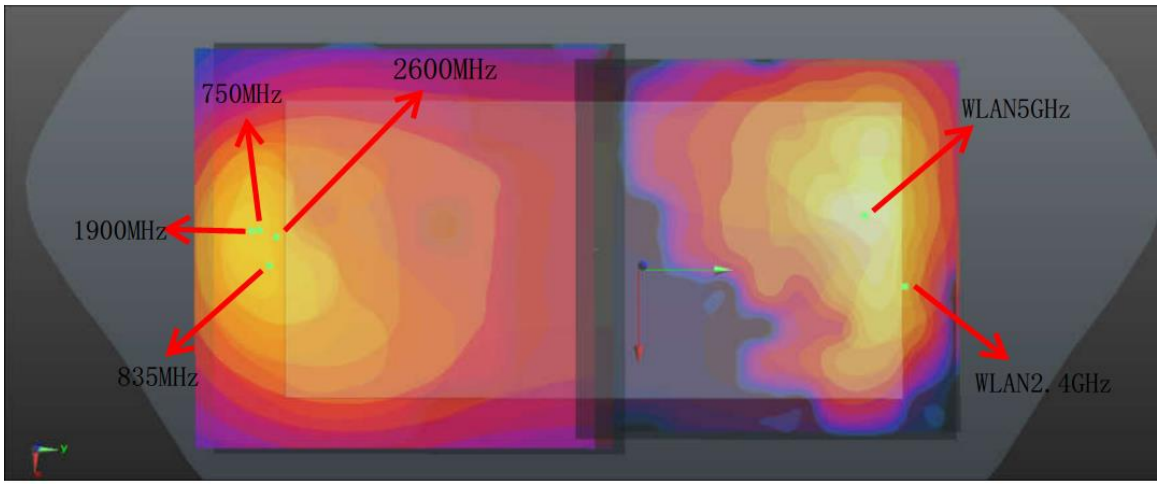
WWAN Band		Exposure Position	1	6	1+6
			WWAN	5GHz WLAN Ant 5	Summed
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM	GSM1900Ant 1	Front	1.711		1.71
		Back	1.723	0.917	2.64
		Left side			0.00
		Right side			0.00
		Top side			0.00
		Bottom side	1.440		1.44
WCDMA	WCDMA IIAnt 1	Front	1.634		1.63
		Back	1.455	0.917	2.37
		Left side			0.00
		Right side			0.00
		Top side			0.00
		Bottom side	1.104		1.10
LTE	LTE Band 66Ant 1	Front	0.091		0.09
		Back	0.070	0.917	0.99
		Left side			0.00
		Right side			0.00
		Top side			0.00
		Bottom side			0.00
	LTE Band 66Ant 2	Front			0.00
		Back	0.264	0.917	1.18
		Left side	0.276		0.28
		Right side			0.00
		Top side			0.00
		Bottom side			0.00
	LTE Band 2Ant 1	Front	0.465		0.47
		Back	0.951	0.917	1.87
		Left side			0.00
		Right side			0.00
		Top side			0.00
		Bottom side	0.549		0.55
	LTE Band 2Ant 2	Front			0.00
		Back	0.259	0.917	1.18
		Left side	0.339		0.34
		Right side			0.00
		Top side			0.00
		Bottom side			0.00
	LTE Band 7Ant 1	Front	1.499		1.50
		Back	1.369	0.917	2.29
		Left side			0.00
		Right side			0.00
		Top side			0.00
		Bottom side	1.049		1.05
	LTE Band 48Ant 4	Front			0.00
		Back	0.397	0.917	1.31
		Left side	0.330		0.33
		Right side			0.00
		Top side			0.00
		Bottom side			0.00
SA	FR1 N66Ant 1	Front	0.820		0.82
		Back	0.646	0.917	1.56
		Left side			0.00
		Right side			0.00

		Top side			0.00
		Bottom side	0.548		0.55
	FR1 N2Ant 1	Front	0.883		0.88
		Back	0.704	0.917	1.62
		Left side			0.00
		Right side			0.00
		Top side			0.00
		Bottom side	0.231		0.23
	FR1 N2Ant 2	Front			0.00
		Back	0.152	0.917	1.07
		Left side			0.00
		Right side			0.00
		Top side			0.00
		Bottom side			0.00
	FR1 N77(HPUE)Ant 4	Front			0.00
		Back	1.414	0.917	2.33
		Left side	0.915		0.92
		Right side			0.00
		Top side			0.00
		Bottom side			0.00
	FR1 N77Ant 5	Front			0.00
		Back	0.796	0.917	1.71
		Left side			0.00
		Right side			0.00
		Top side			0.00
		Bottom side			0.00

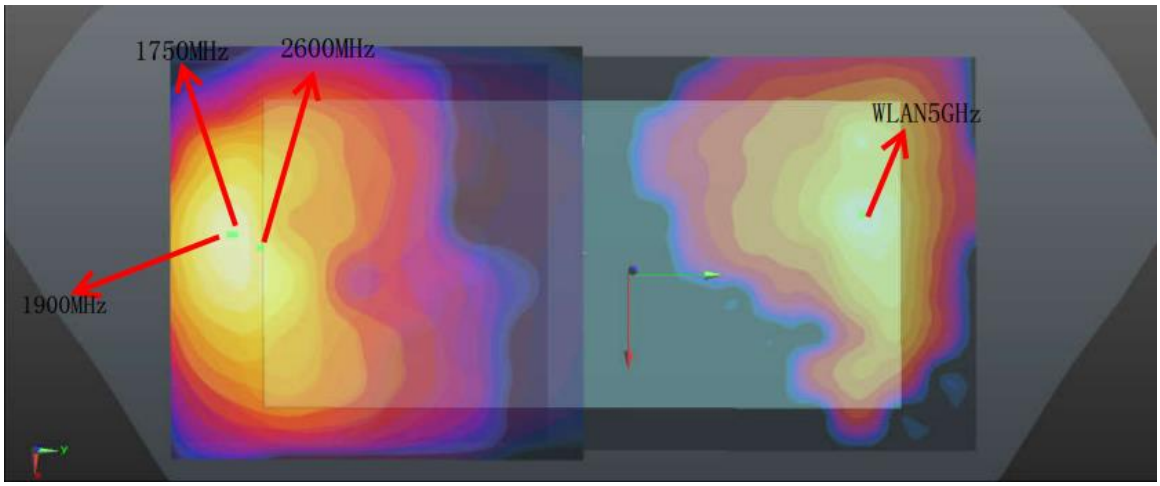
17.6 SPLSR Evaluation and Analysis

General Note:

1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of [(x1−x2)2 + (y1−y2)2 + (z1−z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. SPLSR = (SAR1 + SAR2)1.5 / (min. separation distance, mm). If SPLSR ≤ 0.04 for 1g SAR and SPLSR ≤ 0.10 for 10g SAR, simultaneously transmission SAR measurement is not necessary.



WWAN+WLAN2.4GHz/5GHz_5mm



WWAN+WLAN5GHz_0mm

For Hotspot											
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 1	GSM850	Back	0.99	5	-0.003	-0.0775	-0.207	147.5	1.60	0.01	Not required
	WLAN5GHz		0.611	5	-0.027	0.068	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 2	WCDMA V	Back	1.12	5	-0.0045	-0.0775	-0.206	156.6	1.61	0.01	Not required
	WLAN2.4GHz		0.493	5	-0.0324	0.0766	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 3	WCDMA V	Back	1.12	5	-0.0045	-0.0775	-0.206	147.2	1.73	0.02	Not required
	WLAN5GHz		0.611	5	-0.027	0.068	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 4	WCDMA II	Back	1.042	5	-0.0215	-0.09	-0.207	158.1	1.65	0.01	Not required
	WLAN5GHz		0.611	5	-0.027	0.068	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 5	LTE Band 5	Back	1.136	5	-0.0045	-0.0775	-0.206	156.6	1.63	0.01	Not required
	WLAN2.4GHz		0.493	5	-0.0324	0.0766	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 6	LTE Band 5	Back	1.136	5	-0.0045	-0.0775	-0.206	147.2	1.75	0.02	Not required
	WLAN5GHz		0.611	5	-0.027	0.068	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 7	LTE Band 7	Back	1.102	5	-0.023	-0.09	-0.207	166.9	1.60	0.01	Not required
	WLAN2.4GHz		0.493	5	-0.0324	0.0766	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 8	LTE Band 7	Back	1.102	5	-0.023	-0.09	-0.207	158.1	1.71	0.01	Not required
	WLAN5GHz		0.611	5	-0.027	0.068	-0.207				

For Body-worn

	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 9	GSM850	Back	0.99	5	-0.003	-0.0775	-0.207	148.1	1.81	0.02	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 10	WCDMA V	Back	1.12	5	-0.0045	-0.0775	-0.206	147.9	1.94	0.02	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 11	WCDMA II	Back	1.042	5	-0.0215	-0.09	-0.207	159.0	1.86	0.02	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 12	LTE Band 12	Back	0.952	5	-0.004	-0.082	-0.206	152.5	1.77	0.02	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 13	LTE Band 13	Back	0.958	5	-0.004	-0.0835	-0.206	153.9	1.78	0.02	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 14	LTE Band 5	Back	1.136	5	-0.0045	-0.0775	-0.206	147.9	1.96	0.02	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 15	LTE Band 7	Back	1.102	5	-0.023	-0.09	-0.207	159.0	1.92	0.02	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 16	FR1 N5	Back	0.887	5	-0.006	-0.0835	-0.206	153.7	1.71	0.01	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 17	FR1 N2	Back	0.927	5	-0.02	-0.0855	-0.206	154.6	1.75	0.01	Not required
	WLAN5GHz		0.819	5	-0.025	0.069	-0.207				

For Product specific 10g SAR											
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 18	GSM1900	Back	2.922	0	-0.0215	-0.09	-0.206	162.1	4.59	0.06	Not required
	WLAN5GHz		1.665	0	-0.028	0.072	-0.206				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 19	WCDMA II	Back	2.7	0	-0.0215	-0.09	-0.206	162.1	4.37	0.06	Not required
	WLAN5GHz		1.665	0	-0.028	0.072	-0.206				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 20	LTE Band 66	Back	2.942	0	-0.0215	-0.0885	-0.207	160.6	4.61	0.06	Not required
	WLAN5GHz		1.665	0	-0.028	0.072	-0.206				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 21	LTE Band 2	Back	2.768	0	-0.02	-0.09	-0.207	162.2	4.43	0.06	Not required
	WLAN5GHz		1.665	0	-0.028	0.072	-0.206				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 22	LTE Band 7	Back	2.403	0	-0.0282	-0.0872	-0.206	159.2	4.07	0.05	Not required
	WLAN5GHz		1.665	0	-0.028	0.072	-0.206				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 23	FR1 N66	Back	2.545	0	-0.02	-0.087	-0.206	159.2	4.21	0.05	Not required
	WLAN5GHz		1.665	0	-0.028	0.072	-0.206				
	Band	Position	SAR (W/kg)	Gap	SAR peak location (m)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
Case 24	FR1 N2	Back	2.57	0	-0.0215	-0.087	-0.206	159.1	4.24	0.05	Not required
	WLAN5GHz		1.665	0	-0.028	0.072	-0.206				

18. Supplemental tuner tests results

General Note:

1. This device impedance tuner (210 status) antenna tuning techniques in the WCDMA V/II, LTE Band 2/4/5/7/12/13 /66 for ANT1.
2. LTE B4 SAR test was covered by LTE B66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced.
3. SAR test proposal was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing and this design will provide the highest power at different user scenarios and would not influence to the antenna characteristics other than impedance matching.
4. 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.
5. To evaluate all of the tuner states, the 210 tuner states for ANT1 are divided evenly among band, mode and exposure combinations so that at least one single point SAR measurement is measured in each configuration. Single point time-sweep measurements will be performed at the peak SAR location determined by the zoom scan of the configuration with the highest reported SAR for each combination. The tuner state will be established remotely so that the device is not moved for the entire series of single point SAR for the tuner states in each combination. The SAR probe will remain stationary at the same position throughout the entire series of single point measurements for each combination.
6. According to TCBC 201904 workshop, total number tuner states divided evenly among each supported band / air interface and exposure condition combination.
7. The tuner state was established remotely through Wi-Fi so that the device is not moved for the entire series of single point SAR for the tuner states in each combination (band, mode, exposure conditions).

18.1 Supplemental Tuner Head & Body SAR Results

Please refer to Appendix F.

Test Engineer： Kevin Xu, David Dai, Bin He

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------