

# FCC SAR Test Report

APPLICANT : ASUSTeK COMPUTER INC.  
EQUIPMENT : ASUS Phone(Mobile Phone)  
BRAND NAME : ASUS  
MODEL NAME : ASUS\_AI2201\_F, ASUS\_AI2201\_D  
FCC ID : MSQAI2201  
STANDARD : FCC 47 CFR Part 2 (2.1093)

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the test procedures 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. (Shenzhen), the test report shall not be reproduced except in full.



Approved by: Si Zhang

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



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### Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA230112	Rev. 01	Initial issue of report.	Jul. 28, 2022
FA230112	Rev. 02	Added EN-DC combinations and relevant data.	Aug. 26, 2022



### 1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **ASUSTeK COMPUTER INC., ASUS Phone(Mobile Phone), ASUS\_AI2201\_F, ASUS\_AI2201\_D**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 15mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.41	0.67	0.71	1.59
		GSM1900	0.86	0.72	0.38	
	WCDMA	Band II	1.12	0.69	0.58	
		Band IV	0.60	0.64	0.24	
		Band V	1.18	0.71	0.44	
	LTE	Band 7	1.11	0.76	0.40	
		Band 12/ Band 17	1.05	0.65	0.30	
		Band 13	0.99	0.69	0.35	
		Band 25/ Band 2	<b>1.19</b>	0.75	0.45	
		Band 26/ Band 5	1.12	0.77	0.46	
		Band 30	1.12	0.81	0.33	
		Band 66/ Band 4	0.85	0.80	0.34	
		Band 71	0.87	0.71	0.34	
		Band 41/ Band 38	1.14	<b>0.87</b>	0.38	
		Band 48	1.14	0.68	0.35	
	5G NR	n7	1.15	0.79	0.57	
		n12	0.69	0.57	0.27	
		n13	0.60	0.61	0.39	
		n25/n2	1.01	0.80	0.19	
		n26/n5	1.02	0.64	0.39	
		n66	0.60	0.76	0.41	
		n71	0.50	0.37	0.25	
		n38	1.08	0.78	0.59	
n41		1.09	0.77	0.24		
n48		1.14	0.80	0.51		
n77/n78	1.13	0.76	0.41			
DTS	WLAN	2.4GHz WLAN	1.11	0.55	0.44	1.59
NII		5GHz WLAN	1.09	0.68	<b>0.95</b>	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.37	0.26	0.13	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	GSM850	2.91			3.81
		GSM1900	1.17			
	WCDMA	Band II	1.74			
		Band 7	2.97			
		Band 25/ Band 2	2.55			
	LTE	Band 66/ Band 4	3.16			
		Band 41/ Band 38	3.01			
		n7	<b>3.18</b>			
	5G NR	n66	3.15			
		n38	<b>3.18</b>			
n77/n78		2.90				



NII	WLAN	5GHz WLAN	3.16	3.81
Date of Testing:			2022/5/10 ~ 2022/7/9	
<b>Remark:</b>				
1. This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / 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 B25 / B66 / B26 / B12 / B41.				
2. This device supports 5G NR N2 / N5 / n78 and N25 / N26 / n77. Since the supported frequency span for 5G NR N2 / N5 / n78 falls completely within the supports frequency span for N25 / N26 / n77, both 5G NR bands have the same target power, and both 5G NR bands share the same transmission path; therefore, SAR was only assessed for N25 / N26 / n77.				

**Declaration of Conformity:**

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

**Comments and Explanations:**

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.



### 2. Administration Data

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

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

Applicant	
Company Name	ASUSTeK COMPUTER INC.
Address	1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan

Manufacturer	
Company Name	ASUSTeK COMPUTER INC.
Address	1F., No. 15, Lide Rd., Beitou Dist., Taipei City 112, Taiwan

### 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 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- FCC KDB 447498 D04 Interim General RF Exposure Guidance v01



## 4. Equipment Under Test (EUT) Information

### 4.1 General Information

Product Feature & Specification	
Equipment Name	ASUS Phone(Mobile Phone)
Brand Name	ASUS
Model Name	ASUS_AI2201_F, ASUS_AI2201_D
FCC ID	MSQAI2201
IMEI Code	Sample 1: SIM 1: 353700810104537 SIM 2: 353700810104545 Sample 2: SIM 1: 359157510102838 SIM 2: 359157510102846
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 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n13 : 777 MHz ~ 787 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 :1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 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 ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6E U-NII-5: 5925 MHz ~ 6425 MHz WLAN 6E U-NII-6: 6425 MHz ~ 6525 MHz WLAN 6E U-NII-7: 6525 MHz ~ 6875 MHz WLAN 6E U-NII-8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS



	RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ac/ax VHT20/VHT40/HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac/ax VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 WLAN 6GHz 802.11a/n HT20/HT40 WLAN 6GHz 802.11ac/ax VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK
<b>HW Version</b>	R3.0
<b>SW Version</b>	Android 12
<b>GSM / (E)GPRS Transfer mode</b>	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
<b>EUT Stage</b>	Identical Prototype

**Remark:**

- This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only). WIFI 6E has no hotspot function.
- The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO and MIMO antenna mode.
- This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 10.
- 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.
- The device implements 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. power table. Power table (state 10/11: receiver on head power; state 12: Hotspot on power; state 13/14: receiver off power) and the detail state descriptions of below table.

state	Trigger Conditions	Antenna No.	Exposure conditions	
-	Default power	All Ant	Full power	-
state10	Receiver on	All Ant	Head Standalone	Head all Position
state11	Receiver on + WLAN	All Ant	Head Simultaneous	Head all Position
state12	Hotspot on	All Ant	Hotspot	Body all Position
state13	Receiver off	All Ant	Body-worn/Extremity Standalone	Body all Position
state14	Receiver off + WLAN	All Ant	Body-worn/Extremity Simultaneous	Body all Position

- For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head, body-worn and extremity conditions.
- This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the WCDMA, LTE and 5GNR modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information on section16.
- This device supports HPUE for LTE Band 41 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.
- LTE band 41 and 5G NR n41/n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
- 5GNR n41/n77/n78 HUPE with higher power, 5G NR n41/n77/n78 HUPE SAR can represent power class 3 level SAR.
- 5GNR n41/n77/n78 HUPE limit to SA mode.
- For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
- 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.
16. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
  17. 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.
  18. 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.
  19. For 5G NR EN-DC mode, standalone SAR performed for 5G NR band with the maximum power, EN-DC SAR summed 5G NR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
  20. SAR Power density test report for WIFI 6E U-NII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth, always chose higher SAR of WLAN5G U-NII-1/2A/2C/3 and U-NII-5/6/7/8.
  21. This device has NFC function and the NFC SAR report will be separately submitted.
  22. The device has two batteries. For battery 1/2 only suppliers are different. So we only choose battery 1 to perform full SAR testing.
  23. There are two samples. The different between them refer to the ASUS\_AI2201\_F, ASUS\_AI2201\_D\_Operational Description of Product Equality Declaration which is exhibit separately. According to the differences, we choose sample 1 to perform full SAR testing and sample 2 to verify the worst case of sample 1.
  24. This device supports 5G NR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.

**<5G NR>**

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40
	n66	FDD	15	5, 10, 15, 20, 40
	n71	FDD	15	5, 10, 15, 20
	n77	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
SA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40
	n12	FDD	15	5, 10, 15
	n13	FDD	15	5, 10
	n25	FDD	15	5, 10, 15, 20
	n26	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 40
	n71	FDD	15	5, 10, 15, 20
	n38	TDD	30	10, 15, 20, 30, 40
	n41	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n48	TDD	30	10, 20, 40
	n77	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100

## 4.2 Operating Mode for WLAN

**General Note:**

1. In order to get better user experience, the device implemented the dynamic antenna swapping which based on specific user interaction for WLAN bands.
2. The device has two using scenarios state, one is Normal Mode and the other is Camera Mode. Each mode will be triggered by different detection mechanism to realize the location exchanged by the antenna in different modes.
3. For normal mode, when the device detect audio receiver is active, the antenna for Chain1 is adapted on Ant4. For camera mode, when the device detect camera is active, the antenna for Chain1 is adapted on Ant6. Below table will summary of the relationship between mode, antenna location and detection mechanism.

Mode	Antenna	Detection mechanism
Normal Mode	Chain0 is adapted on Ant5 Chain1 is adapted on Ant4	Default setting and the device audio receiver is active
Camera Mode	Chain0 is adapted on Ant5 Chain1 is adapted on Ant6	When the device Camera is active

For SAR report, the test mode mentioned as following table.

Bands	Head SAR	Hotspot/Body-worn SAR	Extremity SAR
WLAN/BT	Normal Mode	Normal Mode Camera Mode	Normal Mode Camera Mode



4.3 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	MSQAI2201																																																														
Equipment Name	ASUS Phone(Mobile Phone)																																																														
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz																																																														
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																														
uplink modulations used	QPSK / 16QAM / 64QAM /256QAM																																																														
LTE Voice / Data requirements	Voice and Data																																																														
LTE Release Version	R15, Cat18																																																														
CA Support	Supported, Uplink and Downlink																																																														
LTE MPR permanently built-in by design	<p><b>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N<sub>RB</sub>)</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> </thead> <tbody> <tr> <td>QPSK</td> <td>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 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>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 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>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table>	Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						MPR (dB)																																																								
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz																																																									
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1																																																								
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256 QAM	≥ 1						≤ 5																																																								
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																														
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																														
Power reduction applied to satisfy SAR compliance	Yes, when operating in 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.																																																														
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.																																																														
LTE Carrier Aggregation Additional Information	(1) This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. (2) This device supports maximum of 5 carriers in the downlink and 2 carriers in the uplink.																																																														



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		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	20407	824.7	20415	825.5	20425	826.5	20425	826.5	20450	829	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20625	846.5	20600	844	20600	844
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 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	20775	2502.5	20800	2505	20825	2507.5	20825	2507.5	20850	2510	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21375	2562.5	21350	2560	21350	2560
LTE Band 12												
	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	23017	699.7	23025	700.5	23035	701.5	23035	701.5	23060	704	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23155	713.5	23130	711	23130	711
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782	
M	23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782	
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23755		706.5		23780		709		23780		709	
M	23790		710		23790		710		23790		710	
H	23825		713.5		23800		711		23800		711	
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5	26965	841.5



LTE Band 30												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	27685		2307.5		27710		2310					
M	27710		2310									
H	27735		2312.5									
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
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				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 71												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	133147	665.5	133172	668	133197	670.5	133222	673				
M	133247	675.5	133272	678	133297	680.5	133322	683				
H	133447	695.5	133422	693	133397	690.5	133372	688				
LTE Band 48												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560				
LM	55810	3607	55815	3607.5	55820	3608	55830	3609				
MH	56170	3643	56165	3642.5	56160	3642	56150	3641				
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690				

<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 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 12	Yes	Yes	Yes	Yes		
LTE Band 17			Yes	Yes		
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes



2) LTE Bands tune up:

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
LTE Band 12	Ant 0	26.00	26.00	26.00	26.00	26.00	26.00
LTE Band 17	Ant 0	26.00	26.00	26.00	26.00	26.00	26.00
LTE Band 5	Ant 0	26.00	26.00	24.50	26.00	26.00	26.00
LTE Band 26	Ant 0	26.00	26.00	24.50	26.00	26.00	26.00

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
LTE Band 2	Ant 1	26.00	26.00	21.50	26.00	26.00	26.00
LTE Band 25	Ant 1	26.00	26.00	21.50	26.00	26.00	26.00
LTE Band 4	Ant 1	26.00	26.00	23.00	25.00	25.00	26.00
LTE Band 66	Ant 1	26.00	26.00	23.00	25.00	25.00	26.00
LTE Band 4(UL Inter-CA)	Ant 1	23.00	23.00	23.00	23.00	23.00	23.00
LTE Band 66(UL Inter-CA)	Ant 1	23.00	23.00	23.00	23.00	23.00	23.00
LTE Band 38	Ant 1	26.00	26.00	24.00	26.00	26.00	26.00
LTE Band 41	Ant 1	26.00	26.00	24.00	26.00	26.00	26.00
LTE Band 38(EN-DC)	Ant 1	26.00	26.00	23.00	24.00	24.00	26.00
LTE Band 41(EN-DC)	Ant 1	26.00	26.00	23.00	24.00	24.00	26.00

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
LTE Band 2	Ant 2	25.00	22.00	26.00	26.00	26.00	26.00
LTE Band 25	Ant 2	25.00	22.00	26.00	26.00	26.00	26.00
LTE Band 4	Ant 2	26.00	24.50	26.00	26.00	26.00	26.00
LTE Band 66	Ant 2	26.00	24.50	26.00	26.00	26.00	26.00
LTE Band 4(UL Inter-CA)	Ant 2	23.00	22.00	23.00	23.00	23.00	23.00
LTE Band 66(UL Inter-CA)	Ant 2	23.00	22.00	23.00	23.00	23.00	23.00
LTE Band 12	Ant 2	25.50	23.50	26.00	26.00	26.00	26.00
LTE Band 17	Ant 2	25.50	23.50	26.00	26.00	26.00	26.00
LTE Band 5	Ant 2	26.00	23.00	26.00	26.00	26.00	26.00
LTE Band 26	Ant 2	26.00	23.00	26.00	26.00	26.00	26.00
LTE Band 38	Ant 2	21.50	18.50	25.00	26.00	26.00	26.00
LTE Band 41	Ant 2	21.50	18.50	25.00	26.00	26.00	26.00
LTE Band 38(EN-DC)	Ant 2	18.50	16.00	23.00	26.00	26.00	26.00
LTE Band 41(EN-DC)	Ant 2	18.50	16.00	23.00	26.00	26.00	26.00

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
LTE Band 4(UL Inter-CA)	Ant 11	21.50	18.00	21.50	21.50	21.50	21.50
LTE Band 66(UL Inter-CA)	Ant 11	21.50	18.00	21.50	21.50	21.50	21.50

Note: This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / 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 B25 / B66 / B26 / B12 / B41.

### 4.4 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 n12 : 699 MHz ~ 716 MHz 5G NR n13 : 777 MHz ~ 787 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Channel Bandwidth	The detail please refers to section 4.1 5G NR FR1 bands table.
SCS	FDD/ TDD: SCS15KHz/SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE 5/12/66
LTE Anchor Bands for n5	LTE B2/7/30/66
LTE Anchor Bands for n7	LTE B2/5/66
LTE Anchor Bands for n66	LTE B2/5/7/12
LTE Anchor Bands for n71	LTE B2/7/66
LTE Anchor Bands for n77	LTE B2/7/12/30/66
LTE Anchor Bands for n78	LTE B2/5/7/66/38/41

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)	Ch. #	Freq. (MHz)				
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860						
M	376000	1880	376000	1880	376000	1880	376500	1882.5						
H	381500	1907.5	381000	1905	380500	1902.5	381000	1905						
NR Band 5 SCS15KHz														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz							
	Ch. #	Freq. (MHz)	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 7 SCS15KHz														
	Bandwidth 5MHz		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)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550
NR Band 12 SCS15KHz														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	140300	701.5	140800	704	141300	706.5								
M	141500	707.5	141500	707.5	141500	707.5								
H	142700	713.5	142200	711	141700	708.5								
NR Band 13 SCS15KHz														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 10MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)			Freq. (MHz)			
L	155900	779.5												
M	156400	782					156400					782		
H	156900	784.5												



NR Band 25 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	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5
H	382500	1912.5	382000	1910	381500	1907.5	381000	1905

NR Band 26 SCS15KHz								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	163300	816.5	163800	819	164300	821.5	164800	824
M	166300	831.5	166300	831.5	166300	831.5	166300	831.5
H	169300	846.5	168800	844	168300	841.5	167800	839

NR Band 66 SCS15KHz										
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343500	1715	343500	1717.5	344000	1720	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	354500	1775	354500	1772.5	354000	1770	352000	1760

NR Band 71 SCS15KHz								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133100	665.5	133600	668	134100	670.5	134600	673
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5
H	139100	695.5	138600	693	138100	690.5	137600	688

NR Band 38 SCS30KHz										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515004	2575.02	516000	2577.51	516000	2580	517002	2585.01	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	522996	2614.98	522000	2612.49	522000	2610	520998	2604.99	519996	2609.98

NR Band 41 SCS30KHz																		
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2595.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640

NR Band 48 SCS30KHz						
	Bandwidth 10MHz		Bandwidth 20MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	637000	3555	637334	3560.01	638000	3570
M	641666	3624.99	641666	3624.99	641666	3624.99
H	646332	3694.98	646000	3690	645332	3679.98

NR Band 77 SCS30KHz																						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78 SCS30KHz																						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		





<For NR SA Overlap Bands Description>

1) NR Bands BW

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
SA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n25	FDD	15	5, 10, 15, 20
	n26	FDD	15	5, 10, 15, 20
	n77	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
NSA	n77	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100

2) NR Bands Tune up:

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
5G NR n5	Ant 0	26.00	26.00	25.00	26.00	26.00	26.00
5G NR n26	Ant 0	26.00	26.00	25.00	26.00	26.00	26.00

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
5G NR n2	Ant 1	26.00	26.00	23.50	23.00	23.00	26.00
5G NR n25	Ant 1	26.00	26.00	23.50	23.00	23.00	26.00

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
5G NR n2	Ant 2	25.00	24.00	26.00	26.00	26.00	26.00
5G NR n25	Ant 2	25.00	24.00	26.00	26.00	26.00	26.00
5G NR n5	Ant 2	25.00	24.00	26.00	26.00	26.00	26.00
5G NR n26	Ant 2	25.00	24.00	26.00	26.00	26.00	26.00

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
5G NR n77	Ant 7	23.00	20.00	26.00	26.00	26.00	26.00
5G NR n78	Ant 7	23.00	20.00	26.00	26.00	26.00	26.00
5G NR n77(HPUE)	Ant 7	23.00	20.00	27.00	27.50	27.50	27.50
5G NR n78HPUE)	Ant 7	23.00	20.00	27.00	27.50	27.50	27.50
5G NR n77(NSA)	Ant 7	20.00	17.50	22.50	26.00	26.00	26.00
5G NR n78(NSA)	Ant 7	20.00	17.50	22.50	26.00	26.00	26.00
5G NR n77-MIMO	Ant 7	18.00	15.00	20.00	22.50	22.50	22.50
5G NR n78-MIMO	Ant 7	18.00	15.00	20.00	22.50	22.50	22.50
5G NR n77(HPUE)-MIMO	Ant 7	18.00	15.00	20.00	24.50	24.50	24.50
5G NR n78HPUE)-MIMO	Ant 7	18.00	15.00	20.00	24.50	24.50	24.50

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
5G NR n77	Ant 8	26.00	23.00	21.50	24.00	24.00	26.00
5G NR n78	Ant 8	26.00	23.00	21.50	24.00	24.00	26.00
5G NR n77(HPUE)	Ant 8	26.00	23.00	21.50	24.00	24.00	27.50
5G NR n78HPUE)	Ant 8	26.00	23.00	21.50	24.00	24.00	27.50
5G NR n77(NSA)	Ant 8	23.00	20.00	20.50	22.50	22.50	26.00
5G NR n78(NSA)	Ant 8	23.00	20.00	20.50	22.50	22.50	26.00
5G NR n77-MIMO	Ant 8	22.50	21.00	21.50	22.50	22.50	22.50
5G NR n78-MIMO	Ant 8	22.50	21.00	21.50	22.50	22.50	22.50
5G NR n77(HPUE)-MIMO	Ant 8	24.00	21.00	21.50	22.50	22.50	24.50
5G NR n78HPUE)-MIMO	Ant 8	24.00	21.00	21.50	22.50	22.50	24.50



Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
5G NR n77	Ant 9	26.00	26.00	14.50	16.00	16.00	26.00
5G NR n78	Ant 9	26.00	26.00	14.50	16.00	16.00	26.00
5G NR n77(HPUE)	Ant 9	27.50	27.50	14.50	16.00	16.00	27.50
5G NR n78HPUE)	Ant 9	27.50	27.50	14.50	16.00	16.00	27.50
5G NR n77(NSA)	Ant 9	26.00	26.00	11.50	15.00	15.00	26.00
5G NR n78(NSA)	Ant 9	26.00	26.00	11.50	15.00	15.00	26.00
5G NR n77-MIMO	Ant 9	22.50	22.50	11.00	15.00	15.00	22.50
5G NR n78-MIMO	Ant 9	22.50	22.50	11.00	15.00	15.00	22.50
5G NR n77(HPUE)-MIMO	Ant 9	24.50	24.50	11.00	15.00	15.00	24.50
5G NR n78HPUE)-MIMO	Ant 9	24.50	24.50	11.00	15.00	15.00	24.50

Band	Antenna	state 10 Tune-up Limit	state 11 Tune-up Limit	state 12 Tune-up Limit	state 13 Tune-up Limit	state 14 Tune-up Limit	Default Tune-up Limit
5G NR n77	Ant 10	26.00	26.00	24.00	23.00	23.00	26.00
5G NR n78	Ant 10	26.00	26.00	24.00	23.00	23.00	26.00
5G NR n77(HPUE)	Ant 10	27.50	27.50	24.00	23.00	23.00	27.50
5G NR n78HPUE)	Ant 10	27.50	27.50	24.00	23.00	23.00	27.50
5G NR n77(NSA)	Ant 10	26.00	26.00	20.00	21.00	21.00	26.00
5G NR n78(NSA)	Ant 10	26.00	26.00	20.00	21.00	21.00	26.00
5G NR n77-MIMO	Ant 10	22.50	22.50	13.50	15.00	15.00	22.50
5G NR n78-MIMO	Ant 10	22.50	22.50	13.50	15.00	15.00	22.50
5G NR n77(HPUE)-MIMO	Ant 10	24.50	24.50	13.50	15.00	15.00	24.50
5G NR n78HPUE)-MIMO	Ant 10	24.50	24.50	13.50	15.00	15.00	24.50

Note: This device supports 5G NR N2 / N5 / n78 and N25 / N26 / n77. Since the supported frequency span for 5G NR N2 / N5 / n78 falls completely within the supported frequency span for N25 / N26 / n77, both 5G NR bands have the same target power, and both 5G NR bands share the same transmission path; therefore, SAR was only assessed for N25 / N26 / n77.

## **5. RF Exposure Limits**

### **5.1 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.

### **5.2 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.

## 6. Specific Absorption Rate (SAR)

### 6.1 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.

### 6.2 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 ( $\rho$ ). The equation description is as below:

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

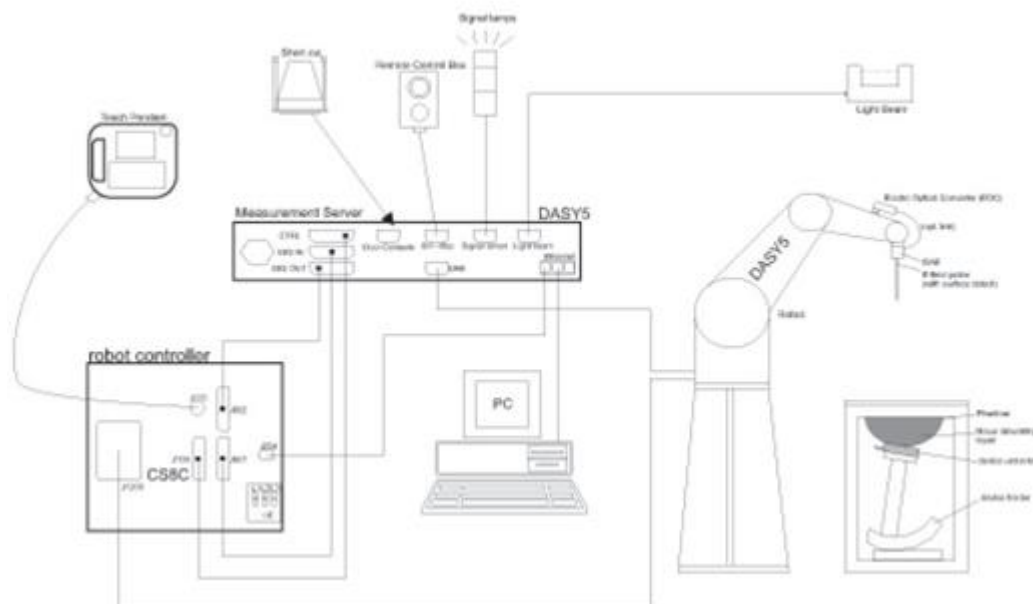
SAR is expressed in units of Watts per kilogram (W/kg)

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

Where:  $\sigma$  is the conductivity of the tissue,  $\rho$  is the mass density of the tissue and E is the RMS electrical field strength.

## 7. System Description and Setup

The DASY5 system used for performing compliance tests consists of the following items:




- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win10 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

**7.1 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>**

<b>Construction</b>	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	10 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
<b>Directivity</b>	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
<b>Dynamic Range</b>	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)	
<b>Dimensions</b>	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	

**7.2 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**

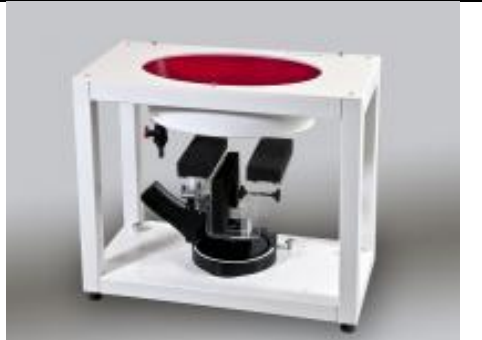
**7.3 Phantom**

**<SAM Twin Phantom>**

<b>Shell Thickness</b>	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
<b>Filling Volume</b>	Approx. 25 liters	
<b>Dimensions</b>	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
<b>Measurement Areas</b>	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>**

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

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

### 7.4 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



## 8. 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

### 8.1 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 from 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

### 8.2 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.

### 8.3 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.

	$\leq 3$ GHz	$> 3$ GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	$5 \pm 1$ mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$	$\leq 2$ GHz: $\leq 15$ mm 2 – 3 GHz: $\leq 12$ mm	3 – 4 GHz: $\leq 12$ mm 4 – 6 GHz: $\leq 10$ 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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

### 8.4 Zoom Scan

Zoom scans are used to 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 whose 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.

		$\leq 3$ GHz	$> 3$ GHz	
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}$ , $\Delta y_{Zoom}$		$\leq 2$ GHz: $\leq 8$ mm 2 – 3 GHz: $\leq 5$ mm*	3 – 4 GHz: $\leq 5$ mm* 4 – 6 GHz: $\leq 4$ mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	$\leq 5$ mm	3 – 4 GHz: $\leq 4$ mm 4 – 5 GHz: $\leq 3$ mm 5 – 6 GHz: $\leq 2$ mm	
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	$\leq 4$ mm	3 – 4 GHz: $\leq 3$ mm 4 – 5 GHz: $\leq 2.5$ mm 5 – 6 GHz: $\leq 2$ mm
		$\Delta z_{Zoom}(n>1)$ : between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	$\geq 30$ mm	3 – 4 GHz: $\geq 28$ mm 4 – 5 GHz: $\geq 25$ mm 5 – 6 GHz: $\geq 22$ mm	
<p>Note: <math>\delta</math> is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.</p> <p>* When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is <math>\leq 1.4</math> W/kg, <math>\leq 8</math> mm, <math>\leq 7</math> mm and <math>\leq 5</math> 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.</p>				

### 8.5 Volume Scan Procedures

The volume scan is used to 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.

### 8.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASYS 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.



### 9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1099	Dec. 15, 2021	Dec. 14, 2022
SPEAG	835MHz System Validation Kit	D835V2	4d162	Dec. 17, 2021	Dec. 16, 2022
SPEAG	1750MHz System Validation Kit	D1750V2	1137	Oct. 19, 2021	Oct. 18, 2022
SPEAG	1900MHz System Validation Kit	D1900V2	5d182	Dec. 20, 2021	Dec. 19, 2022
SPEAG	2300MHz System Validation Kit	D2300V2	1056	Oct. 20, 2021	Oct. 19, 2022
SPEAG	2450MHz System Validation Kit	D2450V2	924	Sep. 02, 2020	Sep. 01, 2023
SPEAG	2600MHz System Validation Kit	D2600V2	1070	Dec. 20, 2021	Dec. 19, 2022
SPEAG	3500MHz System Validation Kit	D3500V2	1076	May 09, 2022	May 08, 2023
SPEAG	3700MHz System Validation Kit	D3700V2	1037	May 09, 2022	May 08, 2023
SPEAG	3900MHz System Validation Kit	D3900V2	1022	Jul. 11, 2019	Jul. 06, 2022
SPEAG	5000MHz System Validation Kit	D5GHzV2	1341	Dec. 13, 2021	Dec. 12, 2022
SPEAG	Data Acquisition Electronics	DAE4	910	Jul. 15, 2021	Jul. 14, 2022
SPEAG	Data Acquisition Electronics	DAE4	1210	Apr. 12, 2022	Apr. 11, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	7577	Nov. 23, 2021	Nov. 22, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	7641	Apr. 11, 2022	Apr. 10, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	7346	Mar. 30, 2022	Mar. 29, 2023
SPEAG	SAM Twin Phantom	QD 000 P40 CD	1670	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CD	1795	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	Jul. 14, 2021	Jul. 13, 2022
Anritsu	Radio communication analyzer	MT8820C	6201341952	Dec. 28, 2021	Dec. 27, 2022
Anritsu	Radio communication analyzer	MT8821C	6272416846	Apr. 06, 2022	Apr. 05, 2023
Anritsu	Radio communication analyzer	MT8821C	6272416863	Apr. 06, 2022	Apr. 05, 2023
Agilent	Wireless Communication Test Set	E5515C	MY50267224	Jul. 14, 2021	Jul. 13, 2022
Keysight	Network Analyzer	E5071C	MY46523671	Oct. 25, 2021	Oct. 24, 2022
Speag	Dielectric Assessment KIT	DAK-3.5	1071	Jan. 24, 2022	Jan. 23, 2023
Agilent	Signal Generator	SMB100A	175779	Dec. 27, 2021	Dec. 26, 2022
Agilent	Signal Generator	N5181A	MY50145381	Dec. 28, 2021	Dec. 27, 2022
Anritsu	Power Sensor	MA2411B	1306099	Sep. 29, 2021	Sep. 28, 2022
Anritsu	Power Meter	ML2495A	1349001	Sep. 29, 2021	Sep. 28, 2022
Anritsu	Power Sensor	MA2411B	1542004	Dec. 28, 2021	Dec. 27, 2022
R&S	Power Sensor	NRP8S	109228	Apr. 07, 2022	Apr. 06, 2023
R&S	CBT BLUETOOTH TESTER	CBT	100963	Dec. 28, 2021	Dec. 27, 2022
R&S	Spectrum Analyzer	FSP7	100818	Jul. 14, 2021	Jul. 13, 2022
TES	Hygrometer	1310	200505600	Jul. 17, 2021	Jul. 16, 2022
Anymetre	Thermo-Hygrometer	JR593	2015030904	Jul. 17, 2021	Jul. 16, 2022
Anymetre	Thermo-Hygrometer	JR593	2015030903	Dec. 30, 2021	Dec. 29, 2022
Anymetre	Thermo-Hygrometer	JR593	2020062101	Jul. 17, 2021	Jul. 16, 2022
SPEAG	Device Holder	N/A	N/A	Note 1	
AR	Amplifier	5S1G4	0333096	Note 1	
mini-circuits	Amplifier	ZVE-3W-83+	599201528	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
Weinschel	Attenuator 1	3M-10	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.

## 10. System Verification

### 10.1 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.

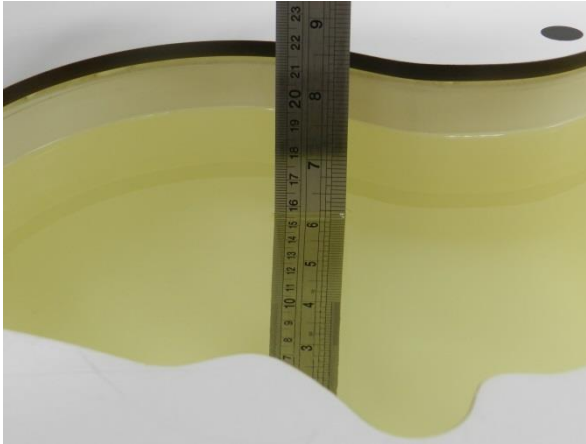


Fig 11.1 Photo of Liquid Height for Head SAR

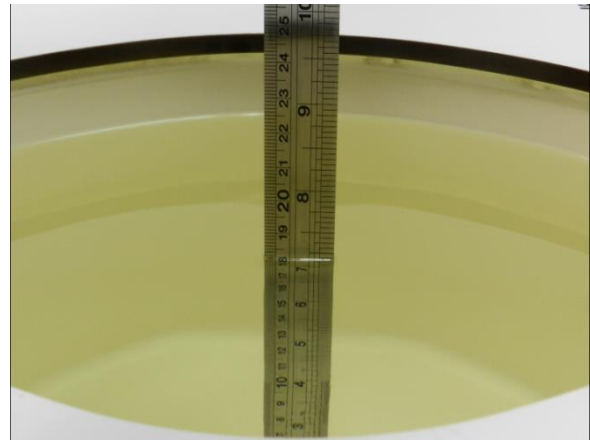


Fig 11.2 Photo of Liquid Height for Body SAR



10.2 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. (°C)	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)	Limit (%)	Date
750	Head	22.5	0.889	40.877	0.89	41.90	-0.11	-2.44	±5	2022/5/10
750	Head	22.4	0.885	40.799	0.89	41.90	-0.56	-2.63	±5	2022/5/15
750	Head	22.6	0.888	40.879	0.89	41.90	-0.22	-2.44	±5	2022/5/18
835	Head	22.3	0.904	41.804	0.90	41.50	0.44	0.73	±5	2022/5/12
835	Head	22.4	0.902	40.749	0.90	41.50	0.22	-1.81	±5	2022/5/21
835	Head	22.5	0.911	42.404	0.90	41.50	1.22	2.18	±5	2022/5/25
1750	Head	22.4	1.387	38.732	1.37	40.10	1.24	-3.41	±5	2022/5/14
1750	Head	22.6	1.404	41.634	1.37	40.10	2.48	3.83	±5	2022/5/30
1750	Head	22.5	1.340	38.737	1.37	40.10	-2.19	-3.40	±5	2022/6/4
1900	Head	22.2	1.414	41.126	1.40	40.00	1.00	2.81	±5	2022/5/16
1900	Head	22.3	1.398	38.705	1.40	40.00	-0.14	-3.24	±5	2022/6/8
1900	Head	22.4	1.385	41.154	1.40	40.00	-1.07	2.89	±5	2022/7/9
2300	Head	22.2	1.689	38.556	1.67	39.50	1.14	-2.39	±5	2022/5/18
2300	Head	22.5	1.725	38.149	1.67	39.50	3.29	-3.42	±5	2022/6/16
2450	Head	22.3	1.867	37.926	1.80	39.20	3.72	-3.25	±5	2022/6/13
2450	Head	22.3	1.767	38.357	1.80	39.20	-1.83	-2.15	±5	2022/6/23
2600	Head	22.4	1.938	37.938	1.96	39.00	-1.12	-2.72	±5	2022/5/20
2600	Head	22.5	1.937	37.939	1.96	39.00	-1.17	-2.72	±5	2022/6/15
2600	Head	22.3	1.977	38.432	1.96	39.00	0.87	-1.46	±5	2022/6/20
3500	Head	22.3	2.896	38.203	2.91	37.90	-0.48	0.80	±5	2022/5/22
3500	Head	22.5	2.912	38.343	2.91	37.90	0.07	1.17	±5	2022/7/4
3700	Head	22.5	3.048	37.958	3.12	37.70	-2.31	0.68	±5	2022/5/24
3700	Head	22.4	3.107	37.987	3.12	37.70	-0.42	0.76	±5	2022/7/6
3900	Head	22.2	3.208	37.743	3.33	37.51	-3.66	0.62	±5	2022/5/26
3900	Head	22.6	3.227	37.873	3.33	37.51	-3.09	0.97	±5	2022/7/2
5250	Head	22.2	4.597	36.617	4.71	35.95	-2.40	1.86	±5	2022/6/14
5250	Head	22.4	4.557	36.293	4.71	35.95	-3.25	0.95	±5	2022/6/22
5600	Head	22.1	5.006	36.080	5.07	35.50	-1.26	1.63	±5	2022/6/15
5600	Head	22.3	4.908	35.818	5.07	35.50	-3.20	0.90	±5	2022/6/24
5750	Head	22.3	5.175	35.814	5.22	35.35	-0.86	1.31	±5	2022/6/16
5750	Head	22.2	5.067	35.602	5.22	35.35	-2.93	0.71	±5	2022/6/26



10.3 System Performance Check Results

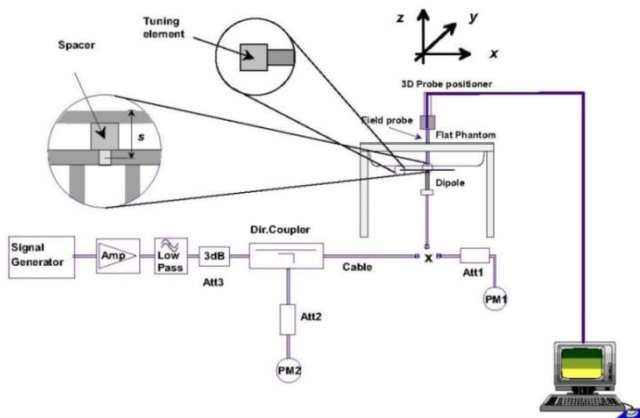
Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the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

<1g SAR>

Table with 11 columns: 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 (%). Rows contain test data from 2022/5/10 to 2022/6/26.

**<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 (%)
2022/5/10	750	Head	250	1099	7577	910	1.460	5.65	5.84	3.36
2022/5/15	750	Head	250	1099	7577	910	1.310	5.65	5.24	-7.26
2022/5/18	750	Head	250	1099	7577	910	1.360	5.65	5.44	-3.72
2022/5/12	835	Head	250	4d162	7577	910	1.690	6.26	6.76	7.99
2022/5/21	835	Head	250	4d162	7577	910	1.700	6.26	6.80	8.63
2022/5/25	835	Head	250	4d162	7577	910	1.640	6.26	6.56	4.79
2022/5/14	1750	Head	250	1137	7577	910	4.730	19.20	18.92	-1.46
2022/5/30	1750	Head	250	1137	7577	910	5.140	19.20	20.56	7.08
2022/6/4	1750	Head	250	1137	7577	910	4.640	19.20	18.56	-3.33
2022/5/16	1900	Head	250	5d182	7577	910	5.220	20.20	20.88	3.37
2022/6/8	1900	Head	250	5d182	7577	910	5.250	20.20	21.00	3.96
2022/7/9	1900	Head	250	5d182	7577	910	5.330	20.20	21.32	5.54
2022/5/18	2300	Head	250	1056	7641	910	5.420	22.80	21.68	-4.91
2022/6/16	2300	Head	250	1056	7641	910	6.080	22.80	24.32	6.67
2022/6/13	2450	Head	250	924	7346	1210	6.230	24.00	24.92	3.83
2022/6/23	2450	Head	250	924	7577	910	5.770	24.00	23.08	-3.83
2022/5/20	2600	Head	250	1070	7577	910	5.810	24.60	23.24	-5.53
2022/6/15	2600	Head	250	1070	7577	910	5.740	24.60	22.96	-6.67
2022/6/20	2600	Head	250	1070	7577	910	6.330	24.60	25.32	2.93
2022/5/22	3500	Head	100	1076	7577	910	2.570	25.50	25.70	0.78
2022/7/4	3500	Head	100	1076	7577	910	2.640	25.50	26.40	3.53
2022/5/24	3700	Head	100	1037	7577	910	2.520	24.60	25.20	2.44
2022/7/6	3700	Head	100	1037	7577	910	2.470	24.60	24.70	0.41
2022/5/26	3900	Head	100	1022	7577	910	2.640	24.60	26.40	7.32
2022/7/2	3900	Head	100	1022	7577	910	2.460	24.60	24.60	0.00
2022/6/14	5250	Head	100	1341	7346	1210	2.370	23.10	23.70	2.60
2022/6/22	5250	Head	100	1341	7577	910	2.110	23.10	21.10	-8.66
2022/6/15	5600	Head	100	1341	7346	1210	2.350	24.00	23.50	-2.08
2022/6/24	5600	Head	100	1341	7577	910	2.190	24.00	21.90	-8.75
2022/6/16	5750	Head	100	1341	7346	1210	2.330	22.70	23.30	2.64
2022/6/26	5750	Head	100	1341	7577	910	2.130	22.70	21.30	-6.17



**Fig 11.3.1 System Performance Check Setup**



**Fig 11.3.2 Setup Photo**



## 11. RF Exposure Positions

### 11.1 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.

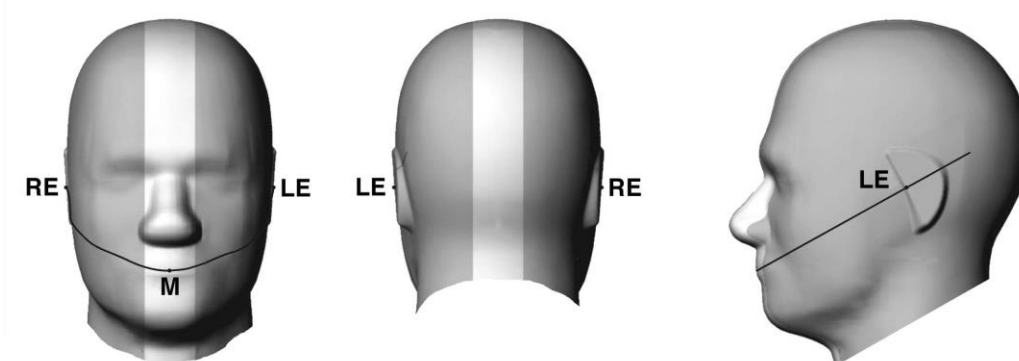


Fig 12.1.1 Front, back, and side views of SAM twin phantom

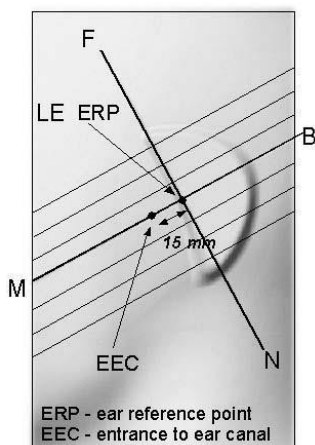


Fig 12.1.2 Close-up side view of phantom showing the ear region.

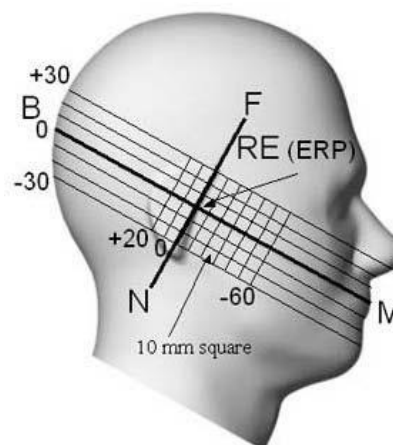
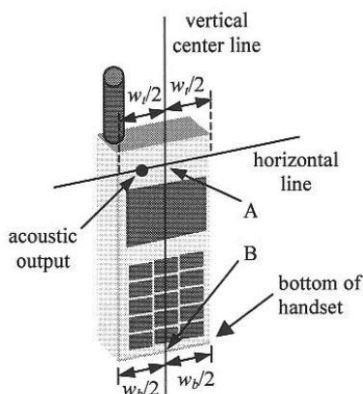


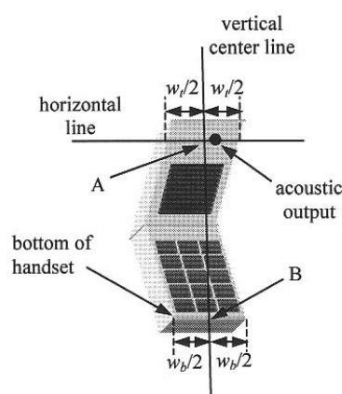
Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

### 11.2 Definition of the cheek position

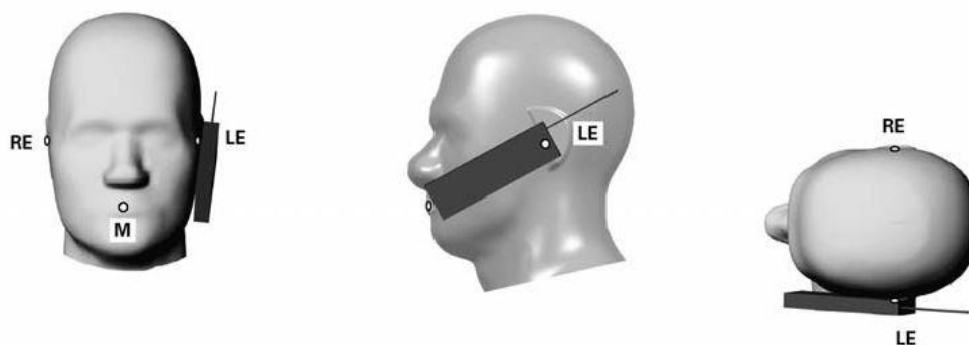
1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width  $w_t$  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  $w_b$  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.**

### 11.3 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

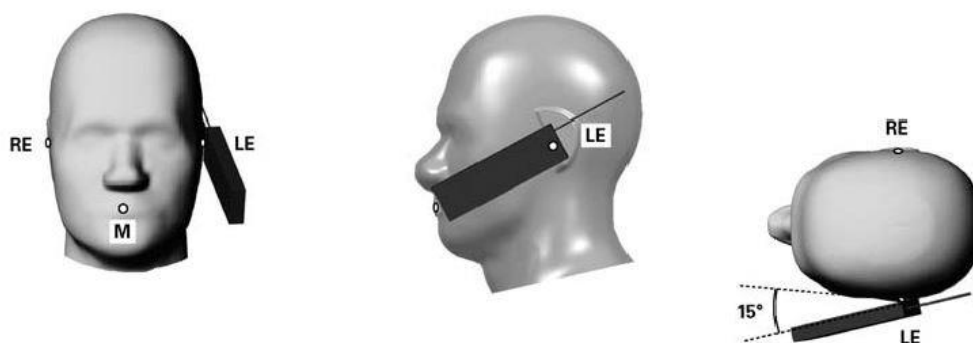


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

### 11.4 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 D4 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  $> 1.2 \text{ W/kg}$ , the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters) only the accessory that dictates the closest spacing to the body is tested.

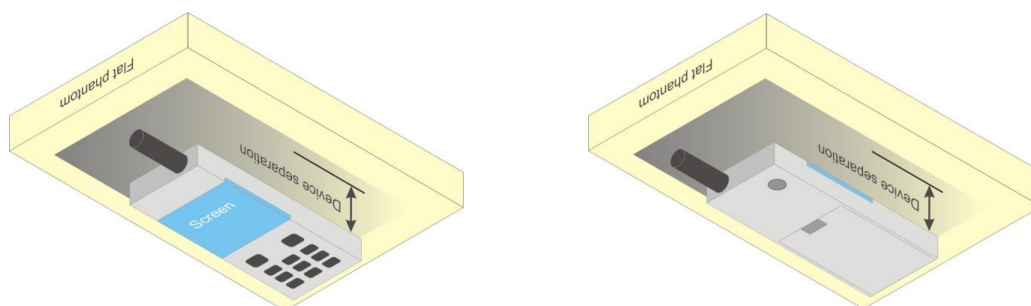


Fig 12.4 Body Worn Position



### **11.5 Product Specific 10g SAR Exposure**

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  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.

### **11.6 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 ( $L \times W \geq 9$  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 from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D4 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.

## **12. Conducted RF Output Power (Unit: dBm)**

The detailed conducted power table can refer to Appendix E.

### **<GSM Conducted Power>**

1. Per KDB 447498 D04, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 2Tx slots for GSM850/GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode, SAR measurement is not required for the secondary mode.

### **<WCDMA Conducted Power>**

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

A summary of these settings are illustrated below:

### **HSDPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) 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:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_o/\beta_d$	$\beta_{HS}$ (Note 1, 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:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ .

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,  $\Delta_{ACK}$  and  $\Delta_{NACK} = 30/15$  with  $\beta_{HS} = 30/15 * \beta_c$ , and  $\Delta_{CQI} = 24/15$  with  $\beta_{HS} = 24/15 * \beta_c$ .

Note 3: CM = 1 for  $\beta_o/\beta_d = 12/15$ ,  $\beta_{HS}/\beta_c = 24/15$ . 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  $\beta_o/\beta_d$  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  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

**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 ( $\beta_c$  and  $\beta_d$ ) 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:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note1)	$\beta_{ec}$	$\beta_{ed}$ (Note 4) (Note 5)	$\beta_{ed}$ (SF)	$\beta_{ed}$ (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	209/25	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	$\beta_{ed1}$ : 47/15 $\beta_{ed2}$ : 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,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ . For sub-test 5,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 5/15$  with  $\beta_{hs} = 5/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . 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  $\beta_c/\beta_d$  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, TF0) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

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:  $\beta_{ed}$  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:**

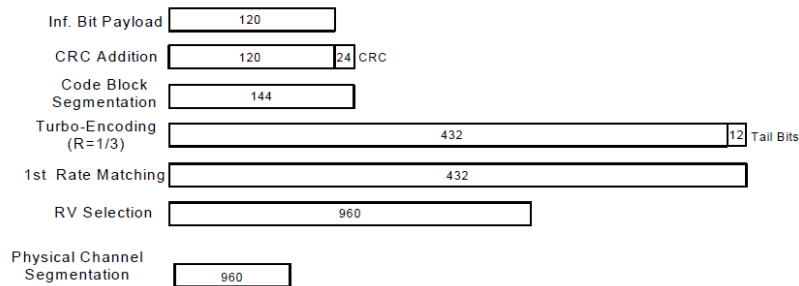
- a. The EUT was connected to Base Station referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set RMC 12.2Kbps + HSDPA mode.
  - ii. Set Cell Power = -25 dBm
  - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
  - iv. Select HSDPA Uplink Parameters
  - v. Set Gain Factors ( $\beta_c$  and  $\beta_d$ ) 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:  $\beta_c/\beta_d=2/15$
    - b). Subtest 2:  $\beta_c/\beta_d=12/15$
    - c). Subtest 3:  $\beta_c/\beta_d=15/8$
    - d). Subtest 4:  $\beta_c/\beta_d=15/4$
  - 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	Processes	6
Information Bit Payload ( $N_{INF}$ )	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		



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

**Setup Configuration**



**<WCDMA Conducted Power>**

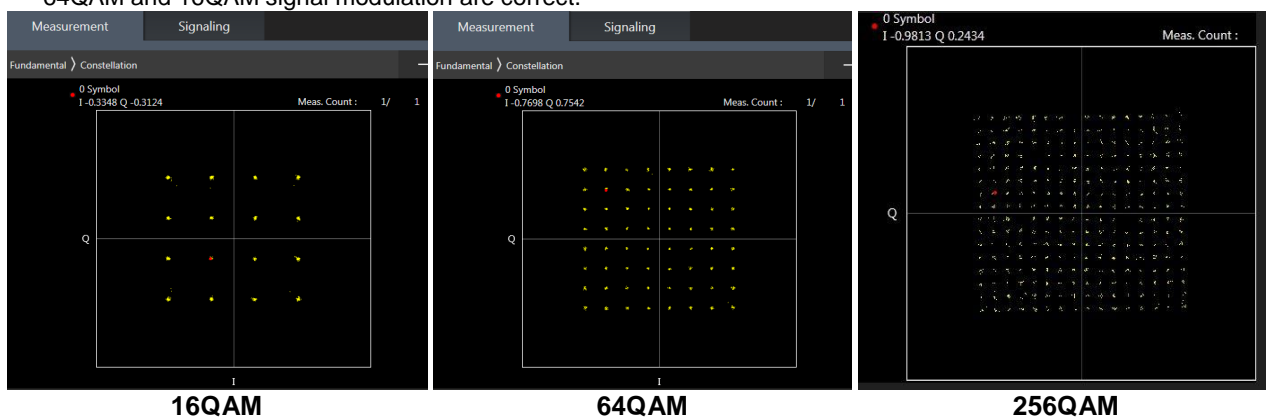
**General Note:**

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is  $\leq \frac{1}{4}$  dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than  $\frac{1}{4}$  dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA

**<LTE Conducted Power>**

**General Note:**

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / 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 B2 / B4 / B5 / B17 / B38 SAR test was covered by B25 / B66 / B26 / B12 / 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  $\leq$  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, 256QAM 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 256QAM, 64QAM and 16QAM signal modulation are correct.



<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.

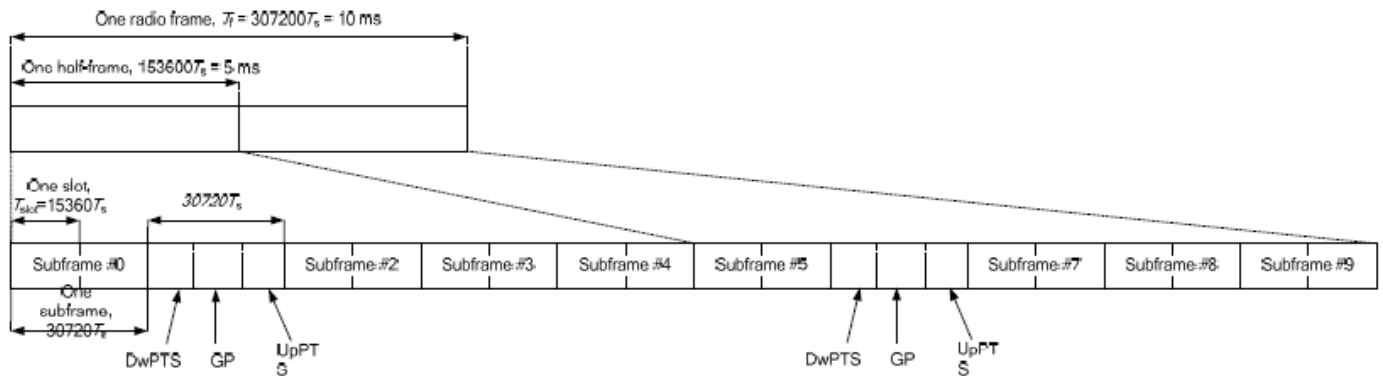


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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	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 · Ts	2192 · Ts	2560 · Ts	7680 · Ts	2192 · Ts	2560 · Ts
1	19760 · Ts			20480 · Ts		
2	21952 · Ts			23040 · Ts		
3	24144 · Ts			25600 · Ts		
4	26336 · Ts			7680 · Ts	4384 · Ts	5120 · Ts
5	6592 · Ts	4384 · Ts	5120 · Ts	20480 · Ts		
6	19760 · Ts			23040 · Ts		
7	21952 · Ts			12800 · Ts		
8	24144 · Ts			-	-	-
9	13168 · Ts			-	-	-

Special subframe (30720·T <sub>s</sub> ): 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 <sub>s</sub> ): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
Uplink duty factor in one special subframe	0~3	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

For Power class 2

- i. Uplink-downlink configuration: 1. In a half-frame consisted of 5 subframes, uplink operation is in 2 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:  $(2+0.167)/5 = 43.3\%$
- iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is:  $(2+0.143)/5 = 42.9\%$
- v. For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix  $43.3\%/42.9\% = 1.009$  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.

For Power class 3

- i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, 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.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level, as followings:

LTE TDD Band	Power Class level	support uplink/downlink configuration
LTE Band 41	> 23	1,2,3,4,5
	=23	0,1,2,3,4,5,6
	< 23	0,1,2,3,4,5,6



<LTE Carrier Aggregation>

General Note:

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

2CC Downlink Carrier Aggregation					3CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_2A-2A	2A-2A		3CC-1	1	CA_2A-2A-12A	2A-2A		4CC-1
2	CA_2A-4A	2A-4A		3CC-20	2	CA_2A-2A-13A	2A-2A		
3	CA_2A-12A	2A		3CC-12	3	CA_2A-2A-29A	2A-2A	29 RX Only	4CC-3
4	CA_2A-13A	2A		3CC-17	4	CA_2A-2A-30A	2A-2A-30A		4CC-4
5	CA_2A-30A	2A-30A		3CC-19	5	CA_2A-2A-4A	2A-2A-4A		
6	CA_2A-48A	2A-48A		4CC-9	6	CA_2A-2A-5A	2A-2A		4CC-5
7	CA_2A-29A	2A	29 RX Only	3CC-3	7	CA_2A-2A-66A	2A-2A-66A		4CC-4
8	CA_2A-5A	2A		3CC-6	8	CA_2A-2A-71A	2A-2A		
9	CA_2A-66A	2A-66A		3CC-7	9	CA_2A-30A-66A	2A-30A-66A		4CC-4
10	CA_2A-71A	2A		3CC-8	10	CA_2A-48A-48A	2A-48A-48A		4CC-9
11	CA_2A-7A	2A-7A			11	CA_2A-48A-66A	2A-48A-66A		
12	CA_2C	2C		3CC-31	12	CA_2A-12A-30A	2A-30A		4CC-1
13	CA_30A-66A	30A-66A		3CC-9	13	CA_2A-12A-66A	2A-66A		4CC-2
14	CA_38C	38C			14	CA_2A-29A-30A	2A-30A	29 RX Only	4CC-3
15	CA_29A-30A	30A	29 RX Only	3CC-14	15	CA_2A-29A-66A	2A-66A	29 RX Only	4CC-4
16	CA_29A-66A	66A	29 RX Only	3CC-15	16	CA_2A-4A-12A	2A-4A		4CC-13
17	CA_4A-12A	4A		3CC-35	17	CA_2A-4A-13A	2A-4A		
18	CA_4A-13A	4A		3CC-38	18	CA_2A-4A-29A	2A-4A	29 RX Only	4CC-14
19	CA_4A-29A	4A	29 RX Only	3CC-39	19	CA_2A-4A-30A	2A-4A-30A		4CC-13
20	CA_4A-30A	4A-30A		3CC-40	20	CA_2A-4A-4A	2A-4A-4A		4CC-14
21	CA_4A-4A	4A-4A		3CC-37	21	CA_2A-4A-5A	2A-4A		4CC-15
22	CA_4A-5A	4A		3CC-43	22	CA_2A-5A-30A	2A-30A		4CC-15
23	CA_4A-71A	4A		3CC-42	23	CA_2A-5A-66A	2A-66A		4CC-16
24	CA_4A-48A	4A-48A			24	CA_2A-5B	2A		4CC-19
25	CA_5A-25A	5A			25	CA_2A-66A-66A	2A-66A-66A		4CC-11
26	CA_5A-30A	30A		3CC-50	26	CA_2A-66A-71A	2A-66A		4CC-18
27	CA_12A-25A	25A			27	CA_2A-66B	2A-66B		
28	CA_12A-30A	30A		4CC-21	28	CA_2A-66C	2A-66C		4CC-20
29	CA_12A-66A	66A		4CC-21	29	CA_2C-12A	2C		
30	CA_13A-48A	48A		3CC-46	30	CA_2C-5A	2C		
31	CA_13A-66A	66A		3CC-47	31	CA_2C-66A	2C-66A		
32	CA_5A-48A	48A		3CC-51	32	CA_30A-66A-66A	30A-66A-66A		
33	CA_5A-5A			3CC-52	33	CA_29A-30A-66A	30A-66A	29 RX Only	4CC-4
34	CA_5A-66A	66A		3CC-52	34	CA_29A-66A-66A	66A-66A	29 RX Only	4CC-17
35	CA_5A-7A	7A			35	CA_4A-12A-30A	4A-30A		4CC-13
36	CA_5B			3CC-56	36	CA_4A-29A-30A	4A-30A	29 RX Only	4CC-13
37	CA_66A-66A	66A-66A		3CC-34	37	CA_4A-4A-12A	4A-4A		4CC-14
38	CA_66A-71A	66A		3CC-60	38	CA_4A-4A-13A	4A-4A		
39	CA_66B	66B		3CC-48	39	CA_4A-4A-29A	4A-4A	29 RX Only	4CC-14
40	CA_66C	66C		3CC-44	40	CA_4A-4A-30A	4A-4A-30A		4CC-15
41	CA_25A-25A	25A-25A		3CC-61	41	CA_4A-4A-5A	4A-4A		
42	CA_25A-26A	25A		3CC-62	42	CA_4A-4A-71A	4A-4A		
43	CA_25A-41A	25A-41A		3CC-63	43	CA_4A-5A-30A	4A-30A		4CC-15
44	CA_26A-41A	41A		3CC-64	44	CA_12A-66C	66C		



45	CA_7A-7A	7A-7A			45	CA_13A-48A-48A	48A-48A		4CC-22
46	CA_7B	7B			46	CA_13A-48C	48C		4CC-22
47	CA_7C	7C			47	CA_13A-66A-66A	66A-66A		
48	CA_41A-41A	41A-41A		3CC-68	48	CA_13A-66B	66B		
49	CA_41A-48A	41A-48A		3CC-67	49	CA_13A-66C	66C		
50	CA_41C	41C		3CC-68	50	CA_5A-30A-66A	30A-66A		4CC-16
51	CA_48A-48A	48A-48A		3CC-70	51	CA_5A-48C	48C		
52	CA_48A-66A	48A-66A		3CC-72	52	CA_5A-5A-66A	66A		4CC-24
53	CA_48A-71A	48A		3CC-75	53	CA_5A-66A-66A	66A-66A		4CC-17
54	CA_48C	48C		5CC-1	54	CA_5A-66B	66B		
					55	CA_5A-66C	66C		
					56	CA_5B-30A	30A		4CC-26
					57	CA_5B-66A	66A		4CC-26
					58	CA_66A-66A-71A	66A-66A		4CC-18
					59	CA_66A-66C	66A-66C		
					60	CA_66C-71A	66C		
					61	CA_25A-25A-25A	25A-25A-25A		
					62	CA_25A-25A-26A	25A-25A		
					63	CA_25A-25A-41A	25A-25A-41A		5CC-4
					64	CA_25A-26A-41A	25A-41A		
					65	CA_25A-41C	25A-41C		
					66	CA_12A-48C	48C		4CC-29
					67	CA_41A-48C	41A-48C		
					68	CA_41A-41C	41A-41C		4CC-30
					69	CA_41D	41D		4CC-29
					70	CA_48A-48A-66A	48A-48A-66A		4CC-32
					71	CA_48A-48C	48A-48C		4CC-34
					72	CA_48A-66A-66A	48A-66A-66A		4CC-32
					73	CA_48A-66C	48A-66C		4CC-33
					74	CA_48C-66A	48C-66A		4CC-34
					75	CA_48C-71A	48C		
					76	CA_48D	48D		4CC-35



4CC Downlink Carrier Aggregation					5CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_2A-2A-12A-30A	2A-2A-30A			1	CA_2A-48C-48C	2A-48C-48C		
2	CA_2A-2A-12A-66A	2A-2A-66A			2	CA_13A-48C-48C	48C-48C		
3	CA_2A-2A-29A-30A	2A-2A-30A	29 RX Only		3	CA_13A-48A-48D	48A-48D		
4	CA_2A-2A-30A-66A	2A-2A-30A-66A			4	CA_25A-25A-41D	25A-25A-41D		
5	CA_2A-2A-5A-30A	2A-2A-30A			5	CA_25A-41E	25A-41E		
6	CA_2A-2A-66A-66A	2A-2A-66A-66A			6	CA_41C-41D	41C-41D		
7	CA_2A-2A-66C	2A-2A-66C			7	CA_48C-48C-66A	48C-48C-66A		
8	CA_2A-30A-66A-66A	2A-30A-66A-66A							
9	CA_2A-48D	2A-48D							
10	CA_2A-12A-30A-66A	2A-30A-66A							
11	CA_2A-12A-66A-66A	2A-66A-66A							
12	CA_2A-29A-30A-66A	2A-30A-66A	29 RX Only						
13	CA_2A-4A-12A-30A	2A-4A-30A							
14	CA_2A-4A-4A-12A	2A-4A-4A							
15	CA_2A-4A-5A-30A	2A-4A-30A							
16	CA_2A-5A-30A-66A	2A-30A-66A							
17	CA_2A-5A-66A-66A	2A-66A-66A							
18	CA_2A-66A-66A-71A	2A-66A-66A							
19	CA_2A-5B-30A	2A-30A							
20	CA_2A-66C-71A	2A-66C							
21	CA_12A-30A-66A-66A	30A-66A-66A							
22	CA_13A-48A-48C	48A-48C		5CC-2					
23	CA_13A-48D	48D		5CC-3					
24	CA_5A-30A-66A-66A	30A-66A-66A							
25	CA_5A-48D	48D							
26	CA_5B-30A-66A	30A-66A							
27	CA_25A-25A-41C	25A-25A-41C		5CC-4					
28	CA_25A-41D	25A-41D		5CC-4					
29	CA_12A-48D	48D							
30	CA_41C-41C	41C-41C		5CC-6					
31	CA_41E	41E		5CC-5					
32	CA_48A-48A-66A-66A	48A-48A-66A-66A							
33	CA_48A-48A-66C	48A-48A-66C							
34	CA_48A-48C-66A	48A-48C-66A		5CC-7					
35	CA_48A-48D	48A-48D		5CC-3					
36	CA_48C-66A-66A	48C-66A-66A							
37	CA_48C-66C	48C-66C							
38	CA_48D-66A	48D-66A							
39	CA_48E	48E							



**LTE Carrier Aggregation Conducted Power (Downlink)**

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink five 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.

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

**LTE 4x4 MIMO (Downlink)**

This device supports downlink 4x4 MIMO operations for LTE Bands 2/4/7/25/30/38/41/48/66 only. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

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

4X4 MIMO	Band
	LTE Band 2/4/7/25/30/38/41/48/66

**LTE Carrier Aggregation Conducted Power (Uplink)**

2CC Uplink Carrier Aggregation		
Number	Combination	Ant No.
1	2C	Ant 1/2
2	5B	Ant 0/2
3	7C	Ant 1/2
4	66B	Ant 1/2
5	66C	Ant 1/2
6	38C	Ant 1/2
7	41C	Ant 1/2

**<Intra-band>**

**General Note:**

- i. The device supports intra-band uplink carrier aggregation for LTE B2/5/7/38/41/66 with a maximum of two 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 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 Nov. 2017 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 with other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.
- v. LTE CA\_66B test was covered by CA\_66C; therefore, SAR was only assessed for CA\_66C.

**<Inter-band uplink carrier aggregation consideration>**

Inter-CA(FCC)		Ant						Inter-CA(FCC)		Ant					
PCC	SCC	PCC	SCC	PCC	SCC	PCC	SCC	PCC	SCC	PCC	SCC	PCC	SCC	PCC	SCC
2A	4A	1	11	2	11			4A	2A	11	1	11	2		
2A	5A	1	0	2	0	1	2	5A	2A	0	1	0	2	2	1
2A	7A	11	1	11	2			7A	2A	1	11	2	11		
2A	12A	1	0	2	0	1	2	12A	2A	0	1	0	2	2	1
2A	13A	1	0	2	0	1	2	13A	2A	0	1	0	2	2	1
2A	30A	11	1	11	2			30A	2A	1	11	2	11		
2A	66A	1	11	2	11			66A	2A	11	1	11	2		
4A	5A	1	0	2	0	1	2	5A	4A	0	1	0	2	2	1
4A	12A	1	0	2	0	1	2	12A	4A	0	1	0	2	2	1
4A	13A	1	0	2	0	1	2	13A	4A	0	1	0	2	2	1
4A	30A	11	1	11	2			30A	4A	1	11	2	11		
5A	7A	0	1	0	2	2	1	7A	5A	1	0	2	0	1	2
5A	30A	0	1	0	2	2	1	30A	5A	1	0	2	0	1	2
5A	66A	0	1	0	2	2	1	66A	5A	1	0	2	0	1	2
12A	30A	0	1	0	2	2	1	30A	12A	1	0	2	0	1	2
12A	66A	0	1	0	2	2	1	66A	12A	1	0	2	0	1	2
13A	66A	0	1	0	2	2	1	66A	13A	1	0	2	0	1	2
30A	66A	1	11	2	11			66A	30A	11	1	11	2		

**General Note:**

1. The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level.
2. For Inter band CA co-located SAR analysis is performed using standalone SAR summed together and they are more conservatively for inter band CA.

### **5G NR Output Power (Unit: dBm)**

#### **General Note:**

1. 5G NR n2/n5/n7/n66/n71/n77/n78 is NSA mode.
2. 5G NR n2/n5/n7/n12/n13/n25/n26/n66/n71/n38/n41/n48/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-s PI/2 BPSK and the reported SAR for the DFT-s PI/2 BPSK configuration is  $\leq 1.45$  W/kg; CP-OFDM testing is not required.
  - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
  - c. SAR testing start with the largest channel bandwidth and measure SAR for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
  - d. 50% RB allocation for PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure
  - e. PI/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
  - f. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
  - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device
4. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
5. 5G NR n41/n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
6. 5G NR n41/n77/n78 HUPE with higher power, 5G NR n41/n77/n78 HUPE SAR can represent power class 3 level SAR.
7. 5G NR n41/n77/n78 supports MIMO mode only limit to SA mode. For per chain maximum power of MIMO mode power level is SISO mode power level (standalone SA mode). MIMO SAR base on standalone SAR summed together as MIMO SAR.
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. For the maximum power level of NSA mode NR band is the same as NR SISO power level in UL MIMO mode, so NSA SAR can represent NR SISO SAR in UL MIMO mode.
10. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
11. 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.
12. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.

<3GPP 38.101 MPR for EN-DC>

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

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 <sup>2</sup>
	QPSK		$\leq 1$	0
	16 QAM		$\leq 2$	$\leq 1$
	64 QAM			
CP-OFDM	256 QAM		$\leq 2.5$	
			$\leq 4.5$	
	QPSK	$\leq 3$		$\leq 1.5$
	16 QAM	$\leq 3$		$\leq 2$
	64 QAM		$\leq 3.5$	
		$\leq 6.5$		

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	$\leq 3.5$	$\leq 0.5$	0
	QPSK	$\leq 3.5$	$\leq 1$	0
	16 QAM	$\leq 3.5$	$\leq 2$	$\leq 1$
	64 QAM	$\leq 3.5$		$\leq 2.5$
	256 QAM		$\leq 4.5$	
CP-OFDM	QPSK	$\leq 3.5$	$\leq 3$	$\leq 1.5$
	16 QAM	$\leq 3.5$	$\leq 3$	$\leq 2$
	64 QAM		$\leq 3.5$	
	256 QAM		$\leq 6.5$	

EN-DC	Main Tx		Div Ant		Div1 Ant	
	LTE Ant	NR Ant	LTE Ant	NR Ant	LTE Ant	NR Ant
DC_5A_n2	0	1	0	2	2	1
DC_12A_n2	0	1	0	2	2	1
DC_66A_n2	11	1	11	2		
DC_2A_n5	1	0	2	0	1	2
DC_7A_n5	1	0	2	0	1	2
DC_30A_n5	1	0	2	0	1	2
DC_66A_n5	1	0	2	0	1	2
DC_2A_n7	11	1	11	2		
DC_5A_n7	0	1	0	2	2	1
DC_66A_n7	11	1	11	2		
DC_2A_n66	11	1	11	2		
DC_5A_n66	0	1	0	2	2	1
DC_7A_n66	11	1	11	2		
DC_12A_n66	0	1	0	2	2	1
DC_2A_n71	1	0	2	0	1	2
DC_7A_n71	1	0	2	0	1	2
DC_66A_n71	1	0	2	0	1	2
DC_7A_n77	1	7/8/9/10	2	7/8/9/10		
DC_2A_n78	1	7/8/9/10	2	7/8/9/10		
DC_5A_n78	0	7/8/9/10	2	7/8/9/10		
DC_7A_n78	1	7/8/9/10	2	7/8/9/10		
DC_66A_n78	1	7/8/9/10	2	7/8/9/10		
DC_38A_n78	1	7/8/9/10	2	7/8/9/10		
DC_41A_n78	1	7/8/9/10	2	7/8/9/10		
DC_12A_n77	0	7/8/9/10	2	7/8/9/10		
DC_30A_n77	1	7/8/9/10	2	7/8/9/10		
DC_66A_n77	1	7/8/9/10	2	7/8/9/10		
DC_2A_n77	1	7/8/9/10	2	7/8/9/10		

**NR UL MIMO Bands Configuration:**

NR UL MIMO	TX Ant	TX Ant
FR1 n41	Ant1/2	Ant7/8
FR1 n77	Ant7/Ant10	Ant8/Ant9
FR1 n78	Ant7/Ant10	Ant8/Ant9

Note: 5GNR n41 ant 1/2 only for uplink MIMO.

**<WLAN Conducted Power>**

**General Note:**

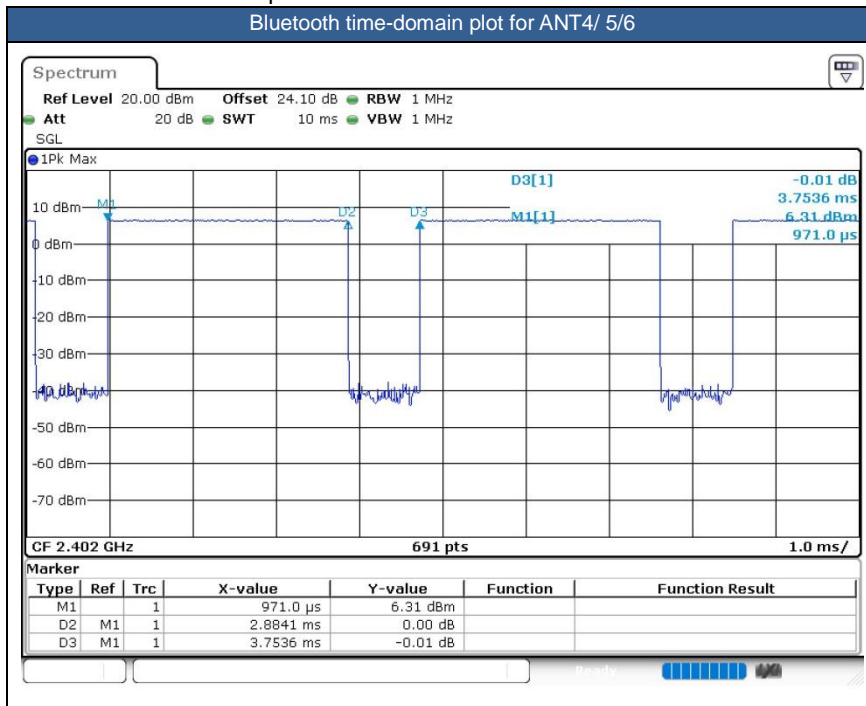
1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. 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  $\leq 0.4$  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  $\leq 0.8$  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  $\leq 1.2$  W/kg or all required channels are tested.
5. 802.11ax supports full tone size and partial tone size, after verification for the partial tone size mode power level will not higher than full tone size power level, so chose full tone power to be measured in this report.
6. The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO and MIMO antenna mode.



<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 76.84 % for as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to100% for Bluetooth reported SAR calculation





### **13. Antenna Location**

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



## 14. SAR Test Results

### General Note:

1. Per KDB 447498 D04, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
  - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
  - b. For SAR testing of BT/WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
  - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)\*Tune-up Scaling Factor
  - d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)\* Duty Cycle scaling factor \* Tune-up scaling factor
  - e. For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
  - f. For TDD LTE SAR measurement of power class 2, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = measured SAR (W/kg)\* Tune-up Scaling Factor\* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D04, 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. 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.
5. The device implements 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. power table. Power table (state 10/11: receiver on head power; state 12: Hotspot on power; state 13/14: receiver off power).
6. This device supports HPUE for LTE Band 41 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.
7. LTE band 41 and 5G NR n41/n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
8. 5G NR n41/n77/n78 HUPE with higher power, 5G NR n41/n77/n78 HUPE SAR can represent power class 3 level SAR.
9. 5G NR n41/n77/n78 HUPE limit to SA mode.
10. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
11. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
12. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
13. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
14. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power



- reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
15. This device supports 5G NR FR1 bands, including NSA mode and SA mode. NSA and SA mode performed SAR separately.
  16. For 5G NR EN-DC mode, standalone SAR performed for 5G NR band with the maximum power, EN-DC SAR summed 5G NR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
  17. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
    - a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM850/1900, WCDMA Band II, LTE Band 2/4/7/25/66/38/41, 5G NR n7/n66/n38/n77/n78, therefore product specific 10g SAR is necessary.
    - b. WLAN 5.3/5.5/6GHz 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.
  18. The device has two batteries. For battery 1/2 only suppliers are different. So we only choose battery 1 to perform full SAR testing.
  19. The following table "n/a" means the measured SAR is too small to find the 1g cube SAR.
  20. The "Sim Tx" means Simultaneous Transmission in this report.

**GSM Note:**

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

**WCDMA Note:**

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

**LTE Note:**

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is  $>$  not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / 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 B2 / B4 / B5 / B17 / B38 SAR test was covered by LTE B25 / B66 / B26 / B12 / 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  $\leq$  the larger band to qualify for the SAR test exclusion
  - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

**5G NR Note:**

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
  - a. SAR testing start with the largest channel bandwidth and measure SAR for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
  - b. 50% RB allocation for PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure.
  - c. PI/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.
  - d. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not  $\frac{1}{2}$  dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK /16QAM /64QAM/256QAM SAR testing are not required.
  - e. Smaller bandwidth output power for each RB allocation configuration for this device will not  $\frac{1}{2}$  dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is  $\leq 1.45$  W/kg, smaller bandwidth SAR testing is not required for this device
  - f. For 5G FR1 n5/n7/n66//n38/n41/n77/n78 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.



**WLAN/Bluetooth Note:**

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2$  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  $\leq 1.2$  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  $\leq 0.8$  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  $\leq 1.2$  W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. 802.11ax supports full tone size and partial tone size, after verification for the partial tone size mode power level will not higher than full tone size power level, so chose full tone power to be measured in this report.
7. The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO and MIMO antenna mode.
8. When the single antenna RF power in MIMO mode is less than the single antenna RF power in SISO mode, SAR testing was performed on SISO mode, for MIMO SAR based on standalone SAR to be summed together as MIMO SAR; when the single antenna RF power in MIMO mode is larger than the single antenna RF power in SISO mode, SAR testing was performed on dual antenna.



14.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>750MHz</b>																			
	LTE Band 71	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	state 10/11	133297	680.5	1	24.40	26.00	1.445	0.09	0.104	0.150
	LTE Band 71	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 0	state 10/11	133297	680.5	1	24.40	26.00	1.445	0.02	0.048	0.069
	LTE Band 71	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	state 10/11	133297	680.5	1	24.40	26.00	1.445	-0.04	0.064	0.093
	LTE Band 71	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 0	state 10/11	133297	680.5	1	24.40	26.00	1.445	-	n/a	n/a
	LTE Band 71	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 0	state 10/11	133297	680.5	1	23.42	25.00	1.439	0.05	0.084	0.121
	LTE Band 71	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 0	state 10/11	133297	680.5	1	23.42	25.00	1.439	0.07	0.036	0.052
	LTE Band 71	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 0	state 10/11	133297	680.5	1	23.42	25.00	1.439	-0.05	0.051	0.073
	LTE Band 71	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 0	state 10/11	133297	680.5	1	23.42	25.00	1.439	-	n/a	n/a
01	LTE Band 71	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	133297	680.5	1	24.40	26.00	1.445	-0.01	0.605	<b>0.874</b>
	LTE Band 71	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	133297	680.5	1	24.40	26.00	1.445	0.08	0.154	0.223
	LTE Band 71	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	133297	680.5	1	24.40	26.00	1.445	0.09	0.493	0.713
	LTE Band 71	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	133297	680.5	1	24.40	26.00	1.445	0.04	0.047	0.068
	LTE Band 71	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	133297	680.5	1	23.42	25.00	1.439	0.01	0.495	0.712
	LTE Band 71	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 10	133297	680.5	1	23.42	25.00	1.439	0.09	0.113	0.163
	LTE Band 71	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 10	133297	680.5	1	23.42	25.00	1.439	0.02	0.386	0.555
	LTE Band 71	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 10	133297	680.5	1	23.42	25.00	1.439	-0.02	0.040	0.058
	LTE Band 71	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 2	state 10	133297	680.5	1	23.40	25.00	1.445	0.03	0.488	0.705
	LTE Band 71	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	133297	680.5	1	22.58	24.00	1.387	-0.11	0.176	0.244
	LTE Band 71	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 11	133297	680.5	1	22.58	24.00	1.387	-	n/a	n/a
	LTE Band 71	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 11	133297	680.5	1	22.58	24.00	1.387	0.06	0.157	0.218
	LTE Band 71	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 11	133297	680.5	1	22.58	24.00	1.387	-	n/a	n/a
	LTE Band 71	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	133297	680.5	1	21.60	23.00	1.380	0.02	0.144	0.199
	LTE Band 71	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	133297	680.5	1	21.60	23.00	1.380	-	n/a	n/a
	LTE Band 71	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	133297	680.5	1	21.60	23.00	1.380	0.04	0.129	0.178
	LTE Band 71	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 11	133297	680.5	1	21.60	23.00	1.380	-	n/a	n/a
	LTE Band 12	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	state 10/11	23095	707.5	1	24.29	26.00	1.483	-0.19	0.095	0.141
	LTE Band 12	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 0	state 10/11	23095	707.5	1	24.29	26.00	1.483	0.12	0.048	0.071
	LTE Band 12	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	state 10/11	23095	707.5	1	24.29	26.00	1.483	-0.15	0.057	0.085
	LTE Band 12	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 0	state 10/11	23095	707.5	1	24.29	26.00	1.483	-	n/a	n/a
	LTE Band 12	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 0	state 10/11	23095	707.5	1	23.30	25.00	1.479	-0.05	0.079	0.117
	LTE Band 12	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 0	state 10/11	23095	707.5	1	23.30	25.00	1.479	0.03	0.038	0.056
	LTE Band 12	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 0	state 10/11	23095	707.5	1	23.30	25.00	1.479	-0.19	0.047	0.070
	LTE Band 12	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 0	state 10/11	23095	707.5	1	23.30	25.00	1.479	-	n/a	n/a
02	LTE Band 12	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	23095	707.5	1	23.80	25.50	1.479	-0.09	0.711	<b>1.052</b>
	LTE Band 12	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	23095	707.5	1	23.80	25.50	1.479	0.08	0.160	0.237
	LTE Band 12	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	23095	707.5	1	23.80	25.50	1.479	-0.01	0.684	1.012
	LTE Band 12	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	23095	707.5	1	23.80	25.50	1.479	0.01	0.134	0.198
	LTE Band 12	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 10	23095	707.5	1	22.77	24.50	1.489	0.04	0.538	0.801
	LTE Band 12	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 10	23095	707.5	1	22.77	24.50	1.489	0.01	0.123	0.183
	LTE Band 12	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 10	23095	707.5	1	22.77	24.50	1.489	0.09	0.522	0.777
	LTE Band 12	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 10	23095	707.5	1	22.77	24.50	1.489	0.11	0.106	0.158
	LTE Band 12	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	state 10	23095	707.5	1	22.75	24.50	1.496	0.02	0.524	0.784
	LTE Band 12	10M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	state 10	23095	707.5	1	22.75	24.50	1.496	0.13	0.511	0.765
	LTE Band 12	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	23095	707.5	1	21.82	23.50	1.472	-0.09	0.368	0.542
	LTE Band 12	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 11	23095	707.5	1	21.82	23.50	1.472	0.01	0.070	0.103
	LTE Band 12	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 11	23095	707.5	1	21.82	23.50	1.472	0.09	0.300	0.442
	LTE Band 12	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 11	23095	707.5	1	21.82	23.50	1.472	0.13	0.055	0.081
	LTE Band 12	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 11	23095	707.5	1	20.80	22.50	1.479	0.04	0.283	0.419
	LTE Band 12	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 11	23095	707.5	1	20.80	22.50	1.479	0.02	0.055	0.081



	LTE Band 12	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 11	23095	707.5	1	20.80	22.50	1.479	0.07	0.234	0.346
	LTE Band 12	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 11	23095	707.5	1	20.80	22.50	1.479	0.01	0.044	0.065
	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	state 10/11	23230	782	1	24.35	26.00	1.462	-0.04	0.141	0.206
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 0	state 10/11	23230	782	1	24.35	26.00	1.462	0.03	0.078	0.114
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 0	state 10/11	23230	782	1	24.35	26.00	1.462	0.09	0.100	0.146
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 0	state 10/11	23230	782	1	24.35	26.00	1.462	0.02	0.063	0.092
	LTE Band 13	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 0	state 10/11	23230	782	1	23.40	25.00	1.445	0.02	0.110	0.159
	LTE Band 13	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 0	state 10/11	23230	782	1	23.40	25.00	1.445	0.04	0.061	0.088
	LTE Band 13	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 0	state 10/11	23230	782	1	23.40	25.00	1.445	0.01	0.080	0.116
	LTE Band 13	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 0	state 10/11	23230	782	1	23.40	25.00	1.445	0.09	0.048	0.069
03	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 2	state 10	23230	782	1	24.35	26.00	1.462	-0.15	0.678	0.991
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 2	state 10	23230	782	1	24.35	26.00	1.462	0.08	0.161	0.235
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 2	state 10	23230	782	1	24.35	26.00	1.462	0.07	0.612	0.895
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 2	state 10	23230	782	1	24.35	26.00	1.462	-0.02	0.154	0.225
	LTE Band 13	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 10	23230	782	1	23.40	25.00	1.445	0.07	0.531	0.768
	LTE Band 13	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 10	23230	782	1	23.40	25.00	1.445	0.04	0.127	0.184
	LTE Band 13	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 10	23230	782	1	23.40	25.00	1.445	-0.11	0.481	0.695
	LTE Band 13	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 10	23230	782	1	23.40	25.00	1.445	0.02	0.114	0.165
	LTE Band 13	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	state 10	23230	782	1	23.31	25.00	1.476	-0.05	0.528	0.779
	LTE Band 13	10M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	state 10	23230	782	1	23.31	25.00	1.476	0.01	0.473	0.698
	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 2	state 11	23230	782	1	21.68	23.50	1.521	-0.02	0.224	0.341
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 2	state 11	23230	782	1	21.68	23.50	1.521	0.02	0.045	0.068
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 2	state 11	23230	782	1	21.68	23.50	1.521	0.07	0.204	0.310
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 2	state 11	23230	782	1	21.68	23.50	1.521	-	n/a	n/a
	LTE Band 13	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 11	23230	782	1	20.68	22.50	1.521	0.08	0.180	0.274
	LTE Band 13	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 11	23230	782	1	20.68	22.50	1.521	0.03	0.035	0.053
	LTE Band 13	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 11	23230	782	1	20.68	22.50	1.521	-0.04	0.158	0.240
	LTE Band 13	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 11	23230	782	1	20.68	22.50	1.521	-	n/a	n/a
	FR1 N12	15M	BPSK	1	40	DFT-15	Right Cheek	0mm	Ant 0	state 10/11	141500	707.5	1	25.19	26.00	1.205	0.04	0.103	0.124
	FR1 N12	15M	BPSK	1	40	DFT-15	Right Tilted	0mm	Ant 0	state 10/11	141500	707.5	1	25.19	26.00	1.205	0.01	0.053	0.064
	FR1 N12	15M	BPSK	1	40	DFT-15	Left Cheek	0mm	Ant 0	state 10/11	141500	707.5	1	25.19	26.00	1.205	0.09	0.067	0.081
	FR1 N12	15M	BPSK	1	40	DFT-15	Left Tilted	0mm	Ant 0	state 10/11	141500	707.5	1	25.19	26.00	1.205	0.13	0.046	0.055
	FR1 N12	15M	BPSK	36	22	DFT-15	Right Cheek	0mm	Ant 0	state 10/11	141500	707.5	1	25.14	26.00	1.219	0.02	0.097	0.118
	FR1 N12	15M	BPSK	36	22	DFT-15	Right Tilted	0mm	Ant 0	state 10/11	141500	707.5	1	25.14	26.00	1.219	0.01	0.054	0.066
	FR1 N12	15M	BPSK	36	22	DFT-15	Left Cheek	0mm	Ant 0	state 10/11	141500	707.5	1	25.14	26.00	1.219	0.07	0.065	0.079
	FR1 N12	15M	BPSK	36	22	DFT-15	Left Tilted	0mm	Ant 0	state 10/11	141500	707.5	1	25.14	26.00	1.219	-	n/a	n/a
04	FR1 N12	15M	BPSK	1	40	DFT-15	Right Cheek	0mm	Ant 2	state 10	141500	707.5	1	25.19	26.00	1.205	-0.15	0.574	0.692
	FR1 N12	15M	BPSK	1	40	DFT-15	Right Tilted	0mm	Ant 2	state 10	141500	707.5	1	25.19	26.00	1.205	0.09	0.128	0.154
	FR1 N12	15M	BPSK	1	40	DFT-15	Left Cheek	0mm	Ant 2	state 10	141500	707.5	1	25.19	26.00	1.205	0.07	0.489	0.589
	FR1 N12	15M	BPSK	1	40	DFT-15	Left Tilted	0mm	Ant 2	state 10	141500	707.5	1	25.19	26.00	1.205	0.01	0.104	0.125
	FR1 N12	15M	BPSK	36	22	DFT-15	Right Cheek	0mm	Ant 2	state 10	141500	707.5	1	25.14	26.00	1.219	0.04	0.552	0.673
	FR1 N12	15M	BPSK	36	22	DFT-15	Right Tilted	0mm	Ant 2	state 10	141500	707.5	1	25.14	26.00	1.219	-0.02	0.131	0.160
	FR1 N12	15M	BPSK	36	22	DFT-15	Left Cheek	0mm	Ant 2	state 10	141500	707.5	1	25.14	26.00	1.219	0.09	0.486	0.592
	FR1 N12	15M	BPSK	36	22	DFT-15	Left Tilted	0mm	Ant 2	state 10	141500	707.5	1	25.14	26.00	1.219	0.01	0.097	0.118
	FR1 N12	15M	BPSK	1	40	DFT-15	Right Cheek	0mm	Ant 2	state 11	141500	707.5	1	24.16	25.00	1.213	-0.09	0.451	0.547
	FR1 N12	15M	BPSK	1	40	DFT-15	Right Tilted	0mm	Ant 2	state 11	141500	707.5	1	24.16	25.00	1.213	0.05	0.098	0.119
	FR1 N12	15M	BPSK	1	40	DFT-15	Left Cheek	0mm	Ant 2	state 11	141500	707.5	1	24.16	25.00	1.213	0.04	0.354	0.430
	FR1 N12	15M	BPSK	1	40	DFT-15	Left Tilted	0mm	Ant 2	state 11	141500	707.5	1	24.16	25.00	1.213	-0.09	0.082	0.099
	FR1 N12	15M	BPSK	36	22	DFT-15	Right Cheek	0mm	Ant 2	state 11	141500	707.5	1	24.14	25.00	1.219	0.01	0.446	0.544
	FR1 N12	15M	BPSK	36	22	DFT-15	Right Tilted	0mm	Ant 2	state 11	141500	707.5	1	24.14	25.00	1.219	0.08	0.096	0.117
	FR1 N12	15M	BPSK	36	22	DFT-15	Left Cheek	0mm	Ant 2	state 11	141500	707.5	1	24.14	25.00	1.219	0.07	0.342	0.417
	FR1 N12	15M	BPSK	36	22	DFT-15	Left Tilted	0mm	Ant 2	state 11	141500	707.5	1	24.14	25.00	1.219	0.04	0.081	0.099
	FR1 N13	10M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	state 10/11	156400	782	1	24.60	26.00	1.380	0.01	0.125	0.173
	FR1 N13	10M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	state 10/11	156400	782	1	24.60	26.00	1.380	0.09	0.069	0.095
	FR1 N13	10M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	state 10/11	156400	782	1	24.60	26.00	1.380	0.04	0.093	0.128
	FR1 N13	10M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	state 10/11	156400	782	1	24.60	26.00	1.380	-0.05	0.058	0.080



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	FR1 N13	10M	BPSK	25	14	DFT-15	Right Cheek	0mm	Ant 0	state 10/11	156400	782	1	24.45	26.00	1.429	0.04	0.137	0.196
	FR1 N13	10M	BPSK	25	14	DFT-15	Right Tilted	0mm	Ant 0	state 10/11	156400	782	1	24.45	26.00	1.429	0.01	0.078	0.111
	FR1 N13	10M	BPSK	25	14	DFT-15	Left Cheek	0mm	Ant 0	state 10/11	156400	782	1	24.45	26.00	1.429	0.13	0.098	0.140
	FR1 N13	10M	BPSK	25	14	DFT-15	Left Tilted	0mm	Ant 0	state 10/11	156400	782	1	24.45	26.00	1.429	0.09	0.065	0.093
05	FR1 N13	10M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 10/11	156400	782	1	24.60	26.00	1.380	-0.16	0.432	0.596
	FR1 N13	10M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	state 10/11	156400	782	1	24.60	26.00	1.380	-0.08	0.089	0.123
	FR1 N13	10M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	state 10/11	156400	782	1	24.60	26.00	1.380	0.04	0.412	0.569
	FR1 N13	10M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	state 10/11	156400	782	1	24.60	26.00	1.380	0.01	0.090	0.124
	FR1 N13	10M	BPSK	25	14	DFT-15	Right Cheek	0mm	Ant 2	state 10/11	156400	782	1	24.45	26.00	1.429	0.04	0.411	0.587
	FR1 N13	10M	BPSK	25	14	DFT-15	Right Tilted	0mm	Ant 2	state 10/11	156400	782	1	24.45	26.00	1.429	-0.02	0.086	0.123
	FR1 N13	10M	BPSK	25	14	DFT-15	Left Cheek	0mm	Ant 2	state 10/11	156400	782	1	24.45	26.00	1.429	0.07	0.391	0.559
	FR1 N13	10M	BPSK	25	14	DFT-15	Left Tilted	0mm	Ant 2	state 10/11	156400	782	1	24.45	26.00	1.429	0.13	0.085	0.121
	FR1 N71	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	state 10/11	136100	680.5	1	24.67	26.00	1.358	-0.08	0.101	0.137
	FR1 N71	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	state 10/11	136100	680.5	1	24.67	26.00	1.358	0.13	0.046	0.062
	FR1 N71	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	state 10/11	136100	680.5	1	24.67	26.00	1.358	0.09	0.060	0.081
	FR1 N71	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	state 10/11	136100	680.5	1	24.67	26.00	1.358	-	n/a	n/a
	FR1 N71	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 0	state 10/11	136100	680.5	1	24.65	26.00	1.365	0.04	0.107	0.146
	FR1 N71	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 0	state 10/11	136100	680.5	1	24.65	26.00	1.365	0.01	0.050	0.068
	FR1 N71	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	state 10/11	136100	680.5	1	24.65	26.00	1.365	0.09	0.065	0.089
	FR1 N71	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 0	state 10/11	136100	680.5	1	24.65	26.00	1.365	-	n/a	n/a
06	FR1 N71	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 10/11	136100	680.5	1	24.67	26.00	1.358	-0.07	0.370	0.503
	FR1 N71	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	state 10/11	136100	680.5	1	24.67	26.00	1.358	0.01	0.086	0.117
	FR1 N71	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	state 10/11	136100	680.5	1	24.67	26.00	1.358	0.05	0.357	0.485
	FR1 N71	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	state 10/11	136100	680.5	1	24.67	26.00	1.358	0.01	0.072	0.098
	FR1 N71	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 2	state 10/11	136100	680.5	1	24.65	26.00	1.365	0.02	0.365	0.498
	FR1 N71	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 2	state 10/11	136100	680.5	1	24.65	26.00	1.365	-0.04	0.082	0.112
	FR1 N71	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 2	state 10/11	136100	680.5	1	24.65	26.00	1.365	0.07	0.343	0.468
	FR1 N71	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 2	state 10/11	136100	680.5	1	24.65	26.00	1.365	0.03	0.069	0.094
<b>835Mhz</b>																			
07	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 0	state 10/11	251	848.8	1	32.83	34.00	1.309	0.14	0.311	0.407
	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Right Tilted	0mm	Ant 0	state 10/11	251	848.8	1	32.83	34.00	1.309	0.09	0.139	0.182
	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Left Cheek	0mm	Ant 0	state 10/11	251	848.8	1	32.83	34.00	1.309	-0.04	0.172	0.225
	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Left Tilted	0mm	Ant 0	state 10/11	251	848.8	1	32.83	34.00	1.309	0.07	0.105	0.137
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	state 10/11	4233	846.6	1	24.87	25.50	1.156	0.11	0.193	0.223
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	state 10/11	4233	846.6	1	24.87	25.50	1.156	0.13	0.088	0.102
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	state 10/11	4233	846.6	1	24.87	25.50	1.156	-0.04	0.105	0.121
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	state 10/11	4233	846.6	1	24.87	25.50	1.156	-0.02	0.076	0.088
08	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 10	4233	846.6	1	24.87	25.50	1.156	-0.01	1.020	1.179
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	state 10	4233	846.6	1	24.87	25.50	1.156	0.09	0.173	0.200
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	state 10	4233	846.6	1	24.87	25.50	1.156	0	0.888	1.027
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	state 10	4233	846.6	1	24.87	25.50	1.156	0.08	0.140	0.162
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 10	4132	826.4	1	24.80	25.50	1.175	0.04	0.825	0.969
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 10	4182	836.4	1	24.77	25.50	1.183	0.02	0.962	1.138
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	state 10	4132	826.4	1	24.80	25.50	1.175	0.03	0.637	0.748
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	state 10	4182	836.4	1	24.77	25.50	1.183	0.01	0.798	0.944
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 11	4233	846.6	1	21.55	22.50	1.245	0.06	0.449	0.559
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	state 11	4233	846.6	1	21.55	22.50	1.245	0.09	0.074	0.092
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	state 11	4233	846.6	1	21.55	22.50	1.245	0.01	0.416	0.518
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	state 11	4233	846.6	1	21.55	22.50	1.245	0.13	0.068	0.085
	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 0	state 10/11	26865	831.5	1	24.61	26.00	1.377	-0.02	0.154	0.212
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 0	state 10/11	26865	831.5	1	24.61	26.00	1.377	0.04	0.080	0.110
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 0	state 10/11	26865	831.5	1	24.61	26.00	1.377	0.07	0.082	0.113
	LTE Band 26	15M	QPSK	1	37	-	Left Tilted	0mm	Ant 0	state 10/11	26865	831.5	1	24.61	26.00	1.377	-0.01	0.059	0.081
	LTE Band 5B	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	state 10/11	20575+ 20476	841.5+ 831.6	1	24.59	26.00	1.384	0.03	0.147	0.203
	LTE Band 26	15M	QPSK	36	20	-	Right Cheek	0mm	Ant 0	state 10/11	26865	831.5	1	23.67	25.00	1.358	0.13	0.118	0.160



	LTE Band 26	15M	QPSK	36	20	-	Right Tilted	0mm	Ant 0	state 10/11	26865	831.5	1	23.67	25.00	1.358	-0.12	0.062	0.084
	LTE Band 26	15M	QPSK	36	20	-	Left Cheek	0mm	Ant 0	state 10/11	26865	831.5	1	23.67	25.00	1.358	0.09	0.056	0.076
	LTE Band 26	15M	QPSK	36	20	-	Left Tilted	0mm	Ant 0	state 10/11	26865	831.5	1	23.67	25.00	1.358	0.04	0.048	0.065
09	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 2	state 10	26865	831.5	1	24.61	26.00	1.377	0.15	0.811	1.117
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 2	state 10	26865	831.5	1	24.61	26.00	1.377	0.11	0.143	0.197
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 2	state 10	26865	831.5	1	24.61	26.00	1.377	-0.05	0.756	1.041
	LTE Band 26	15M	QPSK	1	37	-	Left Tilted	0mm	Ant 2	state 10	26865	831.5	1	24.61	26.00	1.377	0.04	0.116	0.160
	LTE Band 5B	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 2	state 10	20575+ 20476	841.5+ 831.6	1	24.59	26.00	1.384	-0.08	0.804	1.112
	LTE Band 26	15M	QPSK	36	20	-	Right Cheek	0mm	Ant 2	state 10	26865	831.5	1	23.67	25.00	1.358	-0.02	0.636	0.864
	LTE Band 26	15M	QPSK	36	20	-	Right Tilted	0mm	Ant 2	state 10	26865	831.5	1	23.67	25.00	1.358	0.01	0.111	0.151
	LTE Band 26	15M	QPSK	36	20	-	Left Cheek	0mm	Ant 2	state 10	26865	831.5	1	23.67	25.00	1.358	0.09	0.597	0.811
	LTE Band 26	15M	QPSK	36	20	-	Left Tilted	0mm	Ant 2	state 10	26865	831.5	1	23.67	25.00	1.358	0.08	0.091	0.124
	LTE Band 26	15M	QPSK	75	0	-	Right Cheek	0mm	Ant 2	state 10	26865	831.5	1	23.59	25.00	1.384	-0.02	0.633	0.876
	LTE Band 26	15M	QPSK	75	0	-	Left Cheek	0mm	Ant 2	state 10	26865	831.5	1	23.59	25.00	1.384	0.04	0.585	0.809
	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 2	state 11	26865	831.5	1	21.64	23.00	1.368	-0.07	0.415	0.568
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 2	state 11	26865	831.5	1	21.64	23.00	1.368	-0.04	0.074	0.101
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 2	state 11	26865	831.5	1	21.64	23.00	1.368	0.01	0.366	0.501
	LTE Band 26	15M	QPSK	1	37	-	Left Tilted	0mm	Ant 2	state 11	26865	831.5	1	21.64	23.00	1.368	0.09	0.060	0.082
	LTE Band 5B	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 2	state 11	20575+ 20476	841.5+ 831.6	1	21.69	23.00	1.352	-0.1	0.412	0.557
	LTE Band 26	15M	QPSK	36	20	-	Right Cheek	0mm	Ant 2	state 11	26865	831.5	1	20.62	22.00	1.374	-0.05	0.319	0.438
	LTE Band 26	15M	QPSK	36	20	-	Right Tilted	0mm	Ant 2	state 11	26865	831.5	1	20.62	22.00	1.374	0.11	0.060	0.082
	LTE Band 26	15M	QPSK	36	20	-	Left Cheek	0mm	Ant 2	state 11	26865	831.5	1	20.62	22.00	1.374	0.04	0.288	0.396
	LTE Band 26	15M	QPSK	36	20	-	Left Tilted	0mm	Ant 2	state 11	26865	831.5	1	20.62	22.00	1.374	0.09	0.047	0.065
	FR1 N26	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	state 10/11	166300	831.5	1	24.61	26.00	1.377	-0.05	0.126	0.174
	FR1 N26	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	state 10/11	166300	831.5	1	24.61	26.00	1.377	0.04	0.066	0.091
	FR1 N26	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	state 10/11	166300	831.5	1	24.61	26.00	1.377	-0.12	0.074	0.102
	FR1 N26	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	state 10/11	166300	831.5	1	24.61	26.00	1.377	0.07	0.052	0.072
	FR1 N26	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 0	state 10/11	166300	831.5	1	24.58	26.00	1.387	0.09	0.141	0.196
	FR1 N26	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 0	state 10/11	166300	831.5	1	24.58	26.00	1.387	0.07	0.074	0.103
	FR1 N26	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	state 10/11	166300	831.5	1	24.58	26.00	1.387	0.02	0.080	0.111
	FR1 N26	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 0	state 10/11	166300	831.5	1	24.58	26.00	1.387	-0.05	0.056	0.078
	FR1 N26	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 10	166300	831.5	1	24.61	26.00	1.377	-0.14	0.715	0.985
	FR1 N26	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	state 10	166300	831.5	1	24.61	26.00	1.377	0.04	0.130	0.179
	FR1 N26	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	state 10	166300	831.5	1	24.61	26.00	1.377	-0.05	0.650	0.895
	FR1 N26	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	state 10	166300	831.5	1	24.61	26.00	1.377	0.09	0.112	0.154
10	FR1 N26	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 2	state 10	166300	831.5	1	24.58	26.00	1.387	-0.16	0.735	1.019
	FR1 N26	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 2	state 10	166300	831.5	1	24.58	26.00	1.387	0.01	0.141	0.196
	FR1 N26	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 2	state 10	166300	831.5	1	24.58	26.00	1.387	-0.11	0.683	0.947
	FR1 N26	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 2	state 10	166300	831.5	1	24.58	26.00	1.387	0.04	0.124	0.172
	FR1 N26	20M	BPSK	100	0	DFT-15	Right Cheek	0mm	Ant 2	state 10	166300	831.5	1	24.56	25.50	1.242	0.09	0.722	0.896
	FR1 N26	20M	BPSK	100	0	DFT-15	Left Cheek	0mm	Ant 2	state 10	166300	831.5	1	24.56	25.50	1.242	0.01	0.666	0.827
	FR1 N26	20M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 11	166300	831.5	1	22.16	23.50	1.361	-0.05	0.415	0.565
	FR1 N26	20M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	state 11	166300	831.5	1	22.16	23.50	1.361	0.04	0.084	0.114
	FR1 N26	20M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	state 11	166300	831.5	1	22.16	23.50	1.361	0.01	0.377	0.513
	FR1 N26	20M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	state 11	166300	831.5	1	22.16	23.50	1.361	0.06	0.069	0.094
	FR1 N26	20M	BPSK	50	28	DFT-15	Right Cheek	0mm	Ant 2	state 11	166300	831.5	1	22.14	23.50	1.368	-0.02	0.424	0.580
	FR1 N26	20M	BPSK	50	28	DFT-15	Right Tilted	0mm	Ant 2	state 11	166300	831.5	1	22.14	23.50	1.368	-0.11	0.086	0.118
	FR1 N26	20M	BPSK	50	28	DFT-15	Left Cheek	0mm	Ant 2	state 11	166300	831.5	1	22.14	23.50	1.368	0.05	0.389	0.532
	FR1 N26	20M	BPSK	50	28	DFT-15	Left Tilted	0mm	Ant 2	state 11	166300	831.5	1	22.14	23.50	1.368	0.05	0.072	0.098





Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>1750Mhz</b>																			
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	state 10/11	1312	1712.4	1	25.30	25.50	1.047	-0.01	0.064	0.067
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	state 10/11	1312	1712.4	1	25.30	25.50	1.047	-0.11	0.059	0.062
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	state 10/11	1312	1712.4	1	25.30	25.50	1.047	0.06	0.094	0.098
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	state 10/11	1312	1712.4	1	25.30	25.50	1.047	0.02	0.087	0.091
11	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 10	1312	1712.4	1	25.30	25.50	1.047	-0.19	0.571	<b>0.598</b>
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	state 10	1312	1712.4	1	25.30	25.50	1.047	-0.01	0.200	0.209
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	state 10	1312	1712.4	1	25.30	25.50	1.047	-0.13	0.491	0.514
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	state 10	1312	1712.4	1	25.30	25.50	1.047	0.04	0.192	0.201
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 11	1312	1712.4	1	24.39	25.00	1.151	-0.16	0.475	0.547
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	state 11	1312	1712.4	1	24.39	25.00	1.151	0.04	0.165	0.190
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	state 11	1312	1712.4	1	24.39	25.00	1.151	-0.04	0.423	0.487
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	state 11	1312	1712.4	1	24.39	25.00	1.151	0.06	0.159	0.183
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	state 10/11	132572	1770	1	24.53	26.00	1.403	-0.02	0.065	0.091
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	state 10/11	132572	1770	1	24.53	26.00	1.403	0.13	0.056	0.079
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	state 10/11	132572	1770	1	24.53	26.00	1.403	0.08	0.107	0.150
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	state 10/11	132572	1770	1	24.53	26.00	1.403	0.05	0.072	0.101
	LTE Band 66C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	state 10/11	132572+1770+ 132374 1750.2	1770+1750.2	1	24.51	26.00	1.409	0.11	0.101	0.142
	LTE Band 66	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	132572	1770	1	23.58	25.00	1.387	-0.01	0.048	0.067
	LTE Band 66	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	132572	1770	1	23.58	25.00	1.387	0.07	0.052	0.072
	LTE Band 66	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	132572	1770	1	23.58	25.00	1.387	0.02	0.078	0.108
	LTE Band 66	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	132572	1770	1	23.58	25.00	1.387	-0.03	0.061	0.085
12	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	state 10	132572	1770	1	24.53	26.00	1.403	-0.11	0.608	<b>0.853</b>
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	state 10	132572	1770	1	24.53	26.00	1.403	-0.05	0.220	0.309
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	state 10	132572	1770	1	24.53	26.00	1.403	0.08	0.469	0.658
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	state 10	132572	1770	1	24.53	26.00	1.403	-0.04	0.213	0.299
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	state 10	132072	1720	1	24.51	26.00	1.409	0.01	0.585	0.824
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	state 10	132322	1745	1	24.46	26.00	1.426	0.09	0.592	0.844
	LTE Band 66C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	state 10	132572+1770+ 132374 1750.2	1770+1750.2	1	24.51	26.00	1.409	-0.14	0.574	0.809
	LTE Band 66	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	132572	1770	1	23.58	25.00	1.387	0.08	0.466	0.646
	LTE Band 66	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 10	132572	1770	1	23.58	25.00	1.387	-0.02	0.157	0.218
	LTE Band 66	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 10	132572	1770	1	23.58	25.00	1.387	0.04	0.370	0.513
	LTE Band 66	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 10	132572	1770	1	23.58	25.00	1.387	-0.09	0.152	0.211
	LTE Band 66	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 2	state 10	132572	1770	1	23.55	25.00	1.396	0.05	0.452	0.631
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	state 11	132572	1770	1	23.17	24.50	1.358	0.03	0.455	0.618
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	state 11	132572	1770	1	23.17	24.50	1.358	0.04	0.159	0.216
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	state 11	132572	1770	1	23.17	24.50	1.358	0.1	0.339	0.460
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	state 11	132572	1770	1	23.17	24.50	1.358	0.13	0.155	0.211
	LTE Band 66C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	state 11	132572+1770+ 132374 1750.2	1770+1750.2	1	23.13	24.50	1.371	0.18	0.447	0.613
	LTE Band 66	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	132572	1770	1	22.15	23.50	1.365	0.05	0.354	0.483
	LTE Band 66	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	132572	1770	1	22.15	23.50	1.365	-0.04	0.125	0.171
	LTE Band 66	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	132572	1770	1	22.15	23.50	1.365	0.03	0.276	0.377
	LTE Band 66	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 11	132572	1770	1	22.15	23.50	1.365	0.08	0.121	0.165
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	state 10/11	349000	1745	1	24.95	26.00	1.274	-0.05	0.091	0.116
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	state 10/11	349000	1745	1	24.95	26.00	1.274	0.09	0.077	0.098
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	state 10/11	349000	1745	1	24.95	26.00	1.274	0.01	0.158	0.201
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	state 10/11	349000	1745	1	24.95	26.00	1.274	0.04	0.073	0.093
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	state 10/11	349000	1745	1	24.88	26.00	1.294	0.06	0.089	0.115
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 1	state 10/11	349000	1745	1	24.88	26.00	1.294	0.08	0.059	0.076
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 1	state 10/11	349000	1745	1	24.88	26.00	1.294	-0.12	0.140	0.181
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 1	state 10/11	349000	1745	1	24.88	26.00	1.294	0.04	0.085	0.110



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	FR1 N66	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 10/11	349000	1745	1	24.95	26.00	1.274	-0.19	0.430	0.548	
	FR1 N66	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	state 10/11	349000	1745	1	24.95	26.00	1.274	0.02	0.152	0.194	
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	state 10/11	349000	1745	1	24.95	26.00	1.274	-0.13	0.373	0.475	
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	state 10/11	349000	1745	1	24.95	26.00	1.274	0.08	0.147	0.187	
13	FR1 N66	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 2	state 10/11	349000	1745	1	24.88	26.00	1.294	-0.18	0.460	<b>0.595</b>	
	FR1 N66	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 2	state 10/11	349000	1745	1	24.88	26.00	1.294	0.05	0.158	0.204	
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 2	state 10/11	349000	1745	1	24.88	26.00	1.294	-0.13	0.383	0.496	
	FR1 N66	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 2	state 10/11	349000	1745	1	24.88	26.00	1.294	0.1	0.149	0.193	
<b>1900Mhz</b>																				
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 1	state 10/11	810	1909.8	1	29.89	31.00	1.291	0.05	0.068	0.088	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Tilted	0mm	Ant 1	state 10/11	810	1909.8	1	29.89	31.00	1.291	-0.04	0.055	0.071	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Cheek	0mm	Ant 1	state 10/11	810	1909.8	1	29.89	31.00	1.291	0.03	0.103	0.133	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Tilted	0mm	Ant 1	state 10/11	810	1909.8	1	29.89	31.00	1.291	0.01	0.097	0.125	
14	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 2	state 10	810	1909.8	1	29.89	31.00	1.291	-0.18	0.662	<b>0.855</b>	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Tilted	0mm	Ant 2	state 10	810	1909.8	1	29.89	31.00	1.291	0.09	0.191	0.247	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Cheek	0mm	Ant 2	state 10	810	1909.8	1	29.89	31.00	1.291	-0.11	0.424	0.547	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Tilted	0mm	Ant 2	state 10	810	1909.8	1	29.89	31.00	1.291	0.02	0.198	0.256	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 2	state 10	512	1850.2	1	29.84	31.00	1.306	-0.04	0.611	0.798	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 2	state 10	661	1880	1	29.88	31.00	1.294	0.01	0.650	0.841	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 2	state 11	810	1909.8	1	27.86	29.50	1.459	-0.11	0.399	0.582	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Tilted	0mm	Ant 2	state 11	810	1909.8	1	27.86	29.50	1.459	-0.05	0.126	0.184	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Cheek	0mm	Ant 2	state 11	810	1909.8	1	27.86	29.50	1.459	0.02	0.262	0.382	
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Tilted	0mm	Ant 2	state 11	810	1909.8	1	27.86	29.50	1.459	0.03	0.139	0.203	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	state 10/11	9538	1907.6	1	25.19	25.50	1.074	0.04	0.110	0.118	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	state 10/11	9538	1907.6	1	25.19	25.50	1.074	0.13	0.072	0.077	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	state 10/11	9538	1907.6	1	25.19	25.50	1.074	0.09	0.146	0.157	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	state 10/11	9538	1907.6	1	25.19	25.50	1.074	0.08	0.098	0.105	
15	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 10	9538	1907.6	1	25.19	25.50	1.074	-0.06	1.040	<b>1.117</b>	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	state 10	9538	1907.6	1	25.19	25.50	1.074	0.02	0.235	0.252	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	state 10	9538	1907.6	1	25.19	25.50	1.074	-0.18	0.719	0.772	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	state 10	9538	1907.6	1	25.19	25.50	1.074	0.06	0.243	0.261	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 10	9262	1852.4	1	25.17	25.50	1.079	0.04	0.912	0.984	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 10	9400	1880	1	25.11	25.50	1.094	-0.05	0.967	1.058	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	state 11	9538	1907.6	1	21.75	22.50	1.189	-0.12	0.475	0.565	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	state 11	9538	1907.6	1	21.75	22.50	1.189	0.01	0.104	0.124	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	state 11	9538	1907.6	1	21.75	22.50	1.189	-0.09	0.308	0.366	
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	state 11	9538	1907.6	1	21.75	22.50	1.189	0.02	0.115	0.137	
	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	state 10/11	26590	1905	1	24.54	26.00	1.400	0.08	0.082	0.115	
	LTE Band 25	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	state 10/11	26590	1905	1	24.54	26.00	1.400	0.04	0.043	0.060	
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	26590	1905	1	24.54	26.00	1.400	0.02	0.106	0.148	
	LTE Band 25	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	state 10/11	26590	1905	1	24.54	26.00	1.400	0.04	0.062	0.087	
	LTE Band 2C	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	18900+ 19098	1880+ 1899.8	1	24.48	26.00	1.419	0.06	0.101	0.143	
	LTE Band 25	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	26590	1905	1	23.63	25.00	1.371	-0.09	0.066	0.090	
	LTE Band 25	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	26590	1905	1	23.63	25.00	1.371	0.03	0.035	0.048	
	LTE Band 25	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	26590	1905	1	23.63	25.00	1.371	0.06	0.085	0.117	
	LTE Band 25	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	26590	1905	1	23.63	25.00	1.371	0.02	0.052	0.071	
16	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	26590	1905	1	23.76	25.00	1.330	-0.04	0.894	<b>1.189</b>	
	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	26590	1905	2	23.76	25.00	1.330	-0.01	0.865	1.151	
	LTE Band 25	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	26590	1905	1	23.76	25.00	1.330	0.07	0.208	0.277	
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	26590	1905	1	23.76	25.00	1.330	0.09	0.681	0.906	
	LTE Band 25	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	26590	1905	1	23.76	25.00	1.330	0.02	0.227	0.302	
	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	26140	1860	1	23.62	25.00	1.374	-0.05	0.809	1.112	
	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	26340	1880	1	23.66	25.00	1.361	0.04	0.828	1.127	
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	26140	1860	1	23.62	25.00	1.374	0.05	0.599	0.823	
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	26340	1880	1	23.66	25.00	1.361	0.11	0.635	0.865	
	LTE Band 2C	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	18900+	1880+	1	23.72	25.00	1.343	-0.13	0.851	1.143	

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**FCC SAR Test Report**

Report No. : FA230112

18	LTE Band 30	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	27710	2310	1	20.17	20.50	1.079	0.13	1.040	1.122
	LTE Band 30	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	27710	2310	1	20.17	20.50	1.079	0.02	0.307	0.331
	LTE Band 30	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	27710	2310	1	20.17	20.50	1.079	0.01	0.371	0.400
	LTE Band 30	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	27710	2310	1	20.17	20.50	1.079	0.02	0.111	0.120
	LTE Band 30	10M	QPSK	25	25	-	Right Cheek	0mm	Ant 2	state 10	27710	2310	1	19.26	19.50	1.057	-0.08	0.823	0.870
	LTE Band 30	10M	QPSK	25	25	-	Right Tilted	0mm	Ant 2	state 10	27710	2310	1	19.26	19.50	1.057	0.09	0.246	0.260
	LTE Band 30	10M	QPSK	25	25	-	Left Cheek	0mm	Ant 2	state 10	27710	2310	1	19.26	19.50	1.057	0.07	0.285	0.301
	LTE Band 30	10M	QPSK	25	25	-	Left Tilted	0mm	Ant 2	state 10	27710	2310	1	19.26	19.50	1.057	0.02	0.085	0.090
	LTE Band 30	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	state 10	27710	2310	1	18.92	19.50	1.143	-0.05	0.814	0.930
	LTE Band 30	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	27710	2310	1	17.88	18.00	1.028	0.16	0.584	0.600
	LTE Band 30	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 11	27710	2310	1	17.88	18.00	1.028	0.03	0.187	0.192
	LTE Band 30	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 11	27710	2310	1	17.88	18.00	1.028	-0.02	0.224	0.230
	LTE Band 30	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 11	27710	2310	1	17.88	18.00	1.028	-0.14	0.070	0.072
	LTE Band 30	10M	QPSK	25	25	-	Right Cheek	0mm	Ant 2	state 11	27710	2310	1	16.76	17.00	1.057	0.07	0.461	0.487
	LTE Band 30	10M	QPSK	25	25	-	Right Tilted	0mm	Ant 2	state 11	27710	2310	1	16.76	17.00	1.057	0.11	0.141	0.149
	LTE Band 30	10M	QPSK	25	25	-	Left Cheek	0mm	Ant 2	state 11	27710	2310	1	16.76	17.00	1.057	-0.08	0.168	0.178
	LTE Band 30	10M	QPSK	25	25	-	Left Tilted	0mm	Ant 2	state 11	27710	2310	1	16.76	17.00	1.057	0.03	0.054	0.057

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
<b>2600MHz</b>																					
	LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 1	state 10/11	20850	2510	1	24.25	26.00	1.496	-	-	0.03	0.044	0.066
	LTE Band 7	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 1	state 10/11	20850	2510	1	24.25	26.00	1.496	-	-	-	n/a	n/a
	LTE Band 7	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 1	state 10/11	20850	2510	1	24.25	26.00	1.496	-	-	0.05	0.047	0.070
	LTE Band 7	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 1	state 10/11	20850	2510	1	24.25	26.00	1.496	-	-	-	n/a	n/a
	LTE Band 7C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 1	state 10/11	20850+21048	2510+2529.8	1	24.16	26.00	1.528	-	-	0.12	0.042	0.064
	LTE Band 7	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	20850	2510	1	23.32	25.00	1.472	-	-	0.04	0.037	0.054
	LTE Band 7	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	20850	2510	1	23.32	25.00	1.472	-	-	-	n/a	n/a
	LTE Band 7	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	20850	2510	1	23.32	25.00	1.472	-	-	0.09	0.040	0.059
	LTE Band 7	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	20850	2510	1	23.32	25.00	1.472	-	-	-	n/a	n/a
	LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	state 10	20850	2510	1	18.70	20.00	1.349	-	-	-0.09	0.635	0.857
	LTE Band 7	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 2	state 10	20850	2510	1	18.70	20.00	1.349	-	-	0.02	0.202	0.272
	LTE Band 7	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 2	state 10	20850	2510	1	18.70	20.00	1.349	-	-	0.04	0.192	0.259
	LTE Band 7	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 2	state 10	20850	2510	1	18.70	20.00	1.349	-	-	0.01	0.065	0.088
	LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	state 10	21100	2535	1	18.67	20.00	1.358	-	-	0.08	0.707	0.960
19	LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	state 10	21350	2560	1	18.66	20.00	1.361	-	-	-0.05	0.816	1.111
	LTE Band 7C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	state 10	21350+21152	2560+2540	1	18.68	20.00	1.355	-	-	-0.1	0.785	1.064
	LTE Band 7	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	20850	2510	1	17.78	19.00	1.324	-	-	0.05	0.482	0.638
	LTE Band 7	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 10	20850	2510	1	17.78	19.00	1.324	-	-	-0.01	0.155	0.205
	LTE Band 7	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 10	20850	2510	1	17.78	19.00	1.324	-	-	0.03	0.151	0.200
	LTE Band 7	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 10	20850	2510	1	17.78	19.00	1.324	-	-	0.05	0.049	0.065
	LTE Band 7	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 2	state 10	20850	2510	1	17.76	19.00	1.330	-	-	-0.04	0.483	0.643
	LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	state 11	21350	2560	1	15.85	17.00	1.303	-	-	-0.04	0.365	0.476
	LTE Band 7	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 2	state 11	21350	2560	1	15.85	17.00	1.303	-	-	0.07	0.123	0.160
	LTE Band 7	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 2	state 11	21350	2560	1	15.85	17.00	1.303	-	-	-0.09	0.107	0.139
	LTE Band 7	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 2	state 11	21350	2560	1	15.85	17.00	1.303	-	-	-	n/a	n/a
	LTE Band 7C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	state 11	21350+21152	2560+2540	1	15.73	17.00	1.340	-	-	-0.05	0.349	0.468
	LTE Band 7	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	21350	2560	1	15.03	16.00	1.250	-	-	0.05	0.293	0.366
	LTE Band 7	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	21350	2560	1	15.03	16.00	1.250	-	-	0.04	0.094	0.118
	LTE Band 7	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	21350	2560	1	15.03	16.00	1.250	-	-	-0.02	0.083	0.104
	LTE Band 7	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 11	21350	2560	1	15.03	16.00	1.250	-	-	-	n/a	n/a
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	state 10/11	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	state 10/11	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-	n/a	n/a

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# FCC SAR Test Report

## Report No. : FA230112

	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	state 10/11	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-	n/a	n/a
	LTE Band 41C	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	41490+ 41292	2680+ 2660.2	1	25.09	26.00	1.233	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-	n/a	n/a
	LTE Band 41	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-	n/a	n/a
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	state 10/11	41490	2680	1	26.32	27.50	1.312	42.9	1.009	-	n/a	n/a
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	state 10/11	41490	2680	1	26.32	27.50	1.312	42.9	1.009	-	n/a	n/a
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	41490	2680	1	26.32	27.50	1.312	42.9	1.009	-	n/a	n/a
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	state 10/11	41490	2680	1	26.32	27.50	1.312	42.9	1.009	-	n/a	n/a
	LTE Band 41C(HPUE)	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	41490+ 41292	2680+ 2660.2	1	26.24	27.50	1.337	42.9	1.009	-	n/a	n/a
	LTE Band 41(HPUE)	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	41490	2680	1	25.31	26.50	1.315	42.9	1.009	-	n/a	n/a
	LTE Band 41(HPUE)	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	41490	2680	1	25.31	26.50	1.315	42.9	1.009	-	n/a	n/a
	LTE Band 41(HPUE)	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	41490	2680	1	25.31	26.50	1.315	42.9	1.009	-	n/a	n/a
	LTE Band 41(HPUE)	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	41490	2680	1	25.31	26.50	1.315	42.9	1.009	-	n/a	n/a
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	41490	2680	1	20.80	21.50	1.175	62.9	1.006	0.08	0.796	0.941
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	41490	2680	1	20.80	21.50	1.175	62.9	1.006	-0.04	0.233	0.275
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	41490	2680	1	20.80	21.50	1.175	62.9	1.006	0.01	0.220	0.260
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	41490	2680	1	20.80	21.50	1.175	62.9	1.006	0.03	0.066	0.078
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	39750	2506	1	20.52	21.50	1.253	62.9	1.006	0.08	0.599	0.755
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	40185	2549.5	1	20.46	21.50	1.271	62.9	1.006	0.03	0.646	0.826
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	40620	2593	1	20.55	21.50	1.245	62.9	1.006	0.02	0.848	1.062
20	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	41055	2636.5	1	20.77	21.50	1.183	62.9	1.006	-0.13	0.959	1.141
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	41055	2636.5	1	21.61	23.00	1.377	42.9	1.009	-0.08	0.741	1.030
	LTE Band 41C	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	41055+ 41253	2636.5+ 2656.3	1	20.76	21.50	1.186	62.9	1.006	-0.03	0.921	1.099
	LTE Band 41C(HPUE)	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	41055+ 41253	2636.5+ 2656.3	1	21.65	23.00	1.365	42.9	1.009	0.01	0.722	0.994
	LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	41490	2680	1	19.78	20.50	1.180	62.9	1.006	-0.05	0.588	0.698
	LTE Band 41	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 10	41490	2680	1	19.78	20.50	1.180	62.9	1.006	0.01	0.174	0.207
	LTE Band 41	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 10	41490	2680	1	19.78	20.50	1.180	62.9	1.006	0.09	0.168	0.199
	LTE Band 41	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 10	41490	2680	1	19.78	20.50	1.180	62.9	1.006	0.11	0.052	0.062
	LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	39750	2506	1	19.46	20.50	1.271	62.9	1.006	-0.05	0.486	0.621
	LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	40185	2549.5	1	19.49	20.50	1.262	62.9	1.006	0.02	0.502	0.637
	LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	40620	2593	1	19.56	20.50	1.242	62.9	1.006	0.07	0.677	0.846
	LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	41055	2636.5	1	19.76	20.50	1.186	62.9	1.006	0.13	0.758	0.904
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 2	state 10	41490	2680	1	19.75	20.50	1.189	62.9	1.006	0.04	0.575	0.687
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	41055	2636.5	1	17.50	18.50	1.259	62.9	1.006	-0.15	0.426	0.540
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	41055	2636.5	1	18.62	20.00	1.374	42.9	1.009	-0.13	0.352	0.488
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 11	41055	2636.5	1	17.50	18.50	1.259	62.9	1.006	-0.02	0.134	0.170
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 11	41055	2636.5	1	17.50	18.50	1.259	62.9	1.006	0.04	0.116	0.147
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 11	41055	2636.5	1	17.50	18.50	1.259	62.9	1.006	0.08	0.042	0.053
	LTE Band 41C	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	41055+ 41253	2636.5+ 2656.3	1	17.44	18.50	1.276	62.9	1.006	-0.03	0.397	0.510
	LTE Band 41C(HPUE)	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	41055+ 41253	2636.5+ 2656.3	1	18.58	20.00	1.387	42.9	1.009	-0.01	0.335	0.469
	LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	41055	2636.5	1	16.47	17.50	1.268	62.9	1.006	0.02	0.323	0.412
	LTE Band 41	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	41055	2636.5	1	16.47	17.50	1.268	62.9	1.006	0.01	0.103	0.131
	LTE Band 41	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	41055	2636.5	1	16.47	17.50	1.268	62.9	1.006	0.01	0.088	0.112
	LTE Band 41	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	41055	2636.5	1	16.47	17.50	1.268	62.9	1.006	0.05	0.034	0.043
	FR1 N7	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	state 10/11	507000	2535	1	24.64	26.00	1.368	-	-	0.09	0.044	0.060
	FR1 N7	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	state 10/11	507000	2535	1	24.64	26.00	1.368	-	-	-0.04	0.040	0.055
	FR1 N7	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	state 10/11	507000	2535	1	24.64	26.00	1.368	-	-	0.02	0.063	0.086
	FR1 N7	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	state 10/11	507000	2535	1	24.64	26.00	1.368	-	-	0.02	0.035	0.048
	FR1 N7	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	state 10/11	507000	2535	1	24.62	26.00	1.374	-	-	0.07	0.045	0.062
	FR1 N7	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 1	state 10/11	507000	2535	1	24.62	26.00	1.374	-	-	0.09	0.041	0.056
	FR1 N7	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 1	state 10/11	507000	2535	1	24.62	26.00	1.374	-	-	0.01	0.062	0.085
	FR1 N7	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 1	state 10/11	507000	2535	1	24.62	26.00	1.374	-	-	0.13	0.039	0.054

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# FCC SAR Test Report

Report No. : FA230112

	FR1 N7	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 10	507000	2535	1	20.14	21.50	1.368	-	-	0.01	0.823	1.126
	FR1 N7	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	state 10	507000	2535	1	20.14	21.50	1.368	-	-	0.09	0.312	0.427
	FR1 N7	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	state 10	507000	2535	1	20.14	21.50	1.368	-	-	0.02	0.222	0.304
	FR1 N7	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	state 10	507000	2535	1	20.14	21.50	1.368	-	-	0.01	0.069	0.094
21	FR1 N7	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 2	state 10	507000	2535	1	20.12	21.50	1.374	-	-	-0.01	0.840	1.154
	FR1 N7	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 2	state 10	507000	2535	1	20.12	21.50	1.374	-	-	-0.04	0.326	0.448
	FR1 N7	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 2	state 10	507000	2535	1	20.12	21.50	1.374	-	-	0.02	0.241	0.331
	FR1 N7	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 2	state 10	507000	2535	1	20.12	21.50	1.374	-	-	0.06	0.072	0.099
	FR1 N7	40M	BPSK	216	0	DFT-15	Right Cheek	0mm	Ant 2	state 10	507000	2535	1	20.10	21.50	1.380	-	-	0.09	0.829	1.144
	FR1 N7	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 11	507000	2535	1	16.95	18.50	1.429	-	-	-0.03	0.430	0.614
	FR1 N7	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	state 11	507000	2535	1	16.95	18.50	1.429	-	-	-0.05	0.159	0.227
	FR1 N7	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	state 11	507000	2535	1	16.95	18.50	1.429	-	-	0.01	0.114	0.163
	FR1 N7	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	state 11	507000	2535	1	16.95	18.50	1.429	-	-	0.07	0.038	0.054
	FR1 N7	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 2	state 11	507000	2535	1	16.93	18.50	1.435	-	-	-0.02	0.425	0.610
	FR1 N7	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 2	state 11	507000	2535	1	16.93	18.50	1.435	-	-	0.09	0.152	0.218
	FR1 N7	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 2	state 11	507000	2535	1	16.93	18.50	1.435	-	-	0.07	0.111	0.159
	FR1 N7	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 2	state 11	507000	2535	1	16.93	18.50	1.435	-	-	-0.13	0.040	0.057
	FR1 N38	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 1	state 10/11	519000	2595	1	24.63	26.00	1.371	-	-	0.08	0.046	0.063
	FR1 N38	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 1	state 10/11	519000	2595	1	24.63	26.00	1.371	-	-	-0.02	0.042	0.058
	FR1 N38	40M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 1	state 10/11	519000	2595	1	24.63	26.00	1.371	-	-	0.04	0.055	0.075
	FR1 N38	40M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 1	state 10/11	519000	2595	1	24.63	26.00	1.371	-	-	0.05	0.033	0.045
	FR1 N38	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 1	state 10/11	519000	2595	1	24.54	26.00	1.400	-	-	0.06	0.047	0.066
	FR1 N38	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 1	state 10/11	519000	2595	1	24.54	26.00	1.400	-	-	-0.03	0.042	0.059
	FR1 N38	40M	BPSK	50	28	DFT-30	Left Cheek	0mm	Ant 1	state 10/11	519000	2595	1	24.54	26.00	1.400	-	-	0.02	0.054	0.076
	FR1 N38	40M	BPSK	50	28	DFT-30	Left Tilted	0mm	Ant 1	state 10/11	519000	2595	1	24.54	26.00	1.400	-	-	0.07	0.035	0.049
22	FR1 N38	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 2	state 10	519000	2595	1	18.22	19.50	1.343	-	-	0.05	0.807	1.084
	FR1 N38	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 2	state 10	519000	2595	1	18.22	19.50	1.343	-	-	-0.02	0.250	0.336
	FR1 N38	40M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 2	state 10	519000	2595	1	18.22	19.50	1.343	-	-	-0.01	0.238	0.320
	FR1 N38	40M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 2	state 10	519000	2595	1	18.22	19.50	1.343	-	-	0.08	0.087	0.117
	FR1 N38	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 2	state 10	519000	2595	1	18.20	19.50	1.349	-	-	0.02	0.797	1.075
	FR1 N38	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 2	state 10	519000	2595	1	18.20	19.50	1.349	-	-	0.04	0.249	0.336
	FR1 N38	40M	BPSK	50	28	DFT-30	Left Cheek	0mm	Ant 2	state 10	519000	2595	1	18.20	19.50	1.349	-	-	0.01	0.231	0.312
	FR1 N38	40M	BPSK	50	28	DFT-30	Left Tilted	0mm	Ant 2	state 10	519000	2595	1	18.20	19.50	1.349	-	-	0.09	0.084	0.113
	FR1 N38	40M	BPSK	100	0	DFT-30	Right Cheek	0mm	Ant 2	state 10	519000	2595	1	18.19	19.50	1.352	-	-	-0.13	0.789	1.067
	FR1 N38	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 2	state 11	519000	2595	1	15.28	16.50	1.324	-	-	-0.06	0.421	0.558
	FR1 N38	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 2	state 11	519000	2595	1	15.28	16.50	1.324	-	-	0.09	0.124	0.164
	FR1 N38	40M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 2	state 11	519000	2595	1	15.28	16.50	1.324	-	-	0.01	0.112	0.148
	FR1 N38	40M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 2	state 11	519000	2595	1	15.28	16.50	1.324	-	-	-0.02	0.046	0.061
	FR1 N38	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 2	state 11	519000	2595	1	15.26	16.50	1.330	-	-	0.09	0.412	0.548
	FR1 N38	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 2	state 11	519000	2595	1	15.26	16.50	1.330	-	-	-0.05	0.123	0.164
	FR1 N38	40M	BPSK	50	28	DFT-30	Left Cheek	0mm	Ant 2	state 11	519000	2595	1	15.26	16.50	1.330	-	-	0.04	0.108	0.144
	FR1 N38	40M	BPSK	50	28	DFT-30	Left Tilted	0mm	Ant 2	state 11	519000	2595	1	15.26	16.50	1.330	-	-	0.01	0.045	0.060
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	state 10	518598	2592.99	1	19.21	21.00	1.510	-	-	-0.05	0.713	1.077
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 10	518598	2592.99	1	19.21	21.00	1.510	-	-	0.02	0.481	0.726
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	state 10	518598	2592.99	1	19.21	21.00	1.510	-	-	0.03	0.237	0.358
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	state 10	518598	2592.99	1	19.21	21.00	1.510	-	-	0.07	0.225	0.340
23	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	state 10	518598	2592.99	1	19.20	21.00	1.514	-	-	0.01	0.721	1.091
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	state 10	518598	2592.99	1	19.20	21.00	1.514	-	-	-0.05	0.504	0.763
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	state 10	518598	2592.99	1	19.20	21.00	1.514	-	-	0.05	0.247	0.374
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	state 10	518598	2592.99	1	19.20	21.00	1.514	-	-	0.02	0.213	0.322
	FR1 N41(HPUE)	100M	BPSK	270	0	DFT-30	Right Cheek	0mm	Ant 7	state 10	518598	2592.99	1	19.18	21.00	1.521	-	-	-0.02	0.712	1.083
	FR1 N41(HPUE)	100M	BPSK	270	0	DFT-30	Right Tilted	0mm	Ant 7	state 10	518598	2592.99	1	19.18	21.00	1.521	-	-	0.03	0.495	0.753
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	state 11	518598	2592.99	1	16.28	18.00	1.486	-	-	0.02	0.344	0.511
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 11	518598	2592.99	1	16.28	18.00	1.486	-	-	0.04	0.237	0.352
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	state 11	518598	2592.99	1	16.28	18.00	1.486	-	-	0.01	0.124	0.184
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	state 11	518598	2592.99	1	16.28	18.00	1.486	-	-	0.09	0.105	0.156



**FCC SAR Test Report**

**Report No. : FA230112**

	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	state 11	518598	2592.99	1	16.26	18.00	1.493	-	-	-0.09	0.357	0.533
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	state 11	518598	2592.99	1	16.26	18.00	1.493	-	-	-0.11	0.243	0.363
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	state 11	518598	2592.99	1	16.26	18.00	1.493	-	-	0.04	0.128	0.191
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	state 11	518598	2592.99	1	16.26	18.00	1.493	-	-	0.03	0.113	0.169
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 8	state 10/11	518598	2592.99	1	25.67	27.50	1.524	-	-	-	n/a	n/a
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 8	state 10/11	518598	2592.99	1	25.67	27.50	1.524	-	-	-	n/a	n/a
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	state 10/11	518598	2592.99	1	25.67	27.50	1.524	-	-	-	n/a	n/a
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	state 10/11	518598	2592.99	1	25.67	27.50	1.524	-	-	-	n/a	n/a
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 8	state 10/11	518598	2592.99	1	25.55	27.50	1.567	-	-	-	n/a	n/a
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 8	state 10/11	518598	2592.99	1	25.55	27.50	1.567	-	-	-	n/a	n/a
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 8	state 10/11	518598	2592.99	1	25.55	27.50	1.567	-	-	-	n/a	n/a
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 8	state 10/11	518598	2592.99	1	25.55	27.50	1.567	-	-	-	n/a	n/a
<b>3000MHz-4000MHz</b>																					
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 7	state 10	55830	3609	1	23.42	24.50	1.282	62.9	1.006	0.09	0.847	1.093
24	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 7	state 10	55830	3609	1	23.42	24.50	1.282	62.9	1.006	-0.07	0.886	1.143
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 7	state 10	55830	3609	1	23.42	24.50	1.282	62.9	1.006	0.04	0.263	0.339
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 7	state 10	55830	3609	1	23.42	24.50	1.282	62.9	1.006	0.01	0.282	0.364
	LTE Band 48	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 7	state 10	55462	3572.2	1	20.39	22.00	1.449	62.9	1.006	-0.03	0.738	1.076
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 7	state 10	55708	3596.8	1	23.35	24.50	1.303	62.9	1.006	0.02	0.761	0.998
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 7	state 10	56150	3641	1	23.33	24.50	1.309	62.9	1.006	0.09	0.687	0.905
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 7	state 10	56640	3690	1	23.40	24.50	1.288	62.9	1.006	-0.05	0.633	0.820
	LTE Band 48	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 7	state 10	55462	3572.2	1	20.39	22.00	1.449	62.9	1.006	0.01	0.756	1.102
	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 7	state 10	55708	3596.8	1	23.35	24.50	1.303	62.9	1.006	0.07	0.775	1.016
	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 7	state 10	56150	3641	1	23.33	24.50	1.309	62.9	1.006	0.05	0.703	0.926
	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 7	state 10	56640	3690	1	23.40	24.50	1.288	62.9	1.006	0.11	0.652	0.845
	LTE Band 48	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 7	state 10	55830	3609	1	22.45	23.50	1.274	62.9	1.006	0.02	0.656	0.840
	LTE Band 48	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 7	state 10	55830	3609	1	22.45	23.50	1.274	62.9	1.006	0.07	0.684	0.876
	LTE Band 48	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 7	state 10	55830	3609	1	22.45	23.50	1.274	62.9	1.006	-0.05	0.201	0.258
	LTE Band 48	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 7	state 10	55830	3609	1	22.45	23.50	1.274	62.9	1.006	-0.01	0.225	0.288
	LTE Band 48	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 7	state 10	55462	3572.2	1	22.42	23.50	1.282	62.9	1.006	0.06	0.633	0.817
	LTE Band 48	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 7	state 10	55708	3596.8	1	22.40	23.50	1.288	62.9	1.006	0.04	0.601	0.779
	LTE Band 48	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 7	state 10	56150	3641	1	22.42	23.50	1.282	62.9	1.006	0.13	0.541	0.698
	LTE Band 48	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 7	state 10	56640	3690	1	22.42	23.50	1.282	62.9	1.006	0.01	0.498	0.642
	LTE Band 48	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 7	state 10	55462	3572.2	1	22.42	23.50	1.282	62.9	1.006	0.19	0.659	0.850
	LTE Band 48	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 7	state 10	55708	3596.8	1	22.40	23.50	1.288	62.9	1.006	0.09	0.627	0.813
	LTE Band 48	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 7	state 10	56150	3641	1	22.42	23.50	1.282	62.9	1.006	0.03	0.564	0.728
	LTE Band 48	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 7	state 10	56640	3690	1	22.42	23.50	1.282	62.9	1.006	0.18	0.513	0.662
	LTE Band 48	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 7	state 10	56640	3690	1	22.43	23.50	1.279	62.9	1.006	-0.04	0.501	0.645
	LTE Band 48	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 7	state 10	56640	3690	1	22.43	23.50	1.279	62.9	1.006	0.02	0.519	0.668
	LTE Band 48	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 7	state 11	55830	3609	1	20.45	21.50	1.274	62.9	1.006	-0.01	0.424	0.543
	LTE Band 48	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 7	state 11	55830	3609	1	20.45	21.50	1.274	62.9	1.006	0.07	0.431	0.552
	LTE Band 48	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 7	state 11	55830	3609	1	20.45	21.50	1.274	62.9	1.006	0.01	0.155	0.199
	LTE Band 48	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 7	state 11	55830	3609	1	20.45	21.50	1.274	62.9	1.006	-0.05	0.184	0.236
	LTE Band 48	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 7	state 11	55830	3609	1	19.43	20.50	1.279	62.9	1.006	0.09	0.346	0.445
	LTE Band 48	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 7	state 11	55830	3609	1	19.43	20.50	1.279	62.9	1.006	0.02	0.368	0.474
	LTE Band 48	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 7	state 11	55830	3609	1	19.43	20.50	1.279	62.9	1.006	0.09	0.128	0.165
	LTE Band 48	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 7	state 11	55830	3609	1	19.43	20.50	1.279	62.9	1.006	0.05	0.143	0.184
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 8	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-0.08	0.080	0.102
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 8	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	0.01	0.078	0.100
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 8	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	0.02	0.144	0.184
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 8	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	0.04	0.044	0.056
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 8	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-0.05	0.068	0.089
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 8	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	0.04	0.065	0.085
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 8	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	0.06	0.120	0.158
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 8	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	0.07	0.039	0.051
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-	n/a	n/a



# FCC SAR Test Report

Report No. : FA230112

	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 9	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 9	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 9	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 9	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 9	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 9	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 9	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 10	state 10/11	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 10	state 10/11	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	state 10	638000	3570	1	20.86	22.50	1.459	-	-	0.01	0.754	1.100
25	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 10	638000	3570	1	20.86	22.50	1.459	-	-	-0.06	0.784	<b>1.144</b>
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	state 10	638000	3570	1	20.86	22.50	1.459	-	-	-0.01	0.247	0.360
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	state 10	638000	3570	1	20.86	22.50	1.459	-	-	0.09	0.276	0.403
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	state 10	641666	3624.99	1	20.81	22.50	1.476	-	-	0.02	0.743	1.096
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	state 10	645332	3679.98	1	20.80	22.50	1.479	-	-	0.04	0.772	1.142
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 10	641666	3624.99	1	20.81	22.50	1.476	-	-	0.02	0.742	1.095
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 10	645332	3679.98	1	20.80	22.50	1.479	-	-	0.09	0.766	1.133
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 7	state 10	638000	3570	1	20.84	22.50	1.466	-	-	-0.05	0.746	1.093
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 7	state 10	638000	3570	1	20.84	22.50	1.466	-	-	0.04	0.775	1.136
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Cheek	0mm	Ant 7	state 10	638000	3570	1	20.84	22.50	1.466	-	-	0.09	0.249	0.365
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Tilted	0mm	Ant 7	state 10	638000	3570	1	20.84	22.50	1.466	-	-	0.05	0.277	0.406
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 7	state 10	641666	3624.99	1	20.78	22.50	1.486	-	-	0.13	0.746	1.109
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 7	state 10	645332	3679.98	1	20.78	22.50	1.486	-	-	0.06	0.758	1.126
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 7	state 10	641666	3624.99	1	20.78	22.50	1.486	-	-	0.01	0.747	1.110
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 7	state 10	645332	3679.98	1	20.78	22.50	1.486	-	-	0.05	0.762	1.132
	FR1 N48	40M	BPSK	100	0	DFT-30	Right Cheek	0mm	Ant 7	state 10	638000	3570	1	20.82	22.50	1.472	-	-	0.02	0.745	1.097
	FR1 N48	40M	BPSK	100	0	DFT-30	Right Tilted	0mm	Ant 7	state 10	638000	3570	1	20.82	22.50	1.472	-	-	0.13	0.772	1.137
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	state 11	638000	3570	1	18.26	20.00	1.493	-	-	-0.13	0.391	0.584
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 11	638000	3570	1	18.26	20.00	1.493	-	-	0.05	0.414	0.618
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	state 11	638000	3570	1	18.26	20.00	1.493	-	-	-0.06	0.141	0.210
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	state 11	638000	3570	1	18.26	20.00	1.493	-	-	0.02	0.168	0.251
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 11	641666	3624.99	1	18.23	20.00	1.503	-	-	0.08	0.348	0.523
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 11	645332	3679.98	1	18.24	20.00	1.500	-	-	0.15	0.357	0.535
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 7	state 11	638000	3570	1	18.25	20.00	1.496	-	-	0.02	0.394	0.590
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 7	state 11	638000	3570	1	18.25	20.00	1.496	-	-	0.01	0.399	0.597
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Cheek	0mm	Ant 7	state 11	638000	3570	1	18.25	20.00	1.496	-	-	0.13	0.146	0.218
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Tilted	0mm	Ant 7	state 11	638000	3570	1	18.25	20.00	1.496	-	-	0.09	0.168	0.251
	FR1 N48	40M	BPSK	100	0	DFT-30	Right Tilted	0mm	Ant 7	state 11	638000	3570	1	18.21	20.00	1.510	-	-	0.05	0.396	0.598
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 8	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	0.05	0.127	0.177
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 8	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	0.01	0.108	0.150
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	0.07	0.325	0.453
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-0.05	0.077	0.107
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 8	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	0.04	0.137	0.194
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 8	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	0.06	0.113	0.160
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Cheek	0mm	Ant 8	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-0.03	0.328	0.465
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Tilted	0mm	Ant 8	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	0.08	0.080	0.114
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 9	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 9	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 9	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 9	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a

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# FCC SAR Test Report

Report No. : FA230112

	FR1 N48	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 9	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 9	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Cheek	0mm	Ant 9	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Tilted	0mm	Ant 9	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 10	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 10	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 10	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 10	state 10/11	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Cheek	0mm	Ant 10	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Tilted	0mm	Ant 10	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Cheek	0mm	Ant 10	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Tilted	0mm	Ant 10	state 10/11	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
26	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	state 10	656000	3840	1	21.82	23.00	1.312	-	-	-0.03	0.858	1.126
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 10	656000	3840	1	21.82	23.00	1.312	-	-	0.06	0.700	0.919
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	state 10	656000	3840	1	21.82	23.00	1.312	-	-	-0.05	0.335	0.440
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	state 10	656000	3840	1	21.82	23.00	1.312	-	-	0.02	0.355	0.466
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	state 10	656000	3840	1	21.80	23.00	1.318	-	-	0.01	0.844	1.113
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	state 10	656000	3840	1	21.80	23.00	1.318	-	-	0.05	0.675	0.890
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	state 10	656000	3840	1	21.80	23.00	1.318	-	-	0.06	0.337	0.444
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	state 10	656000	3840	1	21.80	23.00	1.318	-	-	-0.04	0.350	0.461
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Right Cheek	0mm	Ant 7	state 10	656000	3840	1	21.78	23.00	1.324	-	-	0.02	0.829	1.098
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Right Tilted	0mm	Ant 7	state 10	656000	3840	1	21.78	23.00	1.324	-	-	0.01	0.685	0.907
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 7	state 11	656000	3840	1	18.65	20.00	1.365	-	-	0.05	0.394	0.538
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 7	state 11	656000	3840	1	18.65	20.00	1.365	-	-	0.09	0.321	0.438
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 7	state 11	656000	3840	1	18.65	20.00	1.365	-	-	-0.03	0.157	0.214
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 7	state 11	656000	3840	1	18.65	20.00	1.365	-	-	0.04	0.161	0.220
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	state 11	656000	3840	1	18.63	20.00	1.371	-	-	0.06	0.380	0.521
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	state 11	656000	3840	1	18.63	20.00	1.371	-	-	-0.05	0.316	0.433
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	state 11	656000	3840	1	18.63	20.00	1.371	-	-	0.01	0.158	0.217
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	state 11	656000	3840	1	18.63	20.00	1.371	-	-	0.07	0.160	0.219
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Right Cheek	0mm	Ant 7	state 11	656000	3840	1	18.61	20.00	1.377	-	-	0.05	0.385	0.530
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Right Tilted	0mm	Ant 7	state 11	656000	3840	1	18.61	20.00	1.377	-	-	0.11	0.311	0.428
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 8	state 10	656000	3840	1	24.85	26.00	1.303	-	-	-0.04	0.385	0.502
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 8	state 10	656000	3840	1	24.85	26.00	1.303	-	-	0.02	0.326	0.425
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	state 10	656000	3840	1	24.85	26.00	1.303	-	-	0.07	0.816	1.063
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	state 10	656000	3840	1	24.85	26.00	1.303	-	-	0.08	0.216	0.281
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 8	state 10	656000	3840	1	24.83	26.00	1.309	-	-	-0.07	0.394	0.516
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 8	state 10	656000	3840	1	24.83	26.00	1.309	-	-	0.08	0.320	0.419
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 8	state 10	656000	3840	1	24.83	26.00	1.309	-	-	0.02	0.815	1.067
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 8	state 10	656000	3840	1	24.83	26.00	1.309	-	-	0.04	0.227	0.297
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Right Cheek	0mm	Ant 8	state 10	656000	3840	1	24.82	26.00	1.312	-	-	0.05	0.408	0.535
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Right Tilted	0mm	Ant 8	state 10	656000	3840	1	24.82	26.00	1.312	-	-	0.02	0.335	0.440
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Left Cheek	0mm	Ant 8	state 10	656000	3840	1	24.82	26.00	1.312	-	-	0.07	0.837	1.098
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 8	state 11	656000	3840	1	21.83	23.00	1.309	-	-	0.07	0.193	0.253
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 8	state 11	656000	3840	1	21.83	23.00	1.309	-	-	0.04	0.161	0.211
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 8	state 11	656000	3840	1	21.83	23.00	1.309	-	-	0.09	0.434	0.568
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 8	state 11	656000	3840	1	21.83	23.00	1.309	-	-	-0.05	0.109	0.143
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Cheek	0mm	Ant 8	state 11	656000	3840	1	21.67	23.00	1.358	-	-	0.04	0.212	0.288
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Tilted	0mm	Ant 8	state 11	656000	3840	1	21.67	23.00	1.358	-	-	0.01	0.171	0.232
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Cheek	0mm	Ant 8	state 11	656000	3840	1	21.67	23.00	1.358	-	-	0.09	0.439	0.596
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Tilted	0mm	Ant 8	state 11	656000	3840	1	21.67	23.00	1.358	-	-	0.13	0.116	0.158
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Left Cheek	0mm	Ant 8	state 11	656000	3840	1	21.63	23.00	1.371	-	-	-0.02	0.440	0.603
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Cheek	0mm	Ant 9	state 10/11	656000	3840	1	26.34	27.50	1.306	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Tilted	0mm	Ant 9	state 10/11	656000	3840	1	26.34	27.50	1.306	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Cheek	0mm	Ant 9	state 10/11	656000	3840	1	26.34	27.50	1.306	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Tilted	0mm	Ant 9	state 10/11	656000	3840	1	26.34	27.50	1.306	-	-	-	n/a	n/a



FCC SAR Test Report

Report No. : FA230112

Table with 21 columns: Plot No., Band, Mode, Test Position, Gap, Antenna, Power State, Ch., Freq., Sample, Average Power, Tune-Up Limit, Tune-up Scaling Factor, Duty Cycle, Duty Cycle Scaling Factor, Power Drift, Measured 1g SAR, Reported 1g SAR. Contains 18 rows of test data for FR1 N77(HPUE).

Main test results table with 21 columns: Plot No., Band, Mode, Test Position, Gap, Antenna, Power State, Ch., Freq., Sample, Average Power, Tune-Up Limit, Tune-up Scaling Factor, Duty Cycle, Duty Cycle Scaling Factor, Power Drift, Measured 1g SAR, Reported 1g SAR. Divided into 2450MHz and 5000MHz sections. Contains 48 rows of test data.



Table with columns: Frequency, Power, Location, Antenna, Rec on, etc. Includes rows for 30 and 31 with SAR values, highlighting 1.065 and 1.040.



### FCC SAR Test Report

Report No. : FA230112

WLAN5.8GHz	802.11ax-HE40 MCS0	Left Cheek	0mm	Ant 4+5	Rec on	151	5755	1	18.20	20.20	1.585	99.5	1.005	0.06	0.561	0.894
WLAN5.8GHz	802.11ax-HE40 MCS0	Left Tilted	0mm	Ant 4+5	Rec on	151	5755	1	18.20	20.20	1.585	99.5	1.005	0.01	0.358	0.570
WLAN5.8GHz	802.11ax-HE40 MCS0	Left Cheek	0mm	Ant 4+5	Rec on	159	5795	1	18.18	20.18	1.585	99.5	1.005	0.02	0.412	0.656
WLAN5.8GHz	802.11ax-HE40 MCS0	Right Cheek	0mm	Ant 4+5	Rec on(Sim TX)	151	5755	1	15.17	17.17	1.585	99.5	1.005	-0.04	0.099	0.158
WLAN5.8GHz	802.11ax-HE40 MCS0	Right Tilted	0mm	Ant 4+5	Rec on(Sim TX)	151	5755	1	15.17	17.17	1.585	99.5	1.005	-0.05	0.083	0.132
WLAN5.8GHz	802.11ax-HE40 MCS0	Left Cheek	0mm	Ant 4+5	Rec on(Sim TX)	151	5755	1	15.17	17.17	1.585	99.5	1.005	0.15	0.316	0.503
WLAN5.8GHz	802.11ax-HE40 MCS0	Left Tilted	0mm	Ant 4+5	Rec on(Sim TX)	151	5755	1	15.17	17.17	1.585	99.5	1.005	0.08	0.175	0.279

<Inter CA SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>750MHz</b>																			
	LTE Band 12	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	state 10/11	23095	707.5	1	21.57	23.00	1.390	0.15	0.050	0.069
	LTE Band 12	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 0	state 10/11	23095	707.5	1	21.57	23.00	1.390	-0.04	0.027	0.038
	LTE Band 12	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 0	state 10/11	23095	707.5	1	21.57	23.00	1.390	-0.08	0.032	0.044
	LTE Band 12	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 0	state 10/11	23095	707.5	1	21.57	23.00	1.390	-	n/a	n/a
	LTE Band 12	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 0	state 10/11	23095	707.5	1	21.55	23.00	1.396	0.04	0.048	0.067
	LTE Band 12	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 0	state 10/11	23095	707.5	1	21.55	23.00	1.396	0.01	0.025	0.035
	LTE Band 12	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 0	state 10/11	23095	707.5	1	21.55	23.00	1.396	0.15	0.031	0.043
	LTE Band 12	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 0	state 10/11	23095	707.5	1	21.55	23.00	1.396	-	n/a	n/a
	LTE Band 12	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	23095	707.5	1	21.57	23.00	1.390	-0.08	0.326	0.453
	LTE Band 12	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	23095	707.5	1	21.57	23.00	1.390	-0.14	0.063	0.088
	LTE Band 12	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	23095	707.5	1	21.57	23.00	1.390	-0.19	0.265	0.368
	LTE Band 12	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	23095	707.5	1	21.57	23.00	1.390	0.17	0.051	0.071
	LTE Band 12	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 10	23095	707.5	1	21.55	23.00	1.396	0.17	0.317	0.443
	LTE Band 12	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 10	23095	707.5	1	21.55	23.00	1.396	-0.16	0.060	0.084
	LTE Band 12	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 10	23095	707.5	1	21.55	23.00	1.396	0.06	0.263	0.367
	LTE Band 12	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 10	23095	707.5	1	21.55	23.00	1.396	-0.02	0.050	0.070
	LTE Band 12	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	23095	707.5	1	20.02	21.50	1.406	-0.16	0.225	0.316
	LTE Band 12	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 11	23095	707.5	1	20.02	21.50	1.406	-0.16	0.042	0.059
	LTE Band 12	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 11	23095	707.5	1	20.02	21.50	1.406	0.05	0.189	0.266
	LTE Band 12	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 11	23095	707.5	1	20.02	21.50	1.406	-0.19	0.035	0.049
	LTE Band 12	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 11	23095	707.5	1	20.00	21.50	1.413	-0.03	0.221	0.312
	LTE Band 12	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 11	23095	707.5	1	20.00	21.50	1.413	-0.05	0.040	0.057
	LTE Band 12	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 11	23095	707.5	1	20.00	21.50	1.413	-0.11	0.187	0.264
	LTE Band 12	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 11	23095	707.5	1	20.00	21.50	1.413	-0.13	0.036	0.051
	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	state 10/11	23230	782	1	21.65	23.00	1.365	0.05	0.075	0.102
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 0	state 10/11	23230	782	1	21.65	23.00	1.365	0.07	0.041	0.056
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 0	state 10/11	23230	782	1	21.65	23.00	1.365	0.12	0.055	0.075
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 0	state 10/11	23230	782	1	21.65	23.00	1.365	-0.14	0.033	0.045
	LTE Band 13	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 0	state 10/11	23230	782	1	21.58	23.00	1.387	-0.05	0.073	0.101
	LTE Band 13	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 0	state 10/11	23230	782	1	21.58	23.00	1.387	-0.02	0.040	0.055
	LTE Band 13	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 0	state 10/11	23230	782	1	21.58	23.00	1.387	-0.09	0.056	0.078
	LTE Band 13	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 0	state 10/11	23230	782	1	21.58	23.00	1.387	0.17	0.033	0.046
	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 2	state 10/11	23230	782	1	21.65	23.00	1.365	-0.12	0.214	0.292
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 2	state 10/11	23230	782	1	21.65	23.00	1.365	-0.09	0.044	0.060
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 2	state 10/11	23230	782	1	21.65	23.00	1.365	-0.18	0.179	0.244
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 2	state 10/11	23230	782	1	21.65	23.00	1.365	-	n/a	n/a
	LTE Band 13	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 10/11	23230	782	1	21.58	23.00	1.387	0.16	0.216	0.300
	LTE Band 13	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 10/11	23230	782	1	21.58	23.00	1.387	-0.02	0.045	0.062
	LTE Band 13	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 10/11	23230	782	1	21.58	23.00	1.387	0.05	0.183	0.254
	LTE Band 13	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 10/11	23230	782	1	21.58	23.00	1.387	-	n/a	n/a
<b>835MHz</b>																			
	LTE Band 5	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	state 10/11	20525	836.5	1	21.56	23.00	1.393	-0.05	0.092	0.128
	LTE Band 5	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 0	state 10/11	20525	836.5	1	21.56	23.00	1.393	0.01	0.036	0.050
	LTE Band 5	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 0	state 10/11	20525	836.5	1	21.56	23.00	1.393	0.02	0.041	0.057



# FCC SAR Test Report

Report No. : FA230112

LTE Band 5	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 0	state 10/11	20525	836.5	1	21.56	23.00	1.393	-0.16	0.031	0.043	
LTE Band 5	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 0	state 10/11	20525	836.5	1	21.55	23.00	1.396	0.04	0.090	0.126	
LTE Band 5	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 0	state 10/11	20525	836.5	1	21.55	23.00	1.396	-0.04	0.037	0.052	
LTE Band 5	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 0	state 10/11	20525	836.5	1	21.55	23.00	1.396	0.02	0.040	0.056	
LTE Band 5	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 0	state 10/11	20525	836.5	1	21.55	23.00	1.396	0.09	0.032	0.045	
LTE Band 5	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 2	state 10	20525	836.5	1	21.56	23.00	1.393	-0.11	0.389	0.542	
LTE Band 5	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 2	state 10	20525	836.5	1	21.56	23.00	1.393	-0.15	0.081	0.113	
LTE Band 5	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 2	state 10	20525	836.5	1	21.56	23.00	1.393	-0.18	0.344	0.479	
LTE Band 5	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 2	state 10	20525	836.5	1	21.56	23.00	1.393	-0.02	0.065	0.091	
LTE Band 5	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 10	20525	836.5	1	21.55	23.00	1.396	-0.13	0.386	0.539	
LTE Band 5	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 10	20525	836.5	1	21.55	23.00	1.396	0.03	0.079	0.110	
LTE Band 5	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 10	20525	836.5	1	21.55	23.00	1.396	0.08	0.341	0.476	
LTE Band 5	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 10	20525	836.5	1	21.55	23.00	1.396	-0.04	0.064	0.089	
LTE Band 5	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 2	state 11	20525	836.5	1	18.64	20.00	1.368	0.12	0.215	0.294	
LTE Band 5	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 2	state 11	20525	836.5	1	18.64	20.00	1.368	-0.19	0.042	0.057	
LTE Band 5	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 2	state 11	20525	836.5	1	18.64	20.00	1.368	-0.11	0.178	0.243	
LTE Band 5	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 2	state 11	20525	836.5	1	18.64	20.00	1.368	-0.18	0.032	0.044	
LTE Band 5	10M	QPSK	25	12	-	Right Cheek	0mm	Ant 2	state 11	20525	836.5	1	18.62	20.00	1.374	0.18	0.212	0.291	
LTE Band 5	10M	QPSK	25	12	-	Right Tilted	0mm	Ant 2	state 11	20525	836.5	1	18.62	20.00	1.374	-0.09	0.043	0.059	
LTE Band 5	10M	QPSK	25	12	-	Left Cheek	0mm	Ant 2	state 11	20525	836.5	1	18.62	20.00	1.374	-0.13	0.175	0.240	
LTE Band 5	10M	QPSK	25	12	-	Left Tilted	0mm	Ant 2	state 11	20525	836.5	1	18.62	20.00	1.374	-0.17	0.031	0.043	
<b>1750MHz</b>																			
LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	state 10/11	132572	1770	1	21.39	23.00	1.449	0.17	0.031	0.045	
LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	state 10/11	132572	1770	1	21.39	23.00	1.449	-0.15	0.026	0.038	
LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	state 10/11	132572	1770	1	21.39	23.00	1.449	0.09	0.052	0.075	
LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	state 10/11	132572	1770	1	21.39	23.00	1.449	-0.11	0.034	0.049	
LTE Band 66	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	132572	1770	1	21.37	23.00	1.455	0.02	0.030	0.044	
LTE Band 66	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	132572	1770	1	21.37	23.00	1.455	0.14	0.026	0.038	
LTE Band 66	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	132572	1770	1	21.37	23.00	1.455	-0.01	0.050	0.073	
LTE Band 66	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	132572	1770	1	21.37	23.00	1.455	0.19	0.032	0.047	
LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	state 10	132572	1770	1	21.39	23.00	1.449	-0.15	0.268	0.388	
LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	state 10	132572	1770	1	21.39	23.00	1.449	0.02	0.092	0.133	
LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	state 10	132572	1770	1	21.39	23.00	1.449	-0.14	0.199	0.288	
LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	state 10	132572	1770	1	21.39	23.00	1.449	0.09	0.087	0.126	
LTE Band 66	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	132572	1770	1	21.37	23.00	1.455	0.06	0.259	0.377	
LTE Band 66	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 10	132572	1770	1	21.37	23.00	1.455	-0.19	0.091	0.132	
LTE Band 66	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 10	132572	1770	1	21.37	23.00	1.455	-0.05	0.195	0.284	
LTE Band 66	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 10	132572	1770	1	21.37	23.00	1.455	0.13	0.088	0.128	
LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	state 11	132572	1770	1	20.52	22.00	1.406	-0.17	0.215	0.302	
LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	state 11	132572	1770	1	20.52	22.00	1.406	-0.19	0.074	0.104	
LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	state 11	132572	1770	1	20.52	22.00	1.406	0.14	0.156	0.219	
LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	state 11	132572	1770	1	20.52	22.00	1.406	0.05	0.062	0.087	
LTE Band 66	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	132572	1770	1	20.50	22.00	1.413	0.15	0.212	0.299	
LTE Band 66	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	132572	1770	1	20.50	22.00	1.413	-0.12	0.075	0.106	
LTE Band 66	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	132572	1770	1	20.50	22.00	1.413	0.17	0.155	0.219	
LTE Band 66	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 11	132572	1770	1	20.50	22.00	1.413	-0.09	0.060	0.085	
LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 11	state 10	132572	1770	1	20.45	21.50	1.274	-0.01	0.225	0.287	
LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 11	state 10	132572	1770	1	20.45	21.50	1.274	0.17	0.352	0.448	
LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 11	state 10	132572	1770	1	20.45	21.50	1.274	-0.16	0.517	0.658	
LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 11	state 10	132572	1770	1	20.45	21.50	1.274	0.06	0.483	0.615	
LTE Band 66	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 11	state 10	132572	1770	1	20.43	21.50	1.279	0.16	0.226	0.289	
LTE Band 66	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 11	state 10	132572	1770	1	20.43	21.50	1.279	0.14	0.354	0.453	
LTE Band 66	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 11	state 10	132572	1770	1	20.43	21.50	1.279	0.04	0.521	0.667	
LTE Band 66	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 11	state 10	132572	1770	1	20.43	21.50	1.279	0.06	0.489	0.626	
LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 11	state 11	132572	1770	1	17.00	18.00	1.259	-0.14	0.100	0.126	
LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 11	state 11	132572	1770	1	17.00	18.00	1.259	-0.05	0.155	0.195	



LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 11	state 11	132572	1770	1	17.00	18.00	1.259	-0.04	0.233	0.293
LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 11	state 11	132572	1770	1	17.00	18.00	1.259	0.03	0.217	0.273
LTE Band 66	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 11	state 11	132572	1770	1	16.97	18.00	1.268	-0.01	0.099	0.125
LTE Band 66	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 11	state 11	132572	1770	1	16.97	18.00	1.268	-0.07	0.152	0.193
LTE Band 66	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 11	state 11	132572	1770	1	16.97	18.00	1.268	-0.06	0.230	0.292
LTE Band 66	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 11	state 11	132572	1770	1	16.97	18.00	1.268	0.05	0.215	0.273
<b>1900MHz</b>																		
LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	state 10/11	18900	1880	1	21.49	23.00	1.416	-0.16	0.041	0.058
LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	state 10/11	18900	1880	1	21.49	23.00	1.416	-0.09	0.021	0.030
LTE Band 2	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	18900	1880	1	21.49	23.00	1.416	-0.14	0.052	0.074
LTE Band 2	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	state 10/11	18900	1880	1	21.49	23.00	1.416	-0.19	0.030	0.042
LTE Band 2	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	18900	1880	1	21.45	23.00	1.429	0.01	0.040	0.057
LTE Band 2	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	18900	1880	1	21.45	23.00	1.429	-0.19	0.022	0.031
LTE Band 2	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	18900	1880	1	21.45	23.00	1.429	-0.16	0.050	0.071
LTE Band 2	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	18900	1880	1	21.45	23.00	1.429	0.08	0.029	0.041
LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	18900	1880	1	21.49	23.00	1.416	0.01	0.462	0.654
LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	18900	1880	1	21.49	23.00	1.416	0.07	0.065	0.092
LTE Band 2	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	18900	1880	1	21.49	23.00	1.416	-0.16	0.355	0.503
LTE Band 2	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	18900	1880	1	21.49	23.00	1.416	0.07	0.075	0.106
LTE Band 2	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	18900	1880	1	21.45	23.00	1.429	0.1	0.455	0.650
LTE Band 2	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 10	18900	1880	1	21.45	23.00	1.429	-0.18	0.063	0.090
LTE Band 2	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 10	18900	1880	1	21.45	23.00	1.429	0.17	0.351	0.502
LTE Band 2	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 10	18900	1880	1	21.45	23.00	1.429	0.14	0.077	0.110
LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	18900	1880	1	18.50	20.00	1.413	-0.09	0.225	0.318
LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 11	18900	1880	1	18.50	20.00	1.413	-0.17	0.032	0.045
LTE Band 2	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 11	18900	1880	1	18.50	20.00	1.413	-0.04	0.187	0.264
LTE Band 2	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 11	18900	1880	1	18.50	20.00	1.413	-0.13	0.037	0.052
LTE Band 2	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	18900	1880	1	18.48	20.00	1.419	0.04	0.222	0.315
LTE Band 2	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	18900	1880	1	18.48	20.00	1.419	-0.13	0.030	0.043
LTE Band 2	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	18900	1880	1	18.48	20.00	1.419	0.03	0.185	0.263
LTE Band 2	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 11	18900	1880	1	18.48	20.00	1.419	-0.11	0.035	0.050
LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	state 10	18900	1880	1	20.35	21.50	1.303	0.14	0.276	0.360
LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 11	state 10	18900	1880	1	20.35	21.50	1.303	-0.11	0.375	0.489
LTE Band 2	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 11	state 10	18900	1880	1	20.35	21.50	1.303	0.19	0.513	0.669
LTE Band 2	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 11	state 10	18900	1880	1	20.35	21.50	1.303	0.02	0.483	0.629
LTE Band 2	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 11	state 10	18900	1880	1	20.33	21.50	1.309	0.08	0.277	0.363
LTE Band 2	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 11	state 10	18900	1880	1	20.33	21.50	1.309	-0.08	0.373	0.488
LTE Band 2	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 11	state 10	18900	1880	1	20.33	21.50	1.309	-0.05	0.512	0.670
LTE Band 2	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 11	state 10	18900	1880	1	20.33	21.50	1.309	0.19	0.478	0.626
LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	state 11	18900	1880	1	16.89	18.00	1.291	-0.17	0.125	0.161
LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 11	state 11	18900	1880	1	16.89	18.00	1.291	-0.01	0.164	0.212
LTE Band 2	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 11	state 11	18900	1880	1	16.89	18.00	1.291	0.03	0.231	0.298
LTE Band 2	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 11	state 11	18900	1880	1	16.89	18.00	1.291	0.07	0.213	0.275
LTE Band 2	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 11	state 11	18900	1880	1	16.87	18.00	1.297	0.18	0.124	0.161
LTE Band 2	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 11	state 11	18900	1880	1	16.87	18.00	1.297	-0.09	0.165	0.214
LTE Band 2	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 11	state 11	18900	1880	1	16.87	18.00	1.297	-0.19	0.230	0.298
LTE Band 2	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 11	state 11	18900	1880	1	16.87	18.00	1.297	0.13	0.215	0.279



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>2300MHz</b>																			
	LTE Band 30	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	state 10/11	27710	2310	1	22.41	23.00	1.146	0.15	0.025	0.029
	LTE Band 30	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	state 10/11	27710	2310	1	22.41	23.00	1.146	-0.05	0.016	0.018
	LTE Band 30	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	27710	2310	1	22.41	23.00	1.146	-0.08	0.026	0.030
	LTE Band 30	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	state 10/11	27710	2310	1	22.41	23.00	1.146	0.11	0.014	0.016
	LTE Band 30	10M	QPSK	25	25	-	Right Cheek	0mm	Ant 1	state 10/11	27710	2310	1	22.07	23.00	1.239	-0.03	0.024	0.030
	LTE Band 30	10M	QPSK	25	25	-	Right Tilted	0mm	Ant 1	state 10/11	27710	2310	1	22.07	23.00	1.239	-0.05	0.017	0.021
	LTE Band 30	10M	QPSK	25	25	-	Left Cheek	0mm	Ant 1	state 10/11	27710	2310	1	22.07	23.00	1.239	0.16	0.026	0.032
	LTE Band 30	10M	QPSK	25	25	-	Left Tilted	0mm	Ant 1	state 10/11	27710	2310	1	22.07	23.00	1.239	0.11	0.015	0.019
	LTE Band 30	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	27710	2310	1	18.93	19.50	1.140	-0.17	0.657	0.749
	LTE Band 30	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	27710	2310	1	18.93	19.50	1.140	-0.12	0.228	0.260
	LTE Band 30	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	27710	2310	1	18.93	19.50	1.140	-0.03	0.251	0.286
	LTE Band 30	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	27710	2310	1	18.93	19.50	1.140	-0.12	0.080	0.091
	LTE Band 30	10M	QPSK	25	25	-	Right Cheek	0mm	Ant 2	state 10	27710	2310	1	18.53	19.50	1.250	-0.05	0.632	0.790
	LTE Band 30	10M	QPSK	25	25	-	Right Tilted	0mm	Ant 2	state 10	27710	2310	1	18.53	19.50	1.250	-0.12	0.215	0.269
	LTE Band 30	10M	QPSK	25	25	-	Left Cheek	0mm	Ant 2	state 10	27710	2310	1	18.53	19.50	1.250	-0.08	0.237	0.296
	LTE Band 30	10M	QPSK	25	25	-	Left Tilted	0mm	Ant 2	state 10	27710	2310	1	18.53	19.50	1.250	0.15	0.075	0.094
	LTE Band 30	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	27710	2310	1	15.02	15.50	1.117	-0.18	0.261	0.292
	LTE Band 30	10M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 11	27710	2310	1	15.02	15.50	1.117	0.05	0.093	0.104
	LTE Band 30	10M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 11	27710	2310	1	15.02	15.50	1.117	-0.19	0.103	0.115
	LTE Band 30	10M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 11	27710	2310	1	15.02	15.50	1.117	0.06	0.031	0.035
	LTE Band 30	10M	QPSK	25	25	-	Right Cheek	0mm	Ant 2	state 11	27710	2310	1	14.62	15.50	1.225	-0.03	0.258	0.316
	LTE Band 30	10M	QPSK	25	25	-	Right Tilted	0mm	Ant 2	state 11	27710	2310	1	14.62	15.50	1.225	0.14	0.092	0.113
	LTE Band 30	10M	QPSK	25	25	-	Left Cheek	0mm	Ant 2	state 11	27710	2310	1	14.62	15.50	1.225	-0.08	0.100	0.122
	LTE Band 30	10M	QPSK	25	25	-	Left Tilted	0mm	Ant 2	state 11	27710	2310	1	14.62	15.50	1.225	-0.08	0.030	0.037
<b>2600MHz</b>																			
	LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 1	state 10/11	20850	2510	1	21.31	23.00	1.476	0.01	0.023	0.034
	LTE Band 7	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 1	state 10/11	20850	2510	1	21.31	23.00	1.476	-	n/a	n/a
	LTE Band 7	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 1	state 10/11	20850	2510	1	21.31	23.00	1.476	-0.16	0.025	0.037
	LTE Band 7	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 1	state 10/11	20850	2510	1	21.31	23.00	1.476	-	n/a	n/a
	LTE Band 7	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	20850	2510	1	21.28	23.00	1.486	-0.04	0.022	0.033
	LTE Band 7	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	20850	2510	1	21.28	23.00	1.486	-	n/a	n/a
	LTE Band 7	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	20850	2510	1	21.28	23.00	1.486	0.08	0.025	0.037
	LTE Band 7	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	20850	2510	1	21.28	23.00	1.486	-	n/a	n/a
	LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	state 10	20850	2510	1	18.55	20.00	1.396	0.08	0.542	0.757
	LTE Band 7	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 2	state 10	20850	2510	1	18.55	20.00	1.396	0.18	0.182	0.254
	LTE Band 7	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 2	state 10	20850	2510	1	18.55	20.00	1.396	-0.12	0.158	0.221
	LTE Band 7	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 2	state 10	20850	2510	1	18.55	20.00	1.396	-	n/a	n/a
	LTE Band 7	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	20850	2510	1	18.53	20.00	1.403	-0.19	0.537	0.753
	LTE Band 7	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 10	20850	2510	1	18.53	20.00	1.403	0.1	0.180	0.253
	LTE Band 7	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 10	20850	2510	1	18.53	20.00	1.403	-0.15	0.155	0.217
	LTE Band 7	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 10	20850	2510	1	18.53	20.00	1.403	-	n/a	n/a
	LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	state 11	20850	2510	1	14.65	16.00	1.365	-0.12	0.216	0.295
	LTE Band 7	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 2	state 11	20850	2510	1	14.65	16.00	1.365	0.01	0.075	0.102
	LTE Band 7	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 2	state 11	20850	2510	1	14.65	16.00	1.365	-0.02	0.062	0.085
	LTE Band 7	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 2	state 11	20850	2510	1	14.65	16.00	1.365	-	n/a	n/a
	LTE Band 7	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	20850	2510	1	14.63	16.00	1.371	0.14	0.213	0.292
	LTE Band 7	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	20850	2510	1	14.63	16.00	1.371	-0.01	0.074	0.101
	LTE Band 7	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	20850	2510	1	14.63	16.00	1.371	0.14	0.060	0.082
	LTE Band 7	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 11	20850	2510	1	14.63	16.00	1.371	-0.08	0.000	0.000



<EN-DC SAR>

Table with columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Sample, Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Power Drift (dB), Measure d 1g SAR (W/kg), Reporte d 1g SAR (W/kg). Rows include 750MHz and 835MHz sections.





FCC SAR Test Report

Report No. : FA230112

Table with columns for LTE Band 5, FR1 N5, and 1750MHz. Each row contains 19 columns of test parameters including modulation (QPSK, BPSK), power (10M, 20M), and various SAR metrics (Right/Left Cheek, Tilted, etc.).



FCC SAR Test Report

Report No. : FA230112

Table with 19 columns: Band, Power, Modulation, Channels, Frequency, Location, Antenna, State, E1, E2, E3, E4, E5, E6, E7, E8, E9, E10, E11. Rows include LTE Band 66 and FR1 N66 tests with various modulation schemes (QPSK, BPSK) and antenna configurations.



Table with 21 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Sample, 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). Rows include LTE Band 2 and FR1 N2 configurations.



FCC SAR Test Report

Report No. : FA230112

Table with columns for test parameters (FR1 N2, 20M, BPSK, etc.) and SAR values. Includes sub-sections for 2300MHz and 2600MHz.

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# FCC SAR Test Report

Report No. : FA230112

LTE Band 7	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 2	state 11	21350	2560	1	12.72	14.50	1.507	-	-	0.13	0.056	0.084
LTE Band 7	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 2	state 11	21350	2560	1	12.72	14.50	1.507	-	-	0.07	0.048	0.072
LTE Band 7	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 2	state 11	21350	2560	1	12.72	14.50	1.507	-	-	-0.1	0.000	0.000
LTE Band 7	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	21350	2560	1	11.76	13.50	1.493	-	-	0.14	0.177	0.264
LTE Band 7	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	21350	2560	1	11.76	13.50	1.493	-	-	-0.09	0.041	0.061
LTE Band 7	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	21350	2560	1	11.76	13.50	1.493	-	-	-0.02	0.035	0.052
LTE Band 7	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 11	21350	2560	1	11.76	13.50	1.493	-	-	0.04	0.000	0.000
LTE Band 7	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 11	state 10/11	21350	2560	1	23.05	24.50	1.396	-	-	0.1	0.110	0.154
LTE Band 7	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 11	state 10/11	21350	2560	1	23.05	24.50	1.396	-	-	-0.06	0.075	0.105
LTE Band 7	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 11	state 10/11	21350	2560	1	23.05	24.50	1.396	-	-	-0.01	0.072	0.101
LTE Band 7	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 11	state 10/11	21350	2560	1	23.05	24.50	1.396	-	-	-0.12	0.073	0.102
LTE Band 7	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 11	state 10/11	21350	2560	1	22.10	23.50	1.380	-	-	0.04	0.090	0.124
LTE Band 7	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 11	state 10/11	21350	2560	1	22.10	23.50	1.380	-	-	-0.03	0.061	0.084
LTE Band 7	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 11	state 10/11	21350	2560	1	22.10	23.50	1.380	-	-	-0.03	0.053	0.073
LTE Band 7	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 11	state 10/11	21350	2560	1	22.10	23.50	1.380	-	-	-0.04	0.062	0.086
LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	state 10/11	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	state 10/11	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	state 10/11	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	state 10/11	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 1	state 10/11	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 1	state 10/11	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 1	state 10/11	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 1	state 10/11	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 10	41055	2636.5	1	17.50	18.50	1.259	62.9	1.006	-0.15	0.426	0.540
LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 10	41055	2636.5	1	17.50	18.50	1.259	62.9	1.006	-0.02	0.134	0.170
LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 10	41055	2636.5	1	17.50	18.50	1.259	62.9	1.006	0.04	0.116	0.147
LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 10	41055	2636.5	1	17.50	18.50	1.259	62.9	1.006	0.08	0.042	0.053
LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 10	41055	2636.5	1	16.47	17.50	1.268	62.9	1.006	0.02	0.323	0.412
LTE Band 41	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 10	41055	2636.5	1	16.47	17.50	1.268	62.9	1.006	0.01	0.103	0.131
LTE Band 41	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 10	41055	2636.5	1	16.47	17.50	1.268	62.9	1.006	0.01	0.088	0.112
LTE Band 41	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 10	41055	2636.5	1	16.47	17.50	1.268	62.9	1.006	0.05	0.034	0.043
LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 2	state 11	41055	2636.5	1	15.06	16.00	1.242	62.9	1.006	-0.15	0.263	0.329
LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 2	state 11	41055	2636.5	1	15.06	16.00	1.242	62.9	1.006	0.01	0.075	0.094
LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 2	state 11	41055	2636.5	1	15.06	16.00	1.242	62.9	1.006	0.07	0.066	0.082
LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 2	state 11	41055	2636.5	1	15.06	16.00	1.242	62.9	1.006	0.08	0.023	0.029
LTE Band 41	20M	QPSK	50	24	-	Right Cheek	0mm	Ant 2	state 11	41055	2636.5	1	14.02	15.00	1.253	62.9	1.006	0.13	0.132	0.166
LTE Band 41	20M	QPSK	50	24	-	Right Tilted	0mm	Ant 2	state 11	41055	2636.5	1	14.02	15.00	1.253	62.9	1.006	-0.05	0.059	0.074
LTE Band 41	20M	QPSK	50	24	-	Left Cheek	0mm	Ant 2	state 11	41055	2636.5	1	14.02	15.00	1.253	62.9	1.006	0.13	0.051	0.064
LTE Band 41	20M	QPSK	50	24	-	Left Tilted	0mm	Ant 2	state 11	41055	2636.5	1	14.02	15.00	1.253	62.9	1.006	0.02	0.017	0.021
FR1 N7	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	state 10/11	507000	2535	1	24.64	26.00	1.368	-	-	0.09	0.044	0.060
FR1 N7	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	state 10/11	507000	2535	1	24.64	26.00	1.368	-	-	-0.04	0.040	0.055
FR1 N7	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	state 10/11	507000	2535	1	24.64	26.00	1.368	-	-	0.02	0.063	0.086
FR1 N7	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	state 10/11	507000	2535	1	24.64	26.00	1.368	-	-	0.02	0.035	0.048
FR1 N7	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	state 10/11	507000	2535	1	24.62	26.00	1.374	-	-	0.07	0.045	0.062
FR1 N7	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 1	state 10/11	507000	2535	1	24.62	26.00	1.374	-	-	0.09	0.041	0.056
FR1 N7	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 1	state 10/11	507000	2535	1	24.62	26.00	1.374	-	-	0.01	0.062	0.085
FR1 N7	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 1	state 10/11	507000	2535	1	24.62	26.00	1.374	-	-	0.13	0.039	0.054
FR1 N7	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 10	507000	2535	1	16.95	18.50	1.429	-	-	-0.03	0.430	0.614
FR1 N7	40M	BPSK	1	1	DFT-15	Right Tilted	0mm	Ant 2	state 10	507000	2535	1	16.95	18.50	1.429	-	-	-0.05	0.159	0.227
FR1 N7	40M	BPSK	1	1	DFT-15	Left Cheek	0mm	Ant 2	state 10	507000	2535	1	16.95	18.50	1.429	-	-	0.01	0.114	0.163
FR1 N7	40M	BPSK	1	1	DFT-15	Left Tilted	0mm	Ant 2	state 10	507000	2535	1	16.95	18.50	1.429	-	-	0.07	0.038	0.054
FR1 N7	40M	BPSK	108	54	DFT-15	Right Cheek	0mm	Ant 2	state 10	507000	2535	1	16.93	18.50	1.435	-	-	-0.02	0.425	0.610
FR1 N7	40M	BPSK	108	54	DFT-15	Right Tilted	0mm	Ant 2	state 10	507000	2535	1	16.93	18.50	1.435	-	-	0.09	0.152	0.218
FR1 N7	40M	BPSK	108	54	DFT-15	Left Cheek	0mm	Ant 2	state 10	507000	2535	1	16.93	18.50	1.435	-	-	0.07	0.111	0.159
FR1 N7	40M	BPSK	108	54	DFT-15	Left Tilted	0mm	Ant 2	state 10	507000	2535	1	16.93	18.50	1.435	-	-	-0.13	0.040	0.057
FR1 N7	40M	BPSK	1	1	DFT-15	Right Cheek	0mm	Ant 2	state 11	507000	2535	1	14.08	15.50	1.387	-	-	-0.05	0.206	0.286



FCC SAR Test Report

Report No. : FA230112

Table with columns for FR1 N7, 40M, BPSK, 1, 1, DFT-15, Right Tilted, 0mm, Ant 2, state 11, 507000, 2535, 1, 14.08, 15.50, 1.387, -, -, 0.12, 0.078, 0.108. Includes a 3900MHz section with various parameters.

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FCC SAR Test Report

Report No. : FA230112

Table with 21 columns: FR1 N77, 100M, BPSK, 135, 69, DFT-30, Right Tilted, 0mm, Ant 10, state 10/11, 518598, 3840, 1, 24.83, 26.00, 1.309, -, -, -, n/a, n/a

<UL-MIMO SAR>

Main table with 21 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Sample, Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Includes a 2600MHz sub-section.

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FCC SAR Test Report

Report No. : FA230112

Table with columns for device model, power, modulation, frequency, body part, distance, antenna, date, frequency range, SAR values, and margins. Includes a 3900MHz section.





14.2 Hotspot SAR

Table with columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Sample, Average Power (dBm), Tune-Up Limit (dBm), Tune-up Scaling Factor, Power Drift (dB), Measured 1g SAR (W/kg), Reported 1g SAR (W/kg). Includes a '750MHz' section and rows for LTE Bands 71, 12, and 13.



**FCC SAR Test Report**

**Report No. : FA230112**

	LTE Band 13	10M	QPSK	25	12	-	Right Side	10mm	Ant 0	state 12	23230	782	1	22.80	24.50	1.479	0.19	0.120	0.177
	LTE Band 13	10M	QPSK	25	12	-	Bottom Side	10mm	Ant 0	state 12	23230	782	1	22.80	24.50	1.479	-0.06	0.198	0.293
	LTE Band 13	10M	QPSK	1	25	-	Front	10mm	Ant 2	state 12	23230	782	1	24.35	26.00	1.462	0.03	0.211	0.309
	LTE Band 13	10M	QPSK	1	25	-	Back	10mm	Ant 2	state 12	23230	782	1	24.35	26.00	1.462	-0.01	0.153	0.224
	LTE Band 13	10M	QPSK	1	25	-	Left Side	10mm	Ant 2	state 12	23230	782	1	24.35	26.00	1.462	-0.02	0.270	0.395
	LTE Band 13	10M	QPSK	1	25	-	Right Side	10mm	Ant 2	state 12	23230	782	1	24.35	26.00	1.462	-	n/a	n/a
	LTE Band 13	10M	QPSK	1	25	-	Top Side	10mm	Ant 2	state 12	23230	782	1	24.35	26.00	1.462	-	n/a	n/a
	LTE Band 13	10M	QPSK	25	12	-	Front	10mm	Ant 2	state 12	23230	782	1	23.40	25.00	1.445	-0.09	0.163	0.236
	LTE Band 13	10M	QPSK	25	12	-	Back	10mm	Ant 2	state 12	23230	782	1	23.40	25.00	1.445	-0.12	0.125	0.181
	LTE Band 13	10M	QPSK	25	12	-	Left Side	10mm	Ant 2	state 12	23230	782	1	23.40	25.00	1.445	-0.07	0.230	0.332
	LTE Band 13	10M	QPSK	25	12	-	Right Side	10mm	Ant 2	state 12	23230	782	1	23.40	25.00	1.445	-	n/a	n/a
	LTE Band 13	10M	QPSK	25	12	-	Top Side	10mm	Ant 2	state 12	23230	782	1	23.40	25.00	1.445	-	n/a	n/a
	FR1 N12	15M	BPSK	1	40	DFT-15	Front	10mm	Ant 0	state 12	141500	707.5	1	25.19	26.00	1.205	0.15	0.315	0.380
35	FR1 N12	15M	BPSK	1	40	DFT-15	Back	10mm	Ant 0	state 12	141500	707.5	1	25.19	26.00	1.205	-0.06	0.473	0.570
	FR1 N12	15M	BPSK	1	40	DFT-15	Left Side	10mm	Ant 0	state 12	141500	707.5	1	25.19	26.00	1.205	-0.16	0.067	0.081
	FR1 N12	15M	BPSK	1	40	DFT-15	Right Side	10mm	Ant 0	state 12	141500	707.5	1	25.19	26.00	1.205	-0.18	0.180	0.217
	FR1 N12	15M	BPSK	1	40	DFT-15	Bottom Side	10mm	Ant 0	state 12	141500	707.5	1	25.19	26.00	1.205	-0.19	0.252	0.304
	FR1 N12	15M	BPSK	36	22	DFT-15	Front	10mm	Ant 0	state 12	141500	707.5	1	25.14	26.00	1.219	-0.16	0.302	0.368
	FR1 N12	15M	BPSK	36	22	DFT-15	Back	10mm	Ant 0	state 12	141500	707.5	1	25.14	26.00	1.219	-0.19	0.445	0.542
	FR1 N12	15M	BPSK	36	22	DFT-15	Left Side	10mm	Ant 0	state 12	141500	707.5	1	25.14	26.00	1.219	-0.12	0.063	0.077
	FR1 N12	15M	BPSK	36	22	DFT-15	Right Side	10mm	Ant 0	state 12	141500	707.5	1	25.14	26.00	1.219	0.19	0.173	0.211
	FR1 N12	15M	BPSK	36	22	DFT-15	Bottom Side	10mm	Ant 0	state 12	141500	707.5	1	25.14	26.00	1.219	0.12	0.238	0.290
	FR1 N12	15M	BPSK	1	40	DFT-15	Front	10mm	Ant 2	state 12	141500	707.5	1	25.19	26.00	1.205	-0.07	0.253	0.305
	FR1 N12	15M	BPSK	1	40	DFT-15	Back	10mm	Ant 2	state 12	141500	707.5	1	25.19	26.00	1.205	-0.16	0.173	0.208
	FR1 N12	15M	BPSK	1	40	DFT-15	Left Side	10mm	Ant 2	state 12	141500	707.5	1	25.19	26.00	1.205	-0.14	0.426	0.513
	FR1 N12	15M	BPSK	1	40	DFT-15	Right Side	10mm	Ant 2	state 12	141500	707.5	1	25.19	26.00	1.205	-	n/a	n/a
	FR1 N12	15M	BPSK	1	40	DFT-15	Top Side	10mm	Ant 2	state 12	141500	707.5	1	25.19	26.00	1.205	-	n/a	n/a
	FR1 N12	15M	BPSK	36	22	DFT-15	Front	10mm	Ant 2	state 12	141500	707.5	1	25.14	26.00	1.219	0.14	0.240	0.293
	FR1 N12	15M	BPSK	36	22	DFT-15	Back	10mm	Ant 2	state 12	141500	707.5	1	25.14	26.00	1.219	0.12	0.171	0.208
	FR1 N12	15M	BPSK	36	22	DFT-15	Left Side	10mm	Ant 2	state 12	141500	707.5	1	25.14	26.00	1.219	-0.03	0.400	0.488
	FR1 N12	15M	BPSK	36	22	DFT-15	Right Side	10mm	Ant 2	state 12	141500	707.5	1	25.14	26.00	1.219	-	n/a	n/a
	FR1 N12	15M	BPSK	36	22	DFT-15	Top Side	10mm	Ant 2	state 12	141500	707.5	1	25.14	26.00	1.219	-	n/a	n/a
	FR1 N13	10M	BPSK	1	1	DFT-15	Front	10mm	Ant 0	state 12	156400	782	1	24.21	25.50	1.346	0.19	0.293	0.394
	FR1 N13	10M	BPSK	1	1	DFT-15	Back	10mm	Ant 0	state 12	156400	782	1	24.21	25.50	1.346	-0.01	0.443	0.596
	FR1 N13	10M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 0	state 12	156400	782	1	24.21	25.50	1.346	-0.13	0.076	0.102
	FR1 N13	10M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 0	state 12	156400	782	1	24.21	25.50	1.346	0.12	0.164	0.221
	FR1 N13	10M	BPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	state 12	156400	782	1	24.21	25.50	1.346	0.18	0.292	0.393
	FR1 N13	10M	BPSK	25	14	DFT-15	Front	10mm	Ant 0	state 12	156400	782	1	24.18	25.50	1.355	-0.07	0.310	0.420
36	FR1 N13	10M	BPSK	25	14	DFT-15	Back	10mm	Ant 0	state 12	156400	782	1	24.18	25.50	1.355	-0.09	0.451	0.611
	FR1 N13	10M	BPSK	25	14	DFT-15	Left Side	10mm	Ant 0	state 12	156400	782	1	24.18	25.50	1.355	-0.03	0.077	0.104
	FR1 N13	10M	BPSK	25	14	DFT-15	Right Side	10mm	Ant 0	state 12	156400	782	1	24.18	25.50	1.355	-0.12	0.174	0.236
	FR1 N13	10M	BPSK	25	14	DFT-15	Bottom Side	10mm	Ant 0	state 12	156400	782	1	24.18	25.50	1.355	-0.18	0.307	0.416
	FR1 N13	10M	BPSK	1	1	DFT-15	Front	10mm	Ant 2	state 12	156400	782	1	24.60	26.00	1.380	-0.12	0.192	0.265
	FR1 N13	10M	BPSK	1	1	DFT-15	Back	10mm	Ant 2	state 12	156400	782	1	24.60	26.00	1.380	0.03	0.138	0.190
	FR1 N13	10M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 2	state 12	156400	782	1	24.60	26.00	1.380	-0.02	0.279	0.385
	FR1 N13	10M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 2	state 12	156400	782	1	24.60	26.00	1.380	-	n/a	n/a
	FR1 N13	10M	BPSK	1	1	DFT-15	Top Side	10mm	Ant 2	state 12	156400	782	1	24.60	26.00	1.380	-	n/a	n/a
	FR1 N13	10M	BPSK	25	14	DFT-15	Front	10mm	Ant 2	state 12	156400	782	1	24.45	26.00	1.429	0.08	0.183	0.261
	FR1 N13	10M	BPSK	25	14	DFT-15	Back	10mm	Ant 2	state 12	156400	782	1	24.45	26.00	1.429	-0.04	0.129	0.184
	FR1 N13	10M	BPSK	25	14	DFT-15	Left Side	10mm	Ant 2	state 12	156400	782	1	24.45	26.00	1.429	0.01	0.262	0.374
	FR1 N13	10M	BPSK	25	14	DFT-15	Right Side	10mm	Ant 2	state 12	156400	782	1	24.45	26.00	1.429	-	n/a	n/a
	FR1 N13	10M	BPSK	25	14	DFT-15	Top Side	10mm	Ant 2	state 12	156400	782	1	24.45	26.00	1.429	-	n/a	n/a
	FR1 N71	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	0.15	0.225	0.306
	FR1 N71	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	0.19	0.259	0.352
	FR1 N71	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	0.12	0.091	0.124
	FR1 N71	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	-0.15	0.177	0.240



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	FR1 N71	20M	BPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	0.01	0.206	0.280
	FR1 N71	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	0.18	0.233	0.318
	FR1 N71	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	-0.07	0.258	0.352
	FR1 N71	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	0.17	0.089	0.121
	FR1 N71	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	-0.08	0.187	0.255
	FR1 N71	20M	BPSK	50	28	DFT-15	Bottom Side	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	0.17	0.209	0.285
	FR1 N71	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	0.08	0.189	0.257
	FR1 N71	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	0.05	0.140	0.190
37	FR1 N71	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	0.1	0.273	<b>0.371</b>
	FR1 N71	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	-	n/a	n/a
	FR1 N71	20M	BPSK	1	1	DFT-15	Top Side	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	-	n/a	n/a
	FR1 N71	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	0.15	0.171	0.233
	FR1 N71	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	0.12	0.124	0.169
	FR1 N71	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	0.18	0.258	0.352
	FR1 N71	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	-	n/a	n/a
	FR1 N71	20M	BPSK	50	28	DFT-15	Top Side	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	-	n/a	n/a
<b>835MHz</b>																			
	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Front	10mm	Ant 0	state 12	251	848.8	1	29.77	31.00	1.327	-0.19	0.354	0.470
38	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Back	10mm	Ant 0	state 12	251	848.8	1	29.77	31.00	1.327	0.16	0.505	<b>0.670</b>
	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Left Side	10mm	Ant 0	state 12	251	848.8	1	29.77	31.00	1.327	0.18	0.044	0.058
	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Right Side	10mm	Ant 0	state 12	251	848.8	1	29.77	31.00	1.327	-0.05	0.158	0.210
	GSM 850	-	-	-	-	GPRS (2 Tx slots)	Bottom Side	10mm	Ant 0	state 12	251	848.8	1	29.77	31.00	1.327	0.11	0.361	0.479
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	state 12	4233	846.6	1	24.87	25.50	1.156	0.03	0.433	0.501
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	state 12	4233	846.6	1	24.87	25.50	1.156	0.09	0.542	0.627
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 0	state 12	4233	846.6	1	24.87	25.50	1.156	0.11	0.079	0.091
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 0	state 12	4233	846.6	1	24.87	25.50	1.156	0.15	0.199	0.230
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 0	state 12	4233	846.6	1	24.87	25.50	1.156	0.1	0.274	0.317
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 2	state 12	4233	846.6	1	24.87	25.50	1.156	-0.09	0.408	0.472
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 2	state 12	4233	846.6	1	24.87	25.50	1.156	0.11	0.321	0.371
39	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	state 12	4233	846.6	1	24.87	25.50	1.156	-0.12	0.613	<b>0.709</b>
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 2	state 12	4233	846.6	1	24.87	25.50	1.156	-	n/a	n/a
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 2	state 12	4233	846.6	1	24.87	25.50	1.156	-	n/a	n/a
	LTE Band 26	15M	QPSK	1	37	-	Front	10mm	Ant 0	state 12	26865	831.5	1	23.14	24.50	1.368	0.16	0.325	0.445
	LTE Band 26	15M	QPSK	1	37	-	Back	10mm	Ant 0	state 12	26865	831.5	1	23.14	24.50	1.368	0.14	0.481	0.658
	LTE Band 26	15M	QPSK	1	37	-	Left Side	10mm	Ant 0	state 12	26865	831.5	1	23.14	24.50	1.368	-0.15	0.042	0.057
	LTE Band 26	15M	QPSK	1	37	-	Right Side	10mm	Ant 0	state 12	26865	831.5	1	23.14	24.50	1.368	-0.09	0.124	0.170
	LTE Band 26	15M	QPSK	1	37	-	Bottom Side	10mm	Ant 0	state 12	26865	831.5	1	23.14	24.50	1.368	0.02	0.308	0.421
	LTE Band 5B	10M	QPSK	1	25	-	Back	10mm	Ant 0	state 12	20575+ 20674	841.5+ 831.6	1	23.22	24.50	1.343	0.14	0.431	0.579
	LTE Band 26	15M	QPSK	36	20	-	Front	10mm	Ant 0	state 12	26865	831.5	1	22.13	23.50	1.371	-0.15	0.256	0.351
	LTE Band 26	15M	QPSK	36	20	-	Back	10mm	Ant 0	state 12	26865	831.5	1	22.13	23.50	1.371	0.18	0.376	0.515
	LTE Band 26	15M	QPSK	36	20	-	Left Side	10mm	Ant 0	state 12	26865	831.5	1	22.13	23.50	1.371	0.18	0.033	0.045
	LTE Band 26	15M	QPSK	36	20	-	Right Side	10mm	Ant 0	state 12	26865	831.5	1	22.13	23.50	1.371	-0.06	0.098	0.134
	LTE Band 26	15M	QPSK	36	20	-	Bottom Side	10mm	Ant 0	state 12	26865	831.5	1	22.13	23.50	1.371	0.11	0.246	0.337
	LTE Band 26	15M	QPSK	1	37	-	Front	10mm	Ant 2	state 12	26865	831.5	1	24.61	26.00	1.377	-0.17	0.381	0.525
	LTE Band 26	15M	QPSK	1	37	-	Back	10mm	Ant 2	state 12	26865	831.5	1	24.61	26.00	1.377	0.08	0.292	0.402
40	LTE Band 26	15M	QPSK	1	37	-	Left Side	10mm	Ant 2	state 12	26865	831.5	1	24.61	26.00	1.377	0.13	0.561	<b>0.773</b>
	LTE Band 26	15M	QPSK	1	37	-	Right Side	10mm	Ant 2	state 12	26865	831.5	1	24.61	26.00	1.377	-	n/a	n/a
	LTE Band 26	15M	QPSK	1	37	-	Top Side	10mm	Ant 2	state 12	26865	831.5	1	24.61	26.00	1.377	-	n/a	n/a
	LTE Band 5B	10M	QPSK	1	25	-	Left Side	10mm	Ant 2	state 12	20575+ 20674	841.5+ 831.6	1	24.59	26.00	1.384	-0.06	0.526	0.728
	LTE Band 26	15M	QPSK	36	20	-	Front	10mm	Ant 2	state 12	26865	831.5	1	23.67	25.00	1.358	0.06	0.305	0.414
	LTE Band 26	15M	QPSK	36	20	-	Back	10mm	Ant 2	state 12	26865	831.5	1	23.67	25.00	1.358	-0.04	0.224	0.304
	LTE Band 26	15M	QPSK	36	20	-	Left Side	10mm	Ant 2	state 12	26865	831.5	1	23.67	25.00	1.358	0.12	0.422	0.573
	LTE Band 26	15M	QPSK	36	20	-	Right Side	10mm	Ant 2	state 12	26865	831.5	1	23.67	25.00	1.358	-	n/a	n/a
	LTE Band 26	15M	QPSK	36	20	-	Top Side	10mm	Ant 2	state 12	26865	831.5	1	23.67	25.00	1.358	-	n/a	n/a
	FR1 N26	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 0	state 12	166300	831.5	1	23.52	25.00	1.406	0.1	0.293	0.412



41	FR1 N26	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 0	state 12	166300	831.5	1	23.52	25.00	1.406	0.07	0.453	0.637
	FR1 N26	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 0	state 12	166300	831.5	1	23.52	25.00	1.406	-0.08	0.045	0.063
	FR1 N26	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 0	state 12	166300	831.5	1	23.52	25.00	1.406	-0.01	0.122	0.172
	FR1 N26	20M	BPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	state 12	166300	831.5	1	23.52	25.00	1.406	-0.17	0.281	0.395
	FR1 N26	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 0	state 12	166300	831.5	1	23.51	25.00	1.409	-0.05	0.287	0.404
	FR1 N26	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 0	state 12	166300	831.5	1	23.51	25.00	1.409	0.13	0.444	0.626
	FR1 N26	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 0	state 12	166300	831.5	1	23.51	25.00	1.409	0.16	0.047	0.066
	FR1 N26	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 0	state 12	166300	831.5	1	23.51	25.00	1.409	0.17	0.122	0.172
	FR1 N26	20M	BPSK	50	28	DFT-15	Bottom Side	10mm	Ant 0	state 12	166300	831.5	1	23.51	25.00	1.409	0.03	0.288	0.406
	FR1 N26	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 2	state 12	166300	831.5	1	24.61	26.00	1.377	0.06	0.291	0.401
	FR1 N26	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 2	state 12	166300	831.5	1	24.61	26.00	1.377	-0.14	0.211	0.291
	FR1 N26	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 2	state 12	166300	831.5	1	24.61	26.00	1.377	-0.15	0.430	0.592
	FR1 N26	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 2	state 12	166300	831.5	1	24.61	26.00	1.377	-	n/a	n/a
	FR1 N26	20M	BPSK	1	1	DFT-15	Top Side	10mm	Ant 2	state 12	166300	831.5	1	24.61	26.00	1.377	-	n/a	n/a
	FR1 N26	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 2	state 12	166300	831.5	1	24.58	26.00	1.387	-0.19	0.287	0.398
	FR1 N26	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 2	state 12	166300	831.5	1	24.58	26.00	1.387	0.05	0.198	0.275
	FR1 N26	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 2	state 12	166300	831.5	1	24.58	26.00	1.387	0.15	0.411	0.570
	FR1 N26	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 2	state 12	166300	831.5	1	24.58	26.00	1.387	-	n/a	n/a
	FR1 N26	20M	BPSK	50	28	DFT-15	Top Side	10mm	Ant 2	state 12	166300	831.5	1	24.58	26.00	1.387	-	n/a	n/a
<b>1750MHz</b>																			
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	state 12	1312	1712.4	1	21.82	22.50	1.169	-0.03	0.198	0.232
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	state 12	1312	1712.4	1	21.82	22.50	1.169	-0.01	0.238	0.278
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	state 12	1312	1712.4	1	21.82	22.50	1.169	0.09	0.226	0.264
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 1	state 12	1312	1712.4	1	21.82	22.50	1.169	-0.04	0.042	0.049
42	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	state 12	1312	1712.4	1	21.82	22.50	1.169	0.1	0.548	0.641
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 2	state 12	1312	1712.4	1	25.30	25.50	1.047	-0.19	0.178	0.186
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 2	state 12	1312	1712.4	1	25.30	25.50	1.047	-0.15	0.097	0.102
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	state 12	1312	1712.4	1	25.30	25.50	1.047	-0.19	0.319	0.334
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 2	state 12	1312	1712.4	1	25.30	25.50	1.047	-	n/a	n/a
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 2	state 12	1312	1712.4	1	25.30	25.50	1.047	0.02	0.068	0.071
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 1	state 12	132572	1770	1	21.97	23.00	1.268	0.16	0.247	0.313
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 1	state 12	132572	1770	1	21.97	23.00	1.268	0.05	0.290	0.368
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 1	state 12	132572	1770	1	21.97	23.00	1.268	0.08	0.201	0.255
	LTE Band 66	20M	QPSK	1	0	-	Right Side	10mm	Ant 1	state 12	132572	1770	1	21.97	23.00	1.268	0.02	0.079	0.100
43	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	state 12	132572	1770	1	21.97	23.00	1.268	0.15	0.627	0.795
	LTE Band 66C	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	state 12	132572+132374	1770+1750.2	1	21.95	23.00	1.274	-0.03	0.587	0.748
	LTE Band 66	20M	QPSK	50	24	-	Front	10mm	Ant 1	state 12	132572	1770	1	20.94	22.00	1.276	-0.19	0.179	0.228
	LTE Band 66	20M	QPSK	50	24	-	Back	10mm	Ant 1	state 12	132572	1770	1	20.94	22.00	1.276	0.19	0.227	0.290
	LTE Band 66	20M	QPSK	50	24	-	Left Side	10mm	Ant 1	state 12	132572	1770	1	20.94	22.00	1.276	-0.09	0.162	0.207
	LTE Band 66	20M	QPSK	50	24	-	Right Side	10mm	Ant 1	state 12	132572	1770	1	20.94	22.00	1.276	-0.04	0.064	0.082
	LTE Band 66	20M	QPSK	50	24	-	Bottom Side	10mm	Ant 1	state 12	132572	1770	1	20.94	22.00	1.276	-0.14	0.486	0.620
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 2	state 12	132572	1770	1	24.53	26.00	1.403	-0.08	0.153	0.215
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 2	state 12	132572	1770	1	24.53	26.00	1.403	-0.06	0.142	0.199
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	state 12	132572	1770	1	24.53	26.00	1.403	-0.15	0.267	0.375
	LTE Band 66	20M	QPSK	1	0	-	Right Side	10mm	Ant 2	state 12	132572	1770	1	24.53	26.00	1.403	-	n/a	n/a
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 2	state 12	132572	1770	1	24.53	26.00	1.403	-0.02	0.072	0.101
	LTE Band 66C	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	state 12	132572+132374	1770+1750.2	1	24.51	26.00	1.409	0.17	0.242	0.341
	LTE Band 66	20M	QPSK	50	24	-	Front	10mm	Ant 2	state 12	132572	1770	1	23.58	25.00	1.387	0.08	0.119	0.165
	LTE Band 66	20M	QPSK	50	24	-	Back	10mm	Ant 2	state 12	132572	1770	1	23.58	25.00	1.387	-0.06	0.112	0.155
	LTE Band 66	20M	QPSK	50	24	-	Left Side	10mm	Ant 2	state 12	132572	1770	1	23.58	25.00	1.387	0.16	0.196	0.272
	LTE Band 66	20M	QPSK	50	24	-	Right Side	10mm	Ant 2	state 12	132572	1770	1	23.58	25.00	1.387	-	n/a	n/a
	LTE Band 66	20M	QPSK	50	24	-	Top Side	10mm	Ant 2	state 12	132572	1770	1	23.58	25.00	1.387	-0.08	0.058	0.080
	FR1 N66	40M	BPSK	1	1	DFT-15	Front	10mm	Ant 1	state 12	349000	1745	1	21.73	23.00	1.340	-0.06	0.195	0.261
	FR1 N66	40M	BPSK	1	1	DFT-15	Back	10mm	Ant 1	state 12	349000	1745	1	21.73	23.00	1.340	0.03	0.209	0.280
	FR1 N66	40M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 1	state 12	349000	1745	1	21.73	23.00	1.340	-0.12	0.187	0.251



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Table with 19 columns: FR1 N66, 40M, BPSK, 1, 1, DFT-15, Right Side, 10mm, Ant 1, state 12, 349000, 1745, 1, 21.73, 23.00, 1.340, -0.12, 0.079, 0.106, etc.

Table with 20 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Sample, 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).



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Table with columns for LTE Band, Modulation, Power, Frequency, etc. Includes rows for 2300MHz and 2600MHz bands. Specific rows are highlighted in yellow (e.g., 0.795, 0.811, 0.761).

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Form version. : 200414



FCC SAR Test Report

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Table with columns: LTE Band, Modulation, Power, Frequency, Direction, Distance, Antenna, State, E1, E2, E3, E4, E5, E6, E7, E8, E9, E10, E11. Row 51 is highlighted in yellow.

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FCC SAR Test Report

Report No. : FA230112

Table with columns for Test ID, Frequency, Modulation, Power, Duty Cycle, Modulation, Position, Distance, Antenna, State, Power Spectral Density, Power, Time, SAR values, and SAR values. Includes rows for FR1 N7, FR1 N38, and FR1 N41 (HPUE).





FCC SAR Test Report

Report No. : FA230112

Table with 22 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Sample, 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). Rows include FR1 N41 (HPUE) tests at various positions (Back, Left Side, Right Side, Bottom Side).

Main test results table with 22 columns: Plot No., Band, BW (MHz), Modulation, RB Size, RB offset, Mode, Test Position, Gap (mm), Antenna, Power State, Ch., Freq. (MHz), Sample, 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). Section header: 3000MHz-4000MHz. Rows include LTE Band 48 tests at various positions and frequencies.

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**FCC SAR Test Report**

**Report No. : FA230112**

	LTE Band 48	20M	QPSK	1	49	-	Back	10mm	Ant 10	state 12	55830	3609	1	24.95	26.00	1.274	62.9	1.006	-0.14	0.469	0.601
	LTE Band 48	20M	QPSK	1	49	-	Back	10mm	Ant 10	state 12	56150	3641	1	24.90	26.00	1.288	62.9	1.006	0.07	0.422	0.547
	LTE Band 48	20M	QPSK	50	24	-	Front	10mm	Ant 10	state 12	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	24	-	Back	10mm	Ant 10	state 12	56640	3690	1	23.84	25.00	1.306	62.9	1.006	0.09	0.382	0.502
	LTE Band 48	20M	QPSK	50	24	-	Left Side	10mm	Ant 10	state 12	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-	n/a	n/a
	LTE Band 48	20M	QPSK	50	24	-	Right Side	10mm	Ant 10	state 12	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-0.03	0.057	0.075
	LTE Band 48	20M	QPSK	50	24	-	Bottom Side	10mm	Ant 10	state 12	56640	3690	1	23.84	25.00	1.306	62.9	1.006	0.11	0.038	0.050
	LTE Band 48	20M	QPSK	100	0	-	Back	10mm	Ant 10	state 12	56640	3690	1	23.79	25.00	1.321	62.9	1.006	0.05	0.377	0.501
	FR1 N48	40M	BPSK	1	1	DFT-30	Front	10mm	Ant 7	state 12	638000	3570	1	24.56	26.00	1.393	-	-	-0.08	0.225	0.313
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 7	state 12	638000	3570	1	24.56	26.00	1.393	-	-	0.08	0.448	0.624
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 7	state 12	638000	3570	1	24.56	26.00	1.393	-	-	0.16	0.169	0.235
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 7	state 12	638000	3570	1	24.56	26.00	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Top Side	10mm	Ant 7	state 12	638000	3570	1	24.56	26.00	1.393	-	-	0.14	0.384	0.535
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 7	state 12	6416663624.99	3624.99	1	24.45	26.00	1.429	-	-	0.06	0.417	0.596
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 7	state 12	6453323679.98	3679.98	1	24.40	26.00	1.445	-	-	0.11	0.405	0.585
	FR1 N48	40M	BPSK	50	28	DFT-30	Front	10mm	Ant 7	state 12	638000	3570	1	24.48	26.00	1.419	-	-	-0.04	0.223	0.316
	FR1 N48	40M	BPSK	50	28	DFT-30	Back	10mm	Ant 7	state 12	638000	3570	1	24.48	26.00	1.419	-	-	-0.07	0.476	0.675
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Side	10mm	Ant 7	state 12	638000	3570	1	24.48	26.00	1.419	-	-	0.17	0.171	0.243
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Side	10mm	Ant 7	state 12	638000	3570	1	24.48	26.00	1.419	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Top Side	10mm	Ant 7	state 12	638000	3570	1	24.48	26.00	1.419	-	-	-0.1	0.390	0.553
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 7	state 12	6416663624.99	3624.99	1	24.35	26.00	1.462	-	-	0.09	0.408	0.597
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 7	state 12	6453323679.98	3679.98	1	24.37	26.00	1.455	-	-	0.04	0.392	0.571
	FR1 N48	40M	BPSK	100	0	DFT-30	Back	10mm	Ant 7	state 12	638000	3570	1	24.45	25.50	1.274	-	-	0.09	0.260	0.331
	FR1 N48	40M	BPSK	1	1	DFT-30	Front	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.52	23.00	1.406	-	-	-0.1	0.328	0.461
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.52	23.00	1.406	-	-	-0.19	0.248	0.349
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.52	23.00	1.406	-	-	0.1	0.545	0.766
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.52	23.00	1.406	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.52	23.00	1.406	-	-	-0.19	0.065	0.091
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 8	state 12	638000	3570	1	21.47	23.00	1.422	-	-	0.04	0.389	0.553
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 8	state 12	6416663624.99	3624.99	1	21.38	23.00	1.452	-	-	-0.19	0.495	0.719
	FR1 N48	40M	BPSK	50	28	DFT-30	Front	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.50	23.00	1.413	-	-	0.16	0.337	0.476
	FR1 N48	40M	BPSK	50	28	DFT-30	Back	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.50	23.00	1.413	-	-	0.06	0.257	0.363
56	FR1 N48	40M	BPSK	50	28	DFT-30	Left Side	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.50	23.00	1.413	-	-	0.15	0.567	0.801
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Side	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.50	23.00	1.413	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Bottom Side	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.50	23.00	1.413	-	-	-0.07	0.069	0.097
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Side	10mm	Ant 8	state 12	638000	3570	1	21.45	23.00	1.429	-	-	-0.15	0.404	0.577
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Side	10mm	Ant 8	state 12	6416663624.99	3624.99	1	21.35	23.00	1.462	-	-	-0.04	0.503	0.735
	FR1 N48	40M	BPSK	100	0	DFT-30	Left Side	10mm	Ant 8	state 12	6453323679.98	3679.98	1	21.49	23.00	1.416	-	-	0.07	0.551	0.780
	FR1 N48	40M	BPSK	1	1	DFT-30	Front	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.08	18.50	1.387	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.08	18.50	1.387	-	-	-0.1	0.447	0.620
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.08	18.50	1.387	-	-	0.03	0.050	0.069
	FR1 N48	40M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.08	18.50	1.387	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.08	18.50	1.387	-	-	-0.05	0.101	0.140
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 9	state 12	638000	3570	1	17.06	18.50	1.393	-	-	0.14	0.266	0.371
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 9	state 12	6416663624.99	3624.99	1	17.01	18.50	1.409	-	-	0.03	0.330	0.465
	FR1 N48	40M	BPSK	50	28	DFT-30	Front	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.06	18.50	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Back	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.06	18.50	1.393	-	-	-0.19	0.473	0.659
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Side	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.06	18.50	1.393	-	-	-0.08	0.053	0.074
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Side	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.06	18.50	1.393	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Bottom Side	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.06	18.50	1.393	-	-	0.07	0.102	0.142
	FR1 N48	40M	BPSK	50	28	DFT-30	Back	10mm	Ant 9	state 12	638000	3570	1	17.03	18.50	1.403	-	-	-0.1	0.286	0.401
	FR1 N48	40M	BPSK	50	28	DFT-30	Back	10mm	Ant 9	state 12	6416663624.99	3624.99	1	16.98	18.50	1.419	-	-	0.19	0.344	0.488
	FR1 N48	40M	BPSK	100	0	DFT-30	Back	10mm	Ant 9	state 12	6453323679.98	3679.98	1	17.05	18.50	1.396	-	-	0.17	0.455	0.635
	FR1 N48	40M	BPSK	1	1	DFT-30	Front	10mm	Ant 10	state 12	638000	3570	1	22.64	24.00	1.368	-	-	-0.08	0.109	0.149
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 10	state 12	638000	3570	1	22.64	24.00	1.368	-	-	-0.03	0.448	0.613
	FR1 N48	40M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 10	state 12	638000	3570	1	22.64	24.00	1.368	-	-	-	n/a	n/a



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	FR1 N48	40M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 10	state 12	638000	3570	1	22.64	24.00	1.368	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 10	state 12	638000	3570	1	22.64	24.00	1.368	-	-	-0.11	0.105	0.144
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 10	state 12	6416663	3624.99	1	22.54	24.00	1.400	-	-	-0.14	0.460	0.644
	FR1 N48	40M	BPSK	1	1	DFT-30	Back	10mm	Ant 10	state 12	6453323	3679.98	1	22.58	24.00	1.387	-	-	0.18	0.441	0.612
	FR1 N48	40M	BPSK	50	28	DFT-30	Front	10mm	Ant 10	state 12	638000	3570	1	22.62	24.00	1.374	-	-	-0.06	0.106	0.146
	FR1 N48	40M	BPSK	50	28	DFT-30	Back	10mm	Ant 10	state 12	638000	3570	1	22.62	24.00	1.374	-	-	0.12	0.437	0.600
	FR1 N48	40M	BPSK	50	28	DFT-30	Left Side	10mm	Ant 10	state 12	638000	3570	1	22.62	24.00	1.374	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Right Side	10mm	Ant 10	state 12	638000	3570	1	22.62	24.00	1.374	-	-	-	n/a	n/a
	FR1 N48	40M	BPSK	50	28	DFT-30	Bottom Side	10mm	Ant 10	state 12	638000	3570	1	22.62	24.00	1.374	-	-	0.11	0.103	0.142
	FR1 N48	40M	BPSK	50	28	DFT-30	Back	10mm	Ant 10	state 12	6416663	3624.99	1	22.53	24.00	1.403	-	-	0.11	0.456	0.640
	FR1 N48	40M	BPSK	50	28	DFT-30	Back	10mm	Ant 10	state 12	6453323	3679.98	1	22.55	24.00	1.396	-	-	0.19	0.434	0.606
	FR1 N48	40M	BPSK	100	0	DFT-30	Back	10mm	Ant 10	state 12	638000	3570	1	22.60	24.00	1.380	-	-	0.18	0.433	0.598
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Front	10mm	Ant 7	state 12	656000	3840	1	25.89	27.00	1.291	-	-	-0.03	0.230	0.297
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Back	10mm	Ant 7	state 12	656000	3840	1	25.89	27.00	1.291	-	-	0.09	0.545	0.704
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 7	state 12	656000	3840	1	25.89	27.00	1.291	-	-	0.08	0.230	0.297
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 7	state 12	656000	3840	1	25.89	27.00	1.291	-	-	-0.03	0.066	0.085
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Top Side	10mm	Ant 7	state 12	656000	3840	1	25.89	27.00	1.291	-	-	-0.03	0.350	0.452
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 7	state 12	656000	3840	1	25.86	27.00	1.300	-	-	0.18	0.224	0.291
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 7	state 12	656000	3840	1	25.86	27.00	1.300	-	-	0.09	0.538	0.699
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 7	state 12	656000	3840	1	25.86	27.00	1.300	-	-	-0.16	0.220	0.286
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 7	state 12	656000	3840	1	25.86	27.00	1.300	-	-	-0.19	0.063	0.082
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Top Side	10mm	Ant 7	state 12	656000	3840	1	25.86	27.00	1.300	-	-	-0.15	0.341	0.443
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Back	10mm	Ant 7	state 12	656000	3840	1	25.84	27.00	1.306	-	-	-0.08	0.533	0.696
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Top Side	10mm	Ant 7	state 12	656000	3840	1	25.84	27.00	1.306	-	-	0.01	0.344	0.449
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Front	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-	-	-0.17	0.297	0.379
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Back	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-	-	-0.12	0.197	0.251
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-	-	-0.15	0.541	0.691
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-	-	-0.04	0.102	0.130
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-	-	-0.1	0.308	0.395
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-	-	0.11	0.205	0.263
57	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-	-	-0.05	0.591	0.758
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Bottom Side	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-	-	-0.06	0.109	0.140
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Left Side	10mm	Ant 8	state 12	656000	3840	1	20.41	21.50	1.285	-	-	0.04	0.482	0.620
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Front	10mm	Ant 9	state 12	656000	3840	1	13.33	14.50	1.309	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Back	10mm	Ant 9	state 12	656000	3840	1	13.33	14.50	1.309	-	-	-0.18	0.516	0.676
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 9	state 12	656000	3840	1	13.33	14.50	1.309	-	-	0.01	0.069	0.090
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 9	state 12	656000	3840	1	13.33	14.50	1.309	-	-	0.13	0.075	0.098
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 9	state 12	656000	3840	1	13.33	14.50	1.309	-	-	0.06	0.113	0.148
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 9	state 12	656000	3840	1	13.32	14.50	1.312	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 9	state 12	656000	3840	1	13.32	14.50	1.312	-	-	-0.11	0.529	0.694
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 9	state 12	656000	3840	1	13.32	14.50	1.312	-	-	0.17	0.073	0.096
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 9	state 12	656000	3840	1	13.32	14.50	1.312	-	-	-0.08	0.079	0.104
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Bottom Side	10mm	Ant 9	state 12	656000	3840	1	13.32	14.50	1.312	-	-	-0.02	0.118	0.155
	FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Back	10mm	Ant 9	state 12	656000	3840	1	13.31	14.50	1.315	-	-	0.11	0.514	0.676
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Front	10mm	Ant 10	state 12	656000	3840	1	22.92	24.00	1.282	-	-	0.09	0.109	0.140
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Back	10mm	Ant 10	state 12	656000	3840	1	22.92	24.00	1.282	-	-	-0.15	0.548	0.703
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 10	state 12	656000	3840	1	22.92	24.00	1.282	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 10	state 12	656000	3840	1	22.92	24.00	1.282	-	-	-0.04	0.142	0.182
	FR1 N77(HPUE)	100M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 10	state 12	656000	3840	1	22.92	24.00	1.282	-	-	0.1	0.119	0.153
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 10	state 12	656000	3840	1	22.90	24.00	1.288	-	-	-0.08	0.101	0.130
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 10	state 12	656000	3840	1	22.90	24.00	1.288	-	-	0.05	0.525	0.676
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 10	state 12	656000	3840	1	22.90	24.00	1.288	-	-	-	n/a	n/a
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 10	state 12	656000	3840	1	22.90	24.00	1.288	-	-	0.03	0.149	0.192
	FR1 N77(HPUE)	100M	BPSK	135	69	DFT-30	Bottom Side	10mm	Ant 10	state 12	656000	3840	1	22.90	24.00	1.288	-	-	-0.03	0.128	0.165



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FR1 N77(HPUE)	100M	BPSK	270	0	DFT-30	Back	10mm	Ant 10	state 12	656000	3840	1	22.89	24.00	1.291	-	-	-0.02	0.533	0.688
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Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)	
<b>2450MHz</b>																		
Normal																		
	Bluetooth	DH5 1Mbps	Front	10mm	Ant 4	Full Power	78	2480	1	14.54	16.54	1.585	76.84	1.301	-0.07	0.037	0.076	
	Bluetooth	DH5 1Mbps	Back	10mm	Ant 4	Full Power	78	2480	1	14.54	16.54	1.585	76.84	1.301	0.04	0.035	0.072	
	Bluetooth	DH5 1Mbps	Right Side	10mm	Ant 4	Full Power	78	2480	1	14.54	16.54	1.585	76.84	1.301	-	n/a	n/a	
	Bluetooth	DH5 1Mbps	Top Side	10mm	Ant 4	Full Power	78	2480	1	14.54	16.54	1.585	76.84	1.301	-	n/a	n/a	
Normal & Camera																		
	Bluetooth	DH5 1Mbps	Front	10mm	Ant 5	Full Power	78	2480	1	17.23	19.23	1.585	76.84	1.301	0.11	0.085	0.174	
	Bluetooth	DH5 1Mbps	Back	10mm	Ant 5	Full Power	78	2480	1	17.23	19.23	1.585	76.84	1.301	0.01	0.053	0.109	
58	Bluetooth	DH5 1Mbps	Right Side	10mm	Ant 5	Full Power	78	2480	1	17.23	19.23	1.585	76.84	1.301	0.07	0.126	<b>0.260</b>	
Camera																		
	Bluetooth	DH5 1Mbps	Front	10mm	Ant 6	Full Power	39	2441	1	16.40	18.40	1.585	76.84	1.301	-	n/a	n/a	
	Bluetooth	DH5 1Mbps	Back	10mm	Ant 6	Full Power	39	2441	1	16.40	18.40	1.585	76.84	1.301	0.17	0.122	0.252	
	Bluetooth	DH5 1Mbps	Left Side	10mm	Ant 6	Full Power	39	2441	1	16.40	18.40	1.585	76.84	1.301	-0.19	0.043	0.089	
	Bluetooth	DH5 1Mbps	Top Side	10mm	Ant 6	Full Power	39	2441	1	16.40	18.40	1.585	76.84	1.301	-0.12	0.040	0.083	
Normal																		
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 4	Full Power	1	2412	1	21.50	23.50	1.585	98.1	1.019	0.11	0.268	0.433	
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4	Full Power	1	2412	1	21.50	23.50	1.585	98.1	1.019	-0.13	0.246	0.397	
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 4	Full Power	1	2412	1	21.50	23.50	1.585	98.1	1.019	0.02	0.153	0.247	
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 4	Full Power	1	2412	1	21.50	23.50	1.585	98.1	1.019	0.06	0.096	0.155	
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 5	Full Power	1	2412	1	20.30	22.30	1.585	98.1	1.019	0.04	0.221	0.357	
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 5	Full Power	1	2412	1	20.30	22.30	1.585	98.1	1.019	0.19	0.186	0.300	
59	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 5	Full Power	1	2412	1	20.30	22.30	1.585	98.1	1.019	0.08	0.338	<b>0.546</b>	
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 4+5	Hptspot on	1	2412	1	21.54	23.54	1.585	98.1	1.019	-0.11	0.140	0.226	
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 4+5	Hptspot on	1	2412	1	21.54	23.54	1.585	98.1	1.019	-0.01	0.175	0.283	
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 4+5	Hptspot on	1	2412	1	21.54	23.54	1.585	98.1	1.019	-0.17	0.327	0.528	
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 4+5	Hptspot on	1	2412	1	21.54	23.54	1.585	98.1	1.019	-0.16	0.043	0.069	
Camera																		
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 5	Full Power	1	2412	1	20.30	22.30	1.585	98.1	1.019	0.07	0.221	0.357	
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 5	Full Power	1	2412	1	20.30	22.30	1.585	98.1	1.019	-0.03	0.186	0.300	
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 5	Full Power	1	2412	1	20.30	22.30	1.585	98.1	1.019	0.05	0.338	0.546	
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 6	Hptspot on	6	2437	1	18.62	20.62	1.585	98.1	1.019	-	n/a	n/a	
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 6	Hptspot on	6	2437	1	18.62	20.62	1.585	98.1	1.019	0.04	0.267	0.431	
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 6	Hptspot on	6	2437	1	18.62	20.62	1.585	98.1	1.019	-0.12	0.061	0.099	
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 6	Hptspot on	6	2437	1	18.62	20.62	1.585	98.1	1.019	-0.19	0.051	0.082	
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 5+6	Hptspot on	6	2437	1	20.14	22.14	1.585	98.1	1.019	-0.1	0.040	0.065	
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 5+6	Hptspot on	6	2437	1	20.14	22.14	1.585	98.1	1.019	-0.07	0.195	0.315	
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 5+6	Hptspot on	6	2437	1	20.14	22.14	1.585	98.1	1.019	-0.03	0.064	0.103	
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 5+6	Hptspot on	6	2437	1	20.14	22.14	1.585	98.1	1.019	0.03	0.064	0.103	
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 5+6	Hptspot on	6	2437	1	20.14	22.14	1.585	98.1	1.019	0.11	0.048	0.078	
<b>5000MHz</b>																		
Normal																		
	WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 4	Full Power	36	5180	1	18.00	20.00	1.585	98.3	1.017	0.05	0.130	0.210	
	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 4	Full Power	36	5180	1	18.00	20.00	1.585	98.3	1.017	0.13	0.091	0.147	
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 4	Full Power	36	5180	1	18.00	20.00	1.585	98.3	1.017	-0.18	0.102	0.164	
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 4	Full Power	36	5180	1	18.00	20.00	1.585	98.3	1.017	0.02	0.081	0.131	
	WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 5	Full Power	36	5180	1	18.30	20.30	1.585	98.3	1.017	-0.08	0.181	0.292	
	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 5	Full Power	36	5180	1	18.30	20.30	1.585	98.3	1.017	-0.16	0.140	0.226	
60	WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 5	Full Power	36	5180	1	18.30	20.30	1.585	98.3	1.017	0.14	0.419	<b>0.675</b>	
	WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 4+5	Full Power	36	5180	1	21.16	23.16	1.585	98.3	1.017	-0.12	0.149	0.240	
	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 4+5	Full Power	36	5180	1	21.16	23.16	1.585	98.3	1.017	-0.03	0.141	0.227	

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WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 4+5	Full Power	36	5180	1	21.16	23.16	1.585	98.3	1.017	0.04	0.404	0.651	
WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 4+5	Full Power	36	5180	1	21.16	23.16	1.585	98.3	1.017	0.13	0.065	0.105	
Camera																	
WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 5	Full Power	44	5220	1	18.40	20.40	1.585	98.3	1.017	0.12	0.163	0.263	
WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 5	Full Power	44	5220	1	18.40	20.40	1.585	98.3	1.017	0.06	0.126	0.203	
WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 5	Full Power	44	5220	1	18.40	20.40	1.585	98.3	1.017	0.1	0.334	0.538	
WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 6	Hptspot on	48	5240	1	10.60	12.60	1.585	98.3	1.017	-	n/a	n/a	
WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 6	Hptspot on	48	5240	1	10.60	12.60	1.585	98.3	1.017	0.11	0.186	0.300	
WLAN5.2GHz	802.11a 6Mbps	Left Side	10mm	Ant 6	Hptspot on	48	5240	1	10.60	12.60	1.585	98.3	1.017	-	n/a	n/a	
WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 6	Hptspot on	48	5240	1	10.60	12.60	1.585	98.3	1.017	-	n/a	n/a	
WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 5+6	Hptspot on	44	5220	1	17.55	19.55	1.585	98.3	1.017	-	n/a	n/a	
WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 5+6	Hptspot on	44	5220	1	17.55	19.55	1.585	98.3	1.017	0.07	0.272	0.438	
WLAN5.2GHz	802.11a 6Mbps	Left Side	10mm	Ant 5+6	Hptspot on	44	5220	1	17.55	19.55	1.585	98.3	1.017	-0.03	0.000	0.000	
WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 5+6	Hptspot on	44	5220	1	17.55	19.55	1.585	98.3	1.017	-0.19	0.149	0.240	
WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 5+6	Hptspot on	44	5220	1	17.55	19.55	1.585	98.3	1.017	-	n/a	n/a	
Normal																	
WLAN5.8GHz	802.11ax-HE20 MCS0	Front	10mm	Ant 4	Hptspot on	149	5745	1	19.10	21.10	1.585	99.7	1.003	0.03	0.259	0.412	
WLAN5.8GHz	802.11ax-HE20 MCS0	Back	10mm	Ant 4	Hptspot on	149	5745	1	19.10	21.10	1.585	99.7	1.003	0.12	0.300	0.477	
WLAN5.8GHz	802.11ax-HE20 MCS0	Right Side	10mm	Ant 4	Hptspot on	149	5745	1	19.10	21.10	1.585	99.7	1.003	0.05	0.230	0.366	
WLAN5.8GHz	802.11ax-HE20 MCS0	Top Side	10mm	Ant 4	Hptspot on	149	5745	1	19.10	21.10	1.585	99.7	1.003	0.13	0.205	0.326	
WLAN5.8GHz	802.11ax-HE40 MCS0	Front	10mm	Ant 5	Hptspot on	151	5755	1	15.55	17.55	1.585	99.5	1.005	0.02	0.138	0.220	
WLAN5.8GHz	802.11ax-HE40 MCS0	Back	10mm	Ant 5	Hptspot on	151	5755	1	15.55	17.55	1.585	99.5	1.005	-0.06	0.127	0.202	
61	WLAN5.8GHz	802.11ax-HE40 MCS0	Right Side	10mm	Ant 5	Hptspot on	151	5755	1	15.55	17.55	1.585	99.5	1.005	0.14	0.398	<b>0.634</b>
WLAN5.8GHz	802.11ax-HE40 MCS0	Front	10mm	Ant 4+5	Hptspot on	151	5755	1	18.22	20.22	1.585	99.5	1.005	0.05	0.138	0.220	
WLAN5.8GHz	802.11ax-HE40 MCS0	Back	10mm	Ant 4+5	Hptspot on	151	5755	1	18.22	20.22	1.585	99.5	1.005	0.11	0.151	0.241	
WLAN5.8GHz	802.11ax-HE40 MCS0	Right Side	10mm	Ant 4+5	Hptspot on	151	5755	1	18.22	20.22	1.585	99.5	1.005	0.06	0.394	0.628	
WLAN5.8GHz	802.11ax-HE40 MCS0	Top Side	10mm	Ant 4+5	Hptspot on	151	5755	1	18.22	20.22	1.585	99.5	1.005	-0.11	0.105	0.167	
Camera																	
WLAN5.8GHz	802.11ax-HE40 MCS0	Front	10mm	Ant 5	Hptspot on	151	5755	1	15.55	17.55	1.585	99.5	1.005	0.02	0.138	0.220	
WLAN5.8GHz	802.11ax-HE40 MCS0	Back	10mm	Ant 5	Hptspot on	151	5755	1	15.55	17.55	1.585	99.5	1.005	-0.06	0.127	0.202	
WLAN5.8GHz	802.11ax-HE40 MCS0	Right Side	10mm	Ant 5	Hptspot on	151	5755	1	15.55	17.55	1.585	99.5	1.005	0.14	0.398	0.634	
WLAN5.8GHz	802.11ax-HE20 MCS0	Front	10mm	Ant 6	Hptspot on	149	5745	1	15.65	17.65	1.585	99.7	1.003	-	n/a	n/a	
WLAN5.8GHz	802.11ax-HE20 MCS0	Back	10mm	Ant 6	Hptspot on	149	5745	1	15.65	17.65	1.585	99.7	1.003	0.03	0.209	0.332	
WLAN5.8GHz	802.11ax-HE20 MCS0	Left Side	10mm	Ant 6	Hptspot on	149	5745	1	15.65	17.65	1.585	99.7	1.003	0.11	0.098	0.156	
WLAN5.8GHz	802.11ax-HE20 MCS0	Top Side	10mm	Ant 6	Hptspot on	149	5745	1	15.65	17.65	1.585	99.7	1.003	-	n/a	n/a	
WLAN5.8GHz	802.11ax-HE40 MCS0	Front	10mm	Ant 5+6	Hptspot on	151	5755	1	17.55	19.55	1.585	99.5	1.005	0.02	0.144	0.229	
WLAN5.8GHz	802.11ax-HE40 MCS0	Back	10mm	Ant 5+6	Hptspot on	151	5755	1	17.55	19.55	1.585	99.5	1.005	-	n/a	n/a	
WLAN5.8GHz	802.11ax-HE40 MCS0	Left Side	10mm	Ant 5+6	Hptspot on	151	5755	1	17.55	19.55	1.585	99.5	1.005	-	n/a	n/a	
WLAN5.8GHz	802.11ax-HE40 MCS0	Right Side	10mm	Ant 5+6	Hptspot on	151	5755	1	17.55	19.55	1.585	99.5	1.005	0.14	0.388	0.618	
WLAN5.8GHz	802.11ax-HE40 MCS0	Top Side	10mm	Ant 5+6	Hptspot on	151	5755	1	17.55	19.55	1.585	99.5	1.005	-	n/a	n/a	

## <Inter CA SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																		
	LTE Band 12	10M	QPSK	1	49	Front	10mm	Ant 0	state 12	23095	707.5	1	21.57	23.00	1.390	-0.04	0.163	0.227
	LTE Band 12	10M	QPSK	1	49	Back	10mm	Ant 0	state 12	23095	707.5	1	21.57	23.00	1.390	-0.17	0.219	0.304
	LTE Band 12	10M	QPSK	1	49	Left Side	10mm	Ant 0	state 12	23095	707.5	1	21.57	23.00	1.390	-0.1	0.038	0.053
	LTE Band 12	10M	QPSK	1	49	Right Side	10mm	Ant 0	state 12	23095	707.5	1	21.57	23.00	1.390	0.07	0.100	0.139
	LTE Band 12	10M	QPSK	1	49	Bottom Side	10mm	Ant 0	state 12	23095	707.5	1	21.57	23.00	1.390	0.13	0.108	0.150
	LTE Band 12	10M	QPSK	25	12	Front	10mm	Ant 0	state 12	23095	707.5	1	21.55	23.00	1.396	-0.16	0.164	0.229
	LTE Band 12	10M	QPSK	25	12	Back	10mm	Ant 0	state 12	23095	707.5	1	21.55	23.00	1.396	-0.13	0.221	0.309
	LTE Band 12	10M	QPSK	25	12	Left Side	10mm	Ant 0	state 12	23095	707.5	1	21.55	23.00	1.396	0.14	0.040	0.056
	LTE Band 12	10M	QPSK	25	12	Right Side	10mm	Ant 0	state 12	23095	707.5	1	21.55	23.00	1.396	0.19	0.102	0.142
	LTE Band 12	10M	QPSK	25	12	Bottom Side	10mm	Ant 0	state 12	23095	707.5	1	21.55	23.00	1.396	0.18	0.109	0.152
	LTE Band 12	10M	QPSK	1	49	Front	10mm	Ant 2	state 12	23095	707.5	1	21.57	23.00	1.390	0.14	0.179	0.249

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FCC ID : MSQAI2201

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FCC SAR Test Report

Report No. : FA230112

Table with columns for LTE Band, Modulation, Power, Repetition, Frequency, Position, Antenna, State, Frequency, Power, SAR, and other parameters. Includes sections for 835MHz and 1750MHz.

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# FCC SAR Test Report

Report No. : FA230112

LTE Band 66	20M	QPSK	50	24	Front	10mm	Ant 1	state 12	132572	1770	1	21.37	23.00	1.455	-0.17	0.189	0.275
LTE Band 66	20M	QPSK	50	24	Back	10mm	Ant 1	state 12	132572	1770	1	21.37	23.00	1.455	0.13	0.215	0.313
LTE Band 66	20M	QPSK	50	24	Left Side	10mm	Ant 1	state 12	132572	1770	1	21.37	23.00	1.455	-0.17	0.150	0.218
LTE Band 66	20M	QPSK	50	24	Right Side	10mm	Ant 1	state 12	132572	1770	1	21.37	23.00	1.455	-0.08	0.069	0.100
LTE Band 66	20M	QPSK	50	24	Bottom Side	10mm	Ant 1	state 12	132572	1770	1	21.37	23.00	1.455	-0.16	0.483	0.703
LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 2	state 12	132572	1770	1	21.39	23.00	1.449	-0.08	0.075	0.109
LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 2	state 12	132572	1770	1	21.39	23.00	1.449	-0.02	0.066	0.096
LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 2	state 12	132572	1770	1	21.39	23.00	1.449	-0.1	0.131	0.190
LTE Band 66	20M	QPSK	1	0	Right Side	10mm	Ant 2	state 12	132572	1770	1	21.39	23.00	1.449	-0.08	0.000	0.000
LTE Band 66	20M	QPSK	1	0	Top Side	10mm	Ant 2	state 12	132572	1770	1	21.39	23.00	1.449	-0.17	0.035	0.051
LTE Band 66	20M	QPSK	50	24	Front	10mm	Ant 2	state 12	132572	1770	1	21.37	23.00	1.455	-0.09	0.072	0.105
LTE Band 66	20M	QPSK	50	24	Back	10mm	Ant 2	state 12	132572	1770	1	21.37	23.00	1.455	0.07	0.068	0.099
LTE Band 66	20M	QPSK	50	24	Left Side	10mm	Ant 2	state 12	132572	1770	1	21.37	23.00	1.455	-0.18	0.129	0.188
LTE Band 66	20M	QPSK	50	24	Right Side	10mm	Ant 2	state 12	132572	1770	1	21.37	23.00	1.455	0.03	0.000	0.000
LTE Band 66	20M	QPSK	50	24	Top Side	10mm	Ant 2	state 12	132572	1770	1	21.37	23.00	1.455	0.19	0.033	0.048
LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 11	state 12	132572	1770	1	20.45	21.50	1.274	-0.1	0.078	0.099
LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 11	state 12	132572	1770	1	20.45	21.50	1.274	-0.04	0.105	0.134
LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 11	state 12	132572	1770	1	20.45	21.50	1.274	-	n/a	n/a
LTE Band 66	20M	QPSK	1	0	Right Side	10mm	Ant 11	state 12	132572	1770	1	20.45	21.50	1.274	-	n/a	n/a
LTE Band 66	20M	QPSK	1	0	Top Side	10mm	Ant 11	state 12	132572	1770	1	20.45	21.50	1.274	0.14	0.231	0.294
LTE Band 66	20M	QPSK	50	24	Front	10mm	Ant 11	state 12	132572	1770	1	20.43	21.50	1.279	0.04	0.081	0.104
LTE Band 66	20M	QPSK	50	24	Back	10mm	Ant 11	state 12	132572	1770	1	20.43	21.50	1.279	-0.02	0.103	0.132
LTE Band 66	20M	QPSK	50	24	Left Side	10mm	Ant 11	state 12	132572	1770	1	20.43	21.50	1.279	-	n/a	n/a
LTE Band 66	20M	QPSK	50	24	Right Side	10mm	Ant 11	state 12	132572	1770	1	20.43	21.50	1.279	-	n/a	n/a
LTE Band 66	20M	QPSK	50	24	Top Side	10mm	Ant 11	state 12	132572	1770	1	20.43	21.50	1.279	-0.03	0.229	0.293
<b>1900MHz</b>																	
LTE Band 2	20M	QPSK	1	49	Front	10mm	Ant 1	state 12	18900	1880	1	20.56	22.00	1.393	0.08	0.180	0.251
LTE Band 2	20M	QPSK	1	49	Back	10mm	Ant 1	state 12	18900	1880	1	20.56	22.00	1.393	0.06	0.218	0.304
LTE Band 2	20M	QPSK	1	49	Left Side	10mm	Ant 1	state 12	18900	1880	1	20.56	22.00	1.393	0.18	0.152	0.212
LTE Band 2	20M	QPSK	1	49	Right Side	10mm	Ant 1	state 12	18900	1880	1	20.56	22.00	1.393	-0.14	0.050	0.070
LTE Band 2	20M	QPSK	1	49	Bottom Side	10mm	Ant 1	state 12	18900	1880	1	20.56	22.00	1.393	-0.14	0.469	0.653
LTE Band 2	20M	QPSK	50	24	Front	10mm	Ant 1	state 12	18900	1880	1	20.54	22.00	1.400	0.1	0.182	0.255
LTE Band 2	20M	QPSK	50	24	Back	10mm	Ant 1	state 12	18900	1880	1	20.54	22.00	1.400	0.1	0.221	0.309
LTE Band 2	20M	QPSK	50	24	Left Side	10mm	Ant 1	state 12	18900	1880	1	20.54	22.00	1.400	-0.02	0.155	0.217
LTE Band 2	20M	QPSK	50	24	Right Side	10mm	Ant 1	state 12	18900	1880	1	20.54	22.00	1.400	0.01	0.052	0.073
LTE Band 2	20M	QPSK	50	24	Bottom Side	10mm	Ant 1	state 12	18900	1880	1	20.54	22.00	1.400	-0.16	0.466	0.652
LTE Band 2	20M	QPSK	1	49	Front	10mm	Ant 2	state 12	18900	1880	1	21.49	23.00	1.416	0.04	0.085	0.120
LTE Band 2	20M	QPSK	1	49	Back	10mm	Ant 2	state 12	18900	1880	1	21.49	23.00	1.416	-0.06	0.093	0.132
LTE Band 2	20M	QPSK	1	49	Left Side	10mm	Ant 2	state 12	18900	1880	1	21.49	23.00	1.416	-0.04	0.125	0.177
LTE Band 2	20M	QPSK	1	49	Right Side	10mm	Ant 2	state 12	18900	1880	1	21.49	23.00	1.416	-	n/a	n/a
LTE Band 2	20M	QPSK	1	49	Top Side	10mm	Ant 2	state 12	18900	1880	1	21.49	23.00	1.416	-	n/a	n/a
LTE Band 2	20M	QPSK	50	24	Front	10mm	Ant 2	state 12	18900	1880	1	21.45	23.00	1.429	-0.17	0.088	0.126
LTE Band 2	20M	QPSK	50	24	Back	10mm	Ant 2	state 12	18900	1880	1	21.45	23.00	1.429	0.18	0.092	0.131
LTE Band 2	20M	QPSK	50	24	Left Side	10mm	Ant 2	state 12	18900	1880	1	21.45	23.00	1.429	-0.04	0.124	0.177
LTE Band 2	20M	QPSK	50	24	Right Side	10mm	Ant 2	state 12	18900	1880	1	21.45	23.00	1.429	-	n/a	n/a
LTE Band 2	20M	QPSK	50	24	Top Side	10mm	Ant 2	state 12	18900	1880	1	21.45	23.00	1.429	-	n/a	n/a
LTE Band 2	20M	QPSK	1	49	Front	10mm	Ant 11	state 12	18900	1880	1	20.35	21.50	1.303	0.15	0.152	0.198
LTE Band 2	20M	QPSK	1	49	Back	10mm	Ant 11	state 12	18900	1880	1	20.35	21.50	1.303	0.1	0.177	0.231
LTE Band 2	20M	QPSK	1	49	Left Side	10mm	Ant 11	state 12	18900	1880	1	20.35	21.50	1.303	-	n/a	n/a
LTE Band 2	20M	QPSK	1	49	Right Side	10mm	Ant 11	state 12	18900	1880	1	20.35	21.50	1.303	-	n/a	n/a
LTE Band 2	20M	QPSK	1	49	Top Side	10mm	Ant 11	state 12	18900	1880	1	20.35	21.50	1.303	-0.09	0.294	0.383
LTE Band 2	20M	QPSK	50	24	Front	10mm	Ant 11	state 12	18900	1880	1	20.33	21.50	1.309	-0.03	0.153	0.200
LTE Band 2	20M	QPSK	50	24	Back	10mm	Ant 11	state 12	18900	1880	1	20.33	21.50	1.309	0.1	0.171	0.224
LTE Band 2	20M	QPSK	50	24	Left Side	10mm	Ant 11	state 12	18900	1880	1	20.33	21.50	1.309	-	n/a	n/a
LTE Band 2	20M	QPSK	50	24	Right Side	10mm	Ant 11	state 12	18900	1880	1	20.33	21.50	1.309	-	n/a	n/a
LTE Band 2	20M	QPSK	50	24	Top Side	10mm	Ant 11	state 12	18900	1880	1	20.33	21.50	1.309	-0.18	0.298	0.390

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2300MHz																	
LTE Band 30	10M	QPSK	1	49	Front	10mm	Ant 1	state 12	27710	2310	1	22.41	23.00	1.146	-0.11	0.176	0.202
LTE Band 30	10M	QPSK	1	49	Back	10mm	Ant 1	state 12	27710	2310	1	22.41	23.00	1.146	-0.09	0.227	0.260
LTE Band 30	10M	QPSK	1	49	Left Side	10mm	Ant 1	state 12	27710	2310	1	22.41	23.00	1.146	-0.02	0.192	0.220
LTE Band 30	10M	QPSK	1	49	Right Side	10mm	Ant 1	state 12	27710	2310	1	22.41	23.00	1.146	-0.12	0.040	0.046
LTE Band 30	10M	QPSK	1	49	Bottom Side	10mm	Ant 1	state 12	27710	2310	1	22.41	23.00	1.146	0.19	0.417	0.478
LTE Band 30	10M	QPSK	25	25	Front	10mm	Ant 1	state 12	27710	2310	1	22.07	23.00	1.239	0.15	0.172	0.213
LTE Band 30	10M	QPSK	25	25	Back	10mm	Ant 1	state 12	27710	2310	1	22.07	23.00	1.239	-0.07	0.223	0.276
LTE Band 30	10M	QPSK	25	25	Left Side	10mm	Ant 1	state 12	27710	2310	1	22.07	23.00	1.239	0.04	0.193	0.239
LTE Band 30	10M	QPSK	25	25	Right Side	10mm	Ant 1	state 12	27710	2310	1	22.07	23.00	1.239	0.11	0.042	0.052
LTE Band 30	10M	QPSK	25	25	Bottom Side	10mm	Ant 1	state 12	27710	2310	1	22.07	23.00	1.239	0.19	0.424	0.525
LTE Band 30	10M	QPSK	1	49	Front	10mm	Ant 2	state 12	27710	2310	1	22.41	23.00	1.146	-0.16	0.192	0.220
LTE Band 30	10M	QPSK	1	49	Back	10mm	Ant 2	state 12	27710	2310	1	22.41	23.00	1.146	0.1	0.249	0.285
LTE Band 30	10M	QPSK	1	49	Left Side	10mm	Ant 2	state 12	27710	2310	1	22.41	23.00	1.146	-0.08	0.414	0.474
LTE Band 30	10M	QPSK	1	49	Right Side	10mm	Ant 2	state 12	27710	2310	1	22.41	23.00	1.146	-	n/a	n/a
LTE Band 30	10M	QPSK	1	49	Top Side	10mm	Ant 2	state 12	27710	2310	1	22.41	23.00	1.146	0.07	0.032	0.037
LTE Band 30	10M	QPSK	25	25	Front	10mm	Ant 2	state 12	27710	2310	1	22.07	23.00	1.239	-0.14	0.190	0.235
LTE Band 30	10M	QPSK	25	25	Back	10mm	Ant 2	state 12	27710	2310	1	22.07	23.00	1.239	-0.13	0.232	0.287
LTE Band 30	10M	QPSK	25	25	Left Side	10mm	Ant 2	state 12	27710	2310	1	22.07	23.00	1.239	0.19	0.411	0.509
LTE Band 30	10M	QPSK	25	25	Right Side	10mm	Ant 2	state 12	27710	2310	1	22.07	23.00	1.239	-	n/a	n/a
LTE Band 30	10M	QPSK	25	25	Top Side	10mm	Ant 2	state 12	27710	2310	1	22.07	23.00	1.239	0.13	0.030	0.037
2600MHz																	
LTE Band 7	20M	QPSK	1	99	Front	10mm	Ant 1	state 12	20850	2510	1	20.42	22.00	1.439	0.12	0.170	0.245
LTE Band 7	20M	QPSK	1	99	Back	10mm	Ant 1	state 12	20850	2510	1	20.42	22.00	1.439	-0.16	0.219	0.315
LTE Band 7	20M	QPSK	1	99	Left Side	10mm	Ant 1	state 12	20850	2510	1	20.42	22.00	1.439	0.04	0.125	0.180
LTE Band 7	20M	QPSK	1	99	Right Side	10mm	Ant 1	state 12	20850	2510	1	20.42	22.00	1.439	-	n/a	n/a
LTE Band 7	20M	QPSK	1	99	Bottom Side	10mm	Ant 1	state 12	20850	2510	1	20.42	22.00	1.439	0.04	0.528	0.760
LTE Band 7	20M	QPSK	50	24	Front	10mm	Ant 1	state 12	20850	2510	1	20.40	22.00	1.445	-0.12	0.171	0.247
LTE Band 7	20M	QPSK	50	24	Back	10mm	Ant 1	state 12	20850	2510	1	20.40	22.00	1.445	0.04	0.223	0.322
LTE Band 7	20M	QPSK	50	24	Left Side	10mm	Ant 1	state 12	20850	2510	1	20.40	22.00	1.445	0.09	0.129	0.186
LTE Band 7	20M	QPSK	50	24	Right Side	10mm	Ant 1	state 12	20850	2510	1	20.40	22.00	1.445	-	n/a	n/a
LTE Band 7	20M	QPSK	50	24	Bottom Side	10mm	Ant 1	state 12	20850	2510	1	20.40	22.00	1.445	-0.11	0.525	0.759
LTE Band 7	20M	QPSK	1	99	Front	10mm	Ant 2	state 12	20850	2510	1	19.98	21.50	1.419	-0.08	0.159	0.226
LTE Band 7	20M	QPSK	1	99	Back	10mm	Ant 2	state 12	20850	2510	1	19.98	21.50	1.419	-0.18	0.242	0.343
LTE Band 7	20M	QPSK	1	99	Left Side	10mm	Ant 2	state 12	20850	2510	1	19.98	21.50	1.419	0.16	0.398	0.565
LTE Band 7	20M	QPSK	1	99	Right Side	10mm	Ant 2	state 12	20850	2510	1	19.98	21.50	1.419	-	n/a	n/a
LTE Band 7	20M	QPSK	1	99	Top Side	10mm	Ant 2	state 12	20850	2510	1	19.98	21.50	1.419	-0.19	0.040	0.057
LTE Band 7	20M	QPSK	50	24	Front	10mm	Ant 2	state 12	20850	2510	1	19.96	21.50	1.426	-0.12	0.155	0.221
LTE Band 7	20M	QPSK	50	24	Back	10mm	Ant 2	state 12	20850	2510	1	19.96	21.50	1.426	0.05	0.236	0.336
LTE Band 7	20M	QPSK	50	24	Left Side	10mm	Ant 2	state 12	20850	2510	1	19.96	21.50	1.426	0.13	0.391	0.557
LTE Band 7	20M	QPSK	50	24	Right Side	10mm	Ant 2	state 12	20850	2510	1	19.96	21.50	1.426	-	n/a	n/a
LTE Band 7	20M	QPSK	50	24	Top Side	10mm	Ant 2	state 12	20850	2510	1	19.96	21.50	1.426	-0.09	0.039	0.056

<EN-DC SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
750MHz																					
LTE Band 12	10M	QPSK	1	49	-	Front	10mm	Ant 0	state 12	23095	707.5	1	21.76	23.50	1.493	-	-	0.06	0.171	0.255	
LTE Band 12	10M	QPSK	1	49	-	Back	10mm	Ant 0	state 12	23095	707.5	1	21.76	23.50	1.493	-	-	-0.07	0.235	0.351	
LTE Band 12	10M	QPSK	1	49	-	Left Side	10mm	Ant 0	state 12	23095	707.5	1	21.76	23.50	1.493	-	-	-0.1	0.042	0.063	
LTE Band 12	10M	QPSK	1	49	-	Right Side	10mm	Ant 0	state 12	23095	707.5	1	21.76	23.50	1.493	-	-	-0.12	0.109	0.163	
LTE Band 12	10M	QPSK	1	49	-	Bottom Side	10mm	Ant 0	state 12	23095	707.5	1	21.76	23.50	1.493	-	-	-0.19	0.115	0.172	
LTE Band 12	10M	QPSK	25	12	-	Front	10mm	Ant 0	state 12	23095	707.5	1	20.74	22.50	1.500	-	-	0.1	0.134	0.201	
LTE Band 12	10M	QPSK	25	12	-	Back	10mm	Ant 0	state 12	23095	707.5	1	20.74	22.50	1.500	-	-	0.18	0.183	0.274	
LTE Band 12	10M	QPSK	25	12	-	Left Side	10mm	Ant 0	state 12	23095	707.5	1	20.74	22.50	1.500	-	-	-0.1	0.034	0.051	
LTE Band 12	10M	QPSK	25	12	-	Right Side	10mm	Ant 0	state 12	23095	707.5	1	20.74	22.50	1.500	-	-	-0.13	0.085	0.127	

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# FCC SAR Test Report

Report No. : FA230112

LTE Band 12	10M	QPSK	25	12	-	Bottom Side	10mm	Ant 0	state 12	23095	707.5	1	20.74	22.50	1.500	-	-	0.18	0.097	0.145
LTE Band 12	10M	QPSK	1	49	-	Front	10mm	Ant 2	state 12	23095	707.5	1	22.69	24.50	1.517	-	-	-0.1	0.246	0.373
LTE Band 12	10M	QPSK	1	49	-	Back	10mm	Ant 2	state 12	23095	707.5	1	22.69	24.50	1.517	-	-	0.03	0.179	0.272
LTE Band 12	10M	QPSK	1	49	-	Left Side	10mm	Ant 2	state 12	23095	707.5	1	22.69	24.50	1.517	-	-	0.02	0.346	0.525
LTE Band 12	10M	QPSK	1	49	-	Right Side	10mm	Ant 2	state 12	23095	707.5	1	22.69	24.50	1.517	-	-	-	n/a	n/a
LTE Band 12	10M	QPSK	1	49	-	Top Side	10mm	Ant 2	state 12	23095	707.5	1	22.69	24.50	1.517	-	-	-	n/a	n/a
LTE Band 12	10M	QPSK	25	12	-	Front	10mm	Ant 2	state 12	23095	707.5	1	21.72	23.50	1.507	-	-	0.05	0.189	0.285
LTE Band 12	10M	QPSK	25	12	-	Back	10mm	Ant 2	state 12	23095	707.5	1	21.72	23.50	1.507	-	-	0.11	0.144	0.217
LTE Band 12	10M	QPSK	25	12	-	Left Side	10mm	Ant 2	state 12	23095	707.5	1	21.72	23.50	1.507	-	-	0.03	0.253	0.381
LTE Band 12	10M	QPSK	25	12	-	Right Side	10mm	Ant 2	state 12	23095	707.5	1	21.72	23.50	1.507	-	-	-	n/a	n/a
LTE Band 12	10M	QPSK	25	12	-	Top Side	10mm	Ant 2	state 12	23095	707.5	1	21.72	23.50	1.507	-	-	-	n/a	n/a
FR1 N71	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	0.15	0.225	0.306
FR1 N71	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	0.19	0.259	0.352
FR1 N71	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	0.12	0.091	0.124
FR1 N71	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	-0.15	0.177	0.240
FR1 N71	20M	BPSK	1	1	DFT-15	Bottom Side	10mm	Ant 0	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	0.01	0.206	0.280
FR1 N71	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	0.18	0.233	0.318
FR1 N71	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	-0.07	0.258	0.352
FR1 N71	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	0.17	0.089	0.121
FR1 N71	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	-0.08	0.187	0.255
FR1 N71	20M	BPSK	50	28	DFT-15	Bottom Side	10mm	Ant 0	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	0.17	0.209	0.285
FR1 N71	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	0.08	0.189	0.257
FR1 N71	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	0.05	0.140	0.190
FR1 N71	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	0.1	0.273	0.371
FR1 N71	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	-	n/a	n/a
FR1 N71	20M	BPSK	1	1	DFT-15	Top Side	10mm	Ant 2	state 12	136100	680.5	1	24.67	26.00	1.358	-	-	-	n/a	n/a
FR1 N71	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	0.15	0.171	0.233
FR1 N71	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	0.12	0.124	0.169
FR1 N71	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	0.18	0.258	0.352
FR1 N71	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	-	n/a	n/a
FR1 N71	20M	BPSK	50	28	DFT-15	Top Side	10mm	Ant 2	state 12	136100	680.5	1	24.65	26.00	1.365	-	-	-	n/a	n/a
<b>835MHz</b>																				
LTE Band 5	10M	QPSK	1	25	-	Front	10mm	Ant 0	state 12	20525	836.5	1	19.99	21.50	1.416	-	-	0.06	0.157	0.222
LTE Band 5	10M	QPSK	1	25	-	Back	10mm	Ant 0	state 12	20525	836.5	1	19.99	21.50	1.416	-	-	0.03	0.229	0.324
LTE Band 5	10M	QPSK	1	25	-	Left Side	10mm	Ant 0	state 12	20525	836.5	1	19.99	21.50	1.416	-	-	0.04	0.028	0.040
LTE Band 5	10M	QPSK	1	25	-	Right Side	10mm	Ant 0	state 12	20525	836.5	1	19.99	21.50	1.416	-	-	-0.02	0.063	0.089
LTE Band 5	10M	QPSK	1	25	-	Bottom Side	10mm	Ant 0	state 12	20525	836.5	1	19.99	21.50	1.416	-	-	-0.11	0.112	0.159
LTE Band 5	10M	QPSK	25	12	-	Front	10mm	Ant 0	state 12	20525	836.5	1	18.97	20.50	1.422	-	-	-0.03	0.125	0.178
LTE Band 5	10M	QPSK	25	12	-	Back	10mm	Ant 0	state 12	20525	836.5	1	18.97	20.50	1.422	-	-	0.15	0.193	0.275
LTE Band 5	10M	QPSK	25	12	-	Left Side	10mm	Ant 0	state 12	20525	836.5	1	18.97	20.50	1.422	-	-	0.08	0.022	0.031
LTE Band 5	10M	QPSK	25	12	-	Right Side	10mm	Ant 0	state 12	20525	836.5	1	18.97	20.50	1.422	-	-	0.06	0.050	0.071
LTE Band 5	10M	QPSK	25	12	-	Bottom Side	10mm	Ant 0	state 12	20525	836.5	1	18.97	20.50	1.422	-	-	0.11	0.085	0.121
LTE Band 5	10M	QPSK	1	25	-	Front	10mm	Ant 2	state 12	20525	836.5	1	22.78	24.00	1.324	-	-	0.16	0.269	0.356
LTE Band 5	10M	QPSK	1	25	-	Back	10mm	Ant 2	state 12	20525	836.5	1	22.78	24.00	1.324	-	-	0.05	0.165	0.219
LTE Band 5	10M	QPSK	1	25	-	Left Side	10mm	Ant 2	state 12	20525	836.5	1	22.78	24.00	1.324	-	-	0.07	0.348	0.461
LTE Band 5	10M	QPSK	1	25	-	Right Side	10mm	Ant 2	state 12	20525	836.5	1	22.78	24.00	1.324	-	-	-	n/a	n/a
LTE Band 5	10M	QPSK	1	25	-	Top Side	10mm	Ant 2	state 12	20525	836.5	1	22.78	24.00	1.324	-	-	-	n/a	n/a
LTE Band 5	10M	QPSK	25	12	-	Front	10mm	Ant 2	state 12	20525	836.5	1	21.81	23.00	1.315	-	-	0.02	0.211	0.278
LTE Band 5	10M	QPSK	25	12	-	Back	10mm	Ant 2	state 12	20525	836.5	1	21.81	23.00	1.315	-	-	0.13	0.133	0.175
LTE Band 5	10M	QPSK	25	12	-	Left Side	10mm	Ant 2	state 12	20525	836.5	1	21.81	23.00	1.315	-	-	0.08	0.266	0.350
LTE Band 5	10M	QPSK	25	12	-	Right Side	10mm	Ant 2	state 12	20525	836.5	1	21.81	23.00	1.315	-	-	-	n/a	n/a
LTE Band 5	10M	QPSK	25	12	-	Top Side	10mm	Ant 2	state 12	20525	836.5	1	21.81	23.00	1.315	-	-	-	n/a	n/a
FR1 N5	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 0	state 12	167300	836.5	1	21.01	22.50	1.409	-	-	0.13	0.170	0.240
FR1 N5	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 0	state 12	167300	836.5	1	21.01	22.50	1.409	-	-	-0.03	0.250	0.352
FR1 N5	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 0	state 12	167300	836.5	1	21.01	22.50	1.409	-	-	-0.02	0.025	0.035
FR1 N5	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 0	state 12	167300	836.5	1	21.01	22.50	1.409	-	-	-0.05	0.067	0.094



FCC SAR Test Report

Report No. : FA230112

Table with columns for device model (FR1 N5, FR1 N66), power (20M, 40M), modulation (BPSK, QPSK), and SAR values across various frequencies and antenna positions.

Sporton International Inc. (Shenzhen)

TEL : +86-755-86379589 / FAX : +86-755-86379595

FCC ID : MSQAI2201

Issued Date : Aug. 26, 2022

Form version. : 200414



**FCC SAR Test Report**

**Report No. : FA230112**

FR1 N66	40M	BPSK	108	54	DFT-15	Bottom Side	10mm	Ant 1	state 12349000	1745	1	21.72	23.00	1.343	-	-	0.03	0.565	0.759
FR1 N66	40M	BPSK	1	1	DFT-15	Front	10mm	Ant 2	state 12349000	1745	1	24.95	26.00	1.274	-	-	0.13	0.112	0.143
FR1 N66	40M	BPSK	1	1	DFT-15	Back	10mm	Ant 2	state 12349000	1745	1	24.95	26.00	1.274	-	-	0.07	0.095	0.121
FR1 N66	40M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 2	state 12349000	1745	1	24.95	26.00	1.274	-	-	0.04	0.230	0.293
FR1 N66	40M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 2	state 12349000	1745	1	24.95	26.00	1.274	-	-	-	n/a	n/a
FR1 N66	40M	BPSK	1	1	DFT-15	Top Side	10mm	Ant 2	state 12349000	1745	1	24.95	26.00	1.274	-	-	0.03	0.042	0.053
FR1 N66	40M	BPSK	108	54	DFT-15	Front	10mm	Ant 2	state 12349000	1745	1	24.88	26.00	1.294	-	-	-0.08	0.108	0.140
FR1 N66	40M	BPSK	108	54	DFT-15	Back	10mm	Ant 2	state 12349000	1745	1	24.88	26.00	1.294	-	-	0.15	0.091	0.118
FR1 N66	40M	BPSK	108	54	DFT-15	Left Side	10mm	Ant 2	state 12349000	1745	1	24.88	26.00	1.294	-	-	0.06	0.221	0.286
FR1 N66	40M	BPSK	108	54	DFT-15	Right Side	10mm	Ant 2	state 12349000	1745	1	24.88	26.00	1.294	-	-	-	n/a	n/a
FR1 N66	40M	BPSK	108	54	DFT-15	Top Side	10mm	Ant 2	state 12349000	1745	1	24.88	26.00	1.294	-	-	-0.08	0.041	0.053
<b>1900MHz</b>																			
LTE Band 2	20M	QPSK	1	49	-	Front	10mm	Ant 1	state 1219100	1900	1	19.87	21.50	1.455	-	-	0.19	0.181	0.263
LTE Band 2	20M	QPSK	1	49	-	Back	10mm	Ant 1	state 1219100	1900	1	19.87	21.50	1.455	-	-	-0.08	0.209	0.304
LTE Band 2	20M	QPSK	1	49	-	Left Side	10mm	Ant 1	state 1219100	1900	1	19.87	21.50	1.455	-	-	0.15	0.152	0.221
LTE Band 2	20M	QPSK	1	49	-	Right Side	10mm	Ant 1	state 1219100	1900	1	19.87	21.50	1.455	-	-	0.09	0.051	0.074
LTE Band 2	20M	QPSK	1	49	-	Bottom Side	10mm	Ant 1	state 1219100	1900	1	19.87	21.50	1.455	-	-	0.11	0.436	0.635
LTE Band 2	20M	QPSK	50	24	-	Front	10mm	Ant 1	state 1219100	1900	1	19.03	20.50	1.403	-	-	0.14	0.141	0.198
LTE Band 2	20M	QPSK	50	24	-	Back	10mm	Ant 1	state 1219100	1900	1	19.03	20.50	1.403	-	-	-0.06	0.176	0.247
LTE Band 2	20M	QPSK	50	24	-	Left Side	10mm	Ant 1	state 1219100	1900	1	19.03	20.50	1.403	-	-	0.05	0.117	0.164
LTE Band 2	20M	QPSK	50	24	-	Right Side	10mm	Ant 1	state 1219100	1900	1	19.03	20.50	1.403	-	-	0.11	0.043	0.060
LTE Band 2	20M	QPSK	50	24	-	Bottom Side	10mm	Ant 1	state 1219100	1900	1	19.03	20.50	1.403	-	-	-0.07	0.357	0.501
LTE Band 2	20M	QPSK	1	49	-	Front	10mm	Ant 2	state 1219100	1900	1	24.53	26.00	1.403	-	-	0.03	0.177	0.248
LTE Band 2	20M	QPSK	1	49	-	Back	10mm	Ant 2	state 1219100	1900	1	24.53	26.00	1.403	-	-	-0.13	0.195	0.274
LTE Band 2	20M	QPSK	1	49	-	Left Side	10mm	Ant 2	state 1219100	1900	1	24.53	26.00	1.403	-	-	0.05	0.250	0.351
LTE Band 2	20M	QPSK	1	49	-	Right Side	10mm	Ant 2	state 1219100	1900	1	24.53	26.00	1.403	-	-	-	n/a	n/a
LTE Band 2	20M	QPSK	1	49	-	Top Side	10mm	Ant 2	state 1219100	1900	1	24.53	26.00	1.403	-	-	-	n/a	n/a
LTE Band 2	20M	QPSK	50	24	-	Front	10mm	Ant 2	state 1219100	1900	1	23.55	25.00	1.396	-	-	0.04	0.133	0.186
LTE Band 2	20M	QPSK	50	24	-	Back	10mm	Ant 2	state 1219100	1900	1	23.55	25.00	1.396	-	-	0.12	0.162	0.226
LTE Band 2	20M	QPSK	50	24	-	Left Side	10mm	Ant 2	state 1219100	1900	1	23.55	25.00	1.396	-	-	0.05	0.205	0.286
LTE Band 2	20M	QPSK	50	24	-	Right Side	10mm	Ant 2	state 1219100	1900	1	23.55	25.00	1.396	-	-	-	n/a	n/a
LTE Band 2	20M	QPSK	50	24	-	Top Side	10mm	Ant 2	state 1219100	1900	1	23.55	25.00	1.396	-	-	-	n/a	n/a
LTE Band 2	20M	QPSK	1	49	-	Front	10mm	Ant 11	state 1219100	1900	1	21.11	22.50	1.377	-	-	0.15	0.184	0.253
LTE Band 2	20M	QPSK	1	49	-	Back	10mm	Ant 11	state 1219100	1900	1	21.11	22.50	1.377	-	-	-0.13	0.210	0.289
LTE Band 2	20M	QPSK	1	49	-	Left Side	10mm	Ant 11	state 1219100	1900	1	21.11	22.50	1.377	-	-	-	n/a	n/a
LTE Band 2	20M	QPSK	1	49	-	Right Side	10mm	Ant 11	state 1219100	1900	1	21.11	22.50	1.377	-	-	-	n/a	n/a
LTE Band 2	20M	QPSK	1	49	-	Top Side	10mm	Ant 11	state 1219100	1900	1	21.11	22.50	1.377	-	-	-0.16	0.362	0.499
LTE Band 2	20M	QPSK	50	24	-	Front	10mm	Ant 11	state 1219100	1900	1	20.10	21.50	1.380	-	-	0.14	0.144	0.199
LTE Band 2	20M	QPSK	50	24	-	Back	10mm	Ant 11	state 1219100	1900	1	20.10	21.50	1.380	-	-	0.08	0.161	0.222
LTE Band 2	20M	QPSK	50	24	-	Left Side	10mm	Ant 11	state 1219100	1900	1	20.10	21.50	1.380	-	-	-	n/a	n/a
LTE Band 2	20M	QPSK	50	24	-	Right Side	10mm	Ant 11	state 1219100	1900	1	20.10	21.50	1.380	-	-	-	n/a	n/a
LTE Band 2	20M	QPSK	50	24	-	Top Side	10mm	Ant 11	state 1219100	1900	1	20.10	21.50	1.380	-	-	0.07	0.283	0.391
FR1 N2	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 1	state 12376000	1880	1	20.85	22.50	1.462	-	-	-0.12	0.208	0.304
FR1 N2	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 1	state 12376000	1880	1	20.85	22.50	1.462	-	-	0.05	0.225	0.329
FR1 N2	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 1	state 12376000	1880	1	20.85	22.50	1.462	-	-	-0.04	0.179	0.262
FR1 N2	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 1	state 12376000	1880	1	20.85	22.50	1.462	-	-	0.14	0.080	0.117
FR1 N2	20M	BPSK	1	1	DFT-15	Bottom Side	10mm	Ant 1	state 12376000	1880	1	20.85	22.50	1.462	-	-	0.12	0.464	0.678
FR1 N2	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 1	state 12376000	1880	1	20.82	22.50	1.472	-	-	-0.17	0.212	0.312
FR1 N2	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 1	state 12376000	1880	1	20.82	22.50	1.472	-	-	-0.06	0.236	0.347
FR1 N2	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 1	state 12376000	1880	1	20.82	22.50	1.472	-	-	-0.11	0.187	0.275
FR1 N2	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 1	state 12376000	1880	1	20.82	22.50	1.472	-	-	0.07	0.082	0.121
FR1 N2	20M	BPSK	50	28	DFT-15	Bottom Side	10mm	Ant 1	state 12376000	1880	1	20.82	22.50	1.472	-	-	-0.16	0.480	0.707
FR1 N2	20M	BPSK	1	1	DFT-15	Front	10mm	Ant 2	state 12376000	1880	1	24.52	26.00	1.406	-	-	0.14	0.137	0.193
FR1 N2	20M	BPSK	1	1	DFT-15	Back	10mm	Ant 2	state 12376000	1880	1	24.52	26.00	1.406	-	-	-0.07	0.168	0.236
FR1 N2	20M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 2	state 12376000	1880	1	24.52	26.00	1.406	-	-	0.19	0.216	0.304
FR1 N2	20M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 2	state 12376000	1880	1	24.52	26.00	1.406	-	-	-	n/a	n/a



**FCC SAR Test Report**

**Report No. : FA230112**

FR1 N2	20M	BPSK	1	1	DFT-15	Top Side	10mm	Ant 2	state 12376000	1880	1	24.52	26.00	1.406	-	-	-0.11	0.065	0.091
FR1 N2	20M	BPSK	50	28	DFT-15	Front	10mm	Ant 2	state 12376000	1880	1	24.49	26.00	1.416	-	-	0.06	0.133	0.188
FR1 N2	20M	BPSK	50	28	DFT-15	Back	10mm	Ant 2	state 12376000	1880	1	24.49	26.00	1.416	-	-	-0.05	0.162	0.229
FR1 N2	20M	BPSK	50	28	DFT-15	Left Side	10mm	Ant 2	state 12376000	1880	1	24.49	26.00	1.416	-	-	-0.09	0.208	0.294
FR1 N2	20M	BPSK	50	28	DFT-15	Right Side	10mm	Ant 2	state 12376000	1880	1	24.49	26.00	1.416	-	-	-	n/a	n/a
FR1 N2	20M	BPSK	50	28	DFT-15	Top Side	10mm	Ant 2	state 12376000	1880	1	24.49	26.00	1.416	-	-	0	0.064	0.091
<b>2300MHz</b>																			
LTE Band 30	10M	QPSK	1	49	-	Front	10mm	Ant1	state 1227710	2310	1	23.10	23.50	1.096	-	-	-0.03	0.261	0.286
LTE Band 30	10M	QPSK	1	49	-	Back	10mm	Ant1	state 1227710	2310	1	23.10	23.50	1.096	-	-	0.14	0.325	0.356
LTE Band 30	10M	QPSK	1	49	-	Left Side	10mm	Ant1	state 1227710	2310	1	23.10	23.50	1.096	-	-	0.18	0.286	0.314
LTE Band 30	10M	QPSK	1	49	-	Right Side	10mm	Ant1	state 1227710	2310	1	23.10	23.50	1.096	-	-	-0.07	0.057	0.062
LTE Band 30	10M	QPSK	1	49	-	Bottom Side	10mm	Ant 1	state 1227710	2310	1	23.10	23.50	1.096	-	-	0.01	0.596	0.654
LTE Band 30	10M	QPSK	25	25	-	Front	10mm	Ant1	state 1227710	2310	1	21.66	22.50	1.213	-	-	0.15	0.218	0.265
LTE Band 30	10M	QPSK	25	25	-	Back	10mm	Ant1	state 1227710	2310	1	21.66	22.50	1.213	-	-	-0.04	0.264	0.320
LTE Band 30	10M	QPSK	25	25	-	Left Side	10mm	Ant1	state 1227710	2310	1	21.66	22.50	1.213	-	-	0.16	0.234	0.284
LTE Band 30	10M	QPSK	25	25	-	Right Side	10mm	Ant1	state 1227710	2310	1	21.66	22.50	1.213	-	-	-0.06	0.044	0.053
LTE Band 30	10M	QPSK	25	25	-	Bottom Side	10mm	Ant1	state 1227710	2310	1	21.66	22.50	1.213	-	-	0.13	0.513	0.622
LTE Band 30	10M	QPSK	1	49	-	Front	10mm	Ant 2	state 1227710	2310	1	22.62	23.00	1.091	-	-	0.06	0.258	0.282
LTE Band 30	10M	QPSK	1	49	-	Back	10mm	Ant 2	state 1227710	2310	1	22.62	23.00	1.091	-	-	0.14	0.327	0.357
LTE Band 30	10M	QPSK	1	49	-	Left Side	10mm	Ant 2	state 1227710	2310	1	22.62	23.00	1.091	-	-	-0.19	0.522	0.570
LTE Band 30	10M	QPSK	1	49	-	Right Side	10mm	Ant 2	state 1227710	2310	1	22.62	23.00	1.091	-	-	-	n/a	n/a
LTE Band 30	10M	QPSK	1	49	-	Top Side	10mm	Ant 2	state 1227710	2310	1	22.62	23.00	1.091	-	-	0.06	0.039	0.043
LTE Band 30	10M	QPSK	25	25	-	Front	10mm	Ant 2	state 1227710	2310	1	21.17	22.00	1.211	-	-	-0.17	0.174	0.211
LTE Band 30	10M	QPSK	25	25	-	Back	10mm	Ant 2	state 1227710	2310	1	21.17	22.00	1.211	-	-	0.12	0.198	0.240
LTE Band 30	10M	QPSK	25	25	-	Left Side	10mm	Ant 2	state 1227710	2310	1	21.17	22.00	1.211	-	-	0.14	0.437	0.529
LTE Band 30	10M	QPSK	25	25	-	Right Side	10mm	Ant 2	state 1227710	2310	1	21.17	22.00	1.211	-	-	-	n/a	n/a
LTE Band 30	10M	QPSK	25	25	-	Top Side	10mm	Ant 2	state 1227710	2310	1	21.17	22.00	1.211	-	-	0.08	0.032	0.039
<b>2600MHz</b>																			
LTE Band 7	20M	QPSK	1	99	-	Front	10mm	Ant 1	state 1220850	2510	1	19.38	21.00	1.452	-	-	0.02	0.155	0.225
LTE Band 7	20M	QPSK	1	99	-	Back	10mm	Ant 1	state 1220850	2510	1	19.38	21.00	1.452	-	-	0.14	0.206	0.299
LTE Band 7	20M	QPSK	1	99	-	Left Side	10mm	Ant 1	state 1220850	2510	1	19.38	21.00	1.452	-	-	-0.03	0.127	0.184
LTE Band 7	20M	QPSK	1	99	-	Right Side	10mm	Ant 1	state 1220850	2510	1	19.38	21.00	1.452	-	-	-	n/a	n/a
LTE Band 7	20M	QPSK	1	99	-	Bottom Side	10mm	Ant 1	state 1220850	2510	1	19.38	21.00	1.452	-	-	0.07	0.512	0.743
LTE Band 7	20M	QPSK	50	24	-	Front	10mm	Ant 1	state 1220850	2510	1	18.37	20.00	1.455	-	-	0.08	0.121	0.176
LTE Band 7	20M	QPSK	50	24	-	Back	10mm	Ant 1	state 1220850	2510	1	18.37	20.00	1.455	-	-	0.16	0.164	0.239
LTE Band 7	20M	QPSK	50	24	-	Left Side	10mm	Ant 1	state 1220850	2510	1	18.37	20.00	1.455	-	-	-0.03	0.102	0.148
LTE Band 7	20M	QPSK	50	24	-	Right Side	10mm	Ant 1	state 1220850	2510	1	18.37	20.00	1.455	-	-	-	n/a	n/a
LTE Band 7	20M	QPSK	50	24	-	Bottom Side	10mm	Ant 1	state 1220850	2510	1	18.37	20.00	1.455	-	-	0.02	0.403	0.587
LTE Band 7	20M	QPSK	1	99	-	Front	10mm	Ant 2	state 1220850	2510	1	19.83	21.50	1.469	-	-	0.03	0.154	0.226
LTE Band 7	20M	QPSK	1	99	-	Back	10mm	Ant 2	state 1220850	2510	1	19.83	21.50	1.469	-	-	-0.12	0.238	0.350
LTE Band 7	20M	QPSK	1	99	-	Left Side	10mm	Ant 2	state 1220850	2510	1	19.83	21.50	1.469	-	-	-0.08	0.399	0.586
LTE Band 7	20M	QPSK	1	99	-	Right Side	10mm	Ant 2	state 1220850	2510	1	19.83	21.50	1.469	-	-	-	n/a	n/a
LTE Band 7	20M	QPSK	1	99	-	Top Side	10mm	Ant 2	state 1220850	2510	1	19.83	21.50	1.469	-	-	0.06	0.040	0.059
LTE Band 7	20M	QPSK	50	24	-	Front	10mm	Ant 2	state 1220850	2510	1	18.85	20.50	1.462	-	-	-0.18	0.124	0.181
LTE Band 7	20M	QPSK	50	24	-	Back	10mm	Ant 2	state 1220850	2510	1	18.85	20.50	1.462	-	-	-0.07	0.192	0.281
LTE Band 7	20M	QPSK	50	24	-	Left Side	10mm	Ant 2	state 1220850	2510	1	18.85	20.50	1.462	-	-	-0.13	0.317	0.464
LTE Band 7	20M	QPSK	50	24	-	Right Side	10mm	Ant 2	state 1220850	2510	1	18.85	20.50	1.462	-	-	-	n/a	n/a
LTE Band 7	20M	QPSK	50	24	-	Top Side	10mm	Ant 2	state 1220850	2510	1	18.85	20.50	1.462	-	-	0.11	0.033	0.048
LTE Band 7	20M	QPSK	1	99	-	Front	10mm	Ant 11	state 1221350	2560	1	22.04	23.50	1.400	-	-	-0.05	0.152	0.213
LTE Band 7	20M	QPSK	1	99	-	Back	10mm	Ant 11	state 1221350	2560	1	22.04	23.50	1.400	-	-	0.17	0.256	0.358
LTE Band 7	20M	QPSK	1	99	-	Left Side	10mm	Ant 11	state 1221350	2560	1	22.04	23.50	1.400	-	-	-0.04	0.376	0.526
LTE Band 7	20M	QPSK	1	99	-	Right Side	10mm	Ant 11	state 1221350	2560	1	22.04	23.50	1.400	-	-	-0.15	0.026	0.036
LTE Band 7	20M	QPSK	1	99	-	Top Side	10mm	Ant 11	state 1221350	2560	1	22.04	23.50	1.400	-	-	-0.09	0.022	0.031
LTE Band 7	20M	QPSK	50	24	-	Front	10mm	Ant 11	state 1221350	2560	1	21.05	22.50	1.396	-	-	-0.15	0.120	0.168
LTE Band 7	20M	QPSK	50	24	-	Back	10mm	Ant 11	state 1221350	2560	1	21.05	22.50	1.396	-	-	0.12	0.209	0.292
LTE Band 7	20M	QPSK	50	24	-	Left Side	10mm	Ant 11	state 1221350	2560	1	21.05	22.50	1.396	-	-	0.15	0.292	0.408

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FCC ID : MSQAI2201

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**FCC SAR Test Report**

**Report No. : FA230112**

LTE Band 7	20M	QPSK	50	24	-	Right Side	10mm	Ant 11	state 12	21350	2560	1	21.05	22.50	1.396	-	-	0.08	0.021	0.029
LTE Band 7	20M	QPSK	50	24	-	Top Side	10mm	Ant 11	state 12	21350	2560	1	21.05	22.50	1.396	-	-	-0.17	0.017	0.024
LTE Band 41	20M	QPSK	1	49	-	Front	10mm	Ant 1	state 12	40185	2549.5	1	22.05	23.00	1.245	62.9	1.006	-0.13	0.131	0.164
LTE Band 41	20M	QPSK	1	49	-	Back	10mm	Ant 1	state 12	40185	2549.5	1	22.05	23.00	1.245	62.9	1.006	-0.02	0.209	0.262
LTE Band 41	20M	QPSK	1	49	-	Left Side	10mm	Ant 1	state 12	40185	2549.5	1	22.05	23.00	1.245	62.9	1.006	0.12	0.095	0.119
LTE Band 41	20M	QPSK	1	49	-	Right Side	10mm	Ant 1	state 12	40185	2549.5	1	22.05	23.00	1.245	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	1	49	-	Bottom Side	10mm	Ant 1	state 12	40185	2549.5	1	22.05	23.00	1.245	62.9	1.006	0.07	0.454	0.568
LTE Band 41	20M	QPSK	50	24	-	Front	10mm	Ant 1	state 12	40185	2549.5	1	21.10	22.00	1.230	62.9	1.006	-0.19	0.103	0.127
LTE Band 41	20M	QPSK	50	24	-	Back	10mm	Ant 1	state 12	40185	2549.5	1	21.10	22.00	1.230	62.9	1.006	0.02	0.166	0.205
LTE Band 41	20M	QPSK	50	24	-	Left Side	10mm	Ant 1	state 12	40185	2549.5	1	21.10	22.00	1.230	62.9	1.006	0.11	0.077	0.095
LTE Band 41	20M	QPSK	50	24	-	Right Side	10mm	Ant 1	state 12	40185	2549.5	1	21.10	22.00	1.230	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	50	24	-	Bottom Side	10mm	Ant 1	state 12	40185	2549.5	1	21.10	22.00	1.230	62.9	1.006	0.19	0.366	0.453
LTE Band 41	20M	QPSK	1	49	-	Front	10mm	Ant 2	state 12	40620	2593	1	22.09	23.00	1.233	62.9	1.006	0.03	0.191	0.237
LTE Band 41	20M	QPSK	1	49	-	Back	10mm	Ant 2	state 12	40620	2593	1	22.09	23.00	1.233	62.9	1.006	-0.17	0.284	0.352
LTE Band 41	20M	QPSK	1	49	-	Left Side	10mm	Ant 2	state 12	40620	2593	1	22.09	23.00	1.233	62.9	1.006	0.06	0.446	0.553
LTE Band 41	20M	QPSK	1	49	-	Right Side	10mm	Ant 2	state 12	40620	2593	1	22.09	23.00	1.233	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	1	49	-	Top Side	10mm	Ant 2	state 12	40620	2593	1	22.09	23.00	1.233	62.9	1.006	0.19	0.081	0.100
LTE Band 41	20M	QPSK	50	24	-	Front	10mm	Ant 2	state 12	40620	2593	1	21.08	22.00	1.236	62.9	1.006	0.19	0.154	0.191
LTE Band 41	20M	QPSK	50	24	-	Back	10mm	Ant 2	state 12	40620	2593	1	21.08	22.00	1.236	62.9	1.006	0.12	0.234	0.291
LTE Band 41	20M	QPSK	50	24	-	Left Side	10mm	Ant 2	state 12	40620	2593	1	21.08	22.00	1.236	62.9	1.006	0.17	0.355	0.441
LTE Band 41	20M	QPSK	50	24	-	Right Side	10mm	Ant 2	state 12	40620	2593	1	21.08	22.00	1.236	62.9	1.006	-	n/a	n/a
LTE Band 41	20M	QPSK	50	24	-	Top Side	10mm	Ant 2	state 12	40620	2593	1	21.08	22.00	1.236	62.9	1.006	0	0.068	0.085
FR1 N7	40M	BPSK	1	1	DFT-15	Front	10mm	Ant 1	state 12	507000	2535	1	20.08	21.50	1.387	-	-	0.11	0.179	0.248
FR1 N7	40M	BPSK	1	1	DFT-15	Back	10mm	Ant 1	state 12	507000	2535	1	20.08	21.50	1.387	-	-	-0.15	0.254	0.352
FR1 N7	40M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 1	state 12	507000	2535	1	20.08	21.50	1.387	-	-	0.12	0.164	0.227
FR1 N7	40M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 1	state 12	507000	2535	1	20.08	21.50	1.387	-	-	-	n/a	n/a
FR1 N7	40M	BPSK	1	1	DFT-15	Bottom Side	10mm	Ant 1	state 12	507000	2535	1	20.08	21.50	1.387	-	-	0.03	0.542	0.752
FR1 N7	40M	BPSK	108	54	DFT-15	Front	10mm	Ant 1	state 12	507000	2535	1	20.05	21.50	1.396	-	-	-0.16	0.181	0.253
FR1 N7	40M	BPSK	108	54	DFT-15	Back	10mm	Ant 1	state 12	507000	2535	1	20.05	21.50	1.396	-	-	-0.01	0.232	0.324
FR1 N7	40M	BPSK	108	54	DFT-15	Left Side	10mm	Ant 1	state 12	507000	2535	1	20.05	21.50	1.396	-	-	-0.14	0.167	0.233
FR1 N7	40M	BPSK	108	54	DFT-15	Right Side	10mm	Ant 1	state 12	507000	2535	1	20.05	21.50	1.396	-	-	-	n/a	n/a
FR1 N7	40M	BPSK	108	54	DFT-15	Bottom Side	10mm	Ant 1	state 12	507000	2535	1	20.05	21.50	1.396	-	-	0.11	0.558	0.779
FR1 N7	40M	BPSK	1	1	DFT-15	Front	10mm	Ant 2	state 12	507000	2535	1	18.54	20.00	1.400	-	-	0.05	0.135	0.189
FR1 N7	40M	BPSK	1	1	DFT-15	Back	10mm	Ant 2	state 12	507000	2535	1	18.54	20.00	1.400	-	-	-0.02	0.234	0.328
FR1 N7	40M	BPSK	1	1	DFT-15	Left Side	10mm	Ant 2	state 12	507000	2535	1	18.54	20.00	1.400	-	-	-0.19	0.288	0.403
FR1 N7	40M	BPSK	1	1	DFT-15	Right Side	10mm	Ant 2	state 12	507000	2535	1	18.54	20.00	1.400	-	-	0.12	0.038	0.053
FR1 N7	40M	BPSK	1	1	DFT-15	Top Side	10mm	Ant 2	state 12	507000	2535	1	18.54	20.00	1.400	-	-	-0.14	0.033	0.046
FR1 N7	40M	BPSK	108	54	DFT-15	Front	10mm	Ant 2	state 12	507000	2535	1	18.50	20.00	1.413	-	-	-0.13	0.143	0.202
FR1 N7	40M	BPSK	108	54	DFT-15	Back	10mm	Ant 2	state 12	507000	2535	1	18.50	20.00	1.413	-	-	0.09	0.241	0.340
FR1 N7	40M	BPSK	108	54	DFT-15	Left Side	10mm	Ant 2	state 12	507000	2535	1	18.50	20.00	1.413	-	-	0	0.297	0.420
FR1 N7	40M	BPSK	108	54	DFT-15	Right Side	10mm	Ant 2	state 12	507000	2535	1	18.50	20.00	1.413	-	-	-0.06	0.038	0.054
FR1 N7	40M	BPSK	108	54	DFT-15	Top Side	10mm	Ant 2	state 12	507000	2535	1	18.50	20.00	1.413	-	-	-0.15	0.035	0.049
<b>3900MHz</b>																				
FR1 N77	100M	BPSK	1	1	DFT-30	Front	10mm	Ant 7	state 12	656000	3840	1	21.28	22.50	1.324	-	-	0.01	0.124	0.164
FR1 N77	100M	BPSK	1	1	DFT-30	Back	10mm	Ant 7	state 12	656000	3840	1	21.28	22.50	1.324	-	-	0.05	0.266	0.352
FR1 N77	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 7	state 12	656000	3840	1	21.28	22.50	1.324	-	-	0.07	0.126	0.167
FR1 N77	100M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 7	state 12	656000	3840	1	21.28	22.50	1.324	-	-	-0.1	0.034	0.045
FR1 N77	100M	BPSK	1	1	DFT-30	Top Side	10mm	Ant 7	state 12	656000	3840	1	21.28	22.50	1.324	-	-	-0.06	0.167	0.221
FR1 N77	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 7	state 12	656000	3840	1	21.25	22.50	1.334	-	-	0.12	0.117	0.156
FR1 N77	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 7	state 12	656000	3840	1	21.25	22.50	1.334	-	-	-0.07	0.262	0.349
FR1 N77	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 7	state 12	656000	3840	1	21.25	22.50	1.334	-	-	-0.08	0.118	0.157
FR1 N77	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 7	state 12	656000	3840	1	21.25	22.50	1.334	-	-	-0.13	0.034	0.045
FR1 N77	100M	BPSK	135	69	DFT-30	Top Side	10mm	Ant 7	state 12	656000	3840	1	21.25	22.50	1.334	-	-	-0.05	0.165	0.220
FR1 N77	100M	BPSK	1	1	DFT-30	Front	10mm	Ant 8	state 12	656000	3840	1	19.28	20.50	1.324	-	-	0.04	0.232	0.307
FR1 N77	100M	BPSK	1	1	DFT-30	Back	10mm	Ant 8	state 12	656000	3840	1	19.28	20.50	1.324	-	-	-0.17	0.148	0.196
FR1 N77	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 8	state 12	656000	3840	1	19.28	20.50	1.324	-	-	0.12	0.455	0.603



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FR1 N77	100M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 8	state 12656000	3840	1	19.28	20.50	1.324	-	-	-	n/a	n/a
FR1 N77	100M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 8	state 12656000	3840	1	19.28	20.50	1.324	-	-	-0.18	0.078	0.103
FR1 N77	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 8	state 12656000	3840	1	19.25	20.50	1.334	-	-	0.06	0.238	0.317
FR1 N77	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 8	state 12656000	3840	1	19.25	20.50	1.334	-	-	-0.18	0.154	0.205
FR1 N77	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 8	state 12656000	3840	1	19.25	20.50	1.334	-	-	-0.15	0.460	0.613
FR1 N77	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 8	state 12656000	3840	1	19.25	20.50	1.334	-	-	-	n/a	n/a
FR1 N77	100M	BPSK	135	69	DFT-30	Bottom Side	10mm	Ant 8	state 12656000	3840	1	19.25	20.50	1.334	-	-	-0.13	0.080	0.107
FR1 N77	100M	BPSK	270	0	DFT-30	Left Side	10mm	Ant 8	state 12656000	3840	1	19.23	20.50	1.340	-	-	-0.05	0.452	0.606
FR1 N77	100M	BPSK	1	1	DFT-30	Front	10mm	Ant 9	state 12656000	3840	1	10.31	11.50	1.315	-	-	-	n/a	n/a
FR1 N77	100M	BPSK	1	1	DFT-30	Back	10mm	Ant 9	state 12656000	3840	1	10.31	11.50	1.315	-	-	-0.02	0.255	0.335
FR1 N77	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 9	state 12656000	3840	1	10.31	11.50	1.315	-	-	-0.05	0.035	0.046
FR1 N77	100M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 9	state 12656000	3840	1	10.31	11.50	1.315	-	-	-0.13	0.040	0.053
FR1 N77	100M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 9	state 12656000	3840	1	10.31	11.50	1.315	-	-	0.02	0.570	0.750
FR1 N77	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 9	state 12656000	3840	1	10.29	11.50	1.321	-	-	-	n/a	n/a
FR1 N77	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 9	state 12656000	3840	1	10.29	11.50	1.321	-	-	-0.13	0.267	0.353
FR1 N77	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 9	state 12656000	3840	1	10.29	11.50	1.321	-	-	-0.12	0.036	0.048
FR1 N77	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 9	state 12656000	3840	1	10.29	11.50	1.321	-	-	0.12	0.039	0.052
FR1 N77	100M	BPSK	135	69	DFT-30	Bottom Side	10mm	Ant 9	state 12656000	3840	1	10.29	11.50	1.321	-	-	0.05	0.056	0.074
FR1 N77	100M	BPSK	1	1	DFT-30	Front	10mm	Ant 10	state 12656000	3840	1	18.81	20.00	1.315	-	-	-0.1	0.054	0.071
FR1 N77	100M	BPSK	1	1	DFT-30	Back	10mm	Ant 10	state 12656000	3840	1	18.81	20.00	1.315	-	-	0.05	0.268	0.352
FR1 N77	100M	BPSK	1	1	DFT-30	Left Side	10mm	Ant 10	state 12656000	3840	1	18.81	20.00	1.315	-	-	0.13	0.000	0.000
FR1 N77	100M	BPSK	1	1	DFT-30	Right Side	10mm	Ant 10	state 12656000	3840	1	18.81	20.00	1.315	-	-	-0.1	0.107	0.141
FR1 N77	100M	BPSK	1	1	DFT-30	Bottom Side	10mm	Ant 10	state 12656000	3840	1	18.81	20.00	1.315	-	-	0.18	0.093	0.122
FR1 N77	100M	BPSK	135	69	DFT-30	Front	10mm	Ant 10	state 12656000	3840	1	18.75	20.00	1.334	-	-	0.18	0.052	0.069
FR1 N77	100M	BPSK	135	69	DFT-30	Back	10mm	Ant 10	state 12656000	3840	1	18.75	20.00	1.334	-	-	0.08	0.264	0.352
FR1 N77	100M	BPSK	135	69	DFT-30	Left Side	10mm	Ant 10	state 12656000	3840	1	18.75	20.00	1.334	-	-	0.15	0.000	0.000
FR1 N77	100M	BPSK	135	69	DFT-30	Right Side	10mm	Ant 10	state 12656000	3840	1	18.75	20.00	1.334	-	-	-0.08	0.104	0.139
FR1 N77	100M	BPSK	135	69	DFT-30	Bottom Side	10mm	Ant 10	state 12656000	3840	1	18.75	20.00	1.334	-	-	-0.05	0.090	0.120

**<UL-MIMO SAR>**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
<b>2600MHz</b>																			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Front	10mm	Ant 1	state 12518598	2592.99	1	20.74	22.00	1.337	0.02	0.175	0.234			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Back	10mm	Ant 1	state 12518598	2592.99	1	20.74	22.00	1.337	-0.14	0.262	0.350			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Left Side	10mm	Ant 1	state 12518598	2592.99	1	20.74	22.00	1.337	0.11	0.140	0.187			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Right Side	10mm	Ant 1	state 12518598	2592.99	1	20.74	22.00	1.337	-	n/a	n/a			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Bottom Side	10mm	Ant 1	state 12518598	2592.99	1	20.74	22.00	1.337	0.13	0.571	0.763			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Front	10mm	Ant 1	state 12518598	2592.99	1	20.72	22.00	1.343	0.06	0.177	0.238			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Back	10mm	Ant 1	state 12518598	2592.99	1	20.72	22.00	1.343	0.02	0.268	0.360			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Left Side	10mm	Ant 1	state 12518598	2592.99	1	20.72	22.00	1.343	0.07	0.144	0.193			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Right Side	10mm	Ant 1	state 12518598	2592.99	1	20.72	22.00	1.343	-	n/a	n/a			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Bottom Side	10mm	Ant 1	state 12518598	2592.99	1	20.72	22.00	1.343	0.09	0.576	0.773			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Front	10mm	Ant 2	state 12518598	2592.99	1	18.72	20.00	1.343	-0.07	0.151	0.203			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Back	10mm	Ant 2	state 12518598	2592.99	1	18.72	20.00	1.343	0.17	0.258	0.346			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Left Side	10mm	Ant 2	state 12518598	2592.99	1	18.72	20.00	1.343	-0.19	0.384	0.516			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Right Side	10mm	Ant 2	state 12518598	2592.99	1	18.72	20.00	1.343	-0.05	0.030	0.040			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Top Side	10mm	Ant 2	state 12518598	2592.99	1	18.72	20.00	1.343	0.05	0.027	0.036			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Front	10mm	Ant 2	state 12518598	2592.99	1	18.70	20.00	1.349	-0.04	0.153	0.206			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Back	10mm	Ant 2	state 12518598	2592.99	1	18.70	20.00	1.349	0.02	0.262	0.353			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Left Side	10mm	Ant 2	state 12518598	2592.99	1	18.70	20.00	1.349	0	0.385	0.519			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Right Side	10mm	Ant 2	state 12518598	2592.99	1	18.70	20.00	1.349	0.13	0.029	0.039			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Top Side	10mm	Ant 2	state 12518598	2592.99	1	18.70	20.00	1.349	-0.04	0.026	0.035			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Front	10mm	Ant 7	state 12518598	2592.99	1	21.68	23.50	1.521	-0.06	0.175	0.266			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Back	10mm	Ant 7	state 12518598	2592.99	1	21.68	23.50	1.521	-0.1	0.211	0.321			
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Left Side	10mm	Ant 7	state 12518598	2592.99	1	21.68	23.50	1.521	0.1	0.065	0.099			

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JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Right Side	10mm	Ant 7	state 12	518598	2592.99	1	21.68	23.50	1.521	-	n/a	n/a
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Top Side	10mm	Ant 7	state 12	518598	2592.99	1	21.68	23.50	1.521	0.16	0.284	0.432
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Front	10mm	Ant 7	state 12	518598	2592.99	1	21.66	23.50	1.528	-0.12	0.178	0.272
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Back	10mm	Ant 7	state 12	518598	2592.99	1	21.66	23.50	1.528	0.16	0.218	0.333
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Left Side	10mm	Ant 7	state 12	518598	2592.99	1	21.66	23.50	1.528	-0.09	0.067	0.102
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Right Side	10mm	Ant 7	state 12	518598	2592.99	1	21.66	23.50	1.528	-	n/a	n/a
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Top Side	10mm	Ant 7	state 12	518598	2592.99	1	21.66	23.50	1.528	0.1	0.287	0.438
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Front	10mm	Ant 8	state 12	518598	2592.99	1	22.62	24.50	1.542	-0.15	0.158	0.244
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Back	10mm	Ant 8	state 12	518598	2592.99	1	22.62	24.50	1.542	0.16	0.192	0.296
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Left Side	10mm	Ant 8	state 12	518598	2592.99	1	22.62	24.50	1.542	-0.04	0.416	0.641
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Right Side	10mm	Ant 8	state 12	518598	2592.99	1	22.62	24.50	1.542	-	n/a	n/a
JL-MIMO FR1 N41(HPUE)	100M	BPSK	1	1	Bottom Side	10mm	Ant 8	state 12	518598	2592.99	1	22.62	24.50	1.542	0.17	0.038	0.059
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Front	10mm	Ant 8	state 12	518598	2592.99	1	22.60	24.50	1.549	-0.12	0.162	0.251
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Back	10mm	Ant 8	state 12	518598	2592.99	1	22.60	24.50	1.549	-0.16	0.188	0.291
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Left Side	10mm	Ant 8	state 12	518598	2592.99	1	22.60	24.50	1.549	-0.03	0.422	0.654
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Right Side	10mm	Ant 8	state 12	518598	2592.99	1	22.60	24.50	1.549	-	n/a	n/a
JL-MIMO FR1 N41(HPUE)	100M	BPSK	135	69	Bottom Side	10mm	Ant 8	state 12	518598	2592.99	1	22.60	24.50	1.549	0.07	0.037	0.057
<b>3900MHz</b>																	
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Front	10mm	Ant 7	state 12	656000	3840	1	18.67	20.00	1.358	-0.06	0.134	0.182
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Back	10mm	Ant 7	state 12	656000	3840	1	18.67	20.00	1.358	-0.17	0.273	0.371
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Left Side	10mm	Ant 7	state 12	656000	3840	1	18.67	20.00	1.358	0.06	0.115	0.156
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Right Side	10mm	Ant 7	state 12	656000	3840	1	18.67	20.00	1.358	-0.16	0.070	0.095
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Top Side	10mm	Ant 7	state 12	656000	3840	1	18.67	20.00	1.358	0.04	0.193	0.262
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Front	10mm	Ant 7	state 12	656000	3840	1	18.66	20.00	1.361	-0.04	0.132	0.180
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Back	10mm	Ant 7	state 12	656000	3840	1	18.66	20.00	1.361	0.13	0.270	0.368
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Left Side	10mm	Ant 7	state 12	656000	3840	1	18.66	20.00	1.361	0.15	0.113	0.154
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Right Side	10mm	Ant 7	state 12	656000	3840	1	18.66	20.00	1.361	-0.03	0.067	0.091
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Top Side	10mm	Ant 7	state 12	656000	3840	1	18.66	20.00	1.361	0	0.190	0.259
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Front	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-0.17	0.297	0.379
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Back	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-0.12	0.197	0.251
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Left Side	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-0.15	0.541	0.691
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Right Side	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-	n/a	n/a
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Bottom Side	10mm	Ant 8	state 12	656000	3840	1	20.44	21.50	1.276	-0.04	0.102	0.130
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Front	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-0.1	0.308	0.395
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Back	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	0.11	0.205	0.263
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Left Side	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-0.05	0.591	0.758
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Right Side	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-	n/a	n/a
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Bottom Side	10mm	Ant 8	state 12	656000	3840	1	20.42	21.50	1.282	-0.06	0.109	0.140
JL-MIMO FR1 N77(HPUE)	100M	BPSK	270	0	Left Side	10mm	Ant 8	state 12	656000	3840	1	20.41	21.50	1.285	0.04	0.482	0.620
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Front	10mm	Ant 9	state 12	656000	3840	1	9.99	11.00	1.262	-	n/a	n/a
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Back	10mm	Ant 9	state 12	656000	3840	1	9.99	11.00	1.262	0.07	0.262	0.331
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Left Side	10mm	Ant 9	state 12	656000	3840	1	9.99	11.00	1.262	-0.08	0.033	0.042
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Right Side	10mm	Ant 9	state 12	656000	3840	1	9.99	11.00	1.262	-0.03	0.035	0.044
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Bottom Side	10mm	Ant 9	state 12	656000	3840	1	9.99	11.00	1.262	0.14	0.052	0.066
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Front	10mm	Ant 9	state 12	656000	3840	1	9.97	11.00	1.268	-	n/a	n/a
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Back	10mm	Ant 9	state 12	656000	3840	1	9.97	11.00	1.268	0.08	0.267	0.338
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Left Side	10mm	Ant 9	state 12	656000	3840	1	9.97	11.00	1.268	0.09	0.032	0.041
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Right Side	10mm	Ant 9	state 12	656000	3840	1	9.97	11.00	1.268	0.13	0.035	0.044
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Bottom Side	10mm	Ant 9	state 12	656000	3840	1	9.97	11.00	1.268	-0.18	0.054	0.068
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Front	10mm	Ant 10	state 12	656000	3840	1	12.34	13.50	1.306	-0.13	0.063	0.082
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Back	10mm	Ant 10	state 12	656000	3840	1	12.34	13.50	1.306	-0.07	0.247	0.323
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Left Side	10mm	Ant 10	state 12	656000	3840	1	12.34	13.50	1.306	-	n/a	n/a
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Right Side	10mm	Ant 10	state 12	656000	3840	1	12.34	13.50	1.306	0.01	0.081	0.106
JL-MIMO FR1 N77(HPUE)	100M	BPSK	1	1	Bottom Side	10mm	Ant 10	state 12	656000	3840	1	12.34	13.50	1.306	-0.04	0.077	0.101
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Front	10mm	Ant 10	state 12	656000	3840	1	12.32	13.50	1.312	0.05	0.065	0.085
JL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Back	10mm	Ant 10	state 12	656000	3840	1	12.32	13.50	1.312	-0.06	0.250	0.328



# FCC SAR Test Report

Report No. : FA230112

UL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Left Side	10mm	Ant 10	state 12	656000	3840	1	12.32	13.50	1.312	-	n/a	n/a
UL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Right Side	10mm	Ant 10	state 12	656000	3840	1	12.32	13.50	1.312	-0.13	0.082	0.108
UL-MIMO FR1 N77(HPUE)	100M	BPSK	135	69	Bottom Side	10mm	Ant 10	state 12	656000	3840	1	12.32	13.50	1.312	0.15	0.076	0.100

## 14.3 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)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
<b>750MHz</b>																			
	LTE Band 71	20M	QPSK	1	49	-	Front	15mm	Ant 0	state 13/14	133297	680.5	1	24.40	26.00	1.445	0.03	0.199	0.288
62	LTE Band 71	20M	QPSK	1	49	-	Back	15mm	Ant 0	state 13/14	133297	680.5	1	24.40	26.00	1.445	-0.09	0.236	<b>0.341</b>
	LTE Band 71	20M	QPSK	50	24	-	Front	15mm	Ant 0	state 13/14	133297	680.5	1	23.42	25.00	1.439	0.15	0.158	0.227
	LTE Band 71	20M	QPSK	50	24	-	Back	15mm	Ant 0	state 13/14	133297	680.5	1	23.42	25.00	1.439	-0.07	0.183	0.263
	LTE Band 71	20M	QPSK	1	49	-	Front	15mm	Ant 2	state 13/14	133297	680.5	1	24.40	26.00	1.445	-0.09	0.147	0.212
	LTE Band 71	20M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	133297	680.5	1	24.40	26.00	1.445	-0.05	0.112	0.162
	LTE Band 71	20M	QPSK	50	24	-	Front	15mm	Ant 2	state 13/14	133297	680.5	1	23.42	25.00	1.439	0.08	0.115	0.165
	LTE Band 71	20M	QPSK	50	24	-	Back	15mm	Ant 2	state 13/14	133297	680.5	1	23.42	25.00	1.439	0.02	0.091	0.131
	LTE Band 12	10M	QPSK	1	49	-	Front	15mm	Ant 0	state 13/14	23095	707.5	1	24.29	26.00	1.483	0.02	0.161	0.239
63	LTE Band 12	10M	QPSK	1	49	-	Back	15mm	Ant 0	state 13/14	23095	707.5	1	24.29	26.00	1.483	0.03	0.204	<b>0.302</b>
	LTE Band 12	10M	QPSK	25	12	-	Front	15mm	Ant 0	state 13/14	23095	707.5	1	23.30	25.00	1.479	0.12	0.139	0.206
	LTE Band 12	10M	QPSK	25	12	-	Back	15mm	Ant 0	state 13/14	23095	707.5	1	23.30	25.00	1.479	0.04	0.155	0.229
	LTE Band 12	10M	QPSK	1	49	-	Front	15mm	Ant 2	state 13/14	23095	707.5	1	24.29	26.00	1.483	-0.17	0.163	0.242
	LTE Band 12	10M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	23095	707.5	1	24.29	26.00	1.483	0.03	0.132	0.196
	LTE Band 12	10M	QPSK	25	12	-	Front	15mm	Ant 2	state 13/14	23095	707.5	1	23.30	25.00	1.479	0.05	0.136	0.201
	LTE Band 12	10M	QPSK	25	12	-	Back	15mm	Ant 2	state 13/14	23095	707.5	1	23.30	25.00	1.479	0.18	0.110	0.163
	LTE Band 13	10M	QPSK	1	25	-	Front	15mm	Ant 0	state 13/14	23230	782	1	24.35	26.00	1.462	0.14	0.172	0.251
64	LTE Band 13	10M	QPSK	1	25	-	Back	15mm	Ant 0	state 13/14	23230	782	1	24.35	26.00	1.462	0.03	0.240	<b>0.351</b>
	LTE Band 13	10M	QPSK	25	12	-	Front	15mm	Ant 0	state 13/14	23230	782	1	23.40	25.00	1.445	0.08	0.136	0.197
	LTE Band 13	10M	QPSK	25	12	-	Back	15mm	Ant 0	state 13/14	23230	782	1	23.40	25.00	1.445	-0.06	0.181	0.262
	LTE Band 13	10M	QPSK	1	25	-	Front	15mm	Ant 2	state 13/14	23230	782	1	24.35	26.00	1.462	0.06	0.131	0.192
	LTE Band 13	10M	QPSK	1	25	-	Back	15mm	Ant 2	state 13/14	23230	782	1	24.35	26.00	1.462	0.14	0.096	0.140
	LTE Band 13	10M	QPSK	25	12	-	Front	15mm	Ant 2	state 13/14	23230	782	1	23.40	25.00	1.445	0.03	0.101	0.146
	LTE Band 13	10M	QPSK	25	12	-	Back	15mm	Ant 2	state 13/14	23230	782	1	23.40	25.00	1.445	0.15	0.075	0.108
	FR1 N12	15M	BPSK	1	40	DFT-15	Front	15mm	Ant 0	state 13/14	141500	707.5	1	25.19	26.00	1.205	-0.05	0.185	0.223
	FR1 N12	15M	BPSK	1	40	DFT-15	Back	15mm	Ant 0	state 13/14	141500	707.5	1	25.19	26.00	1.205	0.15	0.221	0.266
	FR1 N12	15M	BPSK	36	22	DFT-15	Front	15mm	Ant 0	state 13/14	141500	707.5	1	25.14	26.00	1.219	0.14	0.188	0.229
65	FR1 N12	15M	BPSK	36	22	DFT-15	Back	15mm	Ant 0	state 13/14	141500	707.5	1	25.14	26.00	1.219	0.06	0.221	<b>0.269</b>
	FR1 N12	15M	BPSK	1	40	DFT-15	Front	15mm	Ant 2	state 13/14	141500	707.5	1	25.19	26.00	1.205	0.18	0.127	0.153
	FR1 N12	15M	BPSK	1	40	DFT-15	Back	15mm	Ant 2	state 13/14	141500	707.5	1	25.19	26.00	1.205	-0.14	0.098	0.118
	FR1 N12	15M	BPSK	36	22	DFT-15	Front	15mm	Ant 2	state 13/14	141500	707.5	1	25.14	26.00	1.219	0.08	0.120	0.146
	FR1 N12	15M	BPSK	36	22	DFT-15	Back	15mm	Ant 2	state 13/14	141500	707.5	1	25.14	26.00	1.219	0.15	0.092	0.112
	FR1 N13	10M	BPSK	1	1	DFT-15	Front	15mm	Ant 0	state 13/14	156400	782	1	24.60	26.00	1.380	0.07	0.186	0.257
	FR1 N13	10M	BPSK	1	1	DFT-15	Back	15mm	Ant 0	state 13/14	156400	782	1	24.60	26.00	1.380	-0.08	0.264	0.364
	FR1 N13	10M	BPSK	25	14	DFT-15	Front	15mm	Ant 0	state 13/14	156400	782	1	24.45	26.00	1.429	-0.1	0.190	0.271
66	FR1 N13	10M	BPSK	25	14	DFT-15	Back	15mm	Ant 0	state 13/14	156400	782	1	24.45	26.00	1.429	-0.05	0.270	<b>0.386</b>
	FR1 N13	10M	BPSK	1	1	DFT-15	Front	15mm	Ant 2	state 13/14	156400	782	1	24.60	26.00	1.380	-0.19	0.087	0.120
	FR1 N13	10M	BPSK	1	1	DFT-15	Back	15mm	Ant 2	state 13/14	156400	782	1	24.60	26.00	1.380	-0.06	0.058	0.080
	FR1 N13	10M	BPSK	25	14	DFT-15	Front	15mm	Ant 2	state 13/14	156400	782	1	24.45	26.00	1.429	-0.08	0.083	0.119
	FR1 N13	10M	BPSK	25	14	DFT-15	Back	15mm	Ant 2	state 13/14	156400	782	1	24.45	26.00	1.429	0.12	0.055	0.079
	FR1 N71	20M	BPSK	1	1	DFT-15	Front	15mm	Ant 0	state 13/14	136100	680.5	1	24.67	26.00	1.358	0.13	0.139	0.189
	FR1 N71	20M	BPSK	1	1	DFT-15	Back	15mm	Ant 0	state 13/14	136100	680.5	1	24.67	26.00	1.358	-0.08	0.167	0.227
	FR1 N71	20M	BPSK	50	28	DFT-15	Front	15mm	Ant 0	state 13/14	136100	680.5	1	24.65	26.00	1.365	0.05	0.142	0.194
67	FR1 N71	20M	BPSK	50	28	DFT-15	Back	15mm	Ant 0	state 13/14	136100	680.5	1	24.65	26.00	1.365	-0.11	0.180	<b>0.246</b>
	FR1 N71	20M	BPSK	1	1	DFT-15	Front	15mm	Ant 2	state 13/14	136100	680.5	1	24.67	26.00	1.358	0.07	0.100	0.136

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FCC SAR Test Report

Report No. : FA230112

Table with columns for test parameters (FR1 N71, 20M, BPSK, 1, 1, DFT-15, Back, 15mm, Ant 2, state 13/14, 136100, 680.5, 1, 24.67, 26.00, 1.358, 0.1, 0.076, 0.103) and SAR results. Includes sub-sections for 835MHz, 1750MHz, and 1900MHz.

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	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	15mm	Ant 1	state 13/14	810	1909.8	1	29.89	31.00	1.291	0.06	0.251	0.324
75	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	15mm	Ant 1	state 13/14	810	1909.8	1	29.89	31.00	1.291	-0.02	0.293	<b>0.378</b>
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	15mm	Ant 2	state 13/14	810	1909.8	1	29.89	31.00	1.291	0.06	0.047	0.061
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	15mm	Ant 2	state 13/14	810	1909.8	1	29.89	31.00	1.291	-0.01	0.080	0.103
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 1	state 13/14	9538	1907.6	1	25.19	25.50	1.074	0.04	0.404	0.434
76	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	state 13/14	9538	1907.6	1	25.19	25.50	1.074	0.11	0.535	<b>0.575</b>
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 2	state 13/14	9538	1907.6	1	25.19	25.50	1.074	0.13	0.071	0.076
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 2	state 13/14	9538	1907.6	1	25.19	25.50	1.074	-0.08	0.134	0.144
	LTE Band 25	20M	QPSK	1	49	-	Front	15mm	Ant 1	state 13/14	26590	1905	1	24.54	26.00	1.400	0.07	0.275	0.385
77	LTE Band 25	20M	QPSK	1	49	-	Back	15mm	Ant 1	state 13/14	26590	1905	1	24.54	26.00	1.400	-0.17	0.322	<b>0.451</b>
	LTE Band 2C	20M	QPSK	1	49	-	Back	15mm	Ant 1	state 13/14	18900+ 19098	1880+ 1899.8	1	24.48	26.00	1.419	-0.18	0.300	0.426
	LTE Band 25	20M	QPSK	50	24	-	Front	15mm	Ant 1	state 13/14	26590	1905	1	23.63	25.00	1.371	0.05	0.230	0.315
	LTE Band 25	20M	QPSK	50	24	-	Back	15mm	Ant 1	state 13/14	26590	1905	1	23.63	25.00	1.371	-0.11	0.268	0.367
	LTE Band 25	20M	QPSK	1	49	-	Front	15mm	Ant 2	state 13/14	26590	1905	1	24.54	26.00	1.400	-0.05	0.069	0.097
	LTE Band 25	20M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	26590	1905	1	24.54	26.00	1.400	-0.03	0.131	0.183
	LTE Band 2C	20M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	18900+ 19098	1880+ 1899.8	1	24.48	26.00	1.419	0.03	0.115	0.163
	LTE Band 25	20M	QPSK	50	24	-	Front	15mm	Ant 2	state 13/14	26590	1905	1	23.63	25.00	1.371	-0.12	0.057	0.078
	LTE Band 25	20M	QPSK	50	24	-	Back	15mm	Ant 2	state 13/14	26590	1905	1	23.63	25.00	1.371	-0.02	0.102	0.140
	FR1 N25	20M	BPSK	1	1	DFT-15	Front	15mm	Ant 1	state 13/14	372000	1860	1	21.93	23.00	1.279	0.06	0.128	0.164
	FR1 N25	20M	BPSK	1	1	DFT-15	Back	15mm	Ant 1	state 13/14	372000	1860	1	21.93	23.00	1.279	-0.1	0.136	0.174
	FR1 N25	20M	BPSK	50	28	DFT-15	Front	15mm	Ant 1	state 13/14	372000	1860	1	21.92	23.00	1.282	-0.18	0.121	0.155
78	FR1 N25	20M	BPSK	50	28	DFT-15	Back	15mm	Ant 1	state 13/14	372000	1860	1	21.92	23.00	1.282	-0.16	0.144	<b>0.185</b>
	FR1 N25	20M	BPSK	1	1	DFT-15	Front	15mm	Ant 2	state 13/14	372000	1860	1	25.10	26.00	1.230	0.06	0.070	0.086
	FR1 N25	20M	BPSK	1	1	DFT-15	Back	15mm	Ant 2	state 13/14	372000	1860	1	25.10	26.00	1.230	-0.1	0.118	0.145
	FR1 N25	20M	BPSK	50	28	DFT-15	Front	15mm	Ant 2	state 13/14	372000	1860	1	24.96	26.00	1.271	0.03	0.070	0.089
	FR1 N25	20M	BPSK	50	28	DFT-15	Back	15mm	Ant 2	state 13/14	372000	1860	1	24.96	26.00	1.271	0.09	0.112	0.142

**2300MHz**

	LTE Band 30	10M	QPSK	1	49	-	Front	15mm	Ant1	state 13/14	27710	2310	1	25.84	26.00	1.038	0.03	0.237	0.246
79	LTE Band 30	10M	QPSK	1	49	-	Back	15mm	Ant1	state 13/14	27710	2310	1	25.84	26.00	1.038	0.16	0.320	<b>0.332</b>
	LTE Band 30	10M	QPSK	25	25	-	Front	15mm	Ant1	state 13/14	27710	2310	1	24.67	25.00	1.079	0.06	0.202	0.218
	LTE Band 30	10M	QPSK	25	25	-	Back	15mm	Ant1	state 13/14	27710	2310	1	24.67	25.00	1.079	0.08	0.187	0.202
	LTE Band 30	10M	QPSK	1	49	-	Front	15mm	Ant 2	state 13/14	27710	2310	1	25.33	25.50	1.040	0.02	0.228	0.237
	LTE Band 30	10M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	27710	2310	1	25.33	25.50	1.040	-0.03	0.316	0.329
	LTE Band 30	10M	QPSK	25	25	-	Front	15mm	Ant 2	state 13/14	27710	2310	1	23.98	24.50	1.127	-0.05	0.158	0.178
	LTE Band 30	10M	QPSK	25	25	-	Back	15mm	Ant 2	state 13/14	27710	2310	1	23.98	24.50	1.127	0.04	0.228	0.257

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	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)
<b>2600MHz</b>																					
	LTE Band 7	20M	QPSK	1	99	-	Front	15mm	Ant 1	state 13/14	20850	2510	1	21.33	23.00	1.469	-	-	0.05	0.126	0.185
	LTE Band 7	20M	QPSK	1	99	-	Back	15mm	Ant 1	state 13/14	20850	2510	1	21.33	23.00	1.469	-	-	-0.18	0.139	0.204
	LTE Band 7C	20M	QPSK	1	99	-	Back	15mm	Ant 1	state 13/14	20850+ 21048	2510+ 2529.8	1	21.31	23.00	1.476	-	-	-0.05	0.137	0.202
	LTE Band 7	20M	QPSK	50	24	-	Front	15mm	Ant 1	state 13/14	20850	2510	1	20.39	22.00	1.449	-	-	0.05	0.101	0.146
	LTE Band 7	20M	QPSK	50	24	-	Back	15mm	Ant 1	state 13/14	20850	2510	1	20.39	22.00	1.449	-	-	0.15	0.109	0.158
	LTE Band 7	20M	QPSK	1	99	-	Front	15mm	Ant 2	state 13/14	20850	2510	1	22.99	24.50	1.416	-	-	0.02	0.120	0.170
80	LTE Band 7	20M	QPSK	1	99	-	Back	15mm	Ant 2	state 13/14	20850	2510	1	22.99	24.50	1.416	-	-	-0.16	0.281	<b>0.398</b>
	LTE Band 7C	20M	QPSK	1	99	-	Back	15mm	Ant 2	state 13/14	20850+ 21048	2510+ 2529.8	1	22.94	24.50	1.432	-	-	-0.06	0.277	0.397
	LTE Band 7	20M	QPSK	50	24	-	Front	15mm	Ant 2	state 13/14	20850	2510	1	22.09	23.50	1.384	-	-	0.05	0.096	0.133
	LTE Band 7	20M	QPSK	50	24	-	Back	15mm	Ant 2	state 13/14	20850	2510	1	22.09	23.50	1.384	-	-	-0.11	0.225	0.311
	LTE Band 41	20M	QPSK	1	49	-	Front	15mm	Ant 1	state 13/14	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-0.06	0.148	0.177
	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 1	state 13/14	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-0.04	0.172	0.206
	LTE Band 41C	20M	QPSK	1	49	-	Back	15mm	Ant 1	state 13/14	41490+ 41292	2680+ 2660.2	1	25.00	26.00	1.259	42.9	1.009	-0.03	0.160	0.203
	LTE Band 41	20M	QPSK	50	24	-	Front	15mm	Ant 1	state 13/14	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-0.06	0.119	0.142



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	LTE Band 41	20M	QPSK	50	24	-	Back	15mm	Ant 1	state 13/14	41490	2680	1	24.26	25.00	1.186	62.9	1.006	-0.14	0.145	0.173
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Front	15mm	Ant 1	state 13/14	41490	2680	1	25.74	27.00	1.337	42.9	1.009	0.05	0.129	0.174
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Back	15mm	Ant 1	state 13/14	41490	2680	1	25.74	27.00	1.337	42.9	1.009	-0.02	0.175	0.236
	LTE Band 41C(HPUE)	20M	QPSK	1	49	-	Back	15mm	Ant 1	state 13/14	41490+2680+41292	2680+2660.2	1	25.70	27.00	1.349	42.9	1.009	-0.14	0.162	0.220
	LTE Band 41(HPUE)	20M	QPSK	50	24	-	Front	15mm	Ant 1	state 13/14	41490	2680	1	24.76	26.00	1.330	42.9	1.009	0.04	0.094	0.126
	LTE Band 41(HPUE)	20M	QPSK	50	24	-	Back	15mm	Ant 1	state 13/14	41490	2680	1	24.76	26.00	1.330	42.9	1.009	0.11	0.135	0.181
	LTE Band 41	20M	QPSK	1	49	-	Front	15mm	Ant 2	state 13/14	41490	2680	1	25.24	26.00	1.191	62.9	1.006	0.04	0.185	0.222
81	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	41490	2680	1	25.24	26.00	1.191	62.9	1.006	-0.06	0.319	0.382
	LTE Band 41(HPUE)	20M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	41490	2680	1	26.32	27.50	1.312	42.9	1.009	-0.03	0.259	0.343
	LTE Band 41C	20M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	41490+2680+41292	2680+2660.2	1	25.09	26.00	1.233	62.9	1.006	-0.02	0.301	0.373
	LTE Band 41C(HPUE)	20M	QPSK	1	49	-	Back	15mm	Ant 2	state 13/14	41490+2680+41292	2680+2660.2	1	26.24	27.50	1.337	42.9	1.009	-0.05	0.250	0.337
	LTE Band 41	20M	QPSK	50	24	-	Front	15mm	Ant 2	state 13/14	41490	2680	1	24.26	25.00	1.186	62.9	1.006	0.11	0.144	0.172
	LTE Band 41	20M	QPSK	50	24	-	Back	15mm	Ant 2	state 13/14	41490	2680	1	24.26	25.00	1.186	62.9	1.006	0.09	0.259	0.309
	FR1 N7	40M	BPSK	1	1	DFT-15	Front	15mm	Ant 1	state 13/14	507000	2535	1	22.13	23.50	1.371	-	-	0.16	0.113	0.155
	FR1 N7	40M	BPSK	1	1	DFT-15	Back	15mm	Ant 1	state 13/14	507000	2535	1	22.13	23.50	1.371	-	-	-0.09	0.190	0.260
	FR1 N7	40M	BPSK	108	54	DFT-15	Front	15mm	Ant 1	state 13/14	507000	2535	1	22.10	23.50	1.380	-	-	0.03	0.112	0.155
	FR1 N7	40M	BPSK	108	54	DFT-15	Back	15mm	Ant 1	state 13/14	507000	2535	1	22.10	23.50	1.380	-	-	0.11	0.185	0.255
	FR1 N7	40M	BPSK	1	1	DFT-15	Front	15mm	Ant 2	state 13	507000	2535	1	24.64	26.00	1.368	-	-	0.03	0.239	0.327
	FR1 N7	40M	BPSK	1	1	DFT-15	Back	15mm	Ant 2	state 13	507000	2535	1	24.64	26.00	1.368	-	-	-0.05	0.386	0.528
	FR1 N7	40M	BPSK	108	54	DFT-15	Front	15mm	Ant 2	state 13	507000	2535	1	24.62	26.00	1.374	-	-	0.07	0.240	0.330
82	FR1 N7	40M	BPSK	108	54	DFT-15	Back	15mm	Ant 2	state 13	507000	2535	1	24.62	26.00	1.374	-	-	0.05	0.416	0.572
	FR1 N7	40M	BPSK	1	1	DFT-15	Front	15mm	Ant 2	state 14	507000	2535	1	22.60	24.00	1.380	-	-	0.08	0.147	0.203
	FR1 N7	40M	BPSK	1	1	DFT-15	Back	15mm	Ant 2	state 14	507000	2535	1	22.60	24.00	1.380	-	-	0.11	0.245	0.338
	FR1 N7	40M	BPSK	108	54	DFT-15	Front	15mm	Ant 2	state 14	507000	2535	1	22.58	24.00	1.387	-	-	0.06	0.151	0.209
	FR1 N7	40M	BPSK	108	54	DFT-15	Back	15mm	Ant 2	state 14	507000	2535	1	22.58	24.00	1.387	-	-	0.17	0.255	0.354
	FR1 N38	40M	BPSK	1	1	DFT-30	Front	15mm	Ant 1	state 13/14	519000	2595	1	22.30	23.50	1.318	-	-	0.06	0.175	0.231
	FR1 N38	40M	BPSK	1	1	DFT-30	Back	15mm	Ant 1	state 13/14	519000	2595	1	22.30	23.50	1.318	-	-	-0.02	0.194	0.256
	FR1 N38	40M	BPSK	50	28	DFT-30	Front	15mm	Ant 1	state 13/14	519000	2595	1	22.28	23.50	1.324	-	-	0.11	0.166	0.220
	FR1 N38	40M	BPSK	50	28	DFT-30	Back	15mm	Ant 1	state 13/14	519000	2595	1	22.28	23.50	1.324	-	-	-0.07	0.185	0.245
	FR1 N38	40M	BPSK	1	1	DFT-30	Front	15mm	Ant 2	state 13	519000	2595	1	23.82	25.00	1.312	-	-	0.08	0.227	0.298
83	FR1 N38	40M	BPSK	1	1	DFT-30	Back	15mm	Ant 2	state 13	519000	2595	1	23.82	25.00	1.312	-	-	-0.03	0.453	0.594
	FR1 N38	40M	BPSK	50	28	DFT-30	Front	15mm	Ant 2	state 13	519000	2595	1	23.80	25.00	1.318	-	-	0.06	0.218	0.287
	FR1 N38	40M	BPSK	50	28	DFT-30	Back	15mm	Ant 2	state 13	519000	2595	1	23.80	25.00	1.318	-	-	-0.09	0.442	0.583
	FR1 N38	40M	BPSK	1	1	DFT-30	Front	15mm	Ant 2	state 14	519000	2595	1	21.80	23.00	1.318	-	-	0.02	0.142	0.187
	FR1 N38	40M	BPSK	1	1	DFT-30	Back	15mm	Ant 2	state 14	519000	2595	1	21.80	23.00	1.318	-	-	-0.08	0.291	0.384
	FR1 N38	40M	BPSK	50	28	DFT-30	Front	15mm	Ant 2	state 14	519000	2595	1	21.78	23.00	1.324	-	-	0.07	0.138	0.183
	FR1 N38	40M	BPSK	50	28	DFT-30	Back	15mm	Ant 2	state 14	519000	2595	1	21.78	23.00	1.324	-	-	-0.11	0.284	0.376
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Front	15mm	Ant 7	state 13/14	518598	2592.99	1	25.67	27.50	1.524	-	-	0.08	0.126	0.192
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Back	15mm	Ant 7	state 13/14	518598	2592.99	1	25.67	27.50	1.524	-	-	-0.11	0.148	0.226
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Front	15mm	Ant 7	state 13/14	518598	2592.99	1	25.55	27.50	1.567	-	-	0.06	0.137	0.215
84	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Back	15mm	Ant 7	state 13/14	518598	2592.99	1	25.55	27.50	1.567	-	-	-0.05	0.155	0.243
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Front	15mm	Ant 8	state 13/14	518598	2592.99	1	25.67	27.50	1.524	-	-	0.06	0.083	0.126
	FR1 N41(HPUE)	100M	BPSK	1	1	DFT-30	Back	15mm	Ant 8	state 13/14	518598	2592.99	1	25.67	27.50	1.524	-	-	-0.07	0.095	0.145
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Front	15mm	Ant 8	state 13/14	518598	2592.99	1	25.55	27.50	1.567	-	-	0.03	0.088	0.138
	FR1 N41(HPUE)	100M	BPSK	135	69	DFT-30	Back	15mm	Ant 8	state 13/14	518598	2592.99	1	25.55	27.50	1.567	-	-	-0.04	0.097	0.152
3000-4000MHz																					
	LTE Band 48	20M	QPSK	1	49	-	Front	15mm	Ant 7	state 13/14	56640	3690	1	24.96	26.00	1.271	62.9	1.006	0.03	0.062	0.079
	LTE Band 48	20M	QPSK	1	49	-	Back	15mm	Ant 7	state 13/14	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-0.07	0.140	0.179
	LTE Band 48	20M	QPSK	50	24	-	Front	15mm	Ant 7	state 13/14	56640	3690	1	23.84	25.00	1.306	62.9	1.006	0.05	0.054	0.071
	LTE Band 48	20M	QPSK	50	24	-	Back	15mm	Ant 7	state 13/14	56640	3690	1	23.84	25.00	1.306	62.9	1.006	-0.1	0.121	0.159
	LTE Band 48	20M	QPSK	1	49	-	Front	15mm	Ant 8	state 13/14	56640	3690	1	24.96	26.00	1.271	62.9	1.006	-0.08	0.099	0.126
	LTE Band 48	20M	QPSK	1	49	-	Back	15mm	Ant 8	state 13/14	56640	3690	1	24.96	26.00	1.271	62.9	1.006	0.03	0.072	0.092
	LTE Band 48	20M	QPSK	50	24	-	Front	15mm	Ant 8	state 13/14	56640	3690	1	23.84	25.00	1.306	62.9	1.006	0.04	0.092	0.121
	LTE Band 48	20M	QPSK	50	24	-	Back	15mm	Ant 8	state 13/14	56640	3690	1	23.84	25.00	1.306	62.9	1.006	0.11	0.068	0.089
	LTE Band 48	20M	QPSK	1	49	-	Front	15mm	Ant 9	state 13/14	56640	3690	1	19.96	21.00	1.271	62.9	1.006	-0.05	0.074	0.095