FCC SAR Test Report

APPLICANT	**:**	**Bullitt Group**
EQUIPMENT	**:**	**Rugged Smart Phone**
BRAND NAME	**:**	**Motorola**
MODEL NAME	**:**	**BM2S1E**
FCC ID	**:**	**ZL5BM2S1EE**
STANDARD	**:**	**FCC 47 CFR Part 2 (2.1093)**

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB 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. (Kunshan), the test report shall not be reproduced except in full.

Si Zhang

Approved by: Si Zhang

ACCREDITED Cert #5145.02

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

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA322807-01	Rev. 01	Initial issue of report.	Mar. 13, 2023

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Bullitt Group, Rugged Smart Phone, BM2S1E,** are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 10mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.95	1.10	1.10	1.59
		GSM1900	0.98	1.06	0.98	
	WCDMA	WCDMA II	0.89	1.07	1.03	
		WCDMA IV	0.99	1.18	1.06	
		WCDMA V	0.48	0.97	0.97	
	LTE	Band 2	1.13	1.17	1.14	
		Band 4	1.13	1.12	**1.19**	
		Band 5	0.50	0.73	0.73	
		Band 7	1.02	1.08	1.08	
		Band 41/38	0.47	0.89	0.89	
	5G NR	n2	0.95	**1.19**	1.10	
		n5	0.63	0.57	0.57	
		n7	0.63	1.14	1.14	
		n41/38	0.53	0.97	0.97	
		n77	1.01	1.15	1.15	
		n78	1.09	1.15	1.15	
	NTN	Band 23			1.12	1.17
		Band 255			0.81	
DTS	WLAN	2.4GHz WLAN	**1.17**	0.34	0.34	1.59
NII		5GHz WLAN	0.54	0.40	**1.19**	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.19	<0.10	<0.10	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	2.60	3.26
	WCDMA	WCDMA II	2.49	
		WCDMA IV	**2.94**	
	LTE	Band 2	2.64	
		Band 4	2.67	
		Band 7	1.63	
	5G NR	n2	2.72	
		n77	2.48	
		n78	2.91	
	NTN	Band 23	2.91	2.92
		Band 255	2.91	
NII	WLAN	5GHz WLAN	1.25	3.26
Date of Testing:			2022/11/26 ~ 2022/12/20	

Remark:

1. This device supports LTE B38 and B41. Since the supported frequency span for LTE B38 falls completely within the supports frequency span for LTE B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B41.
2. This device supports 5GNR n38 and n41. Since the supported frequency span for 5GNR n38 falls completely within the supports frequency span for n41, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n41.
3. This is the change FCC ID report. Since no changes have been made to this device, all test results were leveraged from original report (FA2O1410-01).

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR04-KS	CN1257	314309

Applicant	
Company Name	Bullitt Group
Address	One Valpy, Valpy Street, Reading, Berkshire, RG1 1AR, United Kingdom

Manufacturer	
Company Name	Bullitt Mobile Limited
Address	One Valpy, Valpy Street, Reading, Berkshire, RG1 1AR, United Kingdom

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	Rugged Smart Phone
Brand Name	Motorola
Model Name	BM2S1E
FCC ID	ZL5BM2S1EE
IMEI Code	SIM1: 351416010000118 SIM2: 351416010002114
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 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 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz NTN Band 23 : 2000 MHz ~ 2020 MHz NTN Band 255 : 1626.6 MHz ~ 1660 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK NTN: BPSK/QPSK
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 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz	

WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).

4. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
5. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
6. There are two different types of EUT, they are dual SIM card and single SIM card. The difference that is only SIM Slots, all the other are same, so we chose dual SIM card to perform all the testing.
7. There are two samples, the different between them refer to the BM2S1E_Operational Description of Product Equality Declaration which is exhibit separately. According to the differences, we choose sample 1 to perform full SAR testing.
8. The device implements Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level, which 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.
9. For WLAN when transmit simultaneous with WWAN/BT, power reduction will be activated to head and body-worn exposure conditions.
10. For 5GNR n78 HPUE, 5GNR n78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM 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. 5G NR n78 support HPUE, HPUE power and SAR testing performed separately.
16. This device supports HPUE for 5GNR n78 with class 2 level, HPUE power has been measured separately. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verify the worst case of power class 3 SAR.
17. For 5GNR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
18. For 5GNR FDD/TDD supports SCS15KHz and SCS30KHz, after verification for 30KHz at FDD power level is less than 15KHz at FDD power level, also verification for 15KHz at TDD power level is less than 30KHz at TDD power level, so only show 15KHz at FDD power and 30KHz at TDD power, and chose higher power which is SCS15KHz for FDD bands and SCS30KHz for TDD bands to perform SAR testing.
19. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode.

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n5	FDD	15	5,10, 15, 20
		FDD	30	10, 15, 20
	n77	TDD	15	10, 15, 20, 40, 50
		TDD	30	10, 15, 20, 40, 50, 60, 80, 90, 100
	n78	TDD	15	10, 15, 20, 40, 50
		TDD	30	10, 15, 20, 40, 50, 60, 80, 90, 100
SA	n2	FDD	15	5,10, 15, 20
		FDD	30	10, 15, 20
	n5	FDD	15	5,10, 15, 20
		FDD	30	10, 15, 20
	n7	FDD	15	5,10, 15, 20
		FDD	30	10, 15, 20
	n38	TDD	15	5, 10, 15, 20, 25, 30, 40
		TDD	30	10,15,20,25,30,40
	n41	TDD	15	10, 15, 20, 30, 40, 50
		TDD	30	10, 15, 20, 30, 40, 50, 60, 80, 90, 100
	n77	TDD	15	10, 15, 20, 40, 50
		TDD	30	10, 15, 20, 40, 50, 60, 80, 90, 100
	n78	TDD	15	10, 15, 20, 40, 50
		TDD	30	10, 15, 20, 40, 50, 60, 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>ZL5BM2S1EE</td></tr>
<tr><td>Equipment Name</td><td>Rugged Smart 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 38: 2570 MHz ~ 2620 MHz
LTE Band 41: 2496 MHz ~ 2690 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 38: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK / 16QAM / 64QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15, Cat15</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 13.</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 13.</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 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.
2. This device supports maximum of 3 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 38								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610
LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

<For LTE Overlap Bands Description>

1) LTE Bands BW

Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Antenna	Default	DSI-2	DSI-3	DSI-4	DSI-6	DSI-7
		Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit
LTE Band 38	Ant 2	24.00	24.00	24.00	24.00	24.00	24.00
LTE Band 41		24.00	24.00	24.00	24.00	24.00	24.00

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 n7: 2500 MHz ~ 2570 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 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	The detail please refers to section 4.1 5GNR FR1 bands table.
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n5	LTE B7
LTE Anchor Bands for n77	LTE B41
LTE Anchor Bands for n78	LTE B5/7/38/41

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

NR Band 2 SCS15KHz

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

NR Band 2 SCS30KHz

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

NR Band 5 SCS15KHz

	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 5 SCS30KHz

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

NR Band 7 SCS15KHz

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560

NR Band 7 SCS30KHz

	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535
H	513000	2565	512500	2562.5	512000	2560

NR Band 38 SCS15KHz														
	Bandwidth 10MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	514500	2572.5	515004	2575.02	515502	2577.51	516000	2580	516504	2582.52	517002	2585.01	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	523500	2617.5	522996	2614.98	522498	2612.49	522000	2610	521496	2607.48	520998	2604.99	519996	2599.98

NR Band 38 SCS30KHz												
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515004	2575.02	515502	2577.51	516000	2580	516504	2582.52	517002	2585.01	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	522996	2614.98	522498	2612.49	522000	2610	521496	2607.48	520998	2604.99	519996	2599.98

NR Band 41 SCS15KHz												
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99

NR Band 41 SCS30KHz																				
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640

NR Band 77 SCS15KHz										
	Bandwidth 10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664000	3960	662000	3930

NR Band 77 SCS30KHz																				
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01	648668	3730.02	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	665000	3975	664834	3972.51	664668	3970.02	664000	3960	663668	3955.02	663334	3950.01	662668	3940.02	662334	3935.01	662000	3930

NR Band 78 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652000	3780		

NR Band 78 SCS30KHz																		
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01	648668	3730.02	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	653000	3795	652834	3792.51	652668	3790.02	652000	3780	651668	3775.02	651334	3770.01	650668	3760.02	650334	3755.01		

For <3450 MHz ~ 3550 MHz >

NR Band 77 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636332	3544.98	636166	3542.49	636000	3540	635332	3529.98		

NR Band 77 SCS30KHz																
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01	631668	3475.02	632000	3480	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	636332	3544.98	636166	3542.49	636000	3540	635332	3529.98	635000	3525	634666	3519.99	634000	3510	633666	3504.99		

NR Band 78 SCS15KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636334	3545.01	636168	3542.52	636000	3540	635334	3530.01		

NR Band 78 SCS30KHz																
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01	631668	3475.02	632000	3480	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	636334	3545.01	636168	3542.52	636000	3540	635334	3530.01	635000	3525	634668	3520.02	634000	3510	633668	3505.02		

<For NR Overlap Bands Description>

3) NR Bands BW

Band	10 MHz	15 MHz	20 MHz	25 MHz	30 MHz	40 MHz	50 MHz	60 MHz	80 MHz	90 MHz	100 MHz
FR1 n38	Yes	Yes	Yes	Yes	Yes	Yes					
FR1 n41	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes

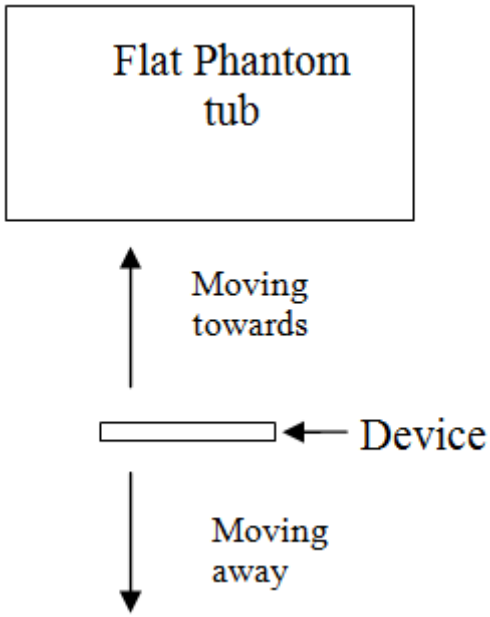
4) NR Bands tune up:

Band	Antenna	Default	DSI-2	DSI-3	DSI-4	DSI-6	DSI-7
		Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit
FR1 n38	Ant 2	24.00	24.00	24.00	24.00	24.00	24.00
FR1 n41		24.00	24.00	24.00	24.00	24.00	24.00
FR1 n38	Ant 7	24.00	20.50	22.50	24.00	22.50	22.00
FR1 n41		24.00	20.50	22.50	24.00	22.50	22.00

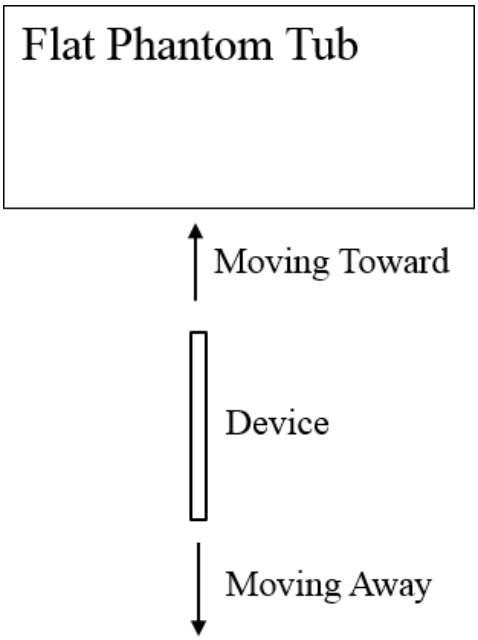
5. Proximity Sensor Triggering Test

5.1 Proximity sensor triggering distances(Per KDB616217§6.2)

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed.
2. 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 (3980MHz) and lowest (1750MHz) frequency was used for proximity sensor triggering testing.
3. Capacitive proximity sensor placed coincident with antenna elements at the top/bottom end of the phone are utilized to determine when the device comes in proximity of the user's body or finger or hand at the front or back or bottom or left or top side of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
4. The sensors can use to detect the proximity of the user's body or handheld states at the front or back or bottom or top or left side of the device use a detection threshold distance. When front/back/left/top/bottom sides of body or handheld condition is detected reduced power will be active. The trigger distance shown in the sections below. The verification test and more details please refer to sensor operation description.
5. 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/top/bottom sides

<P-Sensor>

<Sensor on for Ant1 >

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving towards	Moving towards	Moving away
Minimum	18	20	24	26	19	21

<Sensor on for Ant2 >

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving towards	Moving towards	Moving away	Moving towards	Moving away
Minimum	22	27	20	21	21	23	15	17

<Sensor on for Ant5 >

Proximity Sensor Triggering Distance (mm)				
Position	Back		Left Side	
	Moving towards	Moving towards	Moving towards	Moving away
Minimum	18	20	11	15

<Sensor on for Ant7 >

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving towards	Moving towards	Moving away	Moving towards	Moving away
Minimum	19	23	23	26	11	14	23	25

6. RF Exposure Limits

6.1 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.

6.2 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.

7. Specific Absorption Rate (SAR)

7.1 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.

7.2 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:

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

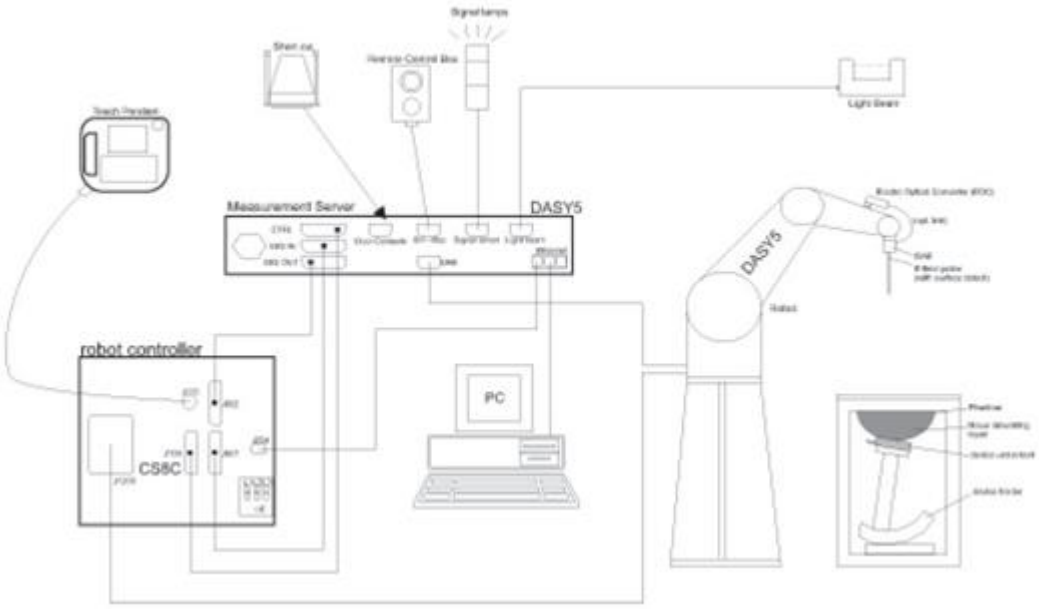
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



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

8.1 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

8.2 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.

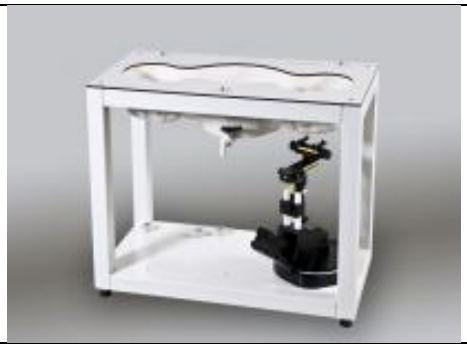
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

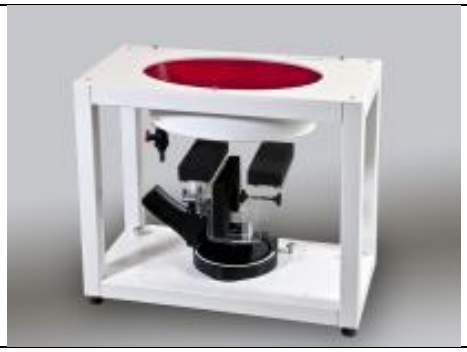
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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 or for evaluating transmitters operating at low frequencies. ELI is fully compatible with standard and all known tissue simulating liquids.

8.4 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

9. 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

9.1 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

9.2 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.

9.3 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.	

9.4 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.

9.5 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.

9.6 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.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	835MHz System Validation Kit	D835V2	4d091	2022/8/19	2023/8/18
SPEAG	1640MHz System Validation Kit	D1640V2	347	2022/9/1	2023/8/31
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2022/2/24	2023/2/23
SPEAG	1900MHz System Validation Kit	D1900V2	5d182	2021/12/20	2022/12/19
SPEAG	2000MHz System Validation Kit	D2000V2	1083	2021/10/14	2023/10/13
SPEAG	2450MHz System Validation Kit	D2450V2	1040	2020/5/6	2023/5/4
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2020/11/26	2023/11/24
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2020/11/25	2023/11/23
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2020/11/25	2023/11/23
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2020/5/14	2023/5/12
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2022/9/23	2025/9/22
SPEAG	Data Acquisition Electronics	DAE4	690	2022/6/15	2023/6/14
SPEAG	Data Acquisition Electronics	DAE4	1210	2022/4/12	2023/4/11
SPEAG	Dosimetric E-Field Probe	EX3DV4	7576	2022/7/28	2023/7/27
SPEAG	Dosimetric E-Field Probe	EX3DV4	7706	2022/1/20	2023/1/19
SPEAG	Dosimetric E-Field Probe	EX3DV4	7627	2022/6/20	2023/6/19
SPEAG	SAM Twin Phantom	SAM Twin	TP-1644	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CD	1670	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6262306175	2022/7/14	2023/7/13
Agilent	ENA Series Network Analyzer	E5071C	MY46104587	2022/5/24	2023/5/23
Keysight	Network Analyzer	E5071C	MY46523671	2022/10/17	2023/10/16
SPEAG	Dielectric Probe Kit	DAK-3.5	1071	2022/1/24	2023/1/23
Anritsu	Vector Signal Generator	MG3710A	6201682672	2022/1/6	2023/1/5
Agilent	Signal Generator	N5181A	MY50145381	2021/12/28	2022/12/27
Rohde & Schwarz	Power Meter	NRVD	102081	2022/7/14	2023/7/13
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2022/7/14	2023/7/13
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2022/7/14	2023/7/13
Anritsu	Power Senor	MA2411B	1306099	2022/10/17	2023/10/16
Anritsu	Power Meter	ML2495A	1349001	2022/10/17	2023/10/16
Anritsu	Power Sensor	MA2411B	1542004	2021/12/28	2022/12/27
Anritsu	Power Meter	ML2495A	1339473	2021/12/28	2022/12/27
R&S	Power Sensor	NRP50S	101254	2022/4/7	2023/4/6
R&S	Power Sensor	NRP8S	109228	2022/4/7	2023/4/6
R&S	CBT BLUETOOTH TESTER	CBT	100641	2022/1/5	2023/1/4
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	2022/10/12	2023/10/11
TES	DIGITAC THERMOMETER	1310	200505600	2022/7/12	2023/7/11
Testo	Thermo-Hygrometer	608-H1	1241332126	2022/1/6	2023/1/5
TES	Hygrometer	1310	200505600	2022/7/12	2023/7/11
Anymetre	Thermo-Hygrometer	JR593	2015030904	2022/7/12	2023/7/11
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
AR	Amplifier	5S1G4	333096	Note 1	
Mini-Circuits	Amplifier	ZVE-3W-83+	599201528	Note 1	
Mini-Circuits	Amplifier	ZVA-183W-S+	726202215	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	
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.

11. System Verification

11.1 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.

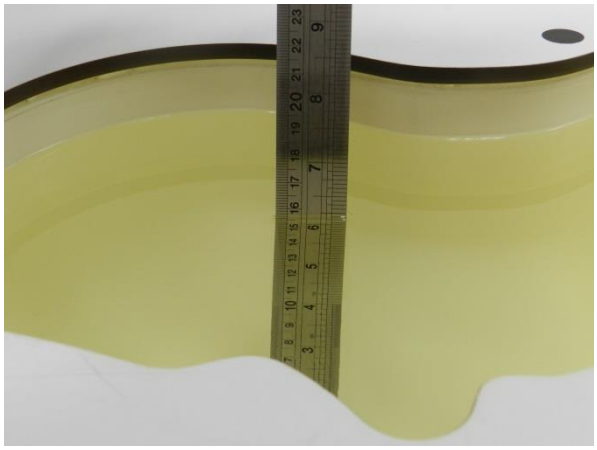


Fig 11.1 Photo of Liquid Height for Head SAR

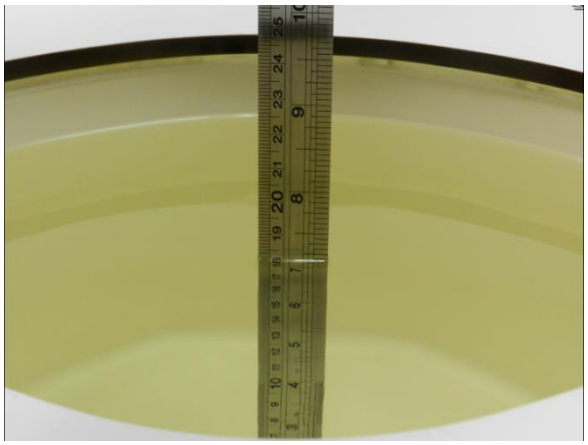


Fig 11.2 Photo of Liquid Height for Body SAR

11.2 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
835	Head	22.8	0.938	42.440	0.90	41.50	4.22	2.27	±5	2022/11/26
1750	Head	22.7	1.394	40.496	1.37	40.10	1.75	0.99	±5	2022/11/27
1900	Head	22.6	1.458	39.790	1.40	40.00	4.14	-0.53	±5	2022/11/28
2600	Head	22.7	1.975	40.602	1.96	39.00	0.77	4.11	±5	2022/11/29
3500	Head	22.7	2.809	39.002	2.91	37.90	-3.47	2.91	±5	2022/11/30
3700	Head	22.6	2.996	38.680	3.12	37.70	-3.97	2.60	±5	2022/12/1
3900	Head	22.7	3.175	38.056	3.32	37.50	-4.37	1.48	±5	2022/12/2
835	Head	22.7	0.929	40.938	0.90	41.50	3.22	-1.35	±5	2022/12/3
1750	Head	22.7	1.410	40.677	1.37	40.10	2.92	1.44	±5	2022/12/4
1900	Head	22.6	1.453	39.680	1.40	40.00	3.79	-0.80	±5	2022/12/5
2600	Head	22.6	1.922	38.215	1.96	39.00	-1.94	-2.01	±5	2022/12/6
3500	Head	22.6	2.785	38.967	2.91	37.90	-4.30	2.82	±5	2022/12/8
3700	Head	22.7	2.981	38.645	3.12	37.70	-4.46	2.51	±5	2022/12/10
3900	Head	22.8	3.181	38.351	3.32	37.50	-4.19	2.27	±5	2022/12/12
2450	Head	22.8	1.824	39.239	1.80	39.20	1.33	0.10	±5	2022/12/14
5250	Head	22.7	4.592	36.294	4.71	35.90	-2.51	1.10	±5	2022/12/16
5600	Head	22.6	4.953	35.762	5.07	35.50	-2.31	0.74	±5	2022/12/18
5750	Head	22.8	5.174	35.574	5.22	35.40	-0.88	0.49	±5	2022/12/20
1640	Head	22.7	1.255	38.423	1.31	40.20	-4.20	-4.42	±5	2022/12/12
2000	Head	22.4	1.467	38.832	1.40	40.00	4.79	-2.92	±5	2022/12/12

11.3 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 (%)
2022/11/26	835	Head	50	4d091	7627	690	0.499	9.45	9.98	5.61
2022/11/27	1750	Head	50	1090	7627	690	1.960	37.00	39.2	5.95
2022/11/28	1900	Head	50	5d182	7627	690	2.100	39.60	42	6.06
2022/11/29	2600	Head	50	1061	7627	690	2.830	56.60	56.6	0.00
2022/11/30	3500	Head	50	1037	7627	690	3.240	68.00	64.8	-4.71
2022/12/1	3700	Head	50	1008	7627	690	3.240	67.60	64.8	-4.14
2022/12/2	3900	Head	50	1048	7706	690	3.320	70.20	66.4	-5.41
2022/12/3	835	Head	50	4d091	7627	690	0.495	9.45	9.9	4.76
2022/12/4	1750	Head	50	1090	7627	690	1.950	37.00	39	5.41
2022/12/5	1900	Head	50	5d182	7627	690	2.080	39.60	41.6	5.05
2022/12/6	2600	Head	50	1061	7627	690	2.750	56.60	55	-2.83
2022/12/8	3500	Head	50	1037	7627	690	3.220	68.00	64.4	-5.29
2022/12/10	3700	Head	50	1008	7627	690	3.330	67.60	66.6	-1.48
2022/12/12	3900	Head	50	1048	7706	690	3.380	70.20	67.6	-3.70
2022/12/14	2450	Head	50	1040	7627	690	2.670	51.80	53.4	3.09
2022/12/16	5250	Head	50	1113	7627	690	4.210	81.50	84.2	3.31
2022/12/18	5600	Head	50	1113	7627	690	4.380	82.60	87.6	6.05
2022/12/20	5750	Head	50	1113	7627	690	4.290	80.80	85.8	6.19
2022/12/12	1640	Head	250	347	7576	1210	8.010	34.600	32.04	-7.40
2022/12/12	2000	Head	250	1083	7576	1210	10.300	40.900	41.2	0.73

<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 (%)
2022/11/26	835	Head	50	4d091	7627	690	0.327	6.22	6.54	5.14
2022/11/27	1750	Head	50	1090	7627	690	1.050	19.50	21	7.69
2022/11/28	1900	Head	50	5d182	7627	690	1.040	20.20	20.8	2.97
2022/11/29	2600	Head	50	1061	7627	690	1.290	25.10	25.8	2.79
2022/11/30	3500	Head	50	1037	7627	690	1.260	25.40	25.2	-0.79
2022/12/1	3700	Head	50	1008	7627	690	1.170	24.40	23.4	-4.10
2022/12/2	3900	Head	50	1048	7706	690	1.170	24.40	23.4	-4.10
2022/12/3	835	Head	50	4d091	7627	690	0.323	6.22	6.46	3.86
2022/12/4	1750	Head	50	1090	7627	690	1.030	19.50	20.6	5.64
2022/12/5	1900	Head	50	5d182	7627	690	1.040	20.20	20.8	2.97
2022/12/6	2600	Head	50	1061	7627	690	1.260	25.10	25.2	0.40
2022/12/8	3500	Head	50	1037	7627	690	1.250	25.40	25	-1.57
2022/12/10	3700	Head	50	1008	7627	690	1.160	24.40	23.2	-4.92
2022/12/12	3900	Head	50	1048	7706	690	1.170	24.40	23.4	-4.10
2022/12/14	2450	Head	50	1040	7627	690	1.260	24.00	25.2	5.00
2022/12/16	5250	Head	50	1113	7627	690	1.180	23.30	23.6	1.29
2022/12/18	5600	Head	50	1113	7627	690	1.210	23.70	24.2	2.11
2022/12/20	5750	Head	50	1113	7627	690	1.180	23.00	23.6	2.61
2022/12/12	1640	Head	250	347	7576	1210	4.330	18.600	17.32	-6.88
2022/12/12	2000	Head	250	1083	7576	1210	5.310	20.400	21.24	4.12

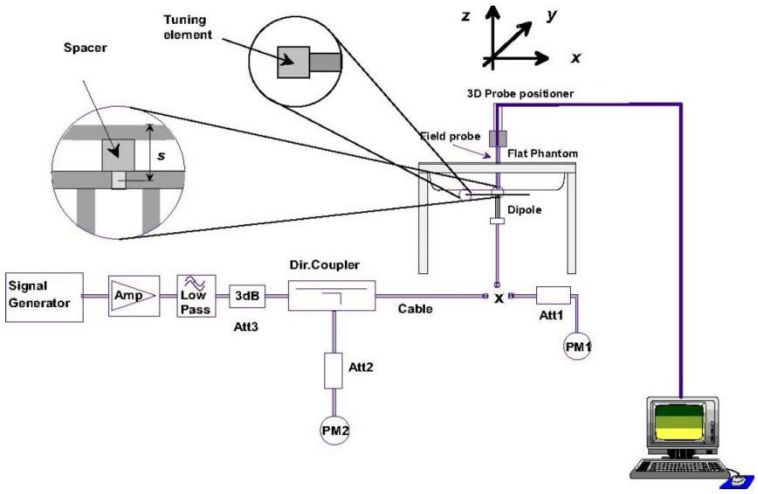


Fig 11.3.1System Performance Check Setup

Fig 11.3.2 Setup Photo

12. RF Exposure Positions

12.1 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.

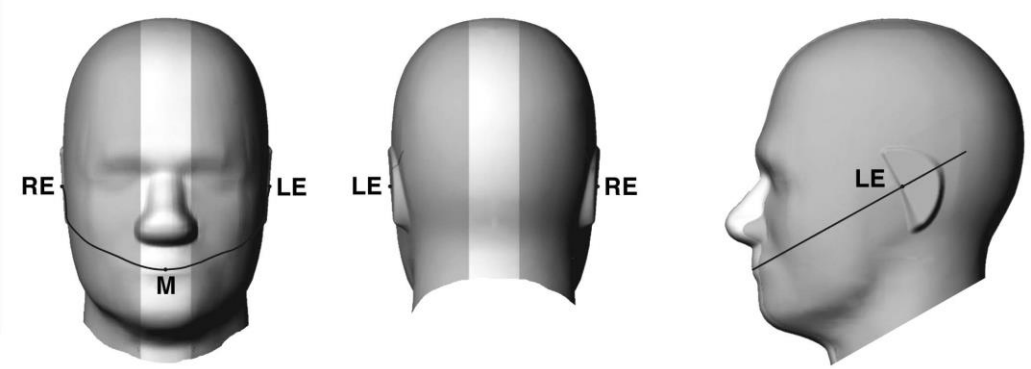


Fig 12.1.1 Front, back, and side views of SAM twin phantom

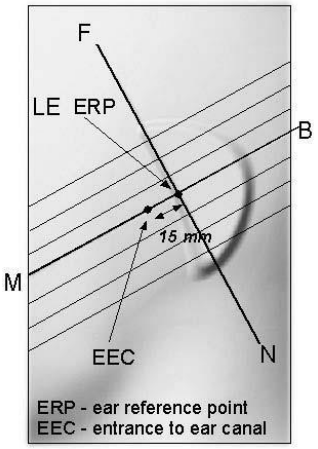


Fig 12.1.2 Close-up side view of phantom showing the ear region.

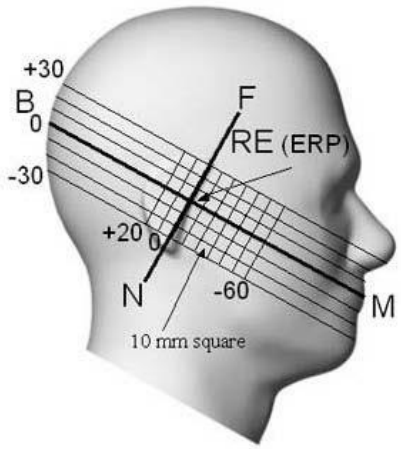


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 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.

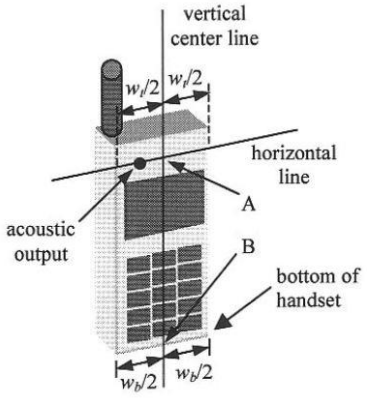


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

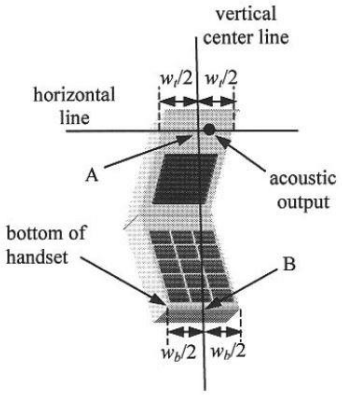


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

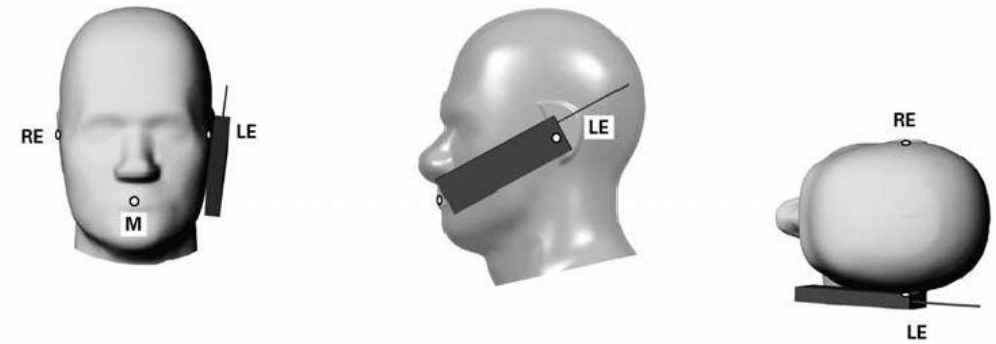


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 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

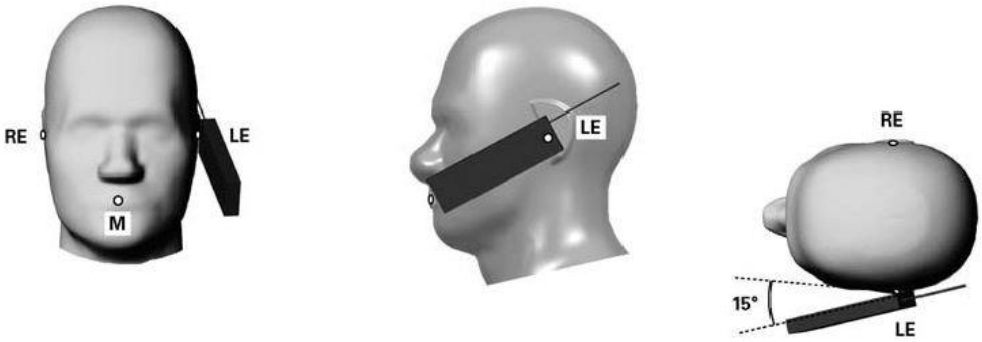


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 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. 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.

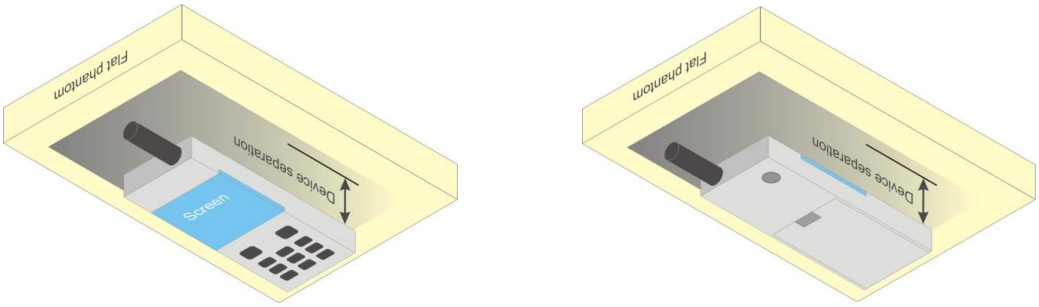


Fig 12.4 Body Worn Position

12.5 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 can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and 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.

12.6 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.

13. 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 HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. 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.		

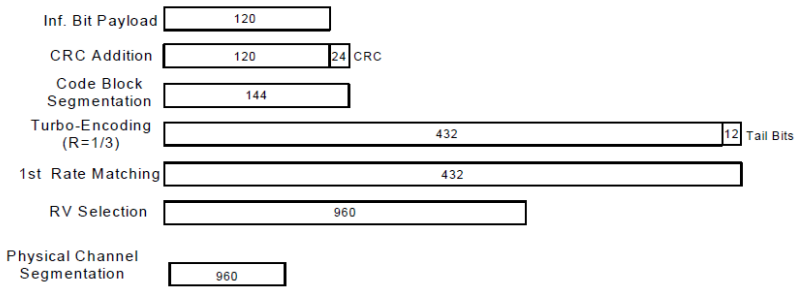


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, 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 = 5.2E:HSPA+:UL with 16QAM
   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, C11.1.4, quoted from the TS 34.121-1 s5.2E
   iii. Set Channel Parms
   iv. Set Cell Power = -86 dBm
   v. Set Channel Type = HSPA
   vi. Set UE Target Power =21 dBm
   vii. Power Ctrl Mode= All Up Bits
   viii. Set Manual Uplink DPCH Bc/Bd = Manual
   ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
   x. Set HSPA Conn DL Channel Levels
   xi. Set HS-SCCH Configs
   xii. Set RB Test Mode Setup
   xiii. Set Common HSUPA Parameters
   xiv. Set Serving Grant
   xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.4: **β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM**

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ed}3: 24/15 β_{ed}4: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

Setup Configuration

<WCDMA Conducted Power>

General Note:

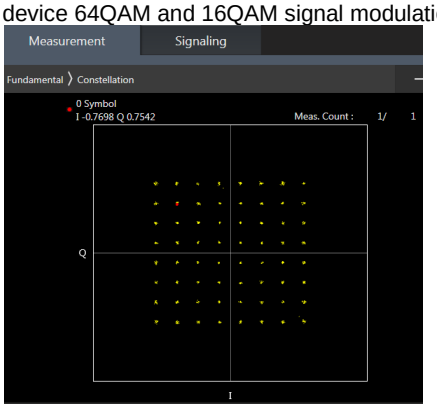
1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA /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

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B38 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 B38 SAR test was covered by B41; 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 May 2017 TCB workshop, for 16QAM and 64QAM 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.

16QAM



64QAM

<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.

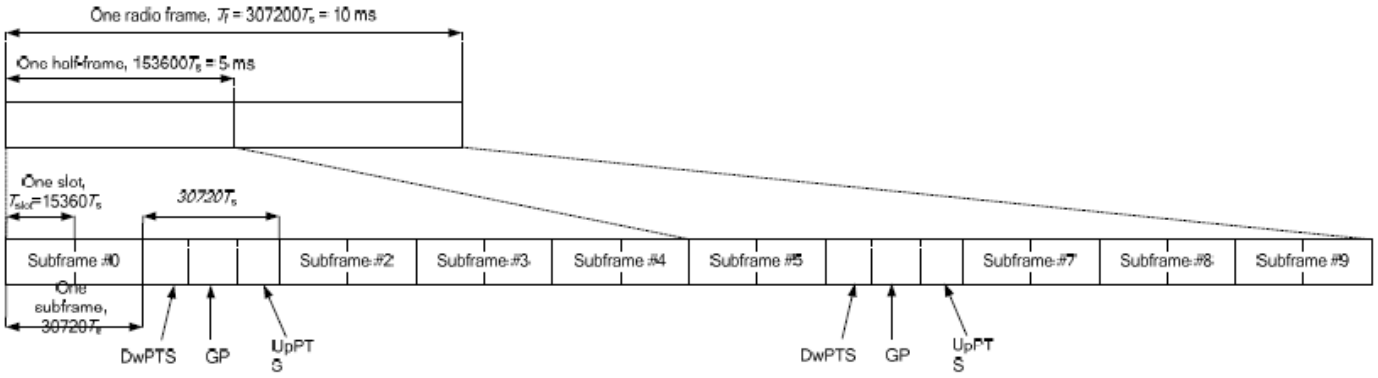


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	CA_2A-5A		1	CA_2A-7C	
2	CA_2A-7A		2	CA_2A-7A-7A	
3	CA_5A-7A		3	CA_5A-7C	
4	CA_5A-38A		4	CA_41D	
5	CA_5A-41A		5	CA_41A-41C	
6	CA_7B				
7	CA_7C				
8	CA_7A-7A				
9	CA_38C				
10	CA_41C				
11	CA_41A-41A				

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 three 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 B7/B38/B41 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	WWAN Band
	LTE Band: B7/B38/B41

LTE Carrier Aggregation Conducted Power (Uplink)

<Intra-band>

2CC Uplink Carrier Aggregation		
Number	Combination	Ant No.
1	7C	Ant2

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B7 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

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

iii. According 2017 Nov. 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.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n5 / n77 / n78 is NSA mode.
2. 5G NR n2 / n5 / n7 / n66 / n38 / n41 / 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-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/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 QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
   d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   e. 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
   f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
4. 5GNR n78 support HPUE, HPUE power and SAR testing performed separately.
5. 5GNR n78 HPUE with higher power, so we chose power class 3 for full SAR testing and power class 2 verified the worst case of power class 3 SAR.
6. For 5GNR n78 HPUE, 5GNR n78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM to perform SAR with default 100% transmission.
7. 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.
8. 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.
9. 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.
10. 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.
11. For 5GNR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
12. For 5GNR FDD/TDD supports SCS15KHz and SCS30KHz, after verification for 30KHz at FDD power level is less than 15KHz at FDD power level, also verification for 15KHz at TDD power level is less than 30KHz at TDD power level, so only show 15KHz at FDD power and 30KHz at TDD power, and chose higher power which is SCS15KHz for FDD bands and SCS30KHz for TDD bands to perform SAR testing.

<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		

ENDC	LTE TX	NR TX
DC_7A_n5A	Ant 7	Ant 1
DC_41A_n77A	Ant 2	Ant 6
DC_5A_n78A	Ant 1	Ant 6
DC_7A_n78A	Ant 2	Ant 6
DC_38A_n78A	Ant 2	Ant 6
DC_41A_n78A	Ant 2	Ant 6

<WLAN Conducted Power>

General Note:

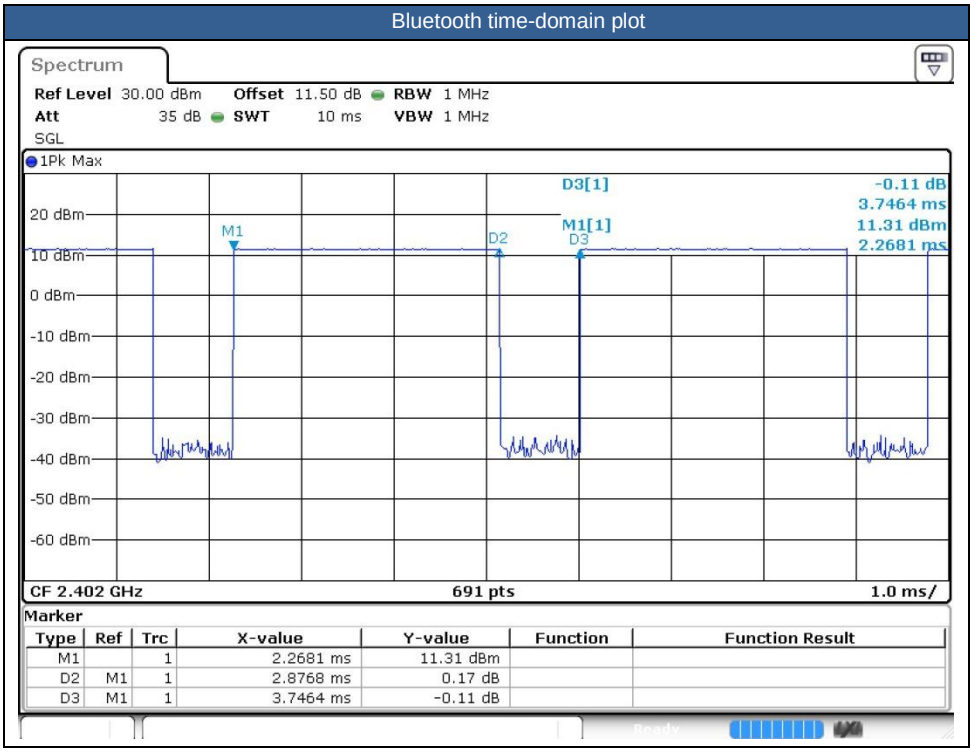
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. 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. For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 76.79% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.

Bluetooth time-domain plot



14. Antenna Location

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

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
   d. For SAR testing of NTN signal with 86% duty cycle (Declared by Manufacturer), the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *86%".
   e. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   f. For NTN/BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   g. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level, which 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/BT, power reduction will be activated to head and body-worn exposure conditions.
6. For 5GNR n78 HPUE, 5GNR n78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM 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.
11. 5G NR n78 support HPUE, HPUE power and SAR testing performed separately.
12. This device supports HPUE for 5GNR n78 with class 2 level, HPUE power has been measured separately. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so we chose power class 3 full SAR testing and power class 2 verify the worst case of power class 3 SAR.
13. For 5GNR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
14. For 5GNR FDD/TDD supports SCS15KHz and SCS30KHz, after verification for 30KHz at FDD power level is less than 15KHz at FDD power level, also verification for 15KHz at TDD power level is less than 30KHz at TDD power

level, so only show 15KHz at FDD power and 30KHz at TDD power, and chose higher power which is SCS15KHz for FDD bands and SCS30KHz for TDD bands to perform SAR testing.

15. 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. GSM1900, WCDMA B2/B4, LTE B2/B4/B7, 5GNR n2/n7/n38/n41/n77/n78, and WLAN5.8G are required to be tested.
    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.
16. For distance SAR and non-distance SAR always chose higher SAR to do co-located analysis.
17. NTN (Non-Terrestrial Network) was evaluated for body-worn and extremity based on expected usage conditions.

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 / HSPA+ 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 / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B38 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 B38 SAR test was covered by LTE B41; 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 QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
   b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
   c. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
   d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM /64QAM/256QAM SAR testing are not required.
   e. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
   f. For 5G FR1 n5 /n7/n41/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 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：

Exposure conditions	DSI	Trigger conditions
Head SAR	DSI2	Earpiece On
Hotspot Mode	DSI7	Hotspot On
Body Worn	DSI3	Sensor On
Sensor Off	DSI4	Sensor Off
Extremity	DSI6	Sensor On

15.1 Head SAR

Plot No.		BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 2	189	836.4	28.98	30.00	1.265	0.08	0.371	0.469
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 2	189	836.4	28.98	30.00	1.265	-0.15	0.205	0.259
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI 2	189	836.4	28.98	30.00	1.265	-0.15	0.256	0.324
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 1	DSI 2	189	836.4	28.98	30.00	1.265	-0.1	0.162	0.205
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 7	DSI 2	189	836.4	26.97	28.00	1.268	0.05	0.576	0.730
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 7	DSI 2	189	836.4	26.97	28.00	1.268	0.06	0.467	0.592
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 7	DSI 2	189	836.4	26.97	28.00	1.268	0.06	0.635	0.805
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 7	DSI 2	128	824.2	26.86	28.00	1.300	0.09	0.607	0.789
01	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 7	DSI 2	251	848.8	26.83	28.00	1.309	-0.15	0.723	**0.947**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 7	DSI 2	189	836.4	26.97	28.00	1.268	-0.17	0.475	0.602
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	4182	836.4	23.12	24.00	1.225	-0.12	0.301	0.369
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	4182	836.4	23.12	24.00	1.225	0.06	0.144	0.176
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	4182	836.4	23.12	24.00	1.225	0.05	0.179	0.219
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	4182	836.4	23.12	24.00	1.225	0.02	0.122	0.149
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 7	DSI 2	4182	836.4	21.75	23.00	1.334	0.09	0.332	0.443
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 7	DSI 2	4182	836.4	21.75	23.00	1.334	0.13	0.078	0.104
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 7	DSI 2	4182	836.4	21.75	23.00	1.334	0.02	0.249	0.332
02	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 7	DSI 2	4182	836.4	21.75	23.00	1.334	-0.04	0.356	**0.475**
	LTE Band 5	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	20525	836.5	22.88	24.00	1.294	0.14	0.238	0.308
	LTE Band 5	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI 2	20525	836.5	21.89	23.00	1.291	0.08	0.187	0.241
	LTE Band 5	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	20525	836.5	22.88	24.00	1.294	0.04	0.116	0.150
	LTE Band 5	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI 2	20525	836.5	21.89	23.00	1.291	-0.12	0.093	0.120
	LTE Band 5	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	20525	836.5	22.88	24.00	1.294	0.09	0.140	0.181
	LTE Band 5	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI 2	20525	836.5	21.89	23.00	1.291	0.01	0.112	0.145
	LTE Band 5	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	20525	836.5	22.88	24.00	1.294	0.07	0.102	0.132
	LTE Band 5	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI 2	20525	836.5	21.89	23.00	1.291	0.07	0.077	0.099
	LTE Band 5	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	20525	836.5	21.48	22.00	1.127	0.16	0.412	0.464
	LTE Band 5	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 7	DSI 2	20525	836.5	20.39	21.00	1.151	0.08	0.329	0.379
	LTE Band 5	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	20525	836.5	21.48	22.00	1.127	0.03	0.302	0.340
	LTE Band 5	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 7	DSI 2	20525	836.5	20.39	21.00	1.151	0.06	0.239	0.275
03	LTE Band 5	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 7	DSI 2	20525	836.5	21.48	22.00	1.127	0.08	0.444	**0.500**
	LTE Band 5	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 7	DSI 2	20525	836.5	20.39	21.00	1.151	0.15	0.347	0.399
	LTE Band 5	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	20525	836.5	21.48	22.00	1.127	-0.13	0.339	0.382
	LTE Band 5	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 7	DSI 2	20525	836.5	20.39	21.00	1.151	0.13	0.267	0.307
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 2	167300	836.5	23.14	24.00	1.219	0.01	0.159	0.194
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 2	167300	836.5	23.06	24.00	1.242	-0.06	0.177	0.220
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 2	167300	836.5	23.14	24.00	1.219	0.03	0.083	0.101
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 2	167300	836.5	23.06	24.00	1.242	-0.1	0.087	0.108
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 2	167300	836.5	23.14	24.00	1.219	0.04	0.092	0.112
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 2	167300	836.5	23.06	24.00	1.242	0.03	0.108	0.134
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 2	167300	836.5	23.14	24.00	1.219	0.08	0.069	0.084
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 2	167300	836.5	23.06	24.00	1.242	-0.01	0.075	0.093
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	167300	836.5	21.76	23.00	1.330	0.03	0.393	0.523
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	167300	836.5	21.70	23.00	1.349	0.05	0.430	0.580
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	167300	836.5	21.76	23.00	1.330	0.04	0.287	0.382
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	167300	836.5	21.70	23.00	1.349	0.01	0.317	0.428
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	167300	836.5	21.76	23.00	1.330	-0.16	0.432	0.575
04	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	167300	836.5	21.70	23.00	1.349	-0.08	0.468	**0.631**
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	DSI 2	167300	836.5	21.76	23.00	1.330	0.14	0.316	0.420
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	DSI 2	167300	836.5	21.70	23.00	1.349	0.04	0.354	0.478
1750MHz																		

	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	1413	1732.6	23.17	24.00	1.211	0.01	0.058	0.070
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	1413	1732.6	23.17	24.00	1.211	0.07	0.001	0.001
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	1413	1732.6	23.17	24.00	1.211	0.01	0.066	0.080
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	1413	1732.6	23.17	24.00	1.211	-0.12	0.001	0.001
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 7	DSI 2	1413	1732.6	18.26	19.00	1.186	-0.16	0.796	0.944
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 7	DSI 2	1312	1712.4	18.00	19.00	1.259	-0.18	0.764	0.962
05	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 7	DSI 2	1513	1752.6	18.09	19.00	1.233	0.01	0.802	**0.989**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 7	DSI 2	1413	1732.6	18.26	19.00	1.186	0.05	0.758	0.899
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 7	DSI 2	1312	1712.4	18.00	19.00	1.259	0.02	0.726	0.914
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 7	DSI 2	1513	1752.6	18.09	19.00	1.233	-0.14	0.770	0.949
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 7	DSI 2	1413	1732.6	18.26	19.00	1.186	-0.04	0.609	0.722
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 7	DSI 2	1413	1732.6	18.26	19.00	1.186	0.11	0.621	0.736
	LTE Band 4	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	20175	1732.5	22.46	24.00	1.426	0.06	0.038	0.054
	LTE Band 4	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	20175	1732.5	21.43	23.00	1.435	0.04	0.032	0.046
	LTE Band 4	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	20175	1732.5	22.46	24.00	1.426	0.16	0.029	0.041
	LTE Band 4	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	20175	1732.5	21.43	23.00	1.435	0.15	0.015	0.022
	LTE Band 4	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	20175	1732.5	22.46	24.00	1.426	-0.03	0.044	0.063
	LTE Band 4	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	20175	1732.5	21.43	23.00	1.435	0.05	0.030	0.043
	LTE Band 4	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	20175	1732.5	22.46	24.00	1.426	0.04	0.022	0.031
	LTE Band 4	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	20175	1732.5	21.43	23.00	1.435	-0.12	0.015	0.022
06	LTE Band 4	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	20175	1732.5	17.99	19.50	1.416	0.09	0.795	**1.126**
	LTE Band 4	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	20175	1732.5	17.90	19.50	1.445	-0.16	0.629	0.909
	LTE Band 4	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 7	DSI 2	20175	1732.5	17.88	19.50	1.452	-0.11	0.626	0.909
	LTE Band 4	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	20175	1732.5	17.99	19.50	1.416	-0.13	0.755	1.069
	LTE Band 4	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 2	20175	1732.5	17.90	19.50	1.445	0.18	0.587	0.848
	LTE Band 4	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 7	DSI 2	20175	1732.5	17.88	19.50	1.452	0.14	0.585	0.849
	LTE Band 4	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 7	DSI 2	20175	1732.5	17.99	19.50	1.416	0.06	0.602	0.852
	LTE Band 4	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 7	DSI 2	20175	1732.5	17.90	19.50	1.445	-0.08	0.466	0.674
	LTE Band 4	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 7	DSI 2	20175	1732.5	17.88	19.50	1.452	0.16	0.465	0.675
	LTE Band 4	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	20175	1732.5	17.99	19.50	1.416	0.03	0.607	0.859
	LTE Band 4	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 7	DSI 2	20175	1732.5	17.90	19.50	1.445	-0.04	0.475	0.687
	LTE Band 4	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 7	DSI 2	20175	1732.5	17.88	19.50	1.452	-0.05	0.470	0.682
1900MHz																		
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 2	661	1880	25.69	27.00	1.352	-0.04	0.067	0.091
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 2	661	1880	25.69	27.00	1.352	0.09	0.055	0.074
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI 2	661	1880	25.69	27.00	1.352	-0.03	0.046	0.062
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 1	DSI 2	661	1880	25.69	27.00	1.352	0.15	0.033	0.045
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 7	DSI 2	661	1880	21.46	23.00	1.426	0.04	0.602	0.858
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 7	DSI 2	512	1850.2	21.32	23.00	1.472	-0.04	0.597	0.879
07	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 7	DSI 2	810	1909.8	21.36	23.00	1.459	0.06	0.674	**0.983**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 7	DSI 2	661	1880	21.46	23.00	1.426	0.08	0.594	0.847
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 7	DSI 2	512	1850.2	21.32	23.00	1.472	0.03	0.563	0.829
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 7	DSI 2	810	1909.8	21.36	23.00	1.459	0.11	0.665	0.970
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 7	DSI 2	661	1880	21.46	23.00	1.426	0.05	0.423	0.603
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 7	DSI 2	661	1880	21.46	23.00	1.426	0.05	0.462	0.659
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	9400	1880	23.23	24.00	1.194	0.03	0.129	0.154
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	9400	1880	23.23	24.00	1.194	-0.15	0.050	0.060
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	9400	1880	23.23	24.00	1.194	0.02	0.115	0.137
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	9400	1880	23.23	24.00	1.194	0.04	0.059	0.070
08	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 7	DSI 2	9400	1880	17.92	19.00	1.282	-0.02	0.696	**0.893**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 7	DSI 2	9262	1852.4	17.83	19.00	1.309	-0.13	0.680	0.890
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 7	DSI 2	9538	1907.6	17.85	19.00	1.303	-0.08	0.678	0.884
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 7	DSI 2	9400	1880	17.92	19.00	1.282	0.03	0.684	0.877
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 7	DSI 2	9262	1852.4	17.83	19.00	1.309	-0.13	0.672	0.880
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 7	DSI 2	9538	1907.6	17.85	19.00	1.303	-0.1	0.678	0.884
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 7	DSI 2	9400	1880	17.92	19.00	1.282	-0.09	0.471	0.604

	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 7	DSI 2	9400	1880	17.92	19.00	1.282	0.06	0.519	0.666
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	18900	1880	22.56	24.00	1.393	0.07	0.101	0.141
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	18900	1880	21.58	23.00	1.387	-0.06	0.081	0.112
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	18900	1880	22.56	24.00	1.393	-0.1	0.022	0.031
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	18900	1880	21.58	23.00	1.387	0.04	0.011	0.015
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	18900	1880	22.56	24.00	1.393	0.14	0.094	0.131
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	18900	1880	21.58	23.00	1.387	0.06	0.073	0.101
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	18900	1880	22.56	24.00	1.393	0.09	0.057	0.079
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	18900	1880	21.58	23.00	1.387	0.03	0.040	0.055
09	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	18900	1880	18.80	20.00	1.318	0.09	0.855	**1.127**
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	18700	1860	18.70	20.00	1.349	0.08	0.816	1.101
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	19100	1900	18.47	20.00	1.422	0.09	0.784	1.115
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	18900	1880	18.74	20.00	1.337	0.16	0.679	0.908
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	18700	1860	18.61	20.00	1.377	-0.06	0.687	0.946
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	19100	1900	18.34	20.00	1.466	0.08	0.679	0.995
	LTE Band 2	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 7	DSI 2	18900	1880	18.64	20.00	1.368	0.07	0.671	0.918
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	18900	1880	18.80	20.00	1.318	0.08	0.847	1.117
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	18700	1860	18.70	20.00	1.349	0.03	0.800	1.079
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	19100	1900	18.47	20.00	1.422	0.01	0.784	1.115
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 2	18900	1880	18.74	20.00	1.337	0.17	0.658	0.879
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 2	18700	1860	18.61	20.00	1.377	-0.18	0.660	0.909
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 2	19100	1900	18.34	20.00	1.466	0.08	0.664	0.973
	LTE Band 2	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 7	DSI 2	18900	1880	18.64	20.00	1.368	0.09	0.651	0.890
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 7	DSI 2	18900	1880	18.80	20.00	1.318	-0.07	0.582	0.767
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 7	DSI 2	18900	1880	18.74	20.00	1.337	-0.18	0.452	0.604
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	18900	1880	18.80	20.00	1.318	0.02	0.633	0.834
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	18700	1860	18.70	20.00	1.349	-0.05	0.620	0.836
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	19100	1900	18.47	20.00	1.422	-0.18	0.629	0.895
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 7	DSI 2	18900	1880	18.74	20.00	1.337	0.04	0.493	0.659
	LTE Band 2	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 7	DSI 2	18900	1880	18.64	20.00	1.368	0.09	0.486	0.665
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 2	376000	1880	22.88	24.00	1.294	0.05	0.057	0.074
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 2	376000	1880	22.85	24.00	1.303	-0.08	0.059	0.077
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 2	376000	1880	22.88	24.00	1.294	0.04	0.001	0.001
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 2	376000	1880	22.85	24.00	1.303	0.09	0.001	0.001
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 2	376000	1880	22.88	24.00	1.294	0.02	0.057	0.074
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 2	376000	1880	22.85	24.00	1.303	-0.09	0.053	0.069
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 2	376000	1880	22.88	24.00	1.294	-0.18	0.001	0.001
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 2	376000	1880	22.85	24.00	1.303	0.03	0.001	0.001
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	376000	1880	18.00	19.00	1.259	-0.13	0.688	0.866
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	372000	1860	17.57	19.00	1.390	-0.03	0.662	0.920
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	380000	1900	17.74	19.00	1.337	0.03	0.695	0.929
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	376000	1880	17.95	19.00	1.274	0.07	0.702	0.894
10	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	372000	1860	17.81	19.00	1.315	0.09	0.722	**0.950**
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	380000	1900	17.55	19.00	1.396	0.18	0.671	0.937
	FR1 n2	20M	QPSK	50	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	376000	1880	17.90	19.00	1.288	-0.12	0.561	0.723
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	376000	1880	18.00	19.00	1.259	0.02	0.664	0.836
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	372000	1860	17.57	19.00	1.390	0.18	0.678	0.942
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	380000	1900	17.74	19.00	1.337	0.03	0.660	0.882
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	376000	1880	17.95	19.00	1.274	-0.07	0.679	0.865
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	372000	1860	17.81	19.00	1.315	-0.03	0.688	0.905
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	380000	1900	17.55	19.00	1.396	-0.09	0.668	0.933
	FR1 n2	20M	QPSK	50	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	376000	1880	17.90	19.00	1.288	0.09	0.546	0.703
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	376000	1880	18.00	19.00	1.259	-0.09	0.482	0.607
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	376000	1880	17.95	19.00	1.274	0.07	0.494	0.629
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	DSI 2	376000	1880	18.00	19.00	1.259	0.02	0.518	0.652
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	DSI 2	376000	1880	17.95	19.00	1.274	0.1	0.517	0.658

Plot No.		BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	21100	2535	22.99	24.00	1.262	-	-	0.09	0.214	0.270
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	21100	2535	22.04	23.00	1.247	-	-	-0.15	0.164	0.205
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 2	21100	2535	22.99	24.00	1.262	-	-	0.06	0.209	0.264
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	21100	2535	22.04	23.00	1.247	-	-	0.06	0.166	0.207
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	21100	2535	22.99	24.00	1.262	-	-	0.09	0.458	0.578
	LTE Band 7C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 2	DSI 2	21100+ 21298	2535+ 2554.8	22.41	24.00	1.442	-	-	0.09	0.398	0.574
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	21100	2535	22.04	23.00	1.247	-	-	0.06	0.351	0.438
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 2	21100	2535	22.99	24.00	1.262	-	-	0.04	0.125	0.158
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	21100	2535	22.04	23.00	1.247	-	-	0.05	0.099	0.123
11	LTE Band 7_ENDC	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	21100	2535	18.25	19.00	1.189	-	-	0.02	0.861	**1.023**
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	20850	2510	17.98	19.00	1.265	-	-	0.17	0.788	0.997
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	21350	2560	18.00	19.00	1.259	-	-	-0.03	0.756	0.952
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	21100	2535	18.22	19.00	1.197	-	-	0.02	0.645	0.772
	LTE Band 7_ENDC	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 7	DSI 2	21100	2535	18.07	19.00	1.239	-	-	0.01	0.624	0.773
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	21100	2535	18.25	19.00	1.189	-	-	0.09	0.739	0.878
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	20850	2510	17.98	19.00	1.265	-	-	-0.15	0.760	0.961
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	21350	2560	18.00	19.00	1.259	-	-	0.1	0.708	0.891
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 2	21100	2535	18.22	19.00	1.197	-	-	-0.15	0.620	0.742
	LTE Band 7_ENDC	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 7	DSI 2	21100	2535	18.07	19.00	1.239	-	-	0.04	0.586	0.726
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 7	DSI 2	21100	2535	18.25	19.00	1.189	-	-	0.08	0.439	0.522
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 7	DSI 2	21100	2535	18.22	19.00	1.197	-	-	0.05	0.356	0.426
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	21100	2535	18.25	19.00	1.189	-	-	-0.07	0.404	0.480
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 7	DSI 2	21100	2535	18.22	19.00	1.197	-	-	-0.16	0.332	0.397
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	40620	2593	22.89	24.00	1.291	62.9	1.006	0.09	0.179	0.233
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	40620	2593	21.84	23.00	1.306	62.9	1.006	-0.14	0.139	0.183
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 2	40620	2593	22.89	24.00	1.291	62.9	1.006	0.01	0.171	0.222
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	40620	2593	21.84	23.00	1.306	62.9	1.006	0.06	0.137	0.180
13	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	40620	2593	22.89	24.00	1.291	62.9	1.006	-0.07	0.362	**0.470**
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	40620	2593	21.84	23.00	1.306	62.9	1.006	0.02	0.288	0.378
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 2	40620	2593	22.89	24.00	1.291	62.9	1.006	-0.02	0.113	0.147
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	40620	2593	21.84	23.00	1.306	62.9	1.006	0.17	0.089	0.117
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	507000	2535	23.06	24.00	1.242	-	-	-0.14	0.223	0.277
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	507000	2535	23.03	24.00	1.250	-	-	-0.11	0.240	0.300
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	507000	2535	23.06	24.00	1.242	-	-	-0.19	0.214	0.266
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	507000	2535	23.03	24.00	1.250	-	-	0.05	0.244	0.305
14	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	507000	2535	23.06	24.00	1.242	-	-	-0.04	0.506	**0.628**
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	507000	2535	23.03	24.00	1.250	-	-	-0.05	0.451	0.564
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	507000	2535	23.06	24.00	1.242	-	-	0.01	0.136	0.169
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	507000	2535	23.03	24.00	1.250	-	-	0.01	0.133	0.166
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	518598	2592.99	23.21	24.00	1.199	-	-	-0.18	0.180	0.216
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	518598	2592.99	23.12	24.00	1.225	-	-	0.14	0.199	0.244
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	518598	2592.99	23.21	24.00	1.199	-	-	0.06	0.150	0.180
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	518598	2592.99	23.12	24.00	1.225	-	-	0.04	0.200	0.245
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	23.21	24.00	1.199	-	-	0.03	0.385	0.462
15	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	23.12	24.00	1.225	-	-	-0.04	0.432	**0.529**
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	518598	2592.99	23.21	24.00	1.199	-	-	0.07	0.089	0.107
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	518598	2592.99	23.12	24.00	1.225	-	-	0.13	0.129	0.158
3500MHz																				
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	656000	3840	24.79	25.00	1.050	-	-	0.07	0.007	0.007
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	656000	3840	24.64	25.00	1.086	-	-	0.08	0.102	0.111
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	656000	3840	24.79	25.00	1.050	-	-	0.08	0.007	0.007
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	656000	3840	24.64	25.00	1.086	-	-	-0.12	0.095	0.103
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	656000	3840	24.79	25.00	1.050	-	-	0.04	0.124	0.130

	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	656000	3840	24.64	25.00	1.086	-	-	0.03	0.189	0.205
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	656000	3840	24.79	25.00	1.050	-	-	-0.09	0.007	0.007
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	656000	3840	24.64	25.00	1.086	-	-	0.06	0.116	0.126
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	633334	3500.01	24.50	25.00	1.122	-	-	0.07	0.093	0.104
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	633334	3500.01	24.40	25.00	1.148	-	-	0.13	0.099	0.114
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	633334	3500.01	24.50	25.00	1.122	-	-	-0.06	0.102	0.114
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	633334	3500.01	24.40	25.00	1.148	-	-	0.03	0.103	0.118
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	633334	3500.01	24.50	25.00	1.122	-	-	0.01	0.155	0.174
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	633334	3500.01	24.40	25.00	1.148	-	-	0.08	0.150	0.172
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	633334	3500.01	24.50	25.00	1.122	-	-	0.13	0.089	0.100
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	633334	3500.01	24.40	25.00	1.148	-	-	0.1	0.057	0.065
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	21.85	22.00	1.035	-	-	-0.14	0.238	0.246
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	21.80	22.00	1.047	-	-	0.1	0.295	0.309
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	21.85	22.00	1.035	-	-	-0.01	0.044	0.046
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	21.80	22.00	1.047	-	-	0.08	0.069	0.072
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	21.85	22.00	1.035	-	-	0.08	0.302	0.313
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	21.80	22.00	1.047	-	-	-0.09	0.576	0.603
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	21.85	22.00	1.035	-	-	-0.1	0.045	0.047
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	21.80	22.00	1.047	-	-	-0.1	0.077	0.081
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	633334	3500.01	21.42	22.00	1.143	-	-	-0.05	0.199	0.227
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	633334	3500.01	21.34	22.00	1.164	-	-	0.17	0.254	0.296
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	633334	3500.01	21.42	22.00	1.143	-	-	-0.15	0.068	0.078
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	633334	3500.01	21.34	22.00	1.164	-	-	-0.11	0.078	0.091
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	633334	3500.01	21.42	22.00	1.143	-	-	-0.09	0.783	0.895
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	633334	3500.01	21.34	22.00	1.164	-	-	-0.11	0.355	0.413
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	633334	3500.01	21.16	22.00	1.213	-	-	0.02	0.355	0.431
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	633334	3500.01	21.42	22.00	1.143	-	-	0.06	0.070	0.080
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	633334	3500.01	21.34	22.00	1.164	-	-	0.18	0.060	0.070
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	17.59	18.50	1.233	-	-	-0.05	0.590	0.728
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	17.55	18.50	1.245	-	-	-0.06	0.622	0.774
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	656000	3840	17.59	18.50	1.233	-	-	0.06	0.400	0.493
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	656000	3840	17.55	18.50	1.245	-	-	0.02	0.390	0.485
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	656000	3840	17.59	18.50	1.233	-	-	-0.16	0.242	0.298
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	656000	3840	17.55	18.50	1.245	-	-	0.05	0.247	0.307
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	656000	3840	17.59	18.50	1.233	-	-	0.08	0.169	0.208
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	656000	3840	17.55	18.50	1.245	-	-	0.05	0.173	0.215
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.80	18.50	1.175	-	-	0.1	0.774	0.909
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.77	18.50	1.183	-	-	-0.03	0.788	0.932
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.66	18.50	1.213	-	-	0.13	0.702	0.852
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	633334	3500.01	17.80	18.50	1.175	-	-	0.08	0.599	0.704
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	633334	3500.01	17.77	18.50	1.183	-	-	-0.09	0.504	0.596
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.80	18.50	1.175	-	-	0.05	0.334	0.392
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.77	18.50	1.183	-	-	-0.11	0.291	0.344
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	633334	3500.01	17.80	18.50	1.175	-	-	0.12	0.267	0.314
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	633334	3500.01	17.77	18.50	1.183	-	-	-0.12	0.234	0.277
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	656000	3840	20.09	20.50	1.099	-	-	-0.12	0.837	0.920
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	656000	3840	20.03	20.50	1.114	-	-	-0.04	0.870	0.969
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	656000	3840	19.97	20.50	1.130	-	-	0.07	0.654	0.739
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DSI 2	656000	3840	20.09	20.50	1.099	-	-	0.16	0.156	0.171
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DSI 2	656000	3840	20.03	20.50	1.114	-	-	0.15	0.161	0.179
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	656000	3840	20.09	20.50	1.099	-	-	0.02	0.891	0.979
16	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	656000	3840	20.03	20.50	1.114	-	-	-0.03	0.902	**1.005**
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	656000	3840	19.97	20.50	1.130	-	-	-0.08	0.724	0.818
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DSI 2	656000	3840	20.09	20.50	1.099	-	-	-0.17	0.321	0.353
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DSI 2	656000	3840	20.03	20.50	1.114	-	-	0.16	0.332	0.370
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	633334	3500.01	20.32	20.50	1.042	-	-	0.03	0.743	0.774
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	633334	3500.01	20.25	20.50	1.059	-	-	0.18	0.772	0.818

	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	633334	3500.01	20.23	20.50	1.064	-	-	0.17	0.540	0.575
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DSI 2	633334	3500.01	20.32	20.50	1.042	-	-	0.07	0.547	0.570
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DSI 2	633334	3500.01	20.25	20.50	1.059	-	-	-0.07	0.525	0.556
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	633334	3500.01	20.32	20.50	1.042	-	-	-0.08	0.872	0.909
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	633334	3500.01	20.25	20.50	1.059	-	-	0.15	0.852	0.902
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	633334	3500.01	20.23	20.50	1.064	-	-	0.04	0.587	0.625
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DSI 2	633334	3500.01	20.32	20.50	1.042	-	-	0.15	0.184	0.192
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DSI 2	633334	3500.01	20.25	20.50	1.059	-	-	0.08	0.188	0.199
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	650000	3750	23.93	25.00	1.279	-	-	0.07	0.035	0.045
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	650000	3750	23.88	25.00	1.294	-	-	0.02	0.072	0.093
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	650000	3750	23.93	25.00	1.279	-	-	0.03	0.049	0.063
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	650000	3750	23.88	25.00	1.294	-	-	-0.18	0.087	0.113
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	650000	3750	23.93	25.00	1.279	-	-	0.05	0.082	0.105
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	650000	3750	23.88	25.00	1.294	-	-	0.09	0.138	0.179
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	650000	3750	23.93	25.00	1.279	-	-	-0.1	0.040	0.051
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	650000	3750	23.88	25.00	1.294	-	-	0.06	0.050	0.065
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	650000	3750	25.93	27.00	1.279	50	1.000	0.15	0.112	0.143
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	633334	3500.01	23.84	25.00	1.306	-	-	0.09	0.097	0.127
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	633334	3500.01	23.79	25.00	1.321	-	-	0.04	0.069	0.091
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	633334	3500.01	23.84	25.00	1.306	-	-	0.01	0.114	0.149
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	633334	3500.01	23.79	25.00	1.321	-	-	0.15	0.074	0.098
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	633334	3500.01	23.84	25.00	1.306	-	-	0.01	0.177	0.231
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	633334	3500.01	23.79	25.00	1.321	-	-	-0.06	0.091	0.120
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	633334	3500.01	23.84	25.00	1.306	-	-	0.01	0.069	0.090
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	633334	3500.01	23.79	25.00	1.321	-	-	0.02	0.040	0.053
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	633334	3500.01	25.79	27.00	1.321	50	1.000	0.07	0.143	0.189
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	650000	3750	22.85	23.50	1.161	-	-	-0.1	0.244	0.283
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	650000	3750	22.80	23.50	1.175	-	-	0.03	0.341	0.401
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	650000	3750	22.85	23.50	1.161	-	-	0.06	0.090	0.105
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	650000	3750	22.80	23.50	1.175	-	-	-0.05	0.087	0.102
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	650000	3750	22.85	23.50	1.161	-	-	0.07	0.561	0.652
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	650000	3750	22.80	23.50	1.175	-	-	-0.09	0.625	0.734
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	650000	3750	22.85	23.50	1.161	-	-	0.17	0.047	0.055
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	650000	3750	22.80	23.50	1.175	-	-	0.11	0.086	0.101
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	650000	3750	25.31	26.50	1.315	50	1.000	0.14	0.525	0.690
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	633334	3500.01	22.72	23.50	1.197	-	-	-0.02	0.205	0.245
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	633334	3500.01	22.65	23.50	1.216	-	-	-0.06	0.228	0.277
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	633334	3500.01	22.72	23.50	1.197	-	-	0.18	0.071	0.085
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	633334	3500.01	22.65	23.50	1.216	-	-	-0.16	0.066	0.080
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	633334	3500.01	22.72	23.50	1.197	-	-	-0.04	0.305	0.365
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	633334	3500.01	22.65	23.50	1.216	-	-	0.09	0.288	0.350
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	633334	3500.01	22.72	23.50	1.197	-	-	0.05	0.072	0.086
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	633334	3500.01	22.65	23.50	1.216	-	-	0.12	0.050	0.061
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	633334	3500.01	25.50	26.50	1.259	50	1.000	0.03	0.222	0.279
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	650000	3750	17.73	19.00	1.340	-	-	0.09	0.580	0.777
17	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	650000	3750	17.57	19.00	1.390	-	-	-0.01	0.781	**1.086**
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	650000	3750	17.50	19.00	1.413	-	-	0.05	0.619	0.874
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	650000	3750	17.73	19.00	1.340	-	-	0.08	0.366	0.490
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	650000	3750	17.57	19.00	1.390	-	-	0.19	0.354	0.492
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	650000	3750	17.73	19.00	1.340	-	-	0.05	0.230	0.308
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	650000	3750	17.57	19.00	1.390	-	-	0.06	0.248	0.345
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	650000	3750	17.73	19.00	1.340	-	-	0.12	0.135	0.181
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	650000	3750	17.57	19.00	1.390	-	-	-0.04	0.167	0.232
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	650000	3750	20.70	22.00	1.349	50	1.000	0.16	0.777	1.048
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.99	19.00	1.262	-	-	0.06	0.678	0.856
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.95	19.00	1.274	-	-	-0.04	0.806	1.026
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.70	19.00	1.349	-	-	-0.12	0.681	0.919

	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	633334	3500.01	17.99	19.00	1.262	-	-	0.02	0.412	0.520
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	633334	3500.01	17.95	19.00	1.274	-	-	0.08	0.366	0.466
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.99	19.00	1.262	-	-	-0.05	0.236	0.298
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	633334	3500.01	17.95	19.00	1.274	-	-	0.04	0.219	0.279
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	633334	3500.01	17.99	19.00	1.262	-	-	-0.09	0.188	0.237
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	633334	3500.01	17.95	19.00	1.274	-	-	0.08	0.174	0.222
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	20.74	22.00	1.337	50	1.000	0.17	0.757	1.012
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	650000	3750	17.95	18.50	1.135	-	-	-0.08	0.732	0.831
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	650000	3750	17.93	18.50	1.140	-	-	0.04	0.724	0.826
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	650000	3750	17.90	18.50	1.148	-	-	0.12	0.679	0.780
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DSI 2	650000	3750	17.95	18.50	1.135	-	-	-0.1	0.135	0.153
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DSI 2	650000	3750	17.93	18.50	1.140	-	-	-0.13	0.132	0.151
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	650000	3750	17.95	18.50	1.135	-	-	-0.03	0.788	0.894
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	650000	3750	17.93	18.50	1.140	-	-	-0.03	0.769	0.877
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	650000	3750	17.90	18.50	1.148	-	-	-0.1	0.735	0.844
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DSI 2	650000	3750	17.95	18.50	1.135	-	-	0.12	0.226	0.257
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DSI 2	650000	3750	17.93	18.50	1.140	-	-	0.04	0.227	0.259
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	650000	3750	20.80	21.50	1.175	50	1.000	-0.17	0.704	0.827
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	633334	3500.01	17.21	18.50	1.346	-	-	0.07	0.465	0.626
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 11	DSI 2	633334	3500.01	17.15	18.50	1.365	-	-	-0.07	0.455	0.621
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DSI 2	633334	3500.01	17.21	18.50	1.346	-	-	-0.19	0.085	0.114
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 11	DSI 2	633334	3500.01	17.15	18.50	1.365	-	-	0.16	0.082	0.112
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	633334	3500.01	17.21	18.50	1.346	-	-	-0.01	0.672	0.904
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	633334	3500.01	17.15	18.50	1.365	-	-	0.07	0.544	0.742
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	633334	3500.01	17.04	18.50	1.400	-	-	0.18	0.494	0.691
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DSI 2	633334	3500.01	17.21	18.50	1.346	-	-	0.17	0.126	0.170
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 11	DSI 2	633334	3500.01	17.15	18.50	1.365	-	-	0.05	0.124	0.169
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Cheek	0mm	Ant 11	DSI 2	633334	3500.01	19.98	21.50	1.419	50	1.000	-0.06	0.602	0.854

Plot No.		Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 8	Receiver on	6	2437	17.92	19.00	1.282	100	1.000	0.16	0.363	0.465
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 8	Receiver on	6	2437	17.92	19.00	1.282	100	1.000	0.06	0.293	0.376
18	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 8	Receiver on	6	2437	17.92	19.00	1.282	100	1.000	0.07	0.915	**1.173**
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 8	Receiver on	11	2462	17.90	19.00	1.288	100	1.000	0.04	0.906	1.167
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 8	Receiver on	6	2437	17.92	19.00	1.282	100	1.000	0.02	0.538	0.690
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 8	Simultaneous	6	2437	12.83	14.00	1.309	100	1.000	0.03	0.289	0.378
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	0.14	0.058	0.077
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	0.18	0.049	0.065
19	Bluetooth	1Mbps	Left Cheek	0mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	0.08	0.143	**0.191**
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	0.11	0.094	0.125
5000MHz																
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 9	Receiver on	60	5300	17.74	19.00	1.336	97.46	1.026	-0.03	0.151	0.207
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 9	Receiver on	60	5300	17.74	19.00	1.336	97.46	1.026	0.04	0.156	0.214
20	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 9	Receiver on	60	5300	17.74	19.00	1.336	97.46	1.026	-0.01	0.392	**0.537**
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 9	Receiver on	60	5300	17.74	19.00	1.336	97.46	1.026	-0.14	0.374	0.513
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 9	Simultaneous	54	5270	16.86	18.00	1.301	94.92	1.054	0.02	0.283	0.388
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 9	Receiver on	116	5580	17.32	18.50	1.312	97.46	1.026	-0.1	0.138	0.186
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 9	Receiver on	116	5580	17.32	18.50	1.312	97.46	1.026	0.07	0.126	0.170
21	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 9	Receiver on	116	5580	17.32	18.50	1.312	97.46	1.026	0.04	0.290	**0.390**
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 9	Receiver on	116	5580	17.32	18.50	1.312	97.46	1.026	0.03	0.205	0.276
	WLAN5.8GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 9	Receiver on	157	5785	17.47	18.50	1.267	97.46	1.026	0.09	0.158	0.205
	WLAN5.8GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 9	Receiver on	157	5785	17.47	18.50	1.267	97.46	1.026	0.02	0.172	0.224
22	WLAN5.8GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 9	Receiver on	157	5785	17.47	18.50	1.267	97.46	1.026	0.05	0.292	**0.380**
	WLAN5.8GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 9	Receiver on	157	5785	17.47	18.50	1.267	97.46	1.026	0.09	0.281	0.365

15.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 7	189	836.4	28.98	30.00	1.265	0.02	0.545	0.689
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 7	189	836.4	28.98	30.00	1.265	-0.12	0.842	1.065
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 7	128	824.2	28.87	30.00	1.297	0.08	0.683	0.886
23	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 7	251	848.8	28.87	30.00	1.297	-0.02	0.849	**1.101**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 1	DSI 7	189	836.4	28.98	30.00	1.265	-0.02	0.076	0.096
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	10mm	Ant 1	DSI 7	189	836.4	28.98	30.00	1.265	0.12	0.196	0.248
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 1	DSI 7	189	836.4	28.98	30.00	1.265	-0.1	0.346	0.438
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 7	DSI 7	189	836.4	27.47	28.50	1.268	0.07	0.201	0.255
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 7	DSI 7	189	836.4	27.47	28.50	1.268	-0.01	0.206	0.261
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 7	DSI 7	189	836.4	27.47	28.50	1.268	-0.1	0.040	0.051
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 7	DSI 7	189	836.4	27.47	28.50	1.268	0.02	0.173	0.219
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 7	4182	836.4	23.12	24.00	1.225	0.02	0.510	0.625
24	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 7	4182	836.4	23.12	24.00	1.225	0.07	0.792	**0.970**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 7	4132	826.4	23.03	24.00	1.250	0.02	0.766	0.958
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 7	4233	846.6	23.10	24.00	1.230	0.05	0.787	0.968
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 7	4182	836.4	23.12	24.00	1.225	0.05	0.070	0.086
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 1	DSI 7	4182	836.4	23.12	24.00	1.225	0.1	0.192	0.235
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	4182	836.4	23.12	24.00	1.225	0.04	0.335	0.410
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 7	DSI 7	4182	836.4	21.75	23.00	1.334	0.09	0.122	0.163
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 7	DSI 7	4182	836.4	21.75	23.00	1.334	-0.05	0.132	0.176
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 7	DSI 7	4182	836.4	21.75	23.00	1.334	0.07	0.002	0.003
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 7	DSI 7	4182	836.4	21.75	23.00	1.334	0.03	0.109	0.145
	LTE Band 5	10M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 7	20525	836.5	22.88	24.00	1.294	0.01	0.366	0.474
	LTE Band 5	10M	QPSK	25	0	-	Front	10mm	Ant 1	DSI 7	20525	836.5	21.89	23.00	1.291	-0.02	0.371	0.479
	LTE Band 5	10M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 7	20525	836.5	22.88	24.00	1.294	-0.12	0.558	0.722
25	LTE Band 5	10M	QPSK	25	0	-	Back	10mm	Ant 1	DSI 7	20525	836.5	21.89	23.00	1.291	0.09	0.564	**0.728**
	LTE Band 5	10M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 7	20525	836.5	22.88	24.00	1.294	0.03	0.002	0.003
	LTE Band 5	10M	QPSK	25	0	-	Left Side	10mm	Ant 1	DSI 7	20525	836.5	21.89	23.00	1.291	0.08	0.038	0.049
	LTE Band 5	10M	QPSK	1	0	-	Right Side	10mm	Ant 1	DSI 7	20525	836.5	22.88	24.00	1.294	0.08	0.143	0.185
	LTE Band 5	10M	QPSK	25	0	-	Right Side	10mm	Ant 1	DSI 7	20525	836.5	21.89	23.00	1.291	0.07	0.154	0.199
	LTE Band 5	10M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 7	20525	836.5	22.88	24.00	1.294	0.04	0.251	0.325
	LTE Band 5	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 1	DSI 7	20525	836.5	21.89	23.00	1.291	-0.17	0.248	0.320
	LTE Band 5	10M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 7	20525	836.5	21.48	22.00	1.127	0.07	0.102	0.115
	LTE Band 5	10M	QPSK	25	0	-	Front	10mm	Ant 7	DSI 7	20525	836.5	20.39	21.00	1.151	-0.05	0.103	0.119
	LTE Band 5	10M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 7	20525	836.5	21.48	22.00	1.127	-0.02	0.107	0.121
	LTE Band 5	10M	QPSK	25	0	-	Back	10mm	Ant 7	DSI 7	20525	836.5	20.39	21.00	1.151	0.02	0.104	0.120
	LTE Band 5	10M	QPSK	1	0	-	Left Side	10mm	Ant 7	DSI 7	20525	836.5	21.48	22.00	1.127	0.1	0.003	0.003
	LTE Band 5	10M	QPSK	25	0	-	Left Side	10mm	Ant 7	DSI 7	20525	836.5	20.39	21.00	1.151	0.03	0.001	0.001
	LTE Band 5	10M	QPSK	1	0	-	Top Side	10mm	Ant 7	DSI 7	20525	836.5	21.48	22.00	1.127	-0.01	0.087	0.098
	LTE Band 5	10M	QPSK	25	0	-	Top Side	10mm	Ant 7	DSI 7	20525	836.5	20.39	21.00	1.151	0.13	0.088	0.101
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 7	167300	836.5	23.14	24.00	1.219	-0.07	0.265	0.323
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 7	167300	836.5	23.06	24.00	1.242	-0.19	0.298	0.370
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 7	167300	836.5	23.14	24.00	1.219	0.06	0.429	0.523
26	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 7	167300	836.5	23.06	24.00	1.242	0.06	0.462	**0.574**
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 7	167300	836.5	23.14	24.00	1.219	0.07	0.003	0.004
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 7	167300	836.5	23.06	24.00	1.242	-0.05	0.001	0.001
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 7	167300	836.5	23.14	24.00	1.219	-0.12	0.096	0.117
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 7	167300	836.5	23.06	24.00	1.242	0.06	0.110	0.137
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	167300	836.5	23.14	24.00	1.219	0.08	0.183	0.223
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	167300	836.5	23.06	24.00	1.242	0.12	0.194	0.241
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 7	DSI 7	167300	836.5	21.76	23.00	1.330	0.05	0.086	0.114

	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 7	DSI 7	167300	836.5	21.70	23.00	1.349	-0.08	0.106	0.143
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 7	DSI 7	167300	836.5	21.76	23.00	1.330	0.07	0.094	0.125
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 7	DSI 7	167300	836.5	21.70	23.00	1.349	0.09	0.111	0.150
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 7	DSI 7	167300	836.5	21.76	23.00	1.330	-0.04	0.003	0.004
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 7	DSI 7	167300	836.5	21.70	23.00	1.349	-0.15	0.001	0.001
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	167300	836.5	21.76	23.00	1.330	0.17	0.082	0.109
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	167300	836.5	21.70	23.00	1.349	-0.04	0.093	0.125
1750MHz																		
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 7	1413	1732.6	18.70	19.50	1.202	-0.15	0.503	0.605
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 7	1413	1732.6	18.70	19.50	1.202	0.1	0.494	0.594
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 7	1413	1732.6	18.70	19.50	1.202	-0.15	0.026	0.031
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 1	DSI 7	1413	1732.6	18.70	19.50	1.202	0.1	0.035	0.042
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	1413	1732.6	18.70	19.50	1.202	0.13	0.866	1.041
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	1312	1712.4	18.48	19.50	1.265	0.04	0.851	1.076
27	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	1513	1752.6	18.47	19.50	1.268	0.01	0.932	**1.181**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 7	DSI 7	1413	1732.6	21.19	22.00	1.205	-0.04	0.325	0.392
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 7	DSI 7	1413	1732.6	21.19	22.00	1.205	-0.03	0.296	0.357
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 7	DSI 7	1413	1732.6	21.19	22.00	1.205	0.02	0.046	0.055
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 7	DSI 7	1413	1732.6	21.19	22.00	1.205	0.04	0.749	0.903
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 7	DSI 7	1312	1712.4	20.99	22.00	1.262	0.18	0.696	0.878
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 7	DSI 7	1513	1752.6	21.14	22.00	1.219	-0.06	0.793	0.967
	LTE Band 4	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 7	20175	1732.5	18.05	19.50	1.396	0.03	0.477	0.666
	LTE Band 4	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI 7	20175	1732.5	17.93	19.50	1.435	0.01	0.379	0.544
	LTE Band 4	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 7	20175	1732.5	18.05	19.50	1.396	0.08	0.455	0.635
	LTE Band 4	20M	QPSK	50	0	-	Back	10mm	Ant 1	DSI 7	20175	1732.5	17.93	19.50	1.435	0.01	0.375	0.538
	LTE Band 4	20M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 7	20175	1732.5	18.05	19.50	1.396	0.02	0.020	0.028
	LTE Band 4	20M	QPSK	50	0	-	Left Side	10mm	Ant 1	DSI 7	20175	1732.5	17.93	19.50	1.435	0.11	0.018	0.026
	LTE Band 4	20M	QPSK	1	0	-	Right Side	10mm	Ant 1	DSI 7	20175	1732.5	18.05	19.50	1.396	0.03	0.034	0.047
	LTE Band 4	20M	QPSK	50	0	-	Right Side	10mm	Ant 1	DSI 7	20175	1732.5	17.93	19.50	1.435	0.01	0.028	0.040
28	LTE Band 4	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 7	20175	1732.5	18.05	19.50	1.396	-0.09	0.805	**1.124**
	LTE Band 4	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 1	DSI 7	20175	1732.5	17.93	19.50	1.435	0.06	0.661	0.949
	LTE Band 4	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 1	DSI 7	20175	1732.5	17.90	19.50	1.445	-0.07	0.646	0.934
	LTE Band 4	20M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 7	20175	1732.5	20.39	22.00	1.449	0.03	0.231	0.335
	LTE Band 4	20M	QPSK	50	0	-	Front	10mm	Ant 7	DSI 7	20175	1732.5	19.38	21.00	1.452	0.08	0.174	0.253
	LTE Band 4	20M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 7	20175	1732.5	20.39	22.00	1.449	0.03	0.177	0.256
	LTE Band 4	20M	QPSK	50	0	-	Back	10mm	Ant 7	DSI 7	20175	1732.5	19.38	21.00	1.452	0.02	0.143	0.208
	LTE Band 4	20M	QPSK	1	0	-	Left Side	10mm	Ant 7	DSI 7	20175	1732.5	20.39	22.00	1.449	0.06	0.003	0.004
	LTE Band 4	20M	QPSK	50	0	-	Left Side	10mm	Ant 7	DSI 7	20175	1732.5	19.38	21.00	1.452	-0.13	0.001	0.001
	LTE Band 4	20M	QPSK	1	0	-	Top Side	10mm	Ant 7	DSI 7	20175	1732.5	20.39	22.00	1.449	0.02	0.672	0.974
	LTE Band 4	20M	QPSK	50	0	-	Top Side	10mm	Ant 7	DSI 7	20175	1732.5	19.38	21.00	1.452	0.13	0.548	0.796
	LTE Band 4	20M	QPSK	100	0	-	Top Side	10mm	Ant 7	DSI 7	20175	1732.5	19.34	21.00	1.466	0.03	0.540	0.791
1900MHz																		
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 7	661	1880	19.20	20.50	1.349	0.02	0.577	0.778
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 7	661	1880	19.20	20.50	1.349	0.03	0.468	0.631
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 1	DSI 7	661	1880	19.20	20.50	1.349	0.08	0.021	0.028
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Side	10mm	Ant 1	DSI 7	661	1880	19.20	20.50	1.349	-0.11	0.024	0.032
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 1	DSI 7	661	1880	19.20	20.50	1.349	-0.11	0.646	0.871
29	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 1	DSI 7	512	1850.2	19.11	20.50	1.377	0.05	0.769	**1.059**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	10mm	Ant 1	DSI 7	810	1909.8	19.17	20.50	1.358	-0.07	0.601	0.816
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 7	DSI 7	661	1880	22.44	24.00	1.432	-0.05	0.135	0.193
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 7	DSI 7	661	1880	22.44	24.00	1.432	0.05	0.164	0.235
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	10mm	Ant 7	DSI 7	661	1880	22.44	24.00	1.432	0.09	0.066	0.095
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 7	DSI 7	661	1880	22.44	24.00	1.432	0.02	0.633	0.907
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 7	DSI 7	512	1850.2	22.32	24.00	1.472	-0.05	0.613	0.903
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	10mm	Ant 7	DSI 7	810	1909.8	22.37	24.00	1.455	0.05	0.585	0.851
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 7	9400	1880	16.77	17.50	1.183	0.02	0.486	0.575

	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 7	9400	1880	16.77	17.50	1.183	0.05	0.370	0.438
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 7	9400	1880	16.77	17.50	1.183	0.01	0.020	0.024
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 1	DSI 7	9400	1880	16.77	17.50	1.183	-0.12	0.023	0.027
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	9400	1880	16.77	17.50	1.183	0.08	0.854	1.010
30	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	9262	1852.4	16.58	17.50	1.236	-0.1	0.862	**1.065**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	9538	1907.6	16.69	17.50	1.205	0.18	0.757	0.912
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 7	DSI 7	9400	1880	20.80	22.00	1.318	0.15	0.289	0.381
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 7	DSI 7	9400	1880	20.80	22.00	1.318	-0.1	0.314	0.414
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 7	DSI 7	9400	1880	20.80	22.00	1.318	-0.17	0.101	0.133
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 7	DSI 7	9400	1880	20.80	22.00	1.318	0.03	0.788	1.039
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 7	DSI 7	9262	1852.4	20.77	22.00	1.327	-0.17	0.773	1.026
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 7	DSI 7	9538	1907.6	20.73	22.00	1.340	0.03	0.763	1.022
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 7	18900	1880	16.02	17.50	1.406	0.03	0.345	0.485
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI 7	18900	1880	15.97	17.50	1.422	0.05	0.276	0.393
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 7	18900	1880	16.02	17.50	1.406	-0.16	0.279	0.392
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 1	DSI 7	18900	1880	15.97	17.50	1.422	-0.05	0.225	0.320
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 7	18900	1880	16.02	17.50	1.406	0.04	0.019	0.027
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 1	DSI 7	18900	1880	15.97	17.50	1.422	0.06	0.014	0.020
	LTE Band 2	20M	QPSK	1	0	-	Right Side	10mm	Ant 1	DSI 7	18900	1880	16.02	17.50	1.406	-0.08	0.022	0.031
	LTE Band 2	20M	QPSK	50	0	-	Right Side	10mm	Ant 1	DSI 7	18900	1880	15.97	17.50	1.422	-0.04	0.016	0.023
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 7	18900	1880	16.02	17.50	1.406	0.03	0.756	1.063
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 7	18700	1860	15.99	17.50	1.416	-0.04	0.768	1.087
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 7	19100	1900	15.89	17.50	1.449	0.09	0.727	1.053
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 1	DSI 7	18900	1880	15.97	17.50	1.422	0.05	0.604	0.859
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 1	DSI 7	18700	1860	15.89	17.50	1.449	0.06	0.620	0.898
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 1	DSI 7	19100	1900	15.72	17.50	1.507	-0.15	0.565	0.851
	LTE Band 2	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 1	DSI 7	18900	1880	15.95	17.50	1.429	0.06	0.606	0.866
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 7	18900	1880	20.55	22.00	1.396	-0.17	0.207	0.289
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 7	DSI 7	18900	1880	19.54	21.00	1.400	0.08	0.166	0.232
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 7	18900	1880	20.55	22.00	1.396	0.05	0.219	0.306
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 7	DSI 7	18900	1880	19.54	21.00	1.400	-0.15	0.179	0.251
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 7	DSI 7	18900	1880	20.55	22.00	1.396	-0.02	0.093	0.130
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 7	DSI 7	18900	1880	19.54	21.00	1.400	0.03	0.073	0.102
31	LTE Band 2	20M	QPSK	1	0	-	Top Side	10mm	Ant 7	DSI 7	18900	1880	20.55	22.00	1.396	-0.04	0.841	**1.174**
	LTE Band 2	20M	QPSK	1	0	-	Top Side	10mm	Ant 7	DSI 7	18700	1860	20.49	22.00	1.416	0.02	0.821	1.162
	LTE Band 2	20M	QPSK	1	0	-	Top Side	10mm	Ant 7	DSI 7	19100	1900	20.40	22.00	1.445	0.05	0.810	1.171
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 7	DSI 7	18900	1880	19.54	21.00	1.400	-0.09	0.680	0.952
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 7	DSI 7	18700	1860	19.42	21.00	1.439	0.01	0.677	0.974
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 7	DSI 7	19100	1900	19.41	21.00	1.442	0.08	0.666	0.960
	LTE Band 2	20M	QPSK	100	0	-	Top Side	10mm	Ant 7	DSI 7	18900	1880	19.45	21.00	1.429	-0.18	0.672	0.960
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 7	376000	1880	17.95	19.00	1.274	-0.11	0.321	0.409
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 7	376000	1880	17.91	19.00	1.285	-0.03	0.345	0.443
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 7	376000	1880	17.95	19.00	1.274	0.04	0.283	0.360
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 7	376000	1880	17.91	19.00	1.285	-0.07	0.288	0.370
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 7	376000	1880	17.95	19.00	1.274	0.12	0.023	0.029
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 1	DSI 7	376000	1880	17.91	19.00	1.285	-0.05	0.021	0.027
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 7	376000	1880	17.95	19.00	1.274	0.18	0.024	0.031
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Right Side	10mm	Ant 1	DSI 7	376000	1880	17.91	19.00	1.285	-0.06	0.024	0.031
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	376000	1880	17.95	19.00	1.274	-0.07	0.895	1.140
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	372000	1860	17.80	19.00	1.318	0.06	0.864	1.139
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	380000	1900	17.72	19.00	1.343	-0.08	0.844	1.133
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	376000	1880	17.91	19.00	1.285	0.06	0.895	1.150
32	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	372000	1860	17.80	19.00	1.318	0.04	0.901	**1.188**
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	380000	1900	17.72	19.00	1.343	0.05	0.800	1.074
	FR1 n2	20M	QPSK	50	0	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	376000	1880	17.88	19.00	1.294	-0.05	0.704	0.911
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 7	DSI 7	376000	1880	20.83	22.00	1.309	0.02	0.262	0.343

	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 7	DSI 7	376000	1880	20.79	22.00	1.321	-0.15	0.290	0.383
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 7	DSI 7	376000	1880	20.83	22.00	1.309	-0.08	0.332	0.435
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 7	DSI 7	376000	1880	20.79	22.00	1.321	0.07	0.331	0.437
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 7	DSI 7	376000	1880	20.83	22.00	1.309	0.01	0.088	0.115
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 7	DSI 7	376000	1880	20.79	22.00	1.321	0.03	0.108	0.143
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	376000	1880	20.83	22.00	1.309	0.04	0.864	1.131
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	372000	1860	20.76	22.00	1.330	0.07	0.852	1.134
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	380000	1900	20.71	22.00	1.346	0.11	0.846	1.139
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	376000	1880	20.79	22.00	1.321	-0.07	0.880	1.163
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	372000	1860	20.68	22.00	1.355	-0.09	0.850	1.152
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	380000	1900	20.73	22.00	1.340	0.05	0.861	1.153
	FR1 n2	20M	QPSK	50	0	DFT-SCS-30KHz	Top Side	10mm	Ant 7	DSI 7	376000	1880	19.72	21.00	1.343	0.08	0.691	0.928

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	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)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI 7	21100	2535	22.99	24.00	1.262	-	-	0.14	0.545	0.688
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI 7	21100	2535	22.04	23.00	1.247	-	-	0.19	0.443	0.553
33	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 7	21100	2535	22.99	24.00	1.262	-	-	-0.03	0.853	**1.076**
	LTE Band 7C	20M	QPSK	1	99	-	Back	10mm	Ant 2	DSI 7	21100+ 21298	2535+ 2554.8	22.41	24.00	1.442	-	-	0.04	0.745	1.074
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 7	20850	2510	22.90	24.00	1.288	-	-	0.17	0.791	1.019
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 7	21350	2560	22.94	24.00	1.276	-	-	-0.18	0.841	1.073
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 7	21100	2535	22.04	23.00	1.247	-	-	0.05	0.682	0.851
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 7	20850	2510	21.84	23.00	1.306	-	-	0.08	0.666	0.870
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 7	21350	2560	21.96	23.00	1.271	-	-	0.02	0.672	0.854
	LTE Band 7	20M	QPSK	100	0	-	Back	10mm	Ant 2	DSI 7	21100	2535	21.92	23.00	1.282	-	-	-0.07	0.664	0.851
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 7	21100	2535	22.99	24.00	1.262	-	-	0.08	0.474	0.598
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI 7	21100	2535	22.04	23.00	1.247	-	-	0.09	0.383	0.478
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 2	DSI 7	21100	2535	22.99	24.00	1.262	-	-	0.03	0.713	0.900
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 2	DSI 7	20850	2510	22.90	24.00	1.288	-	-	-0.02	0.599	0.772
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 2	DSI 7	21350	2560	22.94	24.00	1.276	-	-	0.07	0.755	0.964
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 2	DSI 7	21100	2535	22.04	23.00	1.247	-	-	-0.18	0.590	0.736
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 2	DSI 7	21100	2535	21.92	23.00	1.282	-	-	-0.11	0.582	0.746
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 7	21100	2535	20.15	21.00	1.216	-	-	0.05	0.285	0.347
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Front	10mm	Ant 7	DSI 7	21100	2535	20.10	21.00	1.230	-	-	0.08	0.211	0.260
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 7	21100	2535	20.15	21.00	1.216	-	-	0.04	0.614	0.747
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Back	10mm	Ant 7	DSI 7	21100	2535	20.10	21.00	1.230	-	-	-0.02	0.544	0.669
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Left Side	10mm	Ant 7	DSI 7	21100	2535	20.15	21.00	1.216	-	-	0.05	0.056	0.068
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Left Side	10mm	Ant 7	DSI 7	21100	2535	20.10	21.00	1.230	-	-	0.11	0.045	0.055
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Top Side	10mm	Ant 7	DSI 7	21100	2535	20.15	21.00	1.216	-	-	-0.05	0.585	0.711
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Top Side	10mm	Ant 7	DSI 7	21100	2535	20.10	21.00	1.230	-	-	0.07	0.491	0.604
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI 7	40620	2593	22.89	24.00	1.291	62.9	1.006	0.08	0.460	0.598
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI 7	40620	2593	21.84	23.00	1.306	62.9	1.006	0.05	0.368	0.484
35	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 7	40620	2593	22.89	24.00	1.291	62.9	1.006	0.04	0.688	**0.894**
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 7	39750	2506	22.81	24.00	1.315	62.9	1.006	0.09	0.670	0.886
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 7	40185	2549.5	22.70	24.00	1.349	62.9	1.006	0.16	0.642	0.871
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 7	41055	2636.5	22.77	24.00	1.327	62.9	1.006	-0.04	0.651	0.869
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 7	41490	2680	22.75	24.00	1.334	62.9	1.006	0.19	0.648	0.869
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 7	40620	2593	21.84	23.00	1.306	62.9	1.006	-0.15	0.569	0.748
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 7	39750	2506	21.80	23.00	1.318	62.9	1.006	0.09	0.558	0.740
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 7	40185	2549.5	21.70	23.00	1.349	62.9	1.006	-0.08	0.542	0.736
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 7	41055	2636.5	21.67	23.00	1.358	62.9	1.006	-0.03	0.540	0.738
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 7	41490	2680	21.62	23.00	1.374	62.9	1.006	0.13	0.532	0.735
	LTE Band 41	20M	QPSK	100	0	-	Back	10mm	Ant 2	DSI 7	40620	2593	21.78	23.00	1.324	62.9	1.006	0.02	0.550	0.733
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 7	40620	2593	22.89	24.00	1.291	62.9	1.006	0.07	0.375	0.487

	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI 7	40620	2593	21.84	23.00	1.306	62.9	1.006	0.08	0.309	0.406
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 2	DSI 7	40620	2593	22.89	24.00	1.291	62.9	1.006	0.02	0.671	0.872
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 2	DSI 7	39750	2506	22.81	24.00	1.315	62.9	1.006	-0.07	0.660	0.873
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 2	DSI 7	40185	2549.5	22.70	24.00	1.349	62.9	1.006	0.07	0.642	0.871
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 2	DSI 7	41055	2636.5	22.77	24.00	1.327	62.9	1.006	0.12	0.643	0.859
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 2	DSI 7	41490	2680	22.75	24.00	1.334	62.9	1.006	-0.19	0.650	0.872
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 2	DSI 7	40620	2593	21.84	23.00	1.306	62.9	1.006	0.09	0.535	0.703
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 2	DSI 7	39750	2506	21.80	23.00	1.318	62.9	1.006	-0.12	0.522	0.692
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 2	DSI 7	40185	2549.5	21.70	23.00	1.349	62.9	1.006	0.07	0.512	0.695
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 2	DSI 7	41055	2636.5	21.67	23.00	1.358	62.9	1.006	-0.1	0.510	0.697
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 2	DSI 7	41490	2680	21.62	23.00	1.374	62.9	1.006	0.02	0.512	0.708
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 2	DSI 7	40620	2593	21.78	23.00	1.324	62.9	1.006	0.08	0.520	0.693
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	507000	2535	23.06	24.00	1.242	-	-	0.19	0.610	0.757
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	507000	2535	23.03	24.00	1.250	-	-	0.07	0.633	0.791
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	507000	2535	23.06	24.00	1.242	-	-	0.02	0.898	1.115
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	502000	2510	22.97	24.00	1.268	-	-	0.03	0.880	1.116
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	512000	2560	23.04	24.00	1.247	-	-	0.02	0.882	1.100
36	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	507000	2535	23.03	24.00	1.250	-	-	-0.14	0.910	**1.138**
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	502000	2510	22.98	24.00	1.265	-	-	0.06	0.898	1.136
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	512000	2560	22.91	24.00	1.285	-	-	0.1	0.882	1.134
	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	507000	2535	22.11	23.00	1.227	-	-	-0.12	0.732	0.898
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	507000	2535	23.06	24.00	1.242	-	-	0.08	0.497	0.617
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	507000	2535	23.03	24.00	1.250	-	-	0.05	0.507	0.634
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	507000	2535	23.06	24.00	1.242	-	-	0.09	0.707	0.878
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	502000	2510	22.97	24.00	1.268	-	-	0.01	0.698	0.885
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	512000	2560	23.04	24.00	1.247	-	-	0.08	0.688	0.858
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	507000	2535	23.03	24.00	1.250	-	-	0.02	0.751	0.939
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	502000	2510	22.98	24.00	1.265	-	-	0.06	0.742	0.938
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	512000	2560	22.91	24.00	1.285	-	-	0.02	0.730	0.938
	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	507000	2535	22.11	23.00	1.227	-	-	0.07	0.564	0.692
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	518598	2592.99	23.21	24.00	1.199	-	-	0.02	0.608	0.729
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	518598	2592.99	23.12	24.00	1.225	-	-	0.03	0.514	0.629
37	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	518598	2592.99	23.21	24.00	1.199	-	-	-0.15	0.809	**0.970**
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	518598	2592.99	23.12	24.00	1.225	-	-	0.06	0.781	0.956
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	518598	2592.99	21.89	23.00	1.291	-	-	-0.12	0.568	0.733
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	518598	2592.99	23.21	24.00	1.199	-	-	-0.17	0.364	0.437
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	518598	2592.99	23.12	24.00	1.225	-	-	0.06	0.370	0.453
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	518598	2592.99	23.21	24.00	1.199	-	-	-0.08	0.697	0.836
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	518598	2592.99	23.12	24.00	1.225	-	-	0.02	0.683	0.836
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	518598	2592.99	21.89	23.00	1.291	-	-	0.01	0.496	0.640
3500MHz																				
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	656000	3840	19.82	20.00	1.042	-	-	0.04	0.315	0.328
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	656000	3840	19.78	20.00	1.052	-	-	-0.15	0.259	0.272
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	656000	3840	19.82	20.00	1.042	-	-	-0.17	1.04	1.084
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	656000	3840	19.78	20.00	1.052	-	-	0.02	1.05	1.105
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	656000	3840	19.75	20.00	1.059	-	-	0.09	0.721	0.764
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	656000	3840	19.82	20.00	1.042	-	-	0.08	0.234	0.244
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	656000	3840	19.78	20.00	1.052	-	-	0.05	0.245	0.258
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	656000	3840	19.82	20.00	1.042	-	-	-0.05	0.716	0.746
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	656000	3840	19.78	20.00	1.052	-	-	0.05	0.650	0.684
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	633334	3500.01	19.57	20.00	1.104	-	-	0.03	0.098	0.108
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	633334	3500.01	19.56	20.00	1.107	-	-	0.18	0.110	0.122
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	633334	3500.01	19.57	20.00	1.104	-	-	0.16	0.196	0.216
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	633334	3500.01	19.56	20.00	1.107	-	-	-0.09	0.225	0.249
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	633334	3500.01	19.57	20.00	1.104	-	-	0.08	0.104	0.115
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	633334	3500.01	19.56	20.00	1.107	-	-	-0.05	0.111	0.123

	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	633334	3500.01	19.57	20.00	1.104	-	-	0.17	0.136	0.150
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	633334	3500.01	19.56	20.00	1.107	-	-	-0.08	0.177	0.196
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 7	656000	3840	20.92	21.00	1.019	-	-	0.03	0.110	0.112
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 7	656000	3840	20.89	21.00	1.026	-	-	-0.05	0.141	0.145
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	656000	3840	20.92	21.00	1.019	-	-	0.06	0.618	0.629
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	656000	3840	20.89	21.00	1.026	-	-	-0.08	0.724	0.743
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	656000	3840	20.92	21.00	1.019	-	-	0.13	0.628	0.640
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	656000	3840	20.89	21.00	1.026	-	-	0.06	0.713	0.731
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 7	656000	3840	20.92	21.00	1.019	-	-	-0.1	0.021	0.021
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 7	656000	3840	20.89	21.00	1.026	-	-	-0.15	0.021	0.022
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 7	633334	3500.01	20.22	21.00	1.197	-	-	0.17	0.204	0.244
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 7	633334	3500.01	20.13	21.00	1.222	-	-	0.19	0.217	0.265
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	633334	3500.01	20.22	21.00	1.197	-	-	-0.02	0.424	0.507
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	633334	3500.01	20.13	21.00	1.222	-	-	-0.09	0.438	0.535
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	633334	3500.01	20.22	21.00	1.197	-	-	0.18	0.720	0.862
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	633334	3500.01	20.13	21.00	1.222	-	-	0.02	0.782	0.955
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	633334	3500.01	20.10	21.00	1.230	-	-	0.03	0.792	0.974
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 7	633334	3500.01	20.22	21.00	1.197	-	-	0.03	0.041	0.049
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 7	633334	3500.01	20.13	21.00	1.222	-	-	0.03	0.042	0.051
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 7	656000	3840	22.16	23.00	1.213	-	-	0.18	0.396	0.481
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 7	656000	3840	22.08	23.00	1.236	-	-	0.13	0.557	0.688
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	656000	3840	22.16	23.00	1.213	-	-	0.02	0.668	0.811
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	656000	3840	22.08	23.00	1.236	-	-	-0.08	0.765	0.945
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	656000	3840	22.05	23.00	1.245	-	-	-0.02	0.584	0.727
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	656000	3840	22.16	23.00	1.213	-	-	0.04	0.685	0.831
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	656000	3840	22.08	23.00	1.236	-	-	0.05	0.829	1.025
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	656000	3840	22.05	23.00	1.245	-	-	0.17	0.654	0.814
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 6	DSI 7	656000	3840	22.16	23.00	1.213	-	-	0.19	0.259	0.314
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 6	DSI 7	656000	3840	22.08	23.00	1.236	-	-	0.01	0.341	0.421
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 7	633334	3500.01	22.36	23.00	1.159	-	-	0.02	0.556	0.644
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 7	633334	3500.01	22.33	23.00	1.167	-	-	0.12	0.583	0.680
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	633334	3500.01	22.36	23.00	1.159	-	-	0.11	0.676	0.783
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	633334	3500.01	22.33	23.00	1.167	-	-	-0.07	0.725	0.846
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	633334	3500.01	22.25	23.00	1.189	-	-	0.08	0.526	0.625
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	22.36	23.00	1.159	-	-	0.01	0.954	1.105
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	22.33	23.00	1.167	-	-	0.07	0.931	1.086
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	22.25	23.00	1.189	-	-	0.07	0.721	0.857
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 6	DSI 7	633334	3500.01	22.36	23.00	1.159	-	-	0.04	0.195	0.226
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 6	DSI 7	633334	3500.01	22.33	23.00	1.167	-	-	0.04	0.203	0.237
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 7	656000	3840	19.57	20.00	1.104	-	-	-0.1	0.155	0.171
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 7	656000	3840	19.51	20.00	1.119	-	-	-0.07	0.154	0.172
38	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	656000	3840	19.57	20.00	1.104	-	-	0.02	1.04	**1.148**
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	656000	3840	19.51	20.00	1.119	-	-	-0.03	1.01	1.131
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	656000	3840	19.43	20.00	1.140	-	-	0.17	0.737	0.840
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 7	656000	3840	19.57	20.00	1.104	-	-	0.05	0.550	0.607
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 7	656000	3840	19.51	20.00	1.119	-	-	0.18	0.557	0.624
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 7	656000	3840	19.57	20.00	1.104	-	-	-0.08	0.091	0.100
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 7	656000	3840	19.51	20.00	1.119	-	-	-0.09	0.099	0.111
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 7	633334	3500.01	19.90	20.00	1.023	-	-	0.17	0.126	0.129
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 7	633334	3500.01	19.83	20.00	1.040	-	-	0.02	0.127	0.132
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	633334	3500.01	19.90	20.00	1.023	-	-	-0.01	0.412	0.422
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	633334	3500.01	19.83	20.00	1.040	-	-	-0.04	0.400	0.416
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 7	633334	3500.01	19.90	20.00	1.023	-	-	-0.19	0.169	0.173
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 7	633334	3500.01	19.83	20.00	1.040	-	-	-0.1	0.169	0.176
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 7	633334	3500.01	19.90	20.00	1.023	-	-	0.06	0.066	0.068
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 7	633334	3500.01	19.83	20.00	1.040	-	-	-0.16	0.077	0.080

	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	650000	3750	20.41	21.50	1.285	-	-	-0.13	0.270	0.347
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	650000	3750	20.38	21.50	1.294	-	-	0.03	0.275	0.356
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	650000	3750	20.41	21.50	1.285	-	-	-0.11	0.811	1.042
39	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	650000	3750	20.38	21.50	1.294	-	-	0.07	0.885	**1.145**
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	650000	3750	20.09	21.50	1.384	-	-	0.08	0.811	1.122
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	650000	3750	20.41	21.50	1.285	-	-	-0.17	0.262	0.337
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	650000	3750	20.38	21.50	1.294	-	-	-0.03	0.236	0.305
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	650000	3750	20.41	21.50	1.285	-	-	-0.13	0.643	0.826
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	650000	3750	20.38	21.50	1.294	-	-	0.05	0.622	0.805
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	650000	3750	20.09	21.50	1.384	-	-	0.05	0.610	0.844
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	650000	3750	22.34	23.50	1.306	50	1.000	0.02	0.736	0.961
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	633334	3500.01	20.35	21.50	1.303	-	-	0.02	0.131	0.171
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 7	633334	3500.01	20.25	21.50	1.334	-	-	-0.14	0.118	0.157
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	633334	3500.01	20.35	21.50	1.303	-	-	0.11	0.252	0.328
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	633334	3500.01	20.25	21.50	1.334	-	-	-0.07	0.258	0.344
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	633334	3500.01	20.35	21.50	1.303	-	-	0.15	0.152	0.198
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 7	633334	3500.01	20.25	21.50	1.334	-	-	0.02	0.132	0.176
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	633334	3500.01	20.35	21.50	1.303	-	-	-0.07	0.225	0.293
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 2	DSI 7	633334	3500.01	20.25	21.50	1.334	-	-	0.05	0.180	0.240
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	633334	3500.01	22.15	23.50	1.365	50	1.000	0.08	0.181	0.247
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 7	650000	3750	18.03	18.50	1.114	-	-	-0.18	0.186	0.207
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 7	650000	3750	17.94	18.50	1.138	-	-	-0.13	0.178	0.202
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	650000	3750	18.03	18.50	1.114	-	-	-0.03	0.737	0.821
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	650000	3750	17.94	18.50	1.138	-	-	0.05	0.686	0.780
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	650000	3750	17.81	18.50	1.172	-	-	0.09	0.642	0.753
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	650000	3750	18.03	18.50	1.114	-	-	-0.16	0.749	0.835
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	650000	3750	17.94	18.50	1.138	-	-	-0.11	0.784	0.892
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	650000	3750	17.81	18.50	1.172	-	-	-0.14	0.686	0.804
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 7	650000	3750	18.03	18.50	1.114	-	-	0.15	0.039	0.043
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 7	650000	3750	17.94	18.50	1.138	-	-	0.18	0.045	0.051
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	650000	3750	20.90	21.50	1.148	50	1.000	-0.08	0.701	0.805
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 7	633334	3500.01	17.80	18.50	1.175	-	-	0.02	0.171	0.201
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 7	633334	3500.01	17.78	18.50	1.180	-	-	0.07	0.162	0.191
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	633334	3500.01	17.80	18.50	1.175	-	-	-0.03	0.334	0.392
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 7	633334	3500.01	17.78	18.50	1.180	-	-	-0.17	0.317	0.374
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	633334	3500.01	17.80	18.50	1.175	-	-	0.01	0.561	0.659
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	633334	3500.01	17.78	18.50	1.180	-	-	0.04	0.568	0.670
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 7	633334	3500.01	17.80	18.50	1.175	-	-	0.03	0.033	0.039
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 7	633334	3500.01	17.78	18.50	1.180	-	-	-0.18	0.033	0.039
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 7	633334	3500.01	20.90	21.50	1.148	50	1.000	0.02	0.382	0.439
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 7	650000	3750	20.75	22.00	1.334	-	-	0.08	0.381	0.508
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 7	650000	3750	20.73	22.00	1.340	-	-	0.03	0.402	0.539
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	650000	3750	20.75	22.00	1.334	-	-	0.07	0.572	0.763
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	650000	3750	20.73	22.00	1.340	-	-	-0.16	0.609	0.816
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	650000	3750	20.60	22.00	1.380	-	-	-0.12	0.564	0.779
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	650000	3750	20.75	22.00	1.334	-	-	-0.1	0.747	0.996
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	650000	3750	20.73	22.00	1.340	-	-	-0.07	0.850	1.139
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	650000	3750	20.60	22.00	1.380	-	-	0.04	0.747	1.031
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 6	DSI 7	650000	3750	20.75	22.00	1.334	-	-	0.04	0.213	0.284
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 6	DSI 7	650000	3750	20.73	22.00	1.340	-	-	-0.03	0.196	0.263
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	650000	3750	23.73	25.00	1.340	50	1.000	0.12	0.811	1.086
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 7	633334	3500.01	20.88	22.00	1.294	-	-	0.08	0.428	0.554
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 7	633334	3500.01	20.72	22.00	1.343	-	-	0.14	0.405	0.544
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	633334	3500.01	20.88	22.00	1.294	-	-	0.02	0.481	0.623
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 7	633334	3500.01	20.72	22.00	1.343	-	-	0.06	0.495	0.665
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	20.88	22.00	1.294	-	-	0.05	0.691	0.894

	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	20.72	22.00	1.343	-	-	-0.12	0.697	0.936
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	20.54	22.00	1.400	-	-	-0.09	0.657	0.920
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 6	DSI 7	633334	3500.01	20.88	22.00	1.294	-	-	0.11	0.115	0.149
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 6	DSI 7	633334	3500.01	20.72	22.00	1.343	-	-	-0.17	0.142	0.191
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	23.85	25.00	1.303	50	1.000	0.08	0.653	0.851
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 7	650000	3750	18.50	19.00	1.122	-	-	0.05	0.246	0.276
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 7	650000	3750	18.42	19.00	1.143	-	-	-0.17	0.214	0.245
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	650000	3750	18.50	19.00	1.122	-	-	-0.12	0.971	1.089
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	650000	3750	18.42	19.00	1.143	-	-	0.18	0.875	1.000
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	650000	3750	18.31	19.00	1.172	-	-	0.04	0.878	1.029
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 7	650000	3750	18.50	19.00	1.122	-	-	-0.09	0.551	0.618
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 7	650000	3750	18.42	19.00	1.143	-	-	-0.13	0.542	0.619
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 7	650000	3750	18.50	19.00	1.122	-	-	0.1	0.116	0.130
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 7	650000	3750	18.42	19.00	1.143	-	-	0.05	0.119	0.136
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	650000	3750	21.12	22.00	1.225	50	1.000	0.08	0.807	0.988
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 7	633334	3500.01	17.79	19.00	1.321	-	-	0.03	0.158	0.209
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 7	633334	3500.01	17.70	19.00	1.349	-	-	0.02	0.158	0.213
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	633334	3500.01	17.79	19.00	1.321	-	-	0.09	0.458	0.605
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	633334	3500.01	17.70	19.00	1.349	-	-	0.06	0.445	0.600
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 7	633334	3500.01	17.79	19.00	1.321	-	-	0.04	0.200	0.264
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 11	DSI 7	633334	3500.01	17.70	19.00	1.349	-	-	-0.02	0.212	0.286
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 7	633334	3500.01	17.79	19.00	1.321	-	-	0.06	0.080	0.106
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 11	DSI 7	633334	3500.01	17.70	19.00	1.349	-	-	0.01	0.088	0.119
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 7	633334	3500.01	20.35	22.00	1.462	50	1.000	-0.05	0.411	0.601

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)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 8	Full	6	2437	19.30	20.50	1.318	100	1.000	0.07	0.230	0.303
40	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 8	Full	6	2437	19.30	20.50	1.318	100	1.000	-0.03	0.261	**0.344**
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 8	Full	6	2437	19.30	20.50	1.318	100	1.000	-0.17	0.204	0.269
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 8	Full	6	2437	19.30	20.50	1.318	100	1.000	0.02	0.002	0.003
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 8	Full	6	2437	19.30	20.50	1.318	100	1.000	0.03	0.222	0.293
	Bluetooth	1Mbps	Front	10mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	-0.1	0.010	0.013
41	Bluetooth	1Mbps	Back	10mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	0.03	0.035	**0.047**
	Bluetooth	1Mbps	Right Side	10mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	-0.04	0.003	0.004
	Bluetooth	1Mbps	Left Side	10mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	0.01	0.001	0.001
	Bluetooth	1Mbps	Top Side	10mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	-0.16	0.001	0.001
5000MHz																
	WLAN5.2GHz	802.11n-HT40 MCS0	Front	10mm	Ant 9	Simultaneous	46	5230	10.41	11.50	1.285	94.92	1.054	0.05	0.013	0.018
42	WLAN5.2GHz	802.11n-HT40 MCS0	Back	10mm	Ant 9	Simultaneous	46	5230	10.41	11.50	1.285	94.92	1.054	0.06	0.279	**0.378**
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	10mm	Ant 9	Simultaneous	46	5230	10.41	11.50	1.285	94.92	1.054	0.07	0.163	0.221
	WLAN5.2GHz	802.11n-HT40 MCS0	Left Side	10mm	Ant 9	Simultaneous	46	5230	10.41	11.50	1.285	94.92	1.054	0.07	0.002	0.003
	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	10mm	Ant 9	Simultaneous	46	5230	10.41	11.50	1.285	94.92	1.054	0.04	0.026	0.035
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 9	Simultaneous	155	5775	6.42	7.50	1.282	90.32	1.107	0.06	0.013	0.018
43	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Simultaneous	155	5775	6.42	7.50	1.282	90.32	1.107	0.03	0.279	**0.396**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 9	Simultaneous	155	5775	6.42	7.50	1.282	90.32	1.107	0.15	0.107	0.152
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Side	10mm	Ant 9	Simultaneous	155	5775	6.42	7.50	1.282	90.32	1.107	0.15	0.003	0.004
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant 9	Simultaneous	155	5775	6.42	7.50	1.282	90.32	1.107	0.14	0.017	0.024

15.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
835MHz																		
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 3	189	836.4	28.98	30.00	1.265	0.02	0.545	0.689
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 3	189	836.4	28.98	30.00	1.265	-0.12	0.842	1.065
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 3	128	824.2	28.87	30.00	1.297	0.08	0.683	0.886
44	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 3	251	848.8	28.87	30.00	1.297	-0.02	0.849	**1.101**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 7	DSI 3	189	836.4	27.47	28.50	1.268	0.07	0.201	0.255
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 7	DSI 3	189	836.4	27.47	28.50	1.268	-0.01	0.206	0.261
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	4182	836.4	23.12	24.00	1.225	0.02	0.510	0.625
45	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	4182	836.4	23.12	24.00	1.225	0.07	0.792	**0.970**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	4132	826.4	23.03	24.00	1.250	0.02	0.766	0.958
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	4233	846.6	23.10	24.00	1.230	0.05	0.787	0.968
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 7	DSI 3	4182	836.4	21.75	23.00	1.334	0.09	0.122	0.163
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 7	DSI 3	4182	836.4	21.75	23.00	1.334	-0.05	0.132	0.176
	LTE Band 5	10M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 3	20525	836.5	22.88	24.00	1.294	0.01	0.366	0.474
	LTE Band 5	10M	QPSK	25	0	-	Front	10mm	Ant 1	DSI 3	20525	836.5	21.89	23.00	1.291	-0.02	0.371	0.479
	LTE Band 5	10M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 3	20525	836.5	22.88	24.00	1.294	-0.12	0.558	0.722
46	LTE Band 5	10M	QPSK	25	0	-	Back	10mm	Ant 1	DSI 3	20525	836.5	21.89	23.00	1.291	0.09	0.564	**0.728**
	LTE Band 5	10M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 3	20525	836.5	21.48	22.00	1.127	0.07	0.102	0.115
	LTE Band 5	10M	QPSK	25	0	-	Front	10mm	Ant 7	DSI 3	20525	836.5	20.39	21.00	1.151	-0.05	0.103	0.119
	LTE Band 5	10M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 3	20525	836.5	21.48	22.00	1.127	-0.02	0.107	0.121
	LTE Band 5	10M	QPSK	25	0	-	Back	10mm	Ant 7	DSI 3	20525	836.5	20.39	21.00	1.151	0.02	0.104	0.120
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	167300	836.5	23.14	24.00	1.219	-0.07	0.265	0.323
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	167300	836.5	23.06	24.00	1.242	-0.19	0.298	0.370
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	167300	836.5	23.14	24.00	1.219	0.06	0.429	0.523
47	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	167300	836.5	23.06	24.00	1.242	0.06	0.462	**0.574**
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 7	DSI 3	167300	836.5	21.76	23.00	1.330	0.05	0.086	0.114
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 7	DSI 3	167300	836.5	21.70	23.00	1.349	-0.08	0.106	0.143
	FR1 n5	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 7	DSI 3	167300	836.5	21.76	23.00	1.330	0.07	0.094	0.125
	FR1 n5	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 7	DSI 3	167300	836.5	21.70	23.00	1.349	0.09	0.111	0.150
1750MHz																		
48	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	1413	1732.6	21.28	22.00	1.180	-0.08	0.901	**1.063**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	1312	1712.4	20.91	22.00	1.285	-0.08	0.816	1.049
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	1513	1752.6	21.06	22.00	1.242	-0.08	0.813	1.009
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	1413	1732.6	21.28	22.00	1.180	0.08	0.885	1.045
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	1312	1712.4	20.91	22.00	1.285	0.08	0.795	1.022
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	1513	1752.6	21.06	22.00	1.242	0.08	0.812	1.008
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	17mm	Ant 1	DSI 4	1413	1732.6	23.17	24.00	1.211	-0.03	0.463	0.561
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	23mm	Ant 1	DSI 4	1413	1732.6	23.17	24.00	1.211	-0.02	0.255	0.309
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 7	DSI 3	1413	1732.6	21.19	22.00	1.205	-0.04	0.325	0.392
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 7	DSI 3	1413	1732.6	21.19	22.00	1.205	-0.03	0.296	0.357
49	LTE Band 4	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 3	20175	1732.5	20.45	22.00	1.429	-0.13	0.829	**1.185**
	LTE Band 4	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI 3	20175	1732.5	20.44	22.00	1.432	0.03	0.659	0.944
	LTE Band 4	20M	QPSK	100	0	-	Front	10mm	Ant 1	DSI 3	20175	1732.5	20.32	22.00	1.472	0.04	0.648	0.954
	LTE Band 4	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 3	20175	1732.5	20.45	22.00	1.429	-0.18	0.790	1.129
	LTE Band 4	20M	QPSK	50	0	-	Back	10mm	Ant 1	DSI 3	20175	1732.5	20.44	22.00	1.432	0.01	0.652	0.934
	LTE Band 4	20M	QPSK	100	0	-	Back	10mm	Ant 1	DSI 3	20175	1732.5	20.32	22.00	1.472	0.01	0.638	0.939
	LTE Band 4	20M	QPSK	1	0	-	Front	17mm	Ant 1	DSI 4	20175	1732.5	22.46	24.00	1.426	0.07	0.652	0.929
	LTE Band 4	20M	QPSK	1	0	-	Back	23mm	Ant 1	DSI 4	20175	1732.5	22.46	24.00	1.426	0.09	0.364	0.519
	LTE Band 4	20M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 3	20175	1732.5	20.39	22.00	1.449	0.03	0.231	0.335
	LTE Band 4	20M	QPSK	50	0	-	Front	10mm	Ant 7	DSI 3	20175	1732.5	19.38	21.00	1.452	0.08	0.174	0.253
	LTE Band 4	20M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 3	20175	1732.5	20.39	22.00	1.449	0.03	0.177	0.256
	LTE Band 4	20M	QPSK	50	0	-	Back	10mm	Ant 7	DSI 3	20175	1732.5	19.38	21.00	1.452	0.02	0.143	0.208
1900MHz																		
50	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 3	661	1880	20.21	21.50	1.346	-0.09	0.727	**0.978**

	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 3	512	1850.2	20.12	21.50	1.374	-0.03	0.696	0.956
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 1	DSI 3	810	1909.8	20.19	21.50	1.352	0.15	0.672	0.909
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 3	661	1880	20.21	21.50	1.346	0.17	0.589	0.793
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	17mm	Ant 1	DSI 4	661	1880	25.69	27.00	1.352	0.08	0.624	0.844
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	23mm	Ant 1	DSI 4	661	1880	25.69	27.00	1.352	0.01	0.411	0.556
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	10mm	Ant 7	DSI 3	661	1880	23.45	25.00	1.429	-0.08	0.170	0.243
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 7	DSI 3	661	1880	23.45	25.00	1.429	0.04	0.206	0.294
51	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	9400	1880	19.25	20.00	1.189	-0.02	0.870	**1.034**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	9262	1852.4	19.22	20.00	1.197	-0.08	0.821	0.983
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 3	9538	1907.6	19.13	20.00	1.222	0.02	0.824	1.007
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 3	9400	1880	19.25	20.00	1.189	0.01	0.662	0.787
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	17mm	Ant 1	DSI 4	9400	1880	23.23	24.00	1.194	0.04	0.565	0.675
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	23mm	Ant 1	DSI 4	9400	1880	23.23	24.00	1.194	0.03	0.394	0.470
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 7	DSI 3	9400	1880	20.80	22.00	1.318	0.15	0.289	0.381
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 7	DSI 3	9400	1880	20.80	22.00	1.318	-0.1	0.314	0.414
52	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 3	18900	1880	19.62	21.00	1.374	-0.14	0.831	**1.142**
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 3	18700	1860	19.56	21.00	1.393	0.02	0.809	1.127
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 3	19100	1900	19.28	21.00	1.486	0.08	0.767	1.140
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI 3	18900	1880	19.58	21.00	1.387	0.02	0.664	0.921
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI 3	18700	1860	19.52	21.00	1.406	0.02	0.654	0.920
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI 3	19100	1900	19.26	21.00	1.493	0.02	0.649	0.969
	LTE Band 2	20M	QPSK	100	0	-	Front	10mm	Ant 1	DSI 3	18900	1880	19.55	21.00	1.396	0.05	0.647	0.903
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 3	18900	1880	19.62	21.00	1.374	0.05	0.672	0.923
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 3	18700	1860	19.56	21.00	1.393	-0.16	0.637	0.887
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 3	19100	1900	19.28	21.00	1.486	-0.13	0.642	0.954
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 1	DSI 3	18900	1880	19.58	21.00	1.387	-0.05	0.544	0.754
	LTE Band 2	20M	QPSK	100	0	-	Back	10mm	Ant 1	DSI 3	18900	1880	19.55	21.00	1.396	0.05	0.647	0.903
	LTE Band 2	20M	QPSK	1	0	-	Front	17mm	Ant 1	DSI 4	18900	1880	22.56	24.00	1.393	0.04	0.804	1.120
	LTE Band 2	20M	QPSK	1	0	-	Back	23mm	Ant 1	DSI 4	18900	1880	22.56	24.00	1.393	0.02	0.499	0.695
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 3	18900	1880	20.55	22.00	1.396	-0.17	0.207	0.289
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 7	DSI 3	18900	1880	19.54	21.00	1.400	0.08	0.166	0.232
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 3	18900	1880	20.55	22.00	1.396	0.05	0.219	0.306
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 7	DSI 3	18900	1880	19.54	21.00	1.400	-0.15	0.179	0.251
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	376000	1880	21.92	23.00	1.282	-0.11	0.799	1.025
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	372000	1860	21.81	23.00	1.315	0.06	0.776	1.021
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	380000	1900	21.61	23.00	1.377	0.01	0.764	1.052
53	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	376000	1880	21.90	23.00	1.288	-0.03	0.857	**1.104**
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	372000	1860	21.75	23.00	1.334	-0.03	0.826	1.101
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	380000	1900	21.41	23.00	1.442	-0.03	0.765	1.103
	FR1 n2	20M	QPSK	50	0	DFT-SCS-30KHz	Front	10mm	Ant 1	DSI 3	376000	1880	21.87	23.00	1.297	-0.03	0.765	0.992
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	376000	1880	21.92	23.00	1.282	0.04	0.703	0.901
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	372000	1860	21.81	23.00	1.315	0.06	0.687	0.904
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	380000	1900	21.61	23.00	1.377	0.01	0.674	0.928
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	376000	1880	21.90	23.00	1.288	-0.07	0.716	0.922
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	372000	1860	21.75	23.00	1.334	-0.03	0.703	0.937
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	380000	1900	21.41	23.00	1.442	-0.03	0.685	0.988
	FR1 n2	20M	QPSK	50	0	DFT-SCS-30KHz	Back	10mm	Ant 1	DSI 3	376000	1880	21.87	23.00	1.297	-0.03	0.706	0.916
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	17mm	Ant 1	DSI 4	376000	1880	22.88	24.00	1.294	0.02	0.757	0.980
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	17mm	Ant 1	DSI 4	376000	1880	22.85	24.00	1.303	0.13	0.766	0.998
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	23mm	Ant 1	DSI 4	376000	1880	22.88	24.00	1.294	-0.16	0.407	0.527
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Back	23mm	Ant 1	DSI 4	376000	1880	22.85	24.00	1.303	-0.05	0.250	0.326
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 7	DSI 3	376000	1880	20.83	22.00	1.309	0.02	0.262	0.343
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 7	DSI 3	376000	1880	20.79	22.00	1.321	-0.15	0.290	0.383
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 7	DSI 3	376000	1880	20.83	22.00	1.309	-0.08	0.332	0.435
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 7	DSI 3	376000	1880	20.79	22.00	1.321	0.07	0.331	0.437

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI 3	21100	2535	22.99	24.00	1.262	-	-	0.14	0.545	0.688
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI 3	21100	2535	22.04	23.00	1.247	-	-	0.19	0.443	0.553
54	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 3	21100	2535	22.99	24.00	1.262	-	-	-0.03	0.853	**1.076**
	LTE Band 7C	20M	QPSK	1	99	-	Back	10mm	Ant 2	DSI 3	21100+ 21298	2535+ 2554.8	22.41	24.00	1.442	-	-	-0.03	0.745	1.074
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 3	20850	2510	22.90	24.00	1.288	-	-	0.17	0.791	1.019
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 3	21350	2560	22.94	24.00	1.276	-	-	-0.18	0.841	1.073
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 3	21100	2535	22.04	23.00	1.247	-	-	0.05	0.682	0.851
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 3	20850	2510	21.84	23.00	1.306	-	-	0.08	0.666	0.870
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 3	21350	2560	21.96	23.00	1.271	-	-	0.02	0.672	0.854
	LTE Band 7	20M	QPSK	100	0	-	Back	10mm	Ant 2	DSI 3	21100	2535	21.92	23.00	1.282	-	-	-0.07	0.664	0.851
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Front	10mm	Ant 7	DSI 3	21100	2535	20.15	21.00	1.216	-	-	0.05	0.218	0.265
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Front	10mm	Ant 7	DSI 3	21100	2535	20.10	21.00	1.230	-	-	0.08	0.162	0.199
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Back	10mm	Ant 7	DSI 3	21100	2535	20.15	21.00	1.216	-	-	0.04	0.489	0.595
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Back	10mm	Ant 7	DSI 3	21100	2535	20.10	21.00	1.230	-	-	-0.02	0.416	0.512
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Front	18mm	Ant 7	DSI 4	21100	2535	23.17	24.00	1.211	-	-	0.08	0.137	0.166
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Back	22mm	Ant 7	DSI 4	21100	2535	23.17	24.00	1.211	-	-	0.02	0.333	0.403
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI 3	40620	2593	22.89	24.00	1.291	62.9	1.006	0.08	0.460	0.598
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI 3	40620	2593	21.84	23.00	1.306	62.9	1.006	0.05	0.368	0.484
56	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 3	40620	2593	22.89	24.00	1.291	62.9	1.006	0.04	0.688	**0.894**
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 3	39750	2506	22.81	24.00	1.315	62.9	1.006	0.09	0.670	0.886
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 3	40185	2549.5	22.70	24.00	1.349	62.9	1.006	0.16	0.642	0.871
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 3	41055	2636.5	22.77	24.00	1.327	62.9	1.006	-0.04	0.651	0.869
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 3	41490	2680	22.75	24.00	1.334	62.9	1.006	0.19	0.648	0.869
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 3	40620	2593	21.84	23.00	1.306	62.9	1.006	-0.15	0.569	0.748
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 3	39750	2506	21.80	23.00	1.318	62.9	1.006	0.09	0.558	0.740
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 3	40185	2549.5	21.70	23.00	1.349	62.9	1.006	-0.08	0.542	0.736
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 3	41055	2636.5	21.67	23.00	1.358	62.9	1.006	-0.03	0.540	0.738
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 3	41490	2680	21.62	23.00	1.374	62.9	1.006	0.13	0.532	0.735
	LTE Band 41	20M	QPSK	100	0	-	Back	10mm	Ant 2	DSI 3	40620	2593	21.78	23.00	1.324	62.9	1.006	0.02	0.550	0.733
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	507000	2535	23.06	24.00	1.242	-	-	0.19	0.610	0.757
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	507000	2535	23.03	24.00	1.250	-	-	0.07	0.615	0.769
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	507000	2535	23.06	24.00	1.242	-	-	0.02	0.898	1.115
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	502000	2510	22.97	24.00	1.268	-	-	0.03	0.880	1.116
	FR1 n7	20M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	512000	2560	23.04	24.00	1.247	-	-	0.02	0.882	1.100
57	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	507000	2535	23.03	24.00	1.250	-	-	-0.14	0.910	**1.138**
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	502000	2510	22.98	24.00	1.265	-	-	0.06	0.898	1.136
	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	512000	2560	22.91	24.00	1.285	-	-	0.1	0.882	1.134
	FR1 n7	20M	QPSK	50	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	507000	2535	22.11	23.00	1.227	-	-	-0.12	0.732	0.898
	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	518598	2592.99	23.21	24.00	1.199	-	-	0.02	0.608	0.729
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	518598	2592.99	23.12	24.00	1.225	-	-	0.03	0.514	0.629
58	FR1 n41	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	518598	2592.99	23.21	24.00	1.199	-	-	-0.15	0.809	**0.970**
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	518598	2592.99	23.12	24.00	1.225	-	-	0.06	0.781	0.956
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	518598	2592.99	21.89	23.00	1.291	-	-	-0.12	0.568	0.733
3500MHz																				
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	656000	3840	19.82	20.00	1.042	-	-	0.04	0.315	0.328
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	656000	3840	19.78	20.00	1.052	-	-	-0.15	0.259	0.272
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	656000	3840	19.82	20.00	1.042	-	-	-0.17	1.04	1.084
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	656000	3840	19.78	20.00	1.052	-	-	0.02	1.05	1.105
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	656000	3840	19.75	20.00	1.059	-	-	0.09	0.721	0.764
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	21mm	Ant 2	DSI 4	656000	3840	24.79	25.00	1.050	-	-	0.17	0.170	0.178
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	19mm	Ant 2	DSI 4	656000	3840	24.79	25.00	1.050	-	-	0.19	0.834	0.875
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	19mm	Ant 2	DSI 4	656000	3840	24.64	25.00	1.086	-	-	-0.02	0.961	1.044
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	633334	3500.01	19.57	20.00	1.104	-	-	0.03	0.098	0.108
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	633334	3500.01	19.56	20.00	1.107	-	-	0.18	0.110	0.122

	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	633334	3500.01	19.57	20.00	1.104	-	-	0.16	0.196	0.216
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	633334	3500.01	19.56	20.00	1.107	-	-	-0.09	0.225	0.249
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	21mm	Ant 2	DSI 4	633334	3500.01	24.50	25.00	1.122	-	-	0.02	0.060	0.067
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	21mm	Ant 2	DSI 4	633334	3500.01	24.40	25.00	1.148	-	-	0.12	0.054	0.062
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	19mm	Ant 2	DSI 4	633334	3500.01	24.50	25.00	1.122	-	-	0.11	0.180	0.202
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	19mm	Ant 2	DSI 4	633334	3500.01	24.40	25.00	1.148	-	-	0.19	0.174	0.200
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	656000	3840	20.92	21.00	1.019	-	-	0.03	0.110	0.112
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	656000	3840	20.89	21.00	1.026	-	-	-0.05	0.141	0.145
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	656000	3840	20.92	21.00	1.019	-	-	0.06	0.618	0.629
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	656000	3840	20.89	21.00	1.026	-	-	-0.08	0.724	0.743
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	633334	3500.01	20.22	21.00	1.197	-	-	0.17	0.315	0.377
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	633334	3500.01	20.13	21.00	1.222	-	-	0.19	0.335	0.409
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	633334	3500.01	20.22	21.00	1.197	-	-	-0.02	0.655	0.784
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	633334	3500.01	20.13	21.00	1.222	-	-	-0.09	0.681	0.832
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 4	656000	3840	22.16	23.00	1.213	-	-	0.18	0.396	0.481
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 4	656000	3840	22.08	23.00	1.236	-	-	0.13	0.557	0.688
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	656000	3840	22.16	23.00	1.213	-	-	0.02	0.668	0.811
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	656000	3840	22.08	23.00	1.236	-	-	-0.08	0.776	0.959
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	656000	3840	22.05	23.00	1.245	-	-	-0.02	0.584	0.727
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 4	633334	3500.01	22.36	23.00	1.159	-	-	0.02	0.556	0.644
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 4	633334	3500.01	22.33	23.00	1.167	-	-	0.12	0.583	0.680
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	633334	3500.01	22.36	23.00	1.159	-	-	0.11	0.676	0.783
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	633334	3500.01	22.33	23.00	1.167	-	-	-0.07	0.725	0.846
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	633334	3500.01	22.25	23.00	1.189	-	-	0.08	0.526	0.625
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 4	656000	3840	19.57	20.00	1.104	-	-	-0.1	0.155	0.171
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 4	656000	3840	19.51	20.00	1.119	-	-	-0.07	0.154	0.172
59	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	656000	3840	19.57	20.00	1.104	-	-	0.02	1.04	**1.148**
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	656000	3840	19.51	20.00	1.119	-	-	-0.03	1.01	1.131
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	656000	3840	19.43	20.00	1.140	-	-	0.17	0.737	0.840
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 4	633334	3500.01	19.90	20.00	1.023	-	-	0.17	0.126	0.129
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 4	633334	3500.01	19.83	20.00	1.040	-	-	0.02	0.127	0.132
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	633334	3500.01	19.90	20.00	1.023	-	-	-0.01	0.412	0.422
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	633334	3500.01	19.83	20.00	1.040	-	-	-0.04	0.400	0.416
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	650000	3750	20.41	21.50	1.285	-	-	-0.13	0.270	0.347
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	650000	3750	20.38	21.50	1.294	-	-	0.03	0.275	0.356
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	650000	3750	20.41	21.50	1.285	-	-	-0.11	0.811	1.042
60	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	650000	3750	20.38	21.50	1.294	-	-	0.07	0.885	**1.145**
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	650000	3750	20.09	21.50	1.384	-	-	0.08	0.811	1.122
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	650000	3750	22.34	23.50	1.306	50	1.000	0.02	0.736	0.961
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	633334	3500.01	20.35	21.50	1.303	-	-	0.02	0.131	0.171
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 3	633334	3500.01	20.25	21.50	1.334	-	-	-0.14	0.118	0.157
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	633334	3500.01	20.35	21.50	1.303	-	-	0.11	0.252	0.328
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	633334	3500.01	20.25	21.50	1.334	-	-	-0.07	0.258	0.344
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	633334	3500.01	22.15	23.50	1.365	50	1.000	0.08	0.181	0.247
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	650000	3750	19.00	19.50	1.122	-	-	-0.18	0.232	0.260
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	650000	3750	18.96	19.50	1.132	-	-	-0.13	0.222	0.251
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	650000	3750	19.00	19.50	1.122	-	-	-0.03	0.834	0.936
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	650000	3750	18.96	19.50	1.132	-	-	0.05	0.854	0.967
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	650000	3750	18.83	19.50	1.167	-	-	0.09	0.800	0.933
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	650000	3750	21.80	22.50	1.175	50	1.000	0.02	0.753	0.885
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	633334	3500.01	18.80	19.50	1.175	-	-	0.02	0.178	0.209
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	633334	3500.01	18.73	19.50	1.194	-	-	0.07	0.170	0.203
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	633334	3500.01	18.80	19.50	1.175	-	-	-0.07	0.348	0.409
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	633334	3500.01	18.73	19.50	1.194	-	-	-0.17	0.331	0.395
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 4	633334	3500.01	22.04	22.50	1.112	50	1.000	0.03	0.281	0.312
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 4	650000	3750	21.73	23.00	1.340	-	-	0.08	0.502	0.673
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 4	650000	3750	21.65	23.00	1.365	-	-	0.03	0.530	0.723

	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	650000	3750	21.73	23.00	1.340	-	-	0.07	0.755	1.011
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	650000	3750	21.65	23.00	1.365	-	-	0.05	0.803	1.096
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	650000	3750	21.60	23.00	1.380	-	-	-0.12	0.744	1.027
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	650000	3750	24.65	26.00	1.365	50	1.000	-0.16	0.768	1.048
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 4	633334	3500.01	21.76	23.00	1.330	-	-	0.08	0.594	0.790
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 4	633334	3500.01	21.68	23.00	1.355	-	-	0.14	0.562	0.762
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	633334	3500.01	21.76	23.00	1.330	-	-	0.02	0.667	0.887
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	633334	3500.01	21.68	23.00	1.355	-	-	0.19	0.687	0.931
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	633334	3500.01	21.57	23.00	1.390	-	-	-0.14	0.626	0.870
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 4	633334	3500.01	24.70	26.00	1.349	50	1.000	0.06	0.632	0.853
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 4	650000	3750	18.50	19.00	1.122	-	-	0.05	0.246	0.276
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 4	650000	3750	18.42	19.00	1.143	-	-	-0.17	0.214	0.245
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	650000	3750	18.50	19.00	1.122	-	-	-0.12	0.971	1.089
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	650000	3750	18.42	19.00	1.143	-	-	0.18	0.875	1.000
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	650000	3750	18.31	19.00	1.172	-	-	0.04	0.878	1.029
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	650000	3750	21.12	22.00	1.225	50	1.000	0.08	0.807	0.988
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 4	633334	3500.01	17.79	19.00	1.321	-	-	0.03	0.158	0.209
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 11	DSI 4	633334	3500.01	17.70	19.00	1.349	-	-	0.02	0.158	0.213
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	633334	3500.01	17.79	19.00	1.321	-	-	0.09	0.458	0.605
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	633334	3500.01	17.70	19.00	1.349	-	-	0.06	0.446	0.602
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	633334	3500.01	20.35	22.00	1.462	50	1.000	-0.05	0.411	0.601

Plot No.	Band	BW (Hz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1540MHz																			
	Band 255	3.75K	QPSK	1	1	Front	10mm	Ant5	DSI3	261674	1643.3	23.26	24.00	1.186	86	1.000	0.01	0.218	0.258
	Band 255	3.75K	QPSK	1	1	Back	10mm	Ant5	DSI3	261674	1643.3	23.26	24.00	1.186	86	1.000	0.09	0.408	0.484
	Band 255	3.75K	QPSK	1	1	Back	10mm	Ant5	DSI3	261505	1626.7	22.45	24.00	1.429	86	1.000	-0.07	0.554	0.792
61	Band 255	3.75K	QPSK	1	1	Back	10mm	Ant5	DSI3	261843	1659.9	22.81	24.00	1.315	86	1.000	0.08	0.612	**0.805**
2000MHz																			
	Band 23	3.75K	QPSK	1	1	Front	10mm	Ant5	DSI3	25600	2010	23.10	23.50	1.096	86	1.000	0.06	0.157	0.172
62	Band 23	3.75K	QPSK	1	1	Back	10mm	Ant5	DSI3	25600	2010	23.10	23.50	1.096	86	1.000	-0.14	1.02	**1.118**
	Band 23	3.75K	QPSK	1	1	Back	10mm	Ant5	DSI3	25501	2000.1	23.10	23.50	1.096	86	1.000	0.02	0.838	0.919
	Band 23	3.75K	QPSK	1	1	Back	10mm	Ant5	DSI3	25699	2019.9	23.10	23.50	1.096	86	1.000	-0.12	0.657	0.720
	Band 23	3.75K	QPSK	1	1	Back	17mm	Ant5	DSI4	25600	2010	23.53	24.00	1.114	86	1.000	0.02	0.297	0.331

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 8	Full	6	2437	19.30	20.50	1.318	100	1.000	0.07	0.230	0.303
63	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 8	Full	6	2437	19.30	20.50	1.318	100	1.000	-0.03	0.261	**0.344**
	Bluetooth	1Mbps	Front	10mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	-0.1	0.010	0.013
64	Bluetooth	1Mbps	Back	10mm	Ant 8	Full	0	2402	11.10	12.00	1.230	76.79	1.085	0.03	0.035	**0.047**
5000MHz																
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	10mm	Ant 9	Receiver off	54	5270	15.57	16.50	1.239	94.92	1.054	0.17	0.044	0.057
65	WLAN5.3GHz	802.11n-HT40 MCS0	Back	10mm	Ant 9	Receiver off	54	5270	15.57	16.50	1.239	94.92	1.054	0.01	0.836	**1.092**
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	10mm	Ant 9	Receiver off	62	5310	12.87	14.00	1.297	94.92	1.054	0.12	0.535	0.731
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Simultaneous	58	5290	10.22	11.00	1.197	90.32	1.107	0.03	0.266	0.352
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 9	Receiver off	122	5610	12.20	13.00	1.202	90.32	1.107	-0.08	0.030	0.040
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Receiver off	122	5610	12.20	13.00	1.202	90.32	1.107	-0.06	0.722	0.961
66	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Receiver off	138	5690	12.07	13.00	1.239	90.32	1.107	0.01	0.749	**1.027**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Simultaneous	122	5610	8.18	9.00	1.208	90.32	1.107	0.02	0.288	0.385
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 9	Receiver off	155	5775	11.35	12.50	1.303	90.32	1.107	0.06	0.037	0.053
67	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Receiver off	155	5775	11.35	12.50	1.303	90.32	1.107	0.19	0.822	**1.186**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Simultaneous	155	5775	6.42	7.50	1.282	90.32	1.107	0.03	0.279	0.396

15.4 Product Specific SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	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)
1750MHz																		
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	1413	1732.6	19.20	20.00	1.202	0.01	1.61	1.936
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	1413	1732.6	19.20	20.00	1.202	-0.1	1.26	1.515
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	1413	1732.6	19.20	20.00	1.202	0.05	2.23	2.681
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	1312	1712.4	18.96	20.00	1.271	0.12	2.02	2.567
68	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	1513	1752.6	19.15	20.00	1.216	0.06	2.42	**2.943**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	17mm	Ant 1	DSI 4	1413	1732.6	23.17	24.00	1.211	-0.15	0.259	0.314
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	23mm	Ant 1	DSI 4	1413	1732.6	23.17	24.00	1.211	0.1	0.154	0.186
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	18mm	Ant 1	DSI 4	1513	1752.6	23.08	24.00	1.236	0.13	0.460	0.569
	LTE Band 4	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	20175	1732.5	18.55	20.00	1.396	0.09	1.26	1.759
	LTE Band 4	20M	QPSK	50	0	-	Front	0mm	Ant 1	DSI 6	20175	1732.5	18.48	20.00	1.419	0.02	1.01	1.433
	LTE Band 4	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	20175	1732.5	18.55	20.00	1.396	0.03	1.23	1.718
	LTE Band 4	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	20175	1732.5	18.48	20.00	1.419	0.01	1.01	1.433
69	LTE Band 4	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	20175	1732.5	18.55	20.00	1.396	0.08	1.91	**2.667**
	LTE Band 4	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	20175	1732.5	18.48	20.00	1.419	0.01	1.59	2.256
	LTE Band 4	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 1	DSI 6	20175	1732.5	18.43	20.00	1.435	0.18	1.59	2.282
	LTE Band 4	20M	QPSK	1	0	-	Front	17mm	Ant 1	DSI 4	20175	1732.5	22.46	24.00	1.426	-0.13	0.237	0.338
	LTE Band 4	20M	QPSK	1	0	-	Back	23mm	Ant 1	DSI 4	20175	1732.5	22.46	24.00	1.426	0.03	0.140	0.200
	LTE Band 4	20M	QPSK	1	0	-	Bottom Side	18mm	Ant 1	DSI 4	20175	1732.5	22.46	24.00	1.426	-0.18	0.425	0.606
1900MHz																		
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 1	DSI 6	661	1880	20.21	21.50	1.346	0.08	1.70	2.288
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 1	DSI 6	512	1850.2	20.12	21.50	1.374	0.03	1.73	2.377
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	0mm	Ant 1	DSI 6	810	1909.8	20.19	21.50	1.352	-0.16	1.51	2.042
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	0mm	Ant 1	DSI 6	661	1880	20.21	21.50	1.346	0.07	1.24	1.669
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 1	DSI 6	661	1880	20.21	21.50	1.346	0.04	1.86	2.503
70	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 1	DSI 6	512	1850.2	20.12	21.50	1.374	-0.06	1.89	**2.597**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	0mm	Ant 1	DSI 6	810	1909.8	20.19	21.50	1.352	0.04	1.40	1.893
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	17mm	Ant 1	DSI 4	512	1850.2	25.61	27.00	1.377	0.17	0.412	0.567
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	23mm	Ant 1	DSI 4	661	1880	25.69	27.00	1.352	0.08	0.250	0.338
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	18mm	Ant 1	DSI 4	512	1850.2	25.61	27.00	1.377	-0.11	0.821	1.131
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	9400	1880	18.23	19.00	1.194	-0.04	1.83	2.185
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	9262	1852.4	18.15	19.00	1.216	0.05	1.96	2.384
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	9538	1907.6	18.08	19.00	1.236	0.02	1.66	2.052
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	9400	1880	18.23	19.00	1.194	0.05	1.39	1.660
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9400	1880	18.23	19.00	1.194	0.01	1.80	2.149
71	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9262	1852.4	18.15	19.00	1.216	0.03	2.05	**2.493**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9538	1907.6	18.08	19.00	1.236	-0.01	1.59	1.965
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	17mm	Ant 1	DSI 4	9262	1852.4	23.10	24.00	1.230	0.18	0.439	0.540
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	23mm	Ant 1	DSI 4	9400	1880	23.23	24.00	1.194	-0.04	0.234	0.279
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	18mm	Ant 1	DSI 4	9262	1852.4	23.10	24.00	1.230	0.05	0.838	1.031
	LTE Band 2	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	18900	1880	18.64	20.00	1.368	0.01	1.72	2.352
	LTE Band 2	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	18700	1860	18.57	20.00	1.390	0.05	1.80	2.502
	LTE Band 2	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	19100	1900	18.34	20.00	1.466	0.18	1.60	2.345
	LTE Band 2	20M	QPSK	50	0	-	Front	0mm	Ant 1	DSI 6	18900	1880	18.60	20.00	1.380	0.11	1.37	1.891
	LTE Band 2	20M	QPSK	100	0	-	Front	0mm	Ant 1	DSI 6	18900	1880	18.58	20.00	1.387	-0.04	1.34	1.858
	LTE Band 2	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	18900	1880	18.64	20.00	1.368	0.15	1.26	1.723
	LTE Band 2	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	18900	1880	18.60	20.00	1.380	0.01	1.03	1.422
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	18900	1880	18.64	20.00	1.368	-0.14	1.71	2.339
72	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	18700	1860	18.57	20.00	1.390	0.01	1.90	**2.641**
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	19100	1900	18.34	20.00	1.466	-0.12	1.56	2.286
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	18900	1880	18.60	20.00	1.380	0.06	1.35	1.864
	LTE Band 2	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 1	DSI 6	18900	1880	18.58	20.00	1.387	0.02	1.31	1.817

	LTE Band 2	20M	QPSK	1	0	-	Front	17mm	Ant 1	DSI 4	18700	1860	22.49	24.00	1.416	0.05	0.381	0.539
	LTE Band 2	20M	QPSK	1	0	-	Back	23mm	Ant 1	DSI 4	18900	1880	22.56	24.00	1.393	0.06	0.219	0.305
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	18mm	Ant 1	DSI 4	18700	1860	22.49	24.00	1.416	-0.15	0.811	1.148
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 1	DSI 6	376000	1880	19.93	21.00	1.279	0.09	1.83	2.341
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 1	DSI 6	372000	1860	19.75	21.00	1.334	0.02	1.92	2.560
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 1	DSI 6	380000	1900	19.72	21.00	1.343	0.08	1.72	2.310
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	0mm	Ant 1	DSI 6	376000	1880	19.90	21.00	1.288	0.04	1.81	2.332
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	0mm	Ant 1	DSI 6	372000	1860	19.68	21.00	1.355	0.07	1.89	2.561
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	0mm	Ant 1	DSI 6	380000	1900	19.58	21.00	1.387	0.02	1.67	2.316
	FR1 n2	20M	QPSK	50	0	DFT-SCS-30KHz	Front	0mm	Ant 1	DSI 6	376000	1880	19.82	21.00	1.312	0.09	1.43	1.876
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 1	DSI 6	376000	1880	19.93	21.00	1.279	0.14	1.38	1.766
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Back	0mm	Ant 1	DSI 6	376000	1880	19.90	21.00	1.288	-0.15	1.33	1.713
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	376000	1880	19.93	21.00	1.279	0.05	1.85	2.367
73	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	372000	1860	19.75	21.00	1.334	0.02	2.04	**2.720**
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	380000	1900	19.72	21.00	1.343	-0.11	1.77	2.377
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	376000	1880	19.90	21.00	1.288	-0.17	1.74	2.242
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	372000	1860	19.68	21.00	1.355	0.04	1.97	2.670
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	380000	1900	19.58	21.00	1.387	-0.09	1.64	2.274
	FR1 n2	20M	QPSK	50	0	DFT-SCS-30KHz	Bottom Side	0mm	Ant 1	DSI 6	376000	1880	19.82	21.00	1.312	0.02	1.40	1.837
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Front	17mm	Ant 1	DSI 4	372000	1860	22.74	24.00	1.337	0.08	0.367	0.491
	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Front	17mm	Ant 1	DSI 4	372000	1860	22.74	24.00	1.337	0.04	0.149	0.199
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Back	23mm	Ant 1	DSI 4	376000	1880	22.88	24.00	1.294	0.07	0.154	0.199
	FR1 n2	20M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	18mm	Ant 1	DSI 4	372000	1860	22.83	24.00	1.309	0.02	0.577	0.755

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	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)
2600MHz																				
	LTE Band 7_ ENDC	20M	QPSK	1	0	-	Back	0mm	Ant 7	DSI 6	21100	2535	20.15	21.00	1.216	-	-	0.03	1.28	1.557
	LTE Band 7_ ENDC	20M	QPSK	50	0	-	Back	0mm	Ant 7	DSI 6	21100	2535	20.10	21.00	1.230	-	-	0.02	1.05	1.292
74	LTE Band 7_ ENDC	20M	QPSK	1	0	-	Top Side	0mm	Ant 7	DSI 6	21100	2535	20.15	21.00	1.216	-	-	0.06	1.34	**1.630**
	LTE Band 7_ ENDC	20M	QPSK	50	0	-	Top Side	0mm	Ant 7	DSI 6	21100	2535	20.10	21.00	1.230	-	-	0.02	0.99	1.219
	LTE Band 7_ ENDC	20M	QPSK	1	0	-	Back	22mm	Ant 7	DSI 4	21100	2535	23.17	24.00	1.211	-	-	0.01	0.144	0.174
	LTE Band 7_ ENDC	20M	QPSK	1	0	-	Top Side	22mm	Ant 7	DSI 4	21100	2535	23.17	24.00	1.211	-	-	-0.05	0.153	0.185
3500MHz																				
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	656000	3840	19.82	20.00	1.042	-	-	-0.07	0.750	0.782
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	656000	3840	19.78	20.00	1.052	-	-	0.14	1.11	1.168
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	0mm	Ant 2	DSI 6	656000	3840	19.82	20.00	1.042	-	-	0.14	1.30	1.355
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	0mm	Ant 2	DSI 6	656000	3840	19.78	20.00	1.052	-	-	0.06	1.34	1.410
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	19mm	Ant 2	DSI 4	656000	3840	24.79	25.00	1.050	-	-	0.14	0.403	0.423
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	19mm	Ant 2	DSI 4	656000	3840	24.64	25.00	1.086	-	-	0.14	0.418	0.454
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	14mm	Ant 2	DSI 4	656000	3840	24.79	25.00	1.050	-	-	0.07	0.425	0.446
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	14mm	Ant 2	DSI 4	656000	3840	24.64	25.00	1.086	-	-	0.04	0.400	0.435
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 4	DSI 4	656000	3840	20.92	21.00	1.019	-	-	-0.07	1.32	1.345
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 4	DSI 4	656000	3840	20.89	21.00	1.026	-	-	0.03	1.48	1.518
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	656000	3840	20.92	21.00	1.019	-	-	0.08	2.08	2.119
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	656000	3840	20.89	21.00	1.026	-	-	0.01	2.17	2.226
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	656000	3840	20.80	21.00	1.047	-	-	0.02	1.93	2.021
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	633334	3500.01	20.22	21.00	1.197	-	-	-0.04	1.24	1.484
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	633334	3500.01	20.13	21.00	1.222	-	-	0.13	1.20	1.466
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	656000	3840	22.16	23.00	1.213	-	-	0.05	1.92	2.330
77	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	656000	3840	22.08	23.00	1.236	-	-	0.03	2.01	**2.484**
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	656000	3840	22.05	23.00	1.245	-	-	0.09	1.55	1.929
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	633334	3500.01	22.36	23.00	1.159	-	-	0.08	1.56	1.808
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	633334	3500.01	22.33	23.00	1.167	-	-	0.05	1.50	1.750
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	656000	3840	19.57	20.00	1.104	-	-	0.12	1.81	1.998
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	656000	3840	19.51	20.00	1.119	-	-	0.03	1.63	1.825
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	19.57	20.00	1.104	-	-	0.07	1.24	1.369
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	656000	3840	19.51	20.00	1.119	-	-	0.07	1.33	1.489
	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	633334	3500.01	19.90	20.00	1.023	-	-	-0.11	0.810	0.829
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	633334	3500.01	19.83	20.00	1.040	-	-	0.08	0.820	0.853
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	650000	3750	20.41	21.50	1.285	-	-	0.03	0.960	1.234
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	650000	3750	20.38	21.50	1.294	-	-	0.01	0.972	1.258
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	0mm	Ant 2	DSI 6	650000	3750	20.41	21.50	1.285	-	-	0.02	0.956	1.229
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	0mm	Ant 2	DSI 6	650000	3750	20.38	21.50	1.294	-	-	-0.07	0.966	1.250
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 6	650000	3750	22.34	23.50	1.306	50	1.000	0.01	0.813	1.062
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	19mm	Ant 2	DSI 4	650000	3750	23.93	25.00	1.279	-	-	0.05	0.321	0.411
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	19mm	Ant 2	DSI 4	650000	3750	23.88	25.00	1.294	-	-	0.08	0.343	0.444
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Bottom Side	14mm	Ant 2	DSI 4	650000	3750	23.93	25.00	1.279	-	-	-0.11	0.315	0.403
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	14mm	Ant 2	DSI 4	650000	3750	23.88	25.00	1.294	-	-	0.05	0.332	0.430
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 4	DSI 4	650000	3750	19.00	19.50	1.122	-	-	0.12	1.03	1.156
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 4	DSI 4	650000	3750	18.96	19.50	1.132	-	-	-0.08	0.960	1.087
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	650000	3750	19.00	19.50	1.122	-	-	0.18	1.55	1.739
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	650000	3750	18.96	19.50	1.132	-	-	0.12	1.62	1.834
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	650000	3750	21.80	22.50	1.175	50	1.000	0.03	1.42	1.668
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 4	DSI 4	633334	3500.01	18.80	19.50	1.175	-	-	0.06	0.757	0.889
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 4	DSI 4	633334	3500.01	18.73	19.50	1.194	-	-	0.08	0.618	0.738
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	633334	3500.01	18.80	19.50	1.175	-	-	0.1	0.927	1.089
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	633334	3500.01	18.73	19.50	1.194	-	-	-0.06	0.970	1.158
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	633334	3500.01	21.89	22.50	1.151	50	1.000	0.01	0.754	0.868
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	650000	3750	21.73	23.00	1.340	-	-	-0.06	2.09	2.800

78	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	650000	3750	21.65	23.00	1.365	-	-	-0.05	2.13	**2.907**
	FR1 n78	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	650000	3750	21.60	23.00	1.380	-	-	0.05	1.95	2.692
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	650000	3750	24.65	26.00	1.365	50	1.000	0.05	2.05	2.797
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	633334	3500.01	21.76	23.00	1.330	-	-	0.03	1.40	1.863
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	633334	3500.01	21.68	23.00	1.355	-	-	-0.09	1.42	1.924
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	633334	3500.01	24.70	26.00	1.349	50	1.000	0.03	1.38	1.862
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	650000	3750	18.50	19.00	1.122	-	-	0.01	1.61	1.806
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	650000	3750	18.42	19.00	1.143	-	-	-0.18	1.55	1.771
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	650000	3750	18.50	19.00	1.122	-	-	-0.16	1.17	1.313
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	0mm	Ant 11	DSI 4	650000	3750	18.42	19.00	1.143	-	-	0.13	1.25	1.429
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	650000	3750	21.12	22.00	1.225	50	1.000	0.02	1.38	1.690
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	633334	3500.01	17.79	19.00	1.321	-	-	0.06	0.940	1.242
	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	633334	3500.01	17.70	19.00	1.349	-	-	0.18	0.920	1.241
	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	0mm	Ant 11	DSI 4	633334	3500.01	20.35	22.00	1.462	50	1.000	0.06	0.782	1.143

Plot No.	Band	BW (Hz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
1640MHz																			
	Band 255	3.75K	QPSK	1	1	Front	0mm	Ant5	DSI6	261674	1643.3	23.26	24.00	1.186	86	1.000	0.08	0.538	0.638
	Band 255	3.75K	QPSK	1	1	Back	0mm	Ant5	DSI6	261674	1643.3	23.26	24.00	1.186	86	1.000	-0.12	2.12	2.514
79	Band 255	3.75K	QPSK	1	1	Left Side	0mm	Ant5	DSI6	261674	1643.3	23.26	24.00	1.186	86	1.000	0.04	2.45	**2.905**
	Band 255	3.75K	QPSK	1	1	Top Side	0mm	Ant5	DSI6	261674	1643.3	23.26	24.00	1.186	86	1.000	0.03	0.164	0.194
	Band 255	3.75K	QPSK	1	1	Back	0mm	Ant5	DSI6	261505	1626.7	22.45	24.00	1.429	86	1.000	0.05	1.96	2.801
	Band 255	3.75K	QPSK	1	1	Back	0mm	Ant5	DSI6	261843	1659.9	22.81	24.00	1.315	86	1.000	-0.08	2.12	2.788
2000MHz																			
	Band 23	3.75K	QPSK	1	1	Front	0mm	Ant5	DSI6	25600	2010	23.10	23.50	1.096	86	1.000	0.03	0.479	0.525
80	Band 23	3.75K	QPSK	1	1	Back	0mm	Ant5	DSI6	25600	2010	23.10	23.50	1.096	86	1.000	-0.01	2.65	**2.906**
	Band 23	3.75K	QPSK	1	1	Left Side	0mm	Ant5	DSI6	25600	2010	23.10	23.50	1.096	86	1.000	0.02	1.35	1.480
	Band 23	3.75K	QPSK	1	1	Top Side	0mm	Ant5	DSI6	25600	2010	23.10	23.50	1.096	86	1.000	0.01	0.260	0.285
	Band 23	3.75K	QPSK	1	1	Back	0mm	Ant5	DSI6	25501	2000.1	23.10	23.50	1.096	86	1.000	0.08	1.53	1.678
	Band 23	3.75K	QPSK	1	1	Back	0mm	Ant5	DSI6	25699	2019.9	23.10	23.50	1.096	86	1.000	0.1	1.61	1.765
	Band 23	3.75K	QPSK	1	1	Back	17mm	Ant5	DSI4	25600	2010	23.53	24.00	1.114	86	1.000	0.01	0.165	0.184
	Band 23	3.75K	QPSK	1	1	Left Side	10mm	Ant5	DSI4	25600	2010	23.53	24.00	1.114	86	1.000	-0.03	0.208	0.232

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)
5000MHz																
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	0mm	Ant 9	Receiver off	54	5270	15.57	16.50	1.239	94.92	1.054	0.05	0.081	0.106
81	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 9	Receiver off	54	5270	15.57	16.50	1.239	94.92	1.054	0.01	0.959	**1.252**
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 9	Receiver off	54	5270	15.57	16.50	1.239	94.92	1.054	-0.13	0.724	0.945
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 9	Receiver off	54	5270	15.57	16.50	1.239	94.92	1.054	0.02	0.101	0.132
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 9	Receiver off	122	5610	12.20	13.00	1.202	90.32	1.107	-0.13	0.056	0.075
82	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 9	Receiver off	122	5610	12.20	13.00	1.202	90.32	1.107	0.01	0.654	**0.870**
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 9	Receiver off	122	5610	12.20	13.00	1.202	90.32	1.107	0.11	0.424	0.564
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 9	Receiver off	122	5610	12.20	13.00	1.202	90.32	1.107	0.02	0.061	0.081
83	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 9	Receiver off	155	5775	11.35	12.50	1.303	90.32	1.107	0.03	0.717	**1.034**

15.5 Repeated SAR Measurement

<1g>

Plot No.		BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	507000	2535	23.03	24.00	1.250	-	-	-0.14	0.910	1	1.138
2st	FR1 n7	20M	QPSK	25	13	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 7	507000	2535	23.03	24.00	1.250	-	-	-0.05	0.874	1.041	1.093
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 8	Receiver on	6	2437	17.92	19.00	1.282	100	1.000	0.07	0.915	1	1.173
2st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 8	Receiver on	6	2437	17.92	19.00	1.282	100	1.000	0.04	0.873	1.048	1.119
1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 7	251	848.8	28.87	30.00	1.297	-	-	-0.02	0.849	1	1.101
2st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	10mm	Ant 1	DSI 7	251	848.8	28.87	30.00	1.297	-	-	-0.04	0.813	1.044	1.055
1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	1513	1752.6	18.47	19.50	1.268	-	-	0.01	0.932	1	1.181
2st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 7	1513	1752.6	18.47	19.50	1.268	-	-	0.05	0.872	1.069	1.105
1st	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	372000	1860	17.80	19.00	1.318	-	-	0.04	0.901	1	1.188
2st	FR1 n2	20M	QPSK	25	13	DFT-SCS-30KHz	Bottom Side	10mm	Ant 1	DSI 7	372000	1860	17.80	19.00	1.318	-	-	0.07	0.873	1.032	1.151
1st	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	22.36	23.00	1.159	-	-	0.01	0.954	1	1.105
2st	FR1 n77	100M	QPSK	1	137	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 7	633334	3500.01	22.36	23.00	1.159	-	-	0.02	0.912	1.046	1.057
1st	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	650000	3750	18.50	19.00	1.122	-	-	-0.12	0.971	1	1.089
2st	FR1 n78	100M	QPSK	1	137	DFT-SCS-30KHz	Back	10mm	Ant 11	DSI 4	650000	3750	18.50	19.00	1.122	-	-	0.01	0.953	1.019	1.069
1st	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	656000	3840	19.78	20.00	1.052	-	-	0.02	1.05	1	1.105
2st	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 3	656000	3840	19.78	20.00	1.052	-	-	0.01	1.00	1.05	1.052
1st	WLAN5.3GHz	-	-	-	-	802.11n-HT40 MCS0	Back	10mm	Ant 9	Receiver off	54	5270	15.57	16.50	1.239	94.92	1.054	0.01	0.836	1	1.092
2st	WLAN5.3GHz	-	-	-	-	802.11n-HT40 MCS0	Back	10mm	Ant 9	Receiver off	54	5270	15.57	16.50	1.239	94.92	1.054	0.02	0.812	1.030	1.060
1st	WLAN5.8GHz	-	-	-	-	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Receiver off	155	5775	11.35	12.50	1.303	90.32	1.107	0.19	0.822	1	1.186
2st	WLAN5.8GHz	-	-	-	-	802.11ac-VHT80 MCS0	Back	10mm	Ant 9	Receiver off	155	5775	11.35	12.50	1.303	90.32	1.107	0.12	0.796	1.033	1.148

<10g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	1513	1752.6	19.15	20.00	1.216	0.06	2.42	1	2.943
2st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	1513	1752.6	19.15	20.00	1.216	-0.02	2.28	1.061	2.773
1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9262	1852.4	18.15	19.00	1.216	0.03	2.05	1	2.493
2st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9262	1852.4	18.15	19.00	1.216	0.02	2.00	1.025	2.432
1st	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	650000	3750	21.65	23.00	1.365	-0.05	2.13	1	2.907
2st	FR1 n78	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 4	650000	3750	21.65	23.00	1.365	-0.02	2.02	1.054	2.756
1st	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	656000	3840	20.89	21.00	1.026	0.01	2.17	1	2.226
2st	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 4	DSI 4	656000	3840	20.89	21.00	1.026	0.02	2.12	1.024	2.174

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.

15.6 TDD NR Linearity Data Analysis

General Note:

This device support Power Class 2 and Power Class 3 operations for 5GNR n77/n78. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg for 1g and < 3.5 W/kg for 10g, Separate SAR testing for Power Class 2 is not required.

NR n78(HPUE)-Linearity Data for Head Ant2			NR n78(HPUE)-Linearity Data for Head Ant4		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)		NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	25.00	27.00	Maximum Tune up Power (dBm)	23.50	26.50
Reported 10g SAR (W/kg)	0.231	0.189	Reported 10g SAR (W/kg)	0.734	0.690
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	316.23	250.59	Frame Averaged (mW)	223.87	223.34
Linearity SAR (W/kg)	0.183		Linearity SAR (W/kg)	0.732	
% deviation from expected linearity		3.25%	% deviation from expected linearity		-5.77%
NR n78(HPUE)-Linearity Data for Body-worn Ant2			**NR n78(HPUE)-Linearity Data for Body-worn Ant4**		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)		NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	21.50	23.50	Maximum Tune up Power (dBm)	19.50	22.50
Reported 10g SAR (W/kg)	1.145	0.961	Reported 10g SAR (W/kg)	0.967	0.885
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	141.25	111.94	Frame Averaged (mW)	89.13	88.91
Linearity SAR (W/kg)	0.907		Linearity SAR (W/kg)	0.965	
% deviation from expected linearity		5.91%	% deviation from expected linearity		-8.26%
NR n78(HPUE)-Linearity Data for Hotspot Ant2			**NR n78(HPUE)-Linearity Data for Hotspot Ant4**		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)		NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	21.50	23.50	Maximum Tune up Power (dBm)	18.50	21.50
Reported 10g SAR (W/kg)	1.145	0.961	Reported 10g SAR (W/kg)	0.892	0.805
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	141.25	111.94	Frame Averaged (mW)	70.79	70.63
Linearity SAR (W/kg)	0.907		Linearity SAR (W/kg)	0.890	
% deviation from expected linearity		5.91%	% deviation from expected linearity		-9.54%
NR n78(HPUE)-Linearity Data for Extremity Ant2			**NR n78(HPUE)-Linearity Data for Extremity Ant4**		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)		NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	21.50	23.50	Maximum Tune up Power (dBm)	19.50	22.50
Reported 10g SAR (W/kg)	1.258	1.062	Reported 10g SAR (W/kg)	1.834	1.668
Duty Cycle	100.00%	50.00%	Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	141.25	111.94	Frame Averaged (mW)	89.13	88.91
Linearity SAR (W/kg)	0.997		Linearity SAR (W/kg)	1.830	
% deviation from expected linearity		6.53%	% deviation from expected linearity		-8.84%

NR n78(HPUE)-Linearity Data for Head Ant6		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	19.00	22.00
Reported 10g SAR (W/kg)	1.086	1.048
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	79.43	79.24
Linearity SAR (W/kg)	1.083	
% deviation from expected linearity		-3.27%

NR n78(HPUE)-Linearity Data for Head Ant11		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	18.50	21.50
Reported 10g SAR (W/kg)	0.904	0.854
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	70.79	70.63
Linearity SAR (W/kg)	0.902	
% deviation from expected linearity		-5.31%

NR n78(HPUE)-Linearity Data for Body-worn Ant6		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	23.00	26.00
Reported 10g SAR (W/kg)	1.096	1.048
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	199.53	199.05
Linearity SAR (W/kg)	1.093	
% deviation from expected linearity		-4.15%

NR n78(HPUE)-Linearity Data for Body-worn Ant11		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	19.00	22.00
Reported 10g SAR (W/kg)	1.089	0.988
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	79.43	79.24
Linearity SAR (W/kg)	1.086	
% deviation from expected linearity		-9.06%

NR n78(HPUE)-Linearity Data for Hotspot Ant6		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	22.00	25.00
Reported 10g SAR (W/kg)	1.139	1.086
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	158.49	158.11
Linearity SAR (W/kg)	1.136	
% deviation from expected linearity		-4.43%

NR n78(HPUE)-Linearity Data for Hotspot Ant11		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	19.00	22.00
Reported 10g SAR (W/kg)	1.089	0.988
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	79.43	79.24
Linearity SAR (W/kg)	1.086	
% deviation from expected linearity		-9.06%

NR n78(HPUE)-Linearity Data for Extremity Ant6		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	23.00	26.00
Reported 10g SAR (W/kg)	2.907	2.797
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	199.53	199.05
Linearity SAR (W/kg)	2.900	
% deviation from expected linearity		-3.56%

NR n78(HPUE)-Linearity Data for Extremity Ant11		
	NR n78 (Power Class 3)	NR n78 (Power Class 2)
Maximum Tune up Power (dBm)	19.00	22.00
Reported 10g SAR (W/kg)	1.806	1.690
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	79.43	79.24
Linearity SAR (W/kg)	1.802	
% deviation from expected linearity		-6.20%

16. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product Specific
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
3.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
4.	Bluetooth + WLAN5GHz	Yes	Yes	Yes	Yes
5.	WWAN + Bluetooth + WLAN5GHz	Yes	Yes	Yes	Yes
6.	NTN + Bluetooth		Yes		Yes
7.	WWAN + WLAN2.4GHz +NFC				Yes
8.	WWAN + WLAN5GHz +NFC				Yes
9.	WWAN + Bluetooth+NFC				Yes
10.	Bluetooth + WLAN5GHz +NFC				Yes
11.	WWAN + Bluetooth + WLAN5GHz+NFC				Yes
12.	NTN + Bluetooth+NFC				Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP) and LTE supports VoLTE operation.
2. WWAN above includes 5G NR bands and EN-DC combination.
3. 5GNR EN-DC mode, standalone SAR performed for 5GNR band with the maximum power, EN-DC SAR summed 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
4. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
5. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
6. This device 2.4GHz WLAN/ 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
7. NTN has no hotspot function.
8. According to the EUT characteristic, WLAN 5GHz and Bluetooth can transmit simultaneously.
9. According to the EUT characteristic, NTN and Bluetooth can transmit simultaneously.
10. According to the EUT characteristic, WLAN 2.4GHz and Bluetooth at the same antenna cannot transmit simultaneously.
11. For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
12. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
13. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
14. The reported SAR summation is calculated based on the same configuration and test position.
15. For standalone WWAN, always choose the highest SAR among all WWAN bands for each exposure position to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each bands.
16. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
    ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
    iii) If SPLSR ≤ 0.04 for 1g SAR and SPLSR≤ 0.10 for 10g SAR , simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
    v) The SPLSR calculated results please refer to section 16.5.

16.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	WLAN2.4GHz Ant 8	WLAN5GHz Ant 9	Bluetooth Ant 8	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)
All Bands	Right Cheek	1.127	0.465	0.207	0.077	**1.59**	1.41
	Right Tilted	1.117	0.376	0.224	0.065	1.49	1.41
	Left Cheek	1.005	0.378	0.390	0.191	1.38	**1.59**
	Left Tilted	0.895	0.690	0.513	0.125	1.59	1.53

EN-DC

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5	Case No
			WWAN	FR1	WLAN2.4GHz Ant 8	WLAN5GHz Ant 9	Bluetooth Ant 8	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)	
LTE Band 41 Ant 2	FR1 n78 Ant 6	Right Cheek	0.233	1.086	0.465	0.207	0.077	**1.78**	**1.60**	**1&2**
		Right Tilted	0.222	0.520	0.376	0.224	0.065	1.12	1.03	
		Left Cheek	0.470	0.345	0.378	0.390	0.191	1.19	1.40	
		Left Tilted	0.147	0.237	0.690	0.513	0.125	1.07	1.02	
LTE Band 5 Ant 1	FR1 n78 Ant 6	Right Cheek	0.308	1.086	0.465	0.207	0.077	**1.86**	**1.68**	**3&4**
		Right Tilted	0.150	0.520	0.376	0.224	0.065	1.05	0.96	
		Left Cheek	0.181	0.345	0.378	0.390	0.191	0.90	1.11	
		Left Tilted	0.132	0.237	0.690	0.513	0.125	1.06	1.01	
LTE Band 7 Ant 7	FR1 n5 Ant 1	Right Cheek	1.023	0.220	0.465	0.207	0.077	**1.71**	1.53	**5**
		Right Tilted	0.961	0.108	0.376	0.224	0.065	1.45	1.36	
		Left Cheek	0.522	0.134	0.378	0.390	0.191	1.03	1.24	
		Left Tilted	0.480	0.093	0.690	0.513	0.125	1.26	1.21	
LTE Band 7 Ant 2	FR1 n78 Ant 6	Right Cheek	0.270	1.086	0.465	0.207	0.077	**1.82**	**1.64**	**7&8**
		Right Tilted	0.264	0.520	0.376	0.224	0.065	1.16	1.07	
		Left Cheek	0.578	0.345	0.378	0.390	0.191	1.30	1.50	
		Left Tilted	0.158	0.237	0.690	0.513	0.125	1.09	1.03	
LTE Band 41 Ant 2	FR1 n77 Ant 6	Right Cheek	0.233	0.932	0.465	0.207	0.077	**1.63**	1.45	**9**
		Right Tilted	0.222	0.704	0.376	0.224	0.065	1.30	1.22	
		Left Cheek	0.470	0.392	0.378	0.390	0.191	1.24	1.44	
		Left Tilted	0.147	0.314	0.690	0.513	0.125	1.15	1.10	

16.2 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	1+2	1+3+4
		WWAN	WLAN2.4GHz Ant 8	WLAN5GHz Ant 9	Bluetooth Ant 8	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)
All Bands	Front	0.791	0.303	0.018	0.013	1.09	0.82
	Back	1.148	0.344	0.396	0.047	1.49	1.59
	Left side	1.139	0.003	0.004	0.001	1.14	1.14
	Right side	0.624	0.269	0.221	0.004	0.89	0.85
	Top side	1.174	0.293	0.035	0.001	1.47	1.21
	Bottom side	1.188				1.19	1.19

EN-DC

FR1 Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3	1+2+4+5	Case No
			FR1	FR1	WLAN2.4GHz Ant 8	WLAN5GHz Ant 9	Bluetooth Ant 8	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)	
LTE Band 41 Ant 2	FR1 n78 Ant 6	Front	0.598	0.554	0.303	0.018	0.013	1.46	1.18	
		Back	0.894	0.816	0.344	0.396	0.047	**2.05**	**2.15**	**13&14**
		Left side	0.487	1.139	0.003	0.004	0.001	**1.63**	**1.63**	**15&16**
		Right side			0.269	0.221	0.004	0.27	0.23	
		Top side		0.284	0.293	0.035	0.001	0.58	0.32	
		Bottom side	0.873					0.87	0.87	
LTE Band 5 Ant 1	FR1 n78 Ant 6	Front	0.479	0.554	0.303	0.018	0.013	1.34	1.06	
		Back	0.728	0.816	0.344	0.396	0.047	**1.89**	**1.99**	**17&18**
		Left side	0.049	1.139	0.003	0.004	0.001	1.19	1.19	
		Right side	0.199		0.269	0.221	0.004	0.47	0.42	
		Top side		0.284	0.293	0.035	0.001	0.58	0.32	
		Bottom side	0.325					0.33	0.33	
LTE Band 7 Ant 7	FR1 n5 Ant 1	Front	0.347	0.370	0.303	0.018	0.013	1.02	0.75	
		Back	0.747	0.574	0.344	0.396	0.047	**1.67**	**1.76**	**19&20**
		Left side	0.068	0.004	0.003	0.004	0.001	0.08	0.08	
		Right side		0.137	0.269	0.221	0.004	0.41	0.36	
		Top side	0.711		0.293	0.035	0.001	1.00	0.75	
		Bottom side		0.241				0.24	0.24	
LTE Band 7 Ant 2	FR1 n78 Ant 6	Front	0.688	0.554	0.303	0.018	0.013	1.55	1.27	
		Back	1.076	0.816	0.344	0.396	0.047	**2.24**	**2.34**	**22&23**
		Left side	0.598	1.139	0.003	0.004	0.001	**1.74**	**1.74**	**24&25**
		Right side			0.269	0.221	0.004	0.27	0.23	
		Top side		0.284	0.293	0.035	0.001	0.58	0.32	
		Bottom side	0.964					0.96	0.96	
LTE Band 41 Ant 2	FR1 n77 Ant 6	Front	0.598	0.688	0.303	0.018	0.013	1.59	1.32	
		Back	0.894	0.945	0.344	0.396	0.047	**2.18**	**2.28**	**27&28**
		Left side	0.487	1.105	0.003	0.004	0.001	**1.60**	**1.60**	**32&29**
		Right side			0.269	0.221	0.004	0.27	0.23	
		Top side		0.421	0.293	0.035	0.001	0.71	0.46	
		Bottom side	0.873					0.87	0.87	

16.3 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	1+2	1+3+4	4+5
		WWAN	WLAN2.4GHz Ant 8	WLAN5GHz Ant 9	Bluetooth Ant 8	NTN	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)	1g SAR (W/kg)
All Bands	Front	1.185	0.303	0.057	0.013	0.258	1.49	1.26	0.27
	Back	1.148	0.344	0.396	0.047	1.118	1.49	1.59	**1.17**

EN-DC

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	6	1+2+3	1+2+4+5	5+6	Case No
			WWAN	FR1	WLAN2.4GHz Ant 8	WLAN5GHz Ant 9	Bluetooth Ant 8	NTN	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)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE Band 41 Ant 2	FR1 n78 Ant 6	Front	0.598	0.790	0.303	0.057	0.013	0.258	**1.69**	1.46	0.27	**32**
		Back	0.894	1.096	0.344	0.396	0.047	1.118	**2.33**	**2.43**	1.17	**34&35**
LTE Band 5 Ant 1	FR1 n78 Ant 6	Front	0.479	0.790	0.303	0.057	0.013	0.258	1.57	1.34	0.27	
		Back	0.728	1.096	0.344	0.396	0.047	1.118	**2.17**	**2.27**	1.17	**37&38**
LTE Band 7 Ant 7	FR1 n5 Ant 1	Front	0.265	0.370	0.303	0.057	0.013	0.258	0.94	0.71	0.27	
		Back	0.595	0.574	0.344	0.396	0.047	1.118	1.51	**1.61**	1.17	**39**
LTE Band 7 Ant 2	FR1 n78 Ant 6	Front	0.688	0.790	0.303	0.057	0.013	0.258	**1.78**	1.55	0.27	**40**
		Back	1.076	1.096	0.344	0.396	0.047	1.118	**2.52**	**2.62**	1.17	**42&43**
LTE Band 41 Ant 2	FR1 n77 Ant 6	Front	0.598	0.688	0.303	0.057	0.013	0.258	1.59	1.36	0.27	
		Back	0.894	0.959	0.344	0.396	0.047	1.118	**2.20**	**2.30**	1.17	**45&46**

16.4 Product specific 10g SAR Exposure Conditions

Remark:
1. For WLAN2.4GHz/Bluetooth Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.

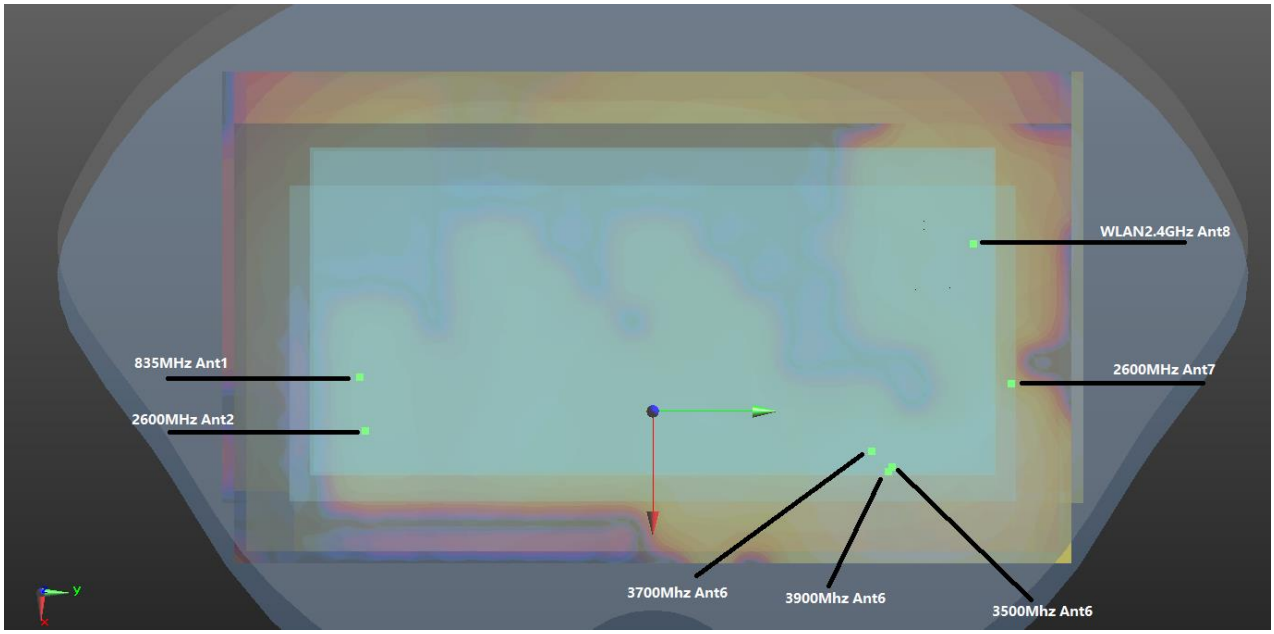
WWAN Band	Exposure Position	1	2	3	4	1+2	3+4	1+2+4
		WWAN	WLAN5GHz Ant 9	NTN	NFC	Summed	Summed	Summed
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
GSM1900 Ant 1	Front	2.377	0.106	0.638	0.001	2.48	0.64	2.48
	Back	1.669	1.252	2.906	0.011	2.92	2.92	2.93
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side	2.597			0.001	2.60	0.00	2.60
WCDMA II Ant 1	Front	2.384	0.106	0.638	0.001	2.49	0.64	2.49
	Back	1.660	1.252	2.906	0.011	2.91	2.92	2.92
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side	2.493			0.001	2.49	0.00	2.49
WCDMA IV Ant 1	Front	1.936	0.106	0.638	0.001	2.04	0.64	2.04
	Back	1.515	1.252	2.906	0.011	2.77	2.92	2.78
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side	2.943			0.001	2.94	0.00	2.94
LTE Band 2 Ant 1	Front	2.502	0.106	0.638	0.001	2.61	0.64	2.61
	Back	1.723	1.252	2.906	0.011	2.98	2.92	2.99
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side	2.641			0.001	2.64	0.00	2.64
LTE Band 4 Ant 1	Front	1.759	0.106	0.638	0.001	1.87	0.64	1.87
	Back	1.718	1.252	2.906	0.011	2.97	2.92	2.98
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side	2.667			0.001	2.67	0.00	2.67
LTE Band 7 Ant 7	Front		0.106	0.638	0.001	0.11	0.64	0.11
	Back	1.557	1.252	2.906	0.011	2.81	2.92	2.82
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side	1.630	0.132	0.285	0.001	1.76	0.29	1.76
	Bottom side				0.001	0.00	0.00	0.00
FR1 n2 Ant 1	Front	2.561	0.106	0.638	0.001	2.67	0.64	2.67
	Back	1.766	1.252	2.906	0.011	3.02	2.92	3.03
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side	2.720			0.001	2.72	0.00	2.72
FR1 n77 Ant 2	Front		0.106	0.638	0.001	0.11	0.64	0.11
	Back	1.168	1.252	2.906	0.011	2.42	2.92	2.43
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side	1.410			0.001	1.41	0.00	1.41

FR1 n77 Ant 4	Front		0.106	0.638	0.001	0.11	0.64	0.11
	Back	1.518	1.252	2.906	0.011	2.77	2.92	2.78
	Left side	2.226		2.905	0.001	2.23	2.91	2.23
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side				0.001	0.00	0.00	0.00
FR1 n77 Ant 6	Front		0.106	0.638	0.001	0.11	0.64	0.11
	Back		1.252	2.906	0.011	1.25	2.92	1.26
	Left side	2.484		2.905	0.001	2.48	2.91	2.49
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side				0.001	0.00	0.00	0.00
FR1 n77 Ant 11	Front		0.106	0.638	0.001	0.11	0.64	0.11
	Back	1.998	1.252	2.906	0.011	3.25	**2.92**	**3.26**
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side	1.489	0.945		0.001	2.43	0.00	2.44
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side				0.001	0.00	0.00	0.00
FR1 n78 Ant 4	Front		0.106	0.638	0.001	0.11	0.64	0.11
	Back	1.156	1.252	2.906	0.011	2.41	2.92	2.42
	Left side	1.834		2.905	0.001	1.83	2.91	1.84
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side				0.001	0.00	0.00	0.00
FR1 n78 Ant 6	Front		0.106	0.638	0.001	0.11	0.64	0.11
	Back		1.252	2.906	0.011	1.25	2.92	1.26
	Left side	2.907		2.905	0.001	2.91	2.91	2.91
	Right side		0.945		0.001	0.95	0.00	0.95
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side				0.001	0.00	0.00	0.00
FR1 n78 Ant 11	Front		0.106	0.638	0.001	0.11	0.64	0.11
	Back	1.806	1.252	2.906	0.011	3.06	2.92	3.07
	Left side			2.905	0.001	0.00	2.91	0.00
	Right side	1.429	0.945		0.001	2.37	0.00	2.38
	Top side		0.132	0.285	0.001	0.13	0.29	0.13
	Bottom side				0.001	0.00	0.00	0.00

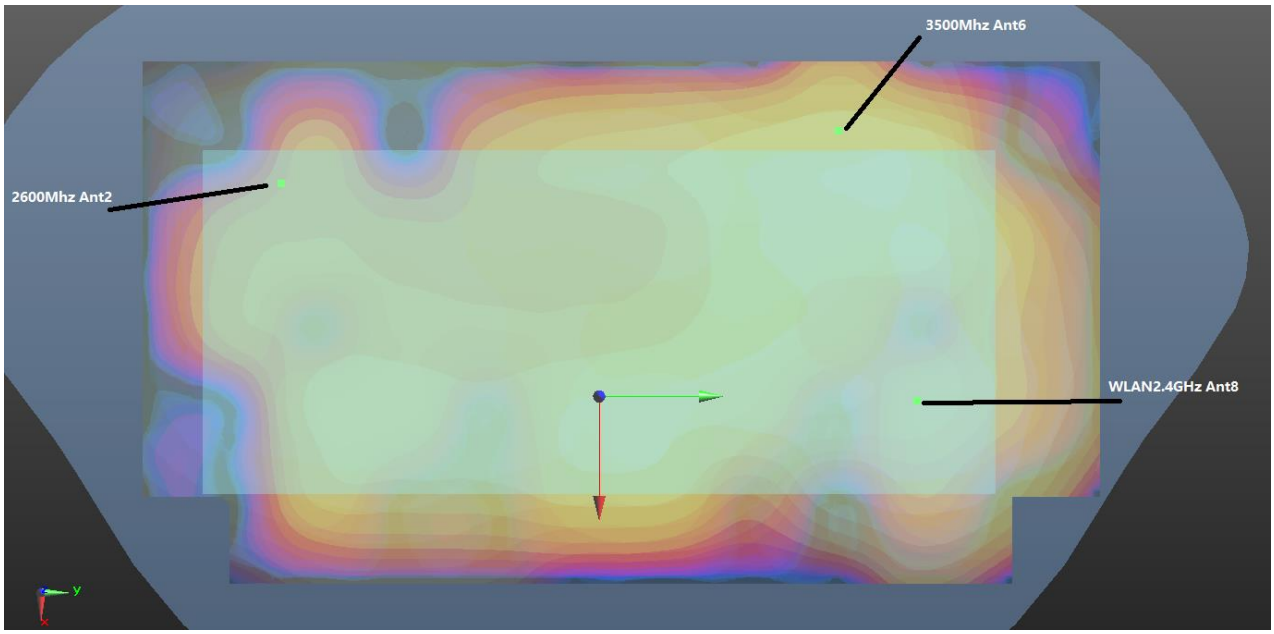
16.5 SPLSR Evaluation and Analysis

General Note:

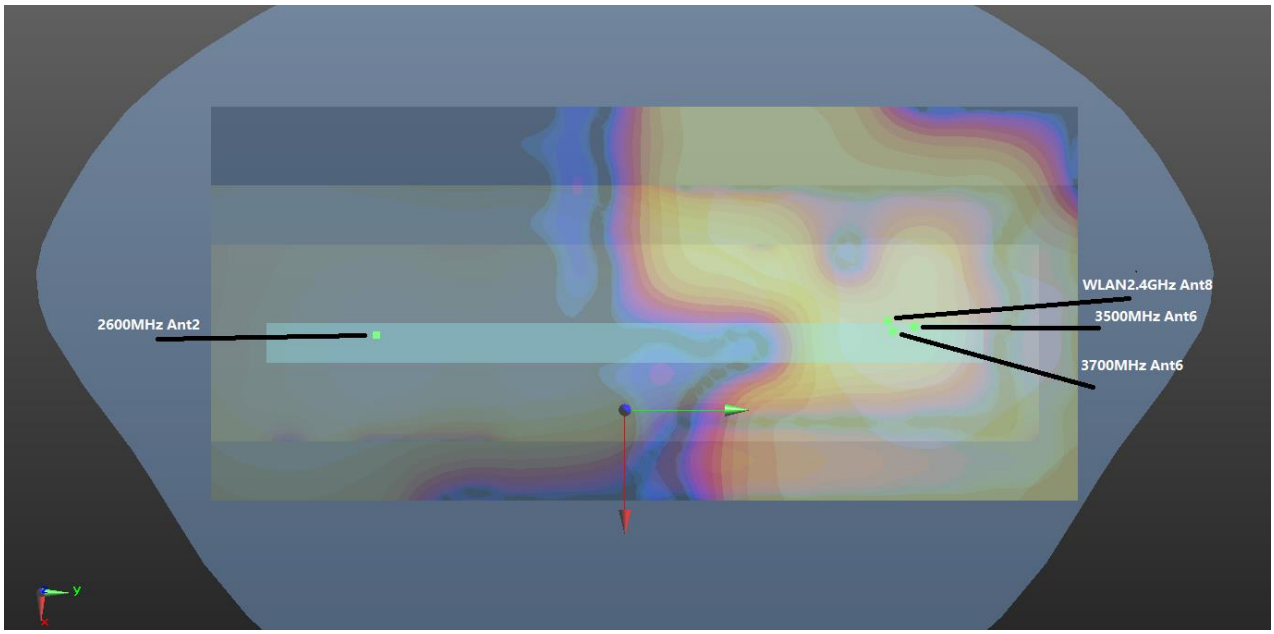
1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of [(x1−x2)2 + (y1−y2)2 + (z1−z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. SPLSR = (SAR1 + SAR2)1.5 / (min. separation distance, mm). If SPLSR ≤ 0.04 for 1g SAR, simultaneously transmission SAR measurement is not necessary.
3. Per April 2022 TCB Workshop, Instead of doing a small volume scan over a co-located antenna pair, used summing the SAR values of the co-located pair and using that value in SPLSR calculation. In the calculation used the minimum distance between the spatially separated antenna and the closest antenna of the co-located antenna pair to be conservative.



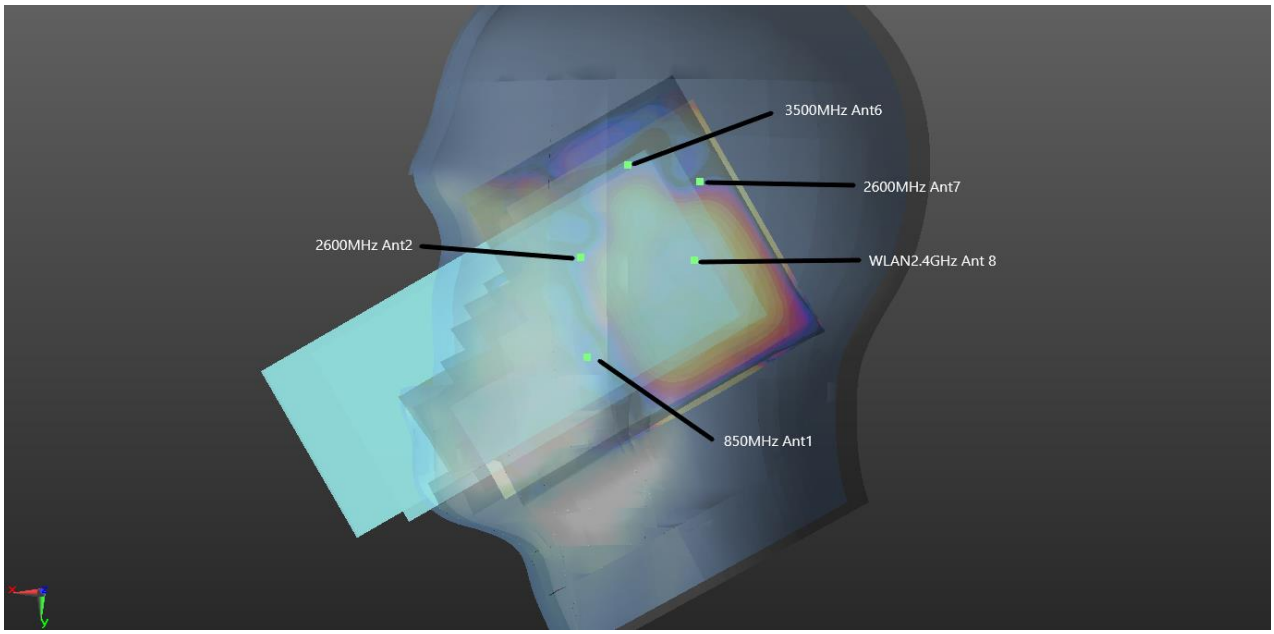
WWAN+NR+WLAN2.4GHz_Back 10mm



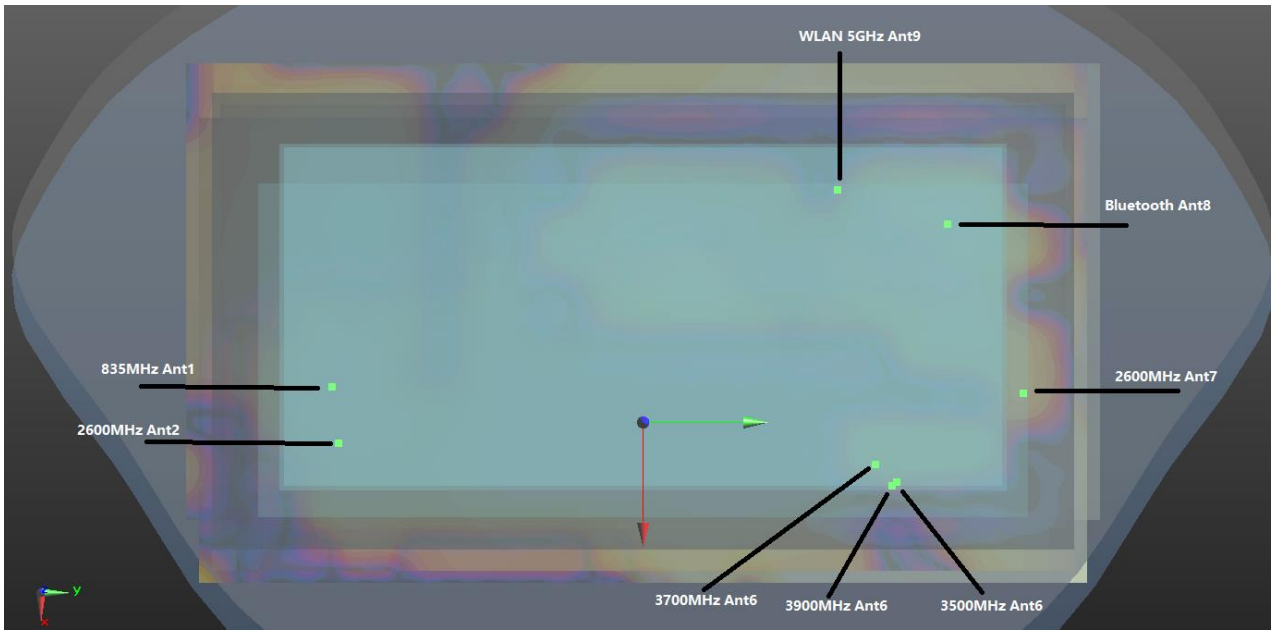
WWAN+NR+WLAN2.4GHz_Front 10mm



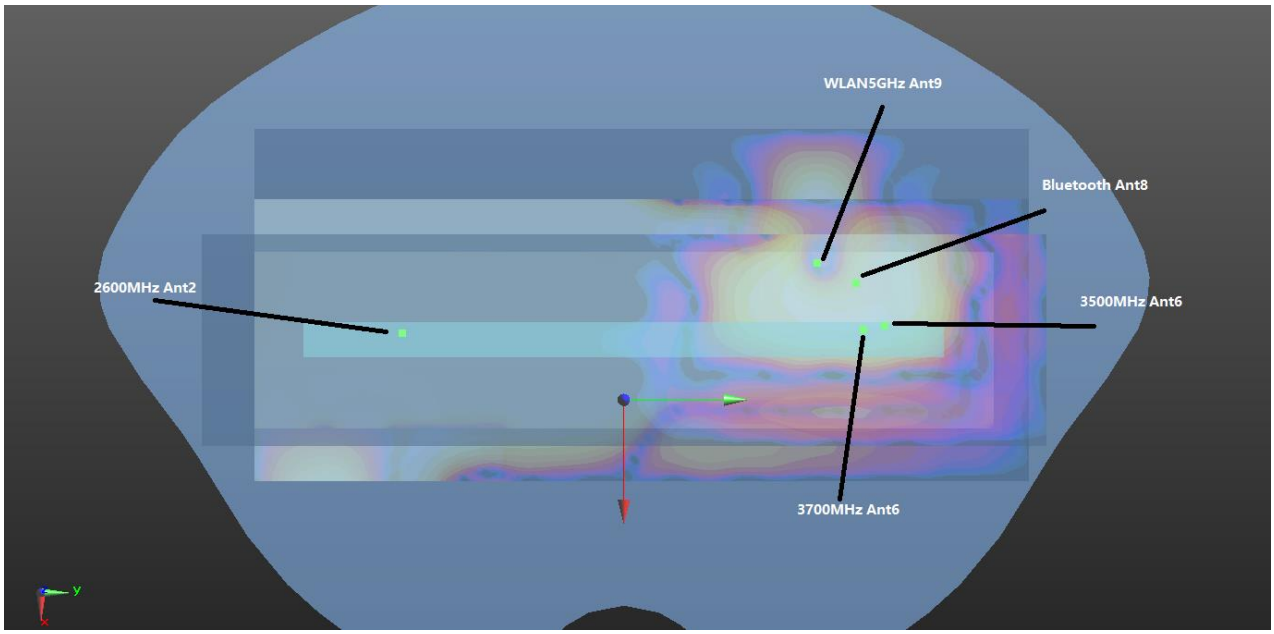
WWAN+NR+WLAN2.4GHz_Left Side 10mm



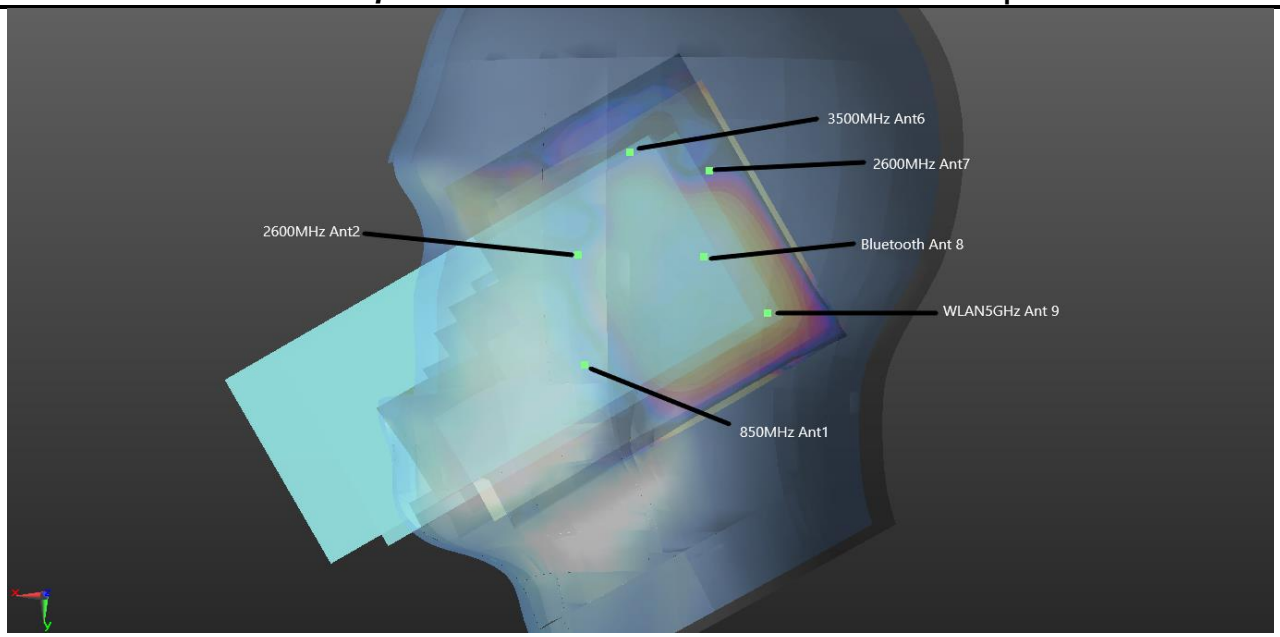
WWAN+NR+WLAN2.4GHz_Right Cheek 0mm



WWAN+NR+WLAN5GHz+BT_Back 10mm



WWAN+NR+WLAN5GHz+BT_Left Side 10mm



WWAN+NR+WLAN5GHz+BT_Right Cheek 0mm

For Head:

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 1	LTE Band 41 Ant 2	Right Cheek	0.233	0.23	0mm	**66.06**	**9.7**	**2.26**	60.2	1.78	0.04	Not required
	FR1 n78 Ant 6		1.086	1.55	0mm	**20.95**	**-29.78**	**-3.34**				
	WLAN2.4GHz Ant 8		0.465		0mm							
	LTE Band 41 Ant 2	Right Cheek	0.233	0.23	0mm	**66.06**	**9.7**	**2.26**	78.5	1.78	0.03	Not required
	FR1 n78 Ant 6		1.086	1.55	0mm							
	WLAN2.4GHz Ant 8		0.465		0mm	**-11.01**	**24.51**	**3.31**				
Case No	**Band**	**Position**	**SAR 1g SAR (W/kg)**	**Summed 1g SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
Case 2	LTE Band 41 Ant 2	Right Cheek	0.233	0.23	0mm	**66.06**	**9.7**	**2.26**	60.2	1.60	0.03	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm	**20.95**	**-29.78**	**-3.34**				
	WLAN5GHz Ant 9		0.207		0mm							
	Bluetooth Ant 8		0.077		0mm							
	LTE Band 41 Ant 2	Right Cheek	0.233	0.23	0mm	**66.06**	**9.7**	**2.26**	90.1	1.60	0.02	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm							
	WLAN5GHz Ant 9		0.207		0mm	**-22.14**	**27.32**	**6.97**				
	Bluetooth Ant 8		0.077		0mm							
	LTE Band 41 Ant 2	Right Cheek	0.233	0.23	0mm	**66.06**	**9.7**	**2.26**	75.5	1.60	0.03	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm							
	WLAN5GHz Ant 9		0.207		0mm							
	Bluetooth Ant 8		0.077		0mm	**-8.13**	**23.77**	**2.48**				
Case No	**Band**	**Position**	**SAR 1g SAR (W/kg)**	**Summed 1g SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**
Case 3	LTE Band 5 Ant 1	Right Cheek	0.308	0.31	0mm	**50.35**	**55.33**	**0.77**	90.1	1.86	0.03	Not required
	FR1 n78 Ant 6		1.086	1.55	0mm	**20.95**	**-29.78**	**-3.34**				
	WLAN2.4GHz Ant 8		0.465		0mm							
	LTE Band 5 Ant 1	Right Cheek	0.308	0.31	0mm	**50.35**	**55.33**	**0.77**	68.7	1.86	0.04	Not required
	FR1 n78 Ant 6		1.086	1.55	0mm							
	WLAN2.4GHz Ant 8		0.465		0mm	**-11.01**	**24.51**	**3.31**				
Case No	**Band**	**Position**	**SAR 1g SAR (W/kg)**	**Summed 1g SAR (W/kg)**	**Gap (mm)**	**SAR peak location (mm) X**	**Y**	**Z**	**3D distance (mm)**	**Summed SAR (W/kg)**	**SPLSR Results**	**Simultaneous SAR**

Case 4	LTE Band 5 Ant 1	Right Cheek	0.308	0.31	0mm	**50.35**	**55.33**	**0.77**	90.1	1.68	0.02	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm	**20.95**	**-29.78**	**-3.34**				
	WLAN5GHz Ant 9		0.207		0mm							
	Bluetooth Ant 8		0.077		0mm							
	LTE Band 5 Ant 1	Right Cheek	0.308	0.31	0mm	**50.35**	**55.33**	**0.77**	78.0	1.68	0.03	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm							
	WLAN5GHz Ant 9		0.207		0mm	**-22.14**	**27.32**	**6.97**				
	Bluetooth Ant 8		0.077		0mm							
	LTE Band 5 Ant 1	Right Cheek	0.308	0.31	0mm	**50.35**	**55.33**	**0.77**	66.5	1.68	0.03	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm							
	WLAN5GHz Ant 9		0.207		0mm							
	Bluetooth Ant 8		0.077		0mm	**-8.13**	**23.77**	**2.48**				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 5	FR1 n5 Ant 1	Right Cheek	0.220	0.22	0mm	**50.35**	**55.15**	**0.83**	86.2	1.71	0.03	Not required
	LTE Band 7 Ant 7		1.023	1.49	0mm	**8.93**	**-20.48**	**1.06**				
	WLAN2.4GHz Ant 8		0.465		0mm							
	FR1 n5 Ant 1	Right Cheek	0.220	0.22	0mm	**50.35**	**55.15**	**0.83**	68.6	1.71	0.03	Not required
	LTE Band 7 Ant 7		1.023	1.49	0mm							
	WLAN2.4GHz Ant 8		0.465		0mm	**-11.01**	**24.51**	**3.31**				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 7	LTE Band 7 Ant 2	Right Cheek	0.270	0.27	0mm	**69.15**	**9.05**	**-3.85**	61.9	1.82	0.04	Not required
	FR1 n78 Ant 6		1.086	1.55	0mm	**20.95**	**-29.78**	**-3.34**				
	WLAN2.4GHz Ant 8		0.465		0mm							
	LTE Band 7 Ant 2	Right Cheek	0.270	0.27	0mm	**69.15**	**9.05**	**-3.85**	82.0	1.82	0.03	Not required
	FR1 n78 Ant 6		1.086	1.55	0mm							
	WLAN2.4GHz Ant 8		0.465		0mm	**-11.01**	**24.51**	**3.31**				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 8	LTE Band 7 Ant 2	Right Cheek	0.270	0.27	0mm	**69.15**	**9.05**	**-3.85**	61.9	1.64	0.03	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm	**20.95**	**-29.78**	**-3.34**				
	WLAN5GHz Ant 9		0.207		0mm							
	Bluetooth Ant 8		0.077		0mm							
	LTE Band 7 Ant 2	Right Cheek	0.270	0.27	0mm	**69.15**	**9.05**	**-3.85**	93.7	1.64	0.02	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm							
	WLAN5GHz Ant 9		0.207		0mm	**-22.14**	**27.32**	**6.97**				
	Bluetooth Ant 8		0.077		0mm							
	LTE Band 7 Ant 2	Right Cheek	0.270	0.27	0mm	**69.15**	**9.05**	**-3.85**	78.9	1.64	0.03	Not required
	FR1 n78 Ant 6		1.086	1.37	0mm							
	WLAN5GHz Ant 9		0.207		0mm							
	Bluetooth Ant 8		0.077		0mm	**-8.13**	**23.77**	**2.48**				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 9	LTE Band 41 Ant 2	Right Cheek	0.233	0.23	0mm	**66.06**	**9.7**	**2.26**	57.1	1.63	0.04	Not required
	FR1 n77 Ant 6		0.932	1.40	0mm	**23.77**	**-28.3**	**-3.31**				
	WLAN2.4GHz Ant 8		0.465		0mm							
	LTE Band 41 Ant 2	Right Cheek	0.233	0.23	0mm	**66.06**	**9.7**	**2.26**	78.5	1.63	0.03	Not required
	FR1 n77 Ant 6		0.932	1.40	0mm							
	WLAN2.4GHz Ant 8		0.465		0mm	**-11.01**	**24.51**	**3.31**				

For Hotspot:

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 13	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	127.9	2.05	0.02	Not required
	FR1 n78 Ant 6		0.816	1.16	10mm	35.8	55.8	1.13				
	WLAN2.4GHz Ant 8		0.344		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	152.4	2.05	0.02	Not required
	FR1 n78 Ant 6		0.816	1.16	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	-15.8	73.4	1.02				
Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 14	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	127.9	2.15	0.02	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm	35.8	55.8	1.13				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	138.8	2.15	0.02	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm							
	WLAN5GHz Ant 9		0.396		10mm	-36.1	50	1.01				
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	149.5	2.15	0.02	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	-16.8	70	1.08				
Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 15	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	143.9	1.63	0.01	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm	-2.2	68.4	1.05				
	WLAN2.4GHz Ant 8		0.003		10mm							
	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	144.0	1.63	0.01	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm							
	WLAN2.4GHz Ant 8		0.003		10mm	-8	68.6	-2.78				
Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 16	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	143.9	1.63	0.01	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm	-2.2	68.4	1.05				
	WLAN5GHz Ant 9		0.004		10mm							
	Bluetooth Ant 8		0.001		10mm							
	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	87.4	1.63	0.02	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm							
	WLAN5GHz Ant 9		0.004		10mm	2.3	11.5	-8.3				
	Bluetooth Ant 8		0.001		10mm							
	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	136.8	1.63	0.02	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm							
	WLAN5GHz Ant 9		0.004		10mm							
	Bluetooth Ant 8		0.001		10mm	-12.8	61.2	-2.99				
Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 17	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	15	-78.2	-0.34	135.6	1.89	0.02	Not required
	FR1 n78 Ant 6		0.816	1.16	10mm	35.8	55.8	1.13				
	WLAN2.4GHz Ant 8		0.344		10mm							
	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	15	-78.2	-0.34	154.7	1.89	0.02	Not required
	FR1 n78 Ant 6		0.816	1.16	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	-15.8	73.4	1.02				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 18	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	**15**	**-78.2**	**-0.34**	135.6	1.99	0.02	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm	**35.8**	**55.8**	**1.13**				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	**15**	**-78.2**	**-0.34**	138.0	1.99	0.02	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm							
	WLAN5GHz Ant 9		0.396		10mm	**-36.1**	**50**	**1.01**				
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	**15**	**-78.2**	**-0.34**	151.6	1.99	0.02	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	**-16.8**	**70**	**1.08**				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 19	FR1 n5 Ant 1	Back	0.574	0.57	10mm	**14.9**	**-76.7**	**-0.34**	160.7	1.67	0.01	Not required
	LTE Band 7 Ant 7		0.747	1.09	10mm	**-13.8**	**81.4**	**-0.4**				
	WLAN2.4GHz Ant 8		0.344		10mm							
	FR1 n5 Ant 1	Back	0.574	0.57	10mm	**14.9**	**-76.7**	**-0.34**	153.2	1.67	0.01	Not required
	LTE Band 7 Ant 7		0.747	1.09	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	**-15.8**	**73.4**	**1.02**				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 20	FR1 n5 Ant 1	Back	0.574	0.57	10mm	**14.9**	**-76.7**	**-0.34**	160.7	1.76	0.01	Not required
	LTE Band 7 Ant 7		0.747	1.19	10mm	**-13.8**	**81.4**	**-0.4**				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	FR1 n5 Ant 1	Back	0.574	0.57	10mm	**14.9**	**-76.7**	**-0.34**	136.6	1.76	0.02	Not required
	LTE Band 7 Ant 7		0.747	1.19	10mm							
	WLAN5GHz Ant 9		0.396		10mm	**-36.1**	**50**	**1.01**				
	Bluetooth Ant 8		0.047		10mm							
	FR1 n5 Ant 1	Back	0.574	0.57	10mm	**14.9**	**-76.7**	**-0.34**	150.1	1.76	0.02	Not required
	LTE Band 7 Ant 7		0.747	1.19	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	**-16.8**	**70**	**1.08**				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 22	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	**30**	**-71**	**-0.35**	126.9	2.24	0.03	Not required
	FR1 n78 Ant 6		0.816	1.16	10mm	**35.8**	**55.8**	**1.13**				
	WLAN2.4GHz Ant 8		0.344		10mm							
	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	**30**	**-71**	**-0.35**	151.5	2.24	0.02	Not required
	FR1 n78 Ant 6		0.816	1.16	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	**-15.8**	**73.4**	**1.02**				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 23	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	**30**	**-71**	**-0.35**	126.9	2.34	0.03	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm	**35.8**	**55.8**	**1.13**				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	**30**	**-71**	**-0.35**	137.9	2.34	0.03	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm							
	WLAN5GHz Ant 9		0.396		10mm	**-36.1**	**50**	**1.01**				
	Bluetooth Ant 8		0.047		10mm							

	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	30	-71	-0.35	148.6	2.34	0.02	Not required
	FR1 n78 Ant 6		0.816	1.26	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	-16.8	70	1.08				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 24	LTE Band 7 Ant 2	Left side	0.598	0.60	10mm	-5.2	-78.4	-2.51	146.9	1.74	0.02	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm	-2.2	68.4	1.05				
	WLAN2.4GHz Ant 8		0.003		10mm							
	LTE Band 7 Ant 2	Left side	0.598	0.60	10mm	-5.2	-78.4	-2.51	147.0	1.74	0.02	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm							
	WLAN2.4GHz Ant 8		0.003		10mm	-8	68.6	-2.78				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 25	LTE Band 7 Ant 2	Left side	0.598	0.60	10mm	-5.2	-78.4	-2.51	146.9	1.74	0.02	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm	-2.2	68.4	1.05				
	WLAN5GHz Ant 9		0.004		10mm							
	Bluetooth Ant 8		0.001		10mm							
	LTE Band 7 Ant 2	Left side	0.598	0.60	10mm	-5.2	-78.4	-2.51	90.4	1.74	0.03	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm							
	WLAN5GHz Ant 9		0.004		10mm	2.3	11.5	-8.3				
	Bluetooth Ant 8		0.001		10mm							
	LTE Band 7 Ant 2	Left side	0.598	0.60	10mm	-5.2	-78.4	-2.51	139.8	1.74	0.02	Not required
	FR1 n78 Ant 6		1.139	1.14	10mm							
	WLAN5GHz Ant 9		0.004		10mm							
	Bluetooth Ant 8		0.001		10mm	-12.8	61.2	-2.99				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 27	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	128.6	2.18	0.03	Not required
	FR1 n77 Ant 6		0.945	1.29	10mm	30.4	56.6	2.95				
	WLAN2.4GHz Ant 8		0.344		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	152.4	2.18	0.02	Not required
	FR1 n77 Ant 6		0.945	1.29	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	-15.8	73.4	1.02				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 28	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	128.6	2.28	0.03	Not required
	FR1 n77 Ant 6		0.945	1.39	10mm	30.4	56.6	2.95				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	138.8	2.28	0.02	Not required
	FR1 n77 Ant 6		0.945	1.39	10mm							
	WLAN5GHz Ant 9		0.396		10mm	-36.1	50	1.01				
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	149.5	2.28	0.02	Not required
	FR1 n77 Ant 6		0.945	1.39	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	-16.8	70	1.08				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 29	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	152.6	1.60	0.01	Not required
	FR1 n77 Ant 6		1.105	1.11	10mm	-3.2	77.2	-3.14				
	WLAN5GHz Ant 9		0.004		10mm							
	Bluetooth Ant 8		0.001		10mm							

	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	87.4	1.60	0.02	Not required
	FR1 n77 Ant 6		1.105	1.11	10mm							
	WLAN5GHz Ant 9		0.004		10mm	2.3	11.5	-8.3				
	Bluetooth Ant 8		0.001		10mm							
	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	136.8	1.60	0.01	Not required
	FR1 n77 Ant 6		1.105	1.11	10mm							
	WLAN5GHz Ant 9		0.004		10mm							
	Bluetooth Ant 8		0.001		10mm	-12.8	61.2	-2.99				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 32	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	152.6	1.60	0.01	Not required
	FR1 n77 Ant 6		1.105	1.11	10mm	-3.2	77.2	-3.14				
	WLAN2.4GHz Ant 8		0.003		10mm							
	LTE Band 41 Ant 2	Left side	0.487	0.49	10mm	-5.6	-75.4	-2.52	144.0	1.60	0.01	Not required
	FR1 n77 Ant 6		1.105	1.11	10mm							
	WLAN2.4GHz Ant 8		0.003		10mm	-8	68.6	-2.78				

For Body-worn:

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 32	LTE Band 41 Ant 2	Front	0.598	0.60	10mm	-30.5	-75	-2.59	133.9	1.69	0.02	Not required
	FR1 n78 Ant 6		0.790	1.09	10mm	-44	58.2	-2.9				
	WLAN2.4GHz Ant 8		0.303		10mm							
	LTE Band 41 Ant 2	Front	0.598	0.60	10mm	-30.5	-75	-2.59	158.8	1.69	0.01	Not required
	FR1 n78 Ant 6		0.790	1.09	10mm							
	WLAN2.4GHz Ant 8		0.303		10mm	22.8	74.6	-2.5				
Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 34	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	127.9	2.33	0.03	Not required
	FR1 n78 Ant 6		1.096	1.44	10mm	35.8	55.8	1.13				
	WLAN2.4GHz Ant 8		0.344		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	152.4	2.33	0.02	Not required
	FR1 n78 Ant 6		1.096	1.44	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	-15.8	73.4	1.02				
Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 35	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	127.9	2.43	0.03	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm	35.8	55.8	1.13				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	138.8	2.43	0.03	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm							
	WLAN5GHz Ant 9		0.396		10mm	-36.1	50	1.01				
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	149.5	2.43	0.03	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	-16.8	70	1.08				
Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 37	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	15	-78.2	-0.34	135.6	2.17	0.02	Not required
	FR1 n78 Ant 6		1.096	1.44	10mm	35.8	55.8	1.13				
	WLAN2.4GHz Ant 8		0.344		10mm							
	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	15	-78.2	-0.34	154.7	2.17	0.02	Not required
	FR1 n78 Ant 6		1.096	1.44	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	-15.8	73.4	1.02				
Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 38	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	15	-78.2	-0.34	135.6	2.27	0.03	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm	35.8	55.8	1.13				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	15	-78.2	-0.34	138.0	2.27	0.02	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm							
	WLAN5GHz Ant 9		0.396		10mm	-36.1	50	1.01				
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 5 Ant 1	Back	0.728	0.73	10mm	15	-78.2	-0.34	151.6	2.27	0.02	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	-16.8	70	1.08				
Case	Band	Position	SAR 1g SAR	Summed	Gap	SAR peak location (mm)			3D distance	Summed SAR	SPLSR	Simultaneous

No			(W/kg)	1g SAR (W/kg)	(mm)	X	Y	Z	(mm)	(W/kg)		SAR
Case 39	FR1 n5 Ant 1	Back	0.574	0.57	10mm	14.9	-76.7	-0.34	160.7	1.61	0.01	Not required
	LTE Band 7 Ant 7		0.595	1.04	10mm	-13.8	81.4	-0.4				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	FR1 n5 Ant 1	Back	0.574	0.57	10mm	14.9	-76.7	-0.34	136.6	1.61	0.02	Not required
	LTE Band 7 Ant 7		0.595	1.04	10mm							
	WLAN5GHz Ant 9		0.396		10mm	-36.1	50	1.01				
	Bluetooth Ant 8		0.047		10mm							
	FR1 n5 Ant 1	Back	0.574	0.57	10mm	14.9	-76.7	-0.34	150.1	1.61	0.01	Not required
	LTE Band 7 Ant 7		0.595	1.04	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	-16.8	70	1.08				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 40	LTE Band 7 Ant 2	Front	0.688	0.69	10mm	-30.4	-76.2	-2.59	135.1	1.78	0.02	Not required
	FR1 n78 Ant 6		0.790	1.09	10mm	-44	58.2	-2.9				
	WLAN2.4GHz Ant 8		0.303		10mm							
	LTE Band 7 Ant 2	Front	0.688	0.69	10mm	-30.4	-76.2	-2.59	159.9	1.78	0.01	Not required
	FR1 n78 Ant 6		0.790	1.09	10mm							
	WLAN2.4GHz Ant 8		0.303		10mm	22.8	74.6	-2.5				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 42	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	30	-71	-0.35	126.9	2.52	0.03	Not required
	FR1 n78 Ant 6		1.096	1.44	10mm	35.8	55.8	1.13				
	WLAN2.4GHz Ant 8		0.344		10mm							
	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	30	-71	-0.35	151.5	2.52	0.03	Not required
	FR1 n78 Ant 6		1.096	1.44	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	-15.8	73.4	1.02				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 43	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	30	-71	-0.35	126.9	2.62	0.03	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm	35.8	55.8	1.13				
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	30	-71	-0.35	137.9	2.62	0.03	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm							
	WLAN5GHz Ant 9		0.396		10mm	-36.1	50	1.01				
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 7 Ant 2	Back	1.076	1.08	10mm	30	-71	-0.35	148.6	2.62	0.03	Not required
	FR1 n78 Ant 6		1.096	1.54	10mm							
	WLAN5GHz Ant 9		0.396		10mm							
	Bluetooth Ant 8		0.047		10mm	-16.8	70	1.08				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 45	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	128.6	2.20	0.03	Not required
	FR1 n77 Ant 6		0.959	1.30	10mm	30.4	56.6	2.95				
	WLAN2.4GHz Ant 8		0.344		10mm							
	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	152.4	2.20	0.02	Not required
	FR1 n77 Ant 6		0.959	1.30	10mm							
	WLAN2.4GHz Ant 8		0.344		10mm	-15.8	73.4	1.02				

Case No	Band	Position	SAR 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Gap (mm)	SAR peak location (mm) X	Y	Z	3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case	LTE Band 41 Ant 2	Back	0.894	0.89	10mm	30	-72	-0.35	128.6	2.30	0.03	Not required

48	FR1 n77 Ant 6		0.959		10mm	**30.4**	**56.6**	**2.95**				
	WLAN5GHz Ant 9		0.396	1.40	10mm							
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 41 Ant 2		0.894	0.89	10mm	**30**	**-72**	**-0.35**				
	FR1 n77 Ant 6	Back	0.959		10mm				138.8	2.30	0.03	Not required
	WLAN5GHz Ant 9		0.396	1.40	10mm	**-36.1**	**50**	**1.01**				
	Bluetooth Ant 8		0.047		10mm							
	LTE Band 41 Ant 2		0.894	0.89	10mm	**30**	**-72**	**-0.35**				
	FR1 n77 Ant 6	Back	0.959		10mm				149.5	2.30	0.02	Not required
	WLAN5GHz Ant 9		0.396	1.40	10mm							
	Bluetooth Ant 8		0.047		10mm	**-16.8**	**70**	**1.08**				

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17. 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.

18. 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.

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