FCC SAR Test Report

APPLICANT	: Motorola Mobility LLC
EQUIPMENT	: Mobile Cellular Phone
BRAND NAME	: Motorola
MODEL NAME	: XT2409-1, XT2409-6
FCC ID	: IHDT56AS6
STANDARD	: FCC 47 CFR Part 2 (2.1093)

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been in compliance with the applicable technical standards.

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

Approved by: Si Zhang

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

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA452307	Rev. 01	Initial issue of report.	Jul. 05, 2024

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2409-1, XT2409-6,** are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission
			1g SAR (W/kg)			1g SAR (W/kg)
Licensed	GSM	GSM850	0.89	**1.29**	**1.29**	1.59
		GSM1900	0.24	1.27	1.28	
	WCDMA	WCDMA II	0.37	1.27	1.28	
		WCDMA IV	0.26	**1.29**	1.27	
		WCDMA V	0.88	1.24	1.24	
	LTE	LTE Band 7	0.89	1.27	**1.29**	
		LTE Band 12/17	0.88	1.22	1.22	
		LTE Band 13	0.89	1.25	1.25	
		LTE Band 25/2	0.89	1.27	1.27	
		LTE Band 26/5	0.83	1.26	1.26	
		LTE Band 66/4	0.89	1.27	1.28	
		LTE Band 41/38	0.89	**1.29**	**1.29**	
		LTE Band 42	0.89	0.61	0.89	
	5G NR	FR1 n2	0.88	1.28	1.28	
		FR1 n7	0.89	1.27	**1.29**	
		FR1 n26/n5	0.88	0.70	0.70	
		FR1 n66	0.89	1.28	1.28	
		FR1 n41/n38	0.89	**1.29**	1.28	
		FR1 n77/n78	0.89	1.28	1.28	
DTS	WLAN	2.4GHz WLAN	**1.13**	0.57	1.11	1.59
NII		5GHz WLAN	1.12	0.64	1.18	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.74	0.23	0.24	1.58

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	3.01	3.68
		GSM1900	2.97	
	WCDMA	WCDMA II	3.16	
		WCDMA IV	3.16	
		WCDMA V	2.12	
	LTE	LTE Band 7	3.16	
		LTE Band 12/17	2.63	
		LTE Band 13	2.00	
		LTE Band 25/2	3.17	
		LTE Band 26/5	2.25	
		LTE Band 66/4	3.17	
		LTE Band 41/38	3.17	
		LTE Band 42	2.48	
	5G NR	FR1 n2	3.16	
		FR1 n7	3.16	
		FR1 n66	3.10	
		FR1 n41/38	3.15	
		FR1 n77/n78	3.17	
DTS	WLAN	2.4GHz WLAN	2.20	3.42
NII		5GHz WLAN	**3.18**	3.68
Date of Testing:			2024/5/28 ~ 2024/6/30	

Remark:
1. This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE 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 5GNR n38/n5/n78 and n41/n26/n77. Since the supported frequency span for 5GNR n38/n5/n78 falls completely within the supports frequency span for n41/n26/n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n41/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. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR07-KS	CN1257	314309

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

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

3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2409-1, XT2409-6
FCC ID	IHDT56AS6
IMEI Code	IMEI1: 354637960030055 IMEI2: 354637960030063
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 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 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 ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6GHz U-NII-5: 5925 MHz ~ 6425 MHz WLAN 6GHz U-NII-6: 6425 MHz ~ 6525 MHz WLAN 6GHz U-NII-7: 6525 MHz ~ 6875 MHz WLAN 6GHz 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 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 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac/ax VHT20/VHT40/VHT80/HE20/HE40/HE80

	WLAN 6GHz 802.11ax HE20/HE40/HE80 Bluetooth BR/EDR/LE NFC: ASK
HW Version	DVT2
SW Version	UUI34.42
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only). WLAN 6GHz has no hotspot function.
4. The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO/SISO antenna mode.
5. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
6. This device supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active).
7. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the MediaTek TA-SAR will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
8. For WLAN/BT when transmit simultaneously with each other, or when transmit simultaneous with WWAN/BT, power reduction will be activated to head exposure conditions. For WLAN/BT when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions.
9. For some WWAN bands, sensor on power level is higher than hotspot power level, so front/back sensor on SAR can represent hotspot conservatively.
10. 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.
11. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
12. 5GNR n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
13. 5GNR n77/n78 HPUE with higher power, 5G NR n77/n78 HPUE SAR can represent power class 3 level SAR.
14. The device support DBS (Dual Band Simultaneous) function, when the device 2.4GHz and 5GHz or 6GHz transmit at the same time for simultaneous transmission compliance.
15. 5GNR n77/78 supports UL MIMO.
16. The two model names are only for different market purpose, and all the others are the same.
17. There are two samples, the different between them refer to the XT2409-1, XT2409-6_Operational Description of Product Equality Declaration which is exhibit separately. According to the differences, sample 1 was chosen to perform full SAR testing and sample 2 to verify the worst case of sample 1.
18. SAR and Power density test report for WLAN 6GHz 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 WLAN 6GHz U-NII-5/6/7/8.
19. This device has NFC function and the NFC SAR report will be separately submitted.
20. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n2	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 50
	n26	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 45
	n38	TDD	30	10, 15, 20, 25, 30, 40
	n41	TDD	30	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	n77	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
SA	n2	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 50
	n26	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 45
	n38	TDD	30	10, 15, 20, 25, 30, 40
	n41	TDD	30	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	n77	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r05</th></tr>
<tr><td>FCC ID</td><td>IHDT56AS6</td></tr>
<tr><td>Equipment Name</td><td>Mobile Cellular Phone</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>LTE Band 2: 1850 MHz ~ 1910 MHz
LTE Band 4: 1710 MHz ~ 1755 MHz
LTE Band 5: 824 MHz ~ 849 MHz
LTE Band 7: 2500 MHz ~ 2570 MHz
LTE Band 12: 699 MHz ~ 716 MHz
LTE Band 13: 777 MHz ~ 787 MHz
LTE Band 17: 704 MHz ~ 716 MHz
LTE Band 25: 1850 MHz ~ 1915 MHz
LTE Band 26: 814 MHz ~ 849 MHz
LTE Band 38: 2570 MHz ~ 2620 MHz
LTE Band 41: 2496 MHz ~ 2690 MHz
LTE Band 42: 3450 MHz ~3550 MHz
LTE Band 66: 1710 MHz ~ 1780 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 13: 5MHz, 10MHz
LTE Band 17: 5MHz, 10MHz
LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz
LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK / 16QAM / 64QAM / 256QAM</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Voice and Data</td></tr>
<tr><td>LTE Release Version</td><td>R15</td></tr>
<tr><td>CA Support</td><td>Supported, Uplink and Downlink</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr>
<tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr>
<tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body -worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 14.</td></tr>
<tr><td>LTE Carrier Aggregation Combinations</td><td>Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.</td></tr>
<tr><td>LTE Carrier Aggregation Additional Information</td><td>1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance.
2. This device supports maximum of 3 carriers in the downlink and 2 carriers in the uplink.</td></tr>
</table>

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5		
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5		

LTE Band 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 42								
	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	42115	3452.5	42140	3455	42165	3457.5	42190	3460
M	42590	3500	42590	3500	42590	3500	42590	3500
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540

<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 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 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	Yes	Yes	Yes	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	Head ECI 2 Tune-up Limit	Body-worn ECI 3 Tune-up Limit	Hotspot ECI 7 Tune-up Limit	Extremity ECI 6 Tune-up Limit	Sensor off ECI 4 Tune-up Limit	Default Tune-up Limit
LTE Band 25(2)	Ant 1	24.00	21.80	19.50	22.60	24.00	24.00
LTE Band 2 other PA	Ant 1	24.00	21.80	19.50	22.60	24.00	24.00
LTE Band 25(2)	Ant 4	17.70	17.70	14.30	19.00	23.00	23.00
LTE Band 2 other PA	Ant 4	17.70	17.70	14.30	19.00	23.00	23.00
LTE Band 66(4)	Ant 1	24.00	22.20	19.70	22.70	24.00	24.00
LTE Band 66(4) other PA	Ant 1	24.00	22.20	19.70	22.70	24.00	24.00
LTE Band 66(4)	Ant 4	18.10	16.70	15.30	20.60	23.00	23.00
LTE Band 66(4) other PA	Ant 4	18.10	16.70	15.30	20.60	23.00	23.00
LTE Band 26(5)	Ant 0	24.00	24.00	24.00	24.00	24.00	24.00
LTE Band 26(5)	Ant 4	23.00	23.00	21.30	23.00	23.00	23.00
LTE Band 12(17)	Ant 0	24.00	24.00	24.00	24.00	24.00	24.00
LTE Band 12(17)	Ant 4	22.60	24.00	21.90	24.00	24.00	24.00
LTE Band 41(38)	Ant 1	24.00	22.80	21.70	22.30	24.00	24.00
LTE Band 41(38) other PA	Ant 1	24.00	22.80	21.70	22.30	24.00	24.00
LTE Band 41 HPUE	Ant 1	27.00	24.40	23.30	23.90	27.00	27.00
LTE Band 41(38)	Ant 4	19.70	19.30	18.00	20.10	23.00	23.00
LTE Band 41(38) other PA	Ant 4	19.70	19.30	18.00	20.10	23.00	23.00
LTE Band 41 HPUE	Ant 4	21.30	20.90	19.60	21.70	26.00	26.00

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 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 5GNR FR1 bands table.
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B4/5/66
LTE Anchor Bands for n5	LTE B2/4/7/66
LTE Anchor Bands for n7	LTE B2/4/5/66
LTE Anchor Bands for n26	LTE B7
LTE Anchor Bands for n38	LTE B4/66
LTE Anchor Bands for n41	LTE B4/5/66
LTE Anchor Bands for n66	LTE B2/5/7
LTE Anchor Bands for n77	LTE B7/41
LTE Anchor Bands for n78	LTE B2/4/5/7/26/38/41/66

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

NR Band 2

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	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	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	373500	1867.5	374000	1870
M	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900	379500	1897.5	379000	1895	378500	1892.5	378000	1890

NR Band 5

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

NR Band 7

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	503500	2517.5	504000	2520	505000	2525
M	507000	2535	507000	2535	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	510500	2552.5	510000	2550	509000	2545

NR Band 26

	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

	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz	
	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	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730	346500	1732.5
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760	351500	1757.5

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

NR Band 41																										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	501204	2506.02	501702	2508.51	502200	2511	502704	2513.52	503202	2516.01	503700	2518.5	504204	2521.02	505200	2526	500202	2501.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	535500	2677.5	534996	2674.98	534498	2672.49	534000	2670	533496	2667.48	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640

NR Band 77																										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	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	656000	3840		
H	665000	3975	664834	3972.51	664666	3970.02	664500	3967.5	664332	3965.01	664000	3960	663668	3955.02	663332	3950.01	663000	3945	662666	3940.02	662332	3935.01	662000	3930		

NR Band 78																										
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	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	650000	3750		
H	653000	3795	652834	3792.51	652668	3790.02	652500	3787.5	652334	3785.01	652000	3780	651668	3775.02	651334	3770.01	651000	3765	650668	3760.02	650334	3755.01				

<For NR Overlap Bands Description>

1) NR Bands BW

Band	5 MHz	10 MHz	15 MHz	20 MHz	25 MHz	30 MHz	35 MHz	40 MHz	45 MHz	50 MHz	60 MHz	70 MHz	80 MHz	90 MHz	100 MHz
FR1 n5	Yes	Yes	Yes	Yes											
FR1 n26	Yes	Yes	Yes	Yes											
FR1 n38		Yes	Yes	Yes	Yes	Yes		Yes							
FR1 n41		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FR1 n77		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes
FR1 n78		Yes	Yes	Yes	Yes	Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes

2) NR Bands Tune up:

Band	Antenna	Head ECI 2 Tune-up Limit	Body-worn ECI 3 Tune-up Limit	Hotspot ECI 7 Tune-up Limit	Extremity ECI 6 Tune-up Limit	Sensor off ECI 4 Tune-up Limit	Default Tune-up Limit
FR1 n26(5)	Ant 0	24.00	24.00	24.00	24.00	24.00	24.00
FR1 n26(5)	Ant 4	23.80	24.00	24.00	24.00	24.00	24.00
FR1 n41(38)	Ant 1	24.00	23.10	19.40	22.30	24.00	24.00
FR1 n41(38)	Ant 4	19.70	18.90	16.10	20.50	24.00	24.00
FR1 n41(38)	Ant 2	19.60	20.00	14.20	19.50	19.50	20.00
FR1 n41(38)	Ant 0	22.00	22.00	22.00	22.00	22.00	22.00
FR1 n77(78)	Ant 3	18.50	20.40	15.40	21.00	24.00	24.00
FR1 n77(78) HPUE	Ant 3	18.50	20.40	15.40	21.00	27.00	27.00
FR1 n77(78)	Ant 5	19.30	20.40	16.60	20.00	24.00	24.00
FR1 n77(78) other PA	Ant 5	17.50	17.50	16.60	17.50	17.50	17.50
FR1 n77(78) other PA HPUE	Ant 5	19.30	20.40	16.60	20.00	20.50	20.50
FR1 n77(78)	Ant 9	24.00	23.10	18.70	22.60	22.60	24.00
FR1 n77(78) HPUE	Ant 9	27.00	23.10	18.70	22.60	22.60	27.00
FR1 n77(78)	Ant 7	18.00	19.80	18.70	23.60	24.00	24.00
FR1 n77(78) other PA	Ant 7	18.00	19.80	18.70	20.50	20.50	20.50
FR1 n77(78) other PA HPUE	Ant 7	18.00	19.80	18.70	23.50	23.50	23.50

5. TA-SAR feature for RF Exposure compliance

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

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

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

The Plimit values correspond to SAR_design_target. The power will be fixed at the static reduce power level at different exposure conditions for RF exposure compliance. For the GSM (TDD) Plimit power levels in the table correspond to the burst average power levels which don't account for TX duty cycle.

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for TA-SAR algorithm. SAR char will be entered via the MediaTek's NV suggestion to enable the TA-SAR Feature.

<Terminologies in this report>

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

<SAR Characterization>

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

<SAR design target and uncertainty>

Item	Uncertainty dB (k=2)
Total uncertainty	1.5

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

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

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

TA-SAR allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit.

<P_{limit} for supported technologies and bands>

Band	Antenna	Head ECI 2	Body-Worn ECI 3	Hotspot ECI 7	Extremity ECI 6	Sensor off ECI 4	Pmax
GSM850	Ant 0	30.6	24.1	24.1	25.2	25.0	25.0
GSM850	Ant 4	22.5	25.6	24.1	24.0	24.0	24.0
GSM1900	Ant 1	29.8	22.5	20.7	22.8	22.5	22.5
WCDMA II	Ant 1	28.4	20.6	19.1	21.7	23.0	23.0
WCDMA IV	Ant 1	30	20.3	19.3	21.3	23.0	23.0
WCDMA V	Ant 0	29.2	23.1	23.1	23.0	23.0	23.0
WCDMA V	Ant 4	21.4	22.8	21.4	22.0	22.0	22.0
LTE Band 25(2)	Ant 1	28	20.8	18.5	21.6	23.0	23.0
LTE Band 2 other PA	Ant 1	28	20.8	18.5	21.6	23.0	23.0
LTE Band 25(2)	Ant 4	16.7	16.7	13.3	18.0	22.0	22.0
LTE Band 2 other PA	Ant 4	16.7	16.7	13.3	18.0	22.0	22.0
LTE Band 66(4)	Ant 1	30.3	21.2	18.7	21.7	23.0	23.0
LTE Band 66(4) other PA	Ant 1	30.3	21.2	18.7	21.7	23.0	23.0
LTE Band 66(4)	Ant 4	17.1	15.7	14.3	19.6	22.0	22.0
LTE Band 66(4) other PA	Ant 4	17.1	15.7	14.3	19.6	22.0	22.0
LTE Band 26(5)	Ant 0	28.5	23.1	23.1	23.0	23.0	23.0
LTE Band 26(5)	Ant 4	22.3	22.1	20.5	22.0	22.0	22.0
LTE Band 7	Ant 1	30.3	20.6	18.8	21.1	23.0	23.0
LTE Band 7 other PA	Ant 1	30.3	20.6	18.8	21.1	23.0	23.0
LTE Band 7	Ant 4	17.9	17.1	15.5	17.6	22.0	22.0
LTE Band 7 other PA	Ant 4	17.9	17.1	15.5	17.6	22.0	22.0
LTE Band 12(17)	Ant 0	29.7	23.2	23.2	23.0	23.0	23.0
LTE Band 12(17)	Ant 4	21.6	23.1	20.9	23.0	23.0	23.0
LTE Band 13	Ant 0	29.2	23.1	23.1	23.0	23.0	23.0
LTE Band 13	Ant 4	21.6	23.0	20.7	23.0	23.0	23.0
LTE Band 41(38)	Ant 1	30.5	19.8	18.7	19.3	22.4	21.0
LTE Band 41(38) other PA	Ant 1	30.5	19.8	18.7	19.3	22.4	21.0
LTE Band 41 HPUE	Ant 1	30.5	19.8	18.7	19.3	22.4	22.4
LTE Band 41(38)	Ant 4	16.7	16.3	15.0	17.1	21.4	20.0
LTE Band 41(38) other PA	Ant 4	16.7	16.3	15.0	17.1	21.4	20.0
LTE Band 41 HPUE	Ant 4	16.7	16.3	15.0	17.1	21.4	21.4
LTE Band 42	Ant 3	13	16.6	14.0	19.9	21.0	21.0
FR1 n2	Ant 1	30.7	22.3	20.4	23.0	23.0	23.0
FR1 n2 other PA	Ant 1	30.7	22.3	20.4	23.0	23.0	23.0
FR1 n2	Ant 4	18.3	18.1	15.2	19.6	23.0	23.0
FR1 n2 other PA	Ant 4	18.3	18.1	15.2	19.6	23.0	23.0
FR1 n26(5)	Ant 0	32.2	25.6	25.6	23.0	23.0	23.0
FR1 n26(5)	Ant 4	22.8	24.5	23.0	23.0	23.0	23.0
FR1 n7	Ant 1	31.1	21.6	18.3	21.9	23.0	23.0
FR1 n7	Ant 4	18.4	17.9	14.9	19.3	22.0	22.0
FR1 n66	Ant 1	31.3	21.9	20.9	23.1	23.0	23.0
FR1 n66 other PA	Ant 1	31.3	21.9	20.9	23.1	23.0	23.0
FR1 n66	Ant 4	18	18.0	16.0	20.8	23.0	23.0
FR1 n66 other PA	Ant 4	18	18.0	16.0	20.8	23.0	23.0
FR1 n41(38)	Ant 1	31.4	22.1	18.4	21.3	23.0	23.0
FR1 n41(38)	Ant 4	18.7	17.9	15.1	19.5	23.0	23.0
FR1 n41(38)	Ant 2	18.6	20.7	13.2	18.5	18.5	19.0

FR1 n41(38)	Ant 0	32.3	23.0	22.5	22.3	21.0	21.0
FR1 n77(78)	Ant 3	17.5	19.4	14.4	20.0	26.0	23.0
FR1 n77(78) HPUE	Ant 3	17.5	19.4	14.4	20.0	26.0	26.0
FR1 n77(78)	Ant 5	18.3	19.4	15.6	19.0	23.0	23.0
FR1 n77(78) other PA	Ant 5	18.3	19.4	15.6	19.0	23.0	16.5
FR1 n77(78) other PA HPUE	Ant 5	18.3	19.4	15.6	19.0	23.0	19.5
FR1 n77(78)	Ant 9	28.1	22.1	17.7	21.6	21.6	23.0
FR1 n77(78) HPUE	Ant 9	28.1	22.1	17.7	21.6	21.6	26.0
FR1 n77(78)	Ant 7	17	18.8	17.7	22.6	23.0	23.0
FR1 n77(78) other PA	Ant 7	17	18.8	17.7	22.6	23.0	19.5
FR1 n77(78) other PA HPUE	Ant 7	17	18.8	17.7	22.6	23.0	22.5

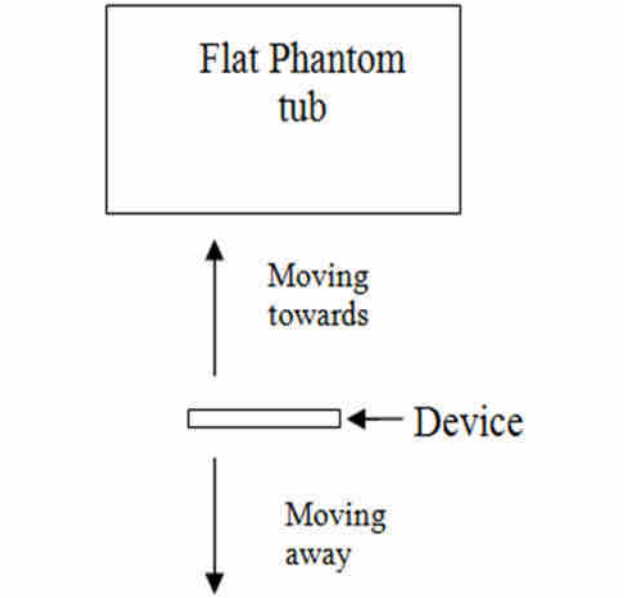
Note:

1) *P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to Pmax + 1.0 dB device uncertainty.
2) All Plimit power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).
3) The max allowed output power is the Plimit + 1.0 dB device uncertainty, and if Plimit is higher than Pmax, the device output power will be Pmax instead.

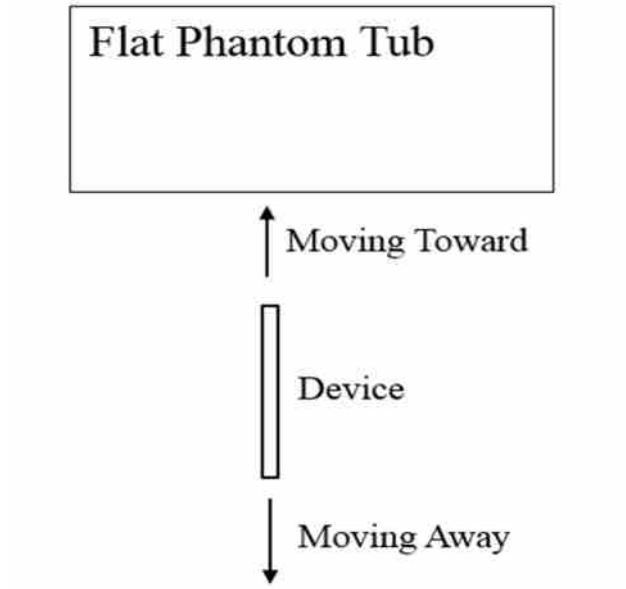
6. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (7125MHz) and lowest (835MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s). When front or back body worn condition is detected reduced power will be active.
5. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left/right sides of the device. When front/back/top/bottom/left/right sides of handheld condition is detected reduced power will be active.
6. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed:



Sensor/Handheld detection test set-up, Front and Back sides



Handheld detection test set-up, Left Side, Right Side, Bottom Side and Top Side

<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	16	20	16	20

<Handheld for ANT1>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	13	7	13	13	18

<Handheld for ANT3/4>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	18	23	22	25	20	26	20	25

<Handheld for ANT 5/6/7/8>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	13	11	16	12	17	8	14

7. RF Exposure Limits

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

8. Specific Absorption Rate (SAR)

8.1 Introduction

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

8.2 SAR Definition

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

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

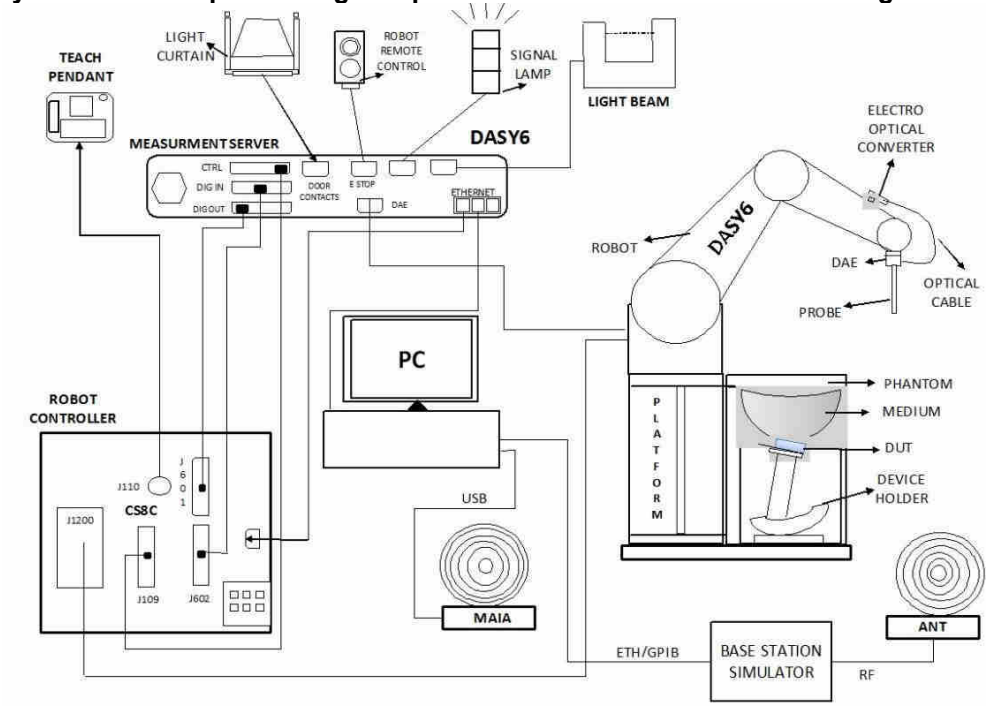
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

9. System Description and Setup

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win10 and the DASY5 or DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

9.1 E-Field Probe

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

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Frequency	4 MHz – 10 GHz Linearity: ±0.2 dB (30 MHz – 10 GHz)
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm

9.2 Data Acquisition Electronics (DAE)

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

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

Photo of DAE

9.3 Phantom

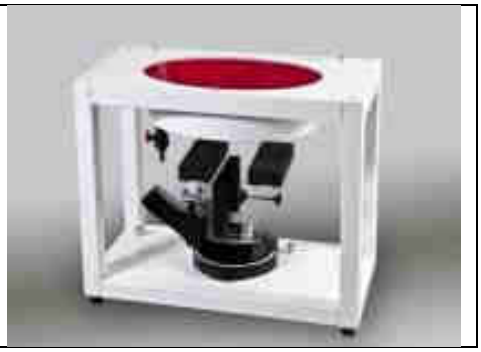
<SAM Twin Phantom>

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

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

<ELI Phantom>

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



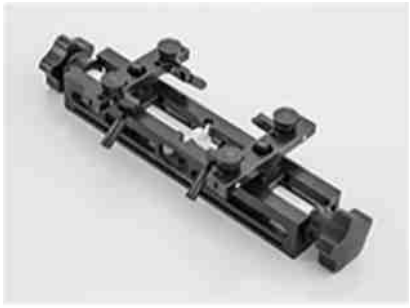
The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices or for evaluating transmitters operating at low frequencies. ELI is fully compatible with standard and all known tissue simulating liquids.

9.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

10. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

10.1 Spatial Peak SAR Evaluation

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

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

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

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

10.2 Power Reference Measurement

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

10.3 Area Scan

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

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

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

10.4 Zoom Scan

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

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

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

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

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

10.5 Volume Scan Procedures

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

10.6 Power Drift Monitoring

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

11. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2022/2/24	2025/2/22
SPEAG	835MHz System Validation Kit	D835V2	4d091	2022/8/19	2025/8/18
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2022/2/24	2025/2/22
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	2022/3/30	2025/3/28
SPEAG	2450MHz System Validation Kit	D2450V2	1095	2024/2/8	2025/2/7
SPEAG	2600MHz System Validation Kit	D2600V2	1112	2023/12/18	2024/12/17
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2023/11/20	2024/11/19
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2023/11/20	2024/11/19
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2023/3/9	2026/3/8
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2022/9/23	2025/9/22
SPEAG	Data Acquisition Electronics	DAE4	1303	2023/11/20	2024/11/19
SPEAG	Dosimetric E-Field Probe	EX3DV4	7706	2024/1/24	2025/1/23
SPEAG	SAM Twin Phantom	SAM Twin	TP-2024	NCR	NCR
Testo	Thermo-Hygrometer	608-H1	1241332126	2023/7/10	2024/7/9
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6262306175	2023/7/5	2024/7/4
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2023/7/5	2024/7/4
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2023/8/17	2024/8/16
Anritsu	Vector Signal Generator	MG3710A	6201682672	2024/1/2	2025/1/1
Rohde & Schwarz	Power Meter	NRVD	102081	2023/7/5	2024/7/4
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2023/7/5	2024/7/4
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2023/7/5	2024/7/4
R&S	BLUETOOTH TESTER	CBT	101246	2024/1/2	2025/1/1
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	2023/10/11	2024/10/10
TES	DIGITAC THERMOMETER	1310	220305411	2023/7/8	2024/7/7
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	

Note:

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

12. System Verification

12.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 11.2.

Fig 11.1 Photo of Liquid Height for Head SAR

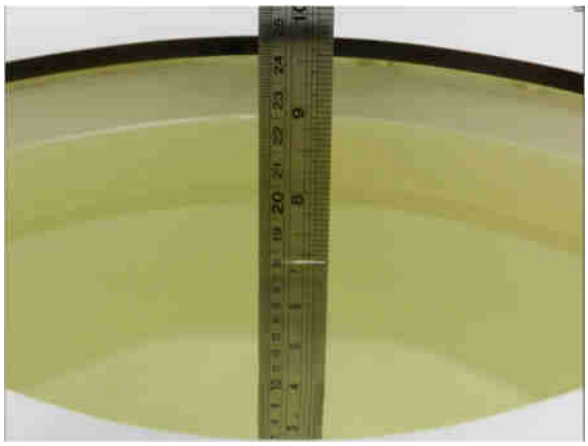


Fig 11.2 Photo of Liquid Height for Body SAR

12.2 Tissue Verification

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

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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.8	0.905	42.7	0.89	41.90	1.69	1.91	±5	2024/5/28
835	Head	22.9	0.924	41.4	0.90	41.50	2.67	-0.24	±5	2024/5/29
1750	Head	22.7	1.35	40.1	1.37	40.10	-1.46	0.00	±5	2024/5/30
1900	Head	22.6	1.43	39.8	1.40	40.00	2.14	-0.50	±5	2024/5/31
2450	Head	22.9	1.86	38.4	1.80	39.20	3.33	-2.04	±5	2024/6/1
2600	Head	22.7	1.96	40.4	1.96	39.00	0.00	3.59	±5	2024/6/2
3500	Head	22.8	2.88	38.5	2.91	37.90	-1.03	1.58	±5	2024/6/3
3700	Head	22.6	3.08	38.0	3.12	37.70	-1.28	0.80	±5	2024/6/4
3900	Head	22.9	3.28	37.6	3.32	37.50	-1.20	0.27	±5	2024/6/5
5250	Head	22.7	4.57	35.5	4.71	35.90	-2.97	-1.11	±5	2024/6/6
5600	Head	22.6	4.95	34.8	5.07	35.50	-2.37	-1.97	±5	2024/6/7
5750	Head	22.9	5.13	34.6	5.22	35.40	-1.72	-2.26	±5	2024/6/8
750	Head	22.7	0.925	42.4	0.89	41.90	3.93	1.19	±5	2024/6/9
835	Head	22.6	0.915	41.3	0.90	41.50	1.67	-0.48	±5	2024/6/10
1750	Head	22.9	1.38	40.2	1.37	40.10	0.73	0.25	±5	2024/6/12
1900	Head	22.7	1.45	39.9	1.40	40.00	3.57	-0.25	±5	2024/6/14
2450	Head	22.8	1.85	39.1	1.80	39.20	2.78	-0.26	±5	2024/6/16
2600	Head	22.9	1.93	39.0	1.96	39.00	-1.53	0.00	±5	2024/6/18
3500	Head	22.7	2.80	38.9	2.91	37.90	-3.78	2.64	±5	2024/6/20
3700	Head	22.6	2.98	38.6	3.12	37.70	-4.49	2.39	±5	2024/6/22
3900	Head	22.9	3.25	37.8	3.32	37.50	-2.11	0.80	±5	2024/6/24
5250	Head	22.7	4.56	35.0	4.71	35.90	-3.18	-2.51	±5	2024/6/26
5600	Head	22.9	4.94	34.4	5.07	35.50	-2.56	-3.10	±5	2024/6/28
5750	Head	22.7	5.12	34.1	5.22	35.40	-1.92	-3.67	±5	2024/6/30

12.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2024/5/28	750	Head	50	1087	7706	1303	0.435	8.58	8.7	1.40
2024/5/29	835	Head	50	4d091	7706	1303	0.505	9.45	10.1	6.88
2024/5/30	1750	Head	50	1090	7706	1303	1.99	37.00	39.8	7.57
2024/5/31	1900	Head	50	5d118	7706	1303	2.09	39.30	41.8	6.36
2024/6/1	2450	Head	50	1095	7706	1303	2.76	52.60	55.2	4.94
2024/6/2	2600	Head	50	1112	7706	1303	2.82	55.10	56.4	2.36
2024/6/3	3500	Head	50	1037	7706	1303	3.41	65.40	68.2	4.28
2024/6/4	3700	Head	50	1008	7706	1303	3.45	67.20	69	2.68
2024/6/5	3900	Head	50	1048	7706	1303	3.32	69.10	66.4	-3.91
2024/6/6	5250	Head	50	1113	7706	1303	3.84	81.50	76.8	-5.77
2024/6/7	5600	Head	50	1113	7706	1303	4.25	82.60	85	2.91
2024/6/8	5750	Head	50	1113	7706	1303	3.82	80.80	76.4	-5.45
2024/6/9	750	Head	50	1087	7706	1303	0.426	8.58	8.52	-0.70
2024/6/10	835	Head	50	4d091	7706	1303	0.504	9.45	10.08	6.67
2024/6/12	1750	Head	50	1090	7706	1303	1.84	37.00	36.8	-0.54
2024/6/14	1900	Head	50	5d118	7706	1303	2.06	39.30	41.2	4.83
2024/6/16	2450	Head	50	1095	7706	1303	2.63	52.60	52.6	0.00
2024/6/18	2600	Head	50	1112	7706	1303	2.68	55.10	53.6	-2.72
2024/6/20	3500	Head	50	1037	7706	1303	3.19	65.40	63.8	-2.45
2024/6/22	3700	Head	50	1008	7706	1303	3.31	67.20	66.2	-1.49
2024/6/24	3900	Head	50	1048	7706	1303	3.23	69.10	64.6	-6.51
2024/6/26	5250	Head	50	1113	7706	1303	3.88	81.50	77.6	-4.79
2024/6/28	5600	Head	50	1113	7706	1303	4.03	82.60	80.6	-2.42
2024/6/30	5750	Head	50	1113	7706	1303	3.87	80.80	77.4	-4.21

<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 (%)
2024/5/28	750	Head	50	1087	7706	1303	0.292	5.65	5.84	3.36
2024/5/29	835	Head	50	4d091	7706	1303	0.328	6.22	6.56	5.47
2024/5/30	1750	Head	50	1090	7706	1303	1.01	19.50	20.2	3.59
2024/5/31	1900	Head	50	5d118	7706	1303	1.10	20.40	22	7.84
2024/6/1	2450	Head	50	1095	7706	1303	1.31	24.70	26.2	6.07
2024/6/2	2600	Head	50	1112	7706	1303	1.29	24.80	25.8	4.03
2024/6/3	3500	Head	50	1037	7706	1303	1.31	24.70	26.2	6.07
2024/6/4	3700	Head	50	1008	7706	1303	1.30	24.40	26	6.56
2024/6/5	3900	Head	50	1048	7706	1303	1.19	24.10	23.8	-1.24
2024/6/6	5250	Head	50	1113	7706	1303	1.16	23.30	23.2	-0.43
2024/6/7	5600	Head	50	1113	7706	1303	1.22	23.70	24.4	2.95
2024/6/8	5750	Head	50	1113	7706	1303	1.15	23.00	23	0.00
2024/6/9	750	Head	50	1087	7706	1303	0.277	5.65	5.54	-1.95
2024/6/10	835	Head	50	4d091	7706	1303	0.325	6.22	6.5	4.50
2024/6/12	1750	Head	50	1090	7706	1303	0.965	19.50	19.3	-1.03
2024/6/14	1900	Head	50	5d118	7706	1303	1.05	20.40	21	2.94
2024/6/16	2450	Head	50	1095	7706	1303	1.23	24.70	24.6	-0.40
2024/6/18	2600	Head	50	1112	7706	1303	1.21	24.80	24.2	-2.42

2024/6/20	3500	Head	50	1037	7706	1303	1.22	24.70	24.4	-1.21
2024/6/22	3700	Head	50	1008	7706	1303	1.23	24.40	24.6	0.82
2024/6/24	3900	Head	50	1048	7706	1303	1.16	24.10	23.2	-3.73
2024/6/26	5250	Head	50	1113	7706	1303	1.16	23.30	23.2	-0.43
2024/6/28	5600	Head	50	1113	7706	1303	1.15	23.70	23	-2.95
2024/6/30	5750	Head	50	1113	7706	1303	1.15	23.00	23	0.00

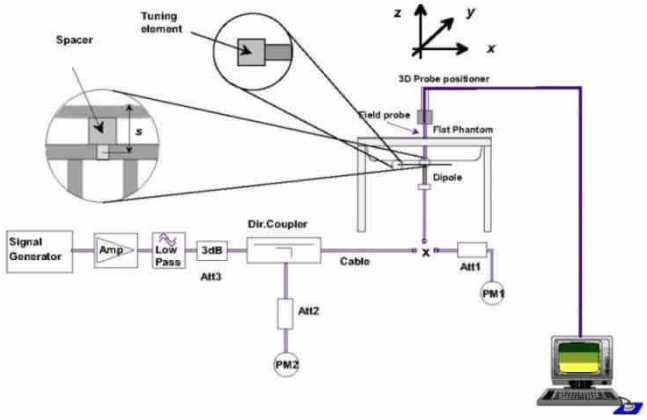


Fig 11.3.1 System Performance Check Setup

Fig 11.3.2 Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

Figure 12.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 12.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 12.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 12.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

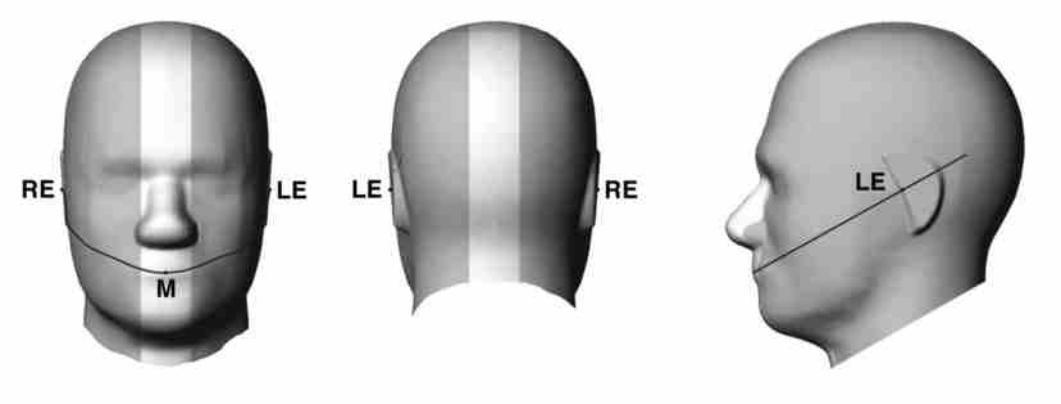


Fig 12.1.1 Front, back, and side views of SAM twin phantom

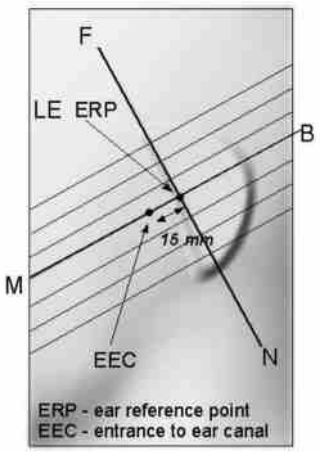


Fig 12.1.2 Close-up side view of phantom showing the ear region.

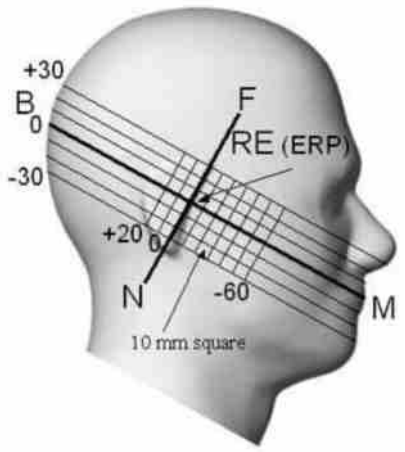


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

13.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Figure 12.2.1 and Figure 12.2.2), and the midpoint of the width wb of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 12.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 12.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 12.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 12.2.3. The actual rotation angles should be documented in the test report.

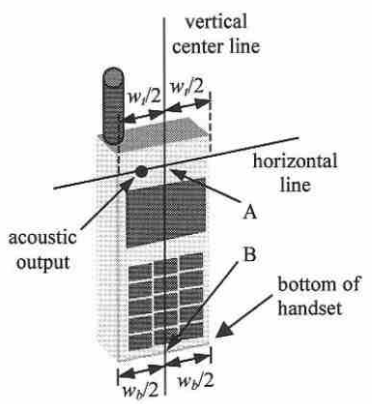


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case

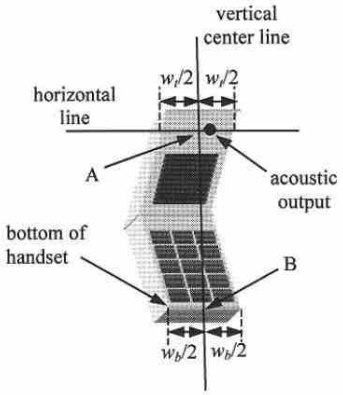


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

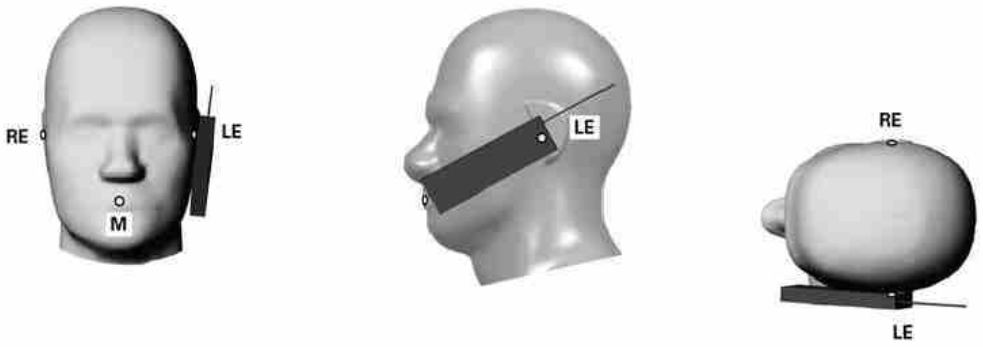


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

13.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 12.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

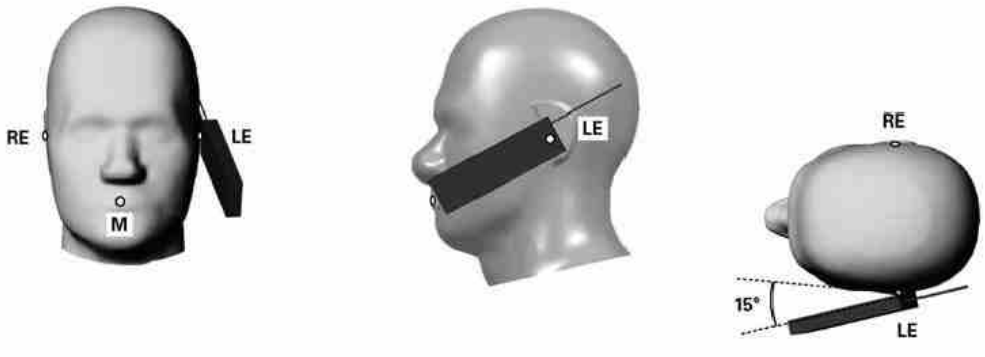


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

13.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 11.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

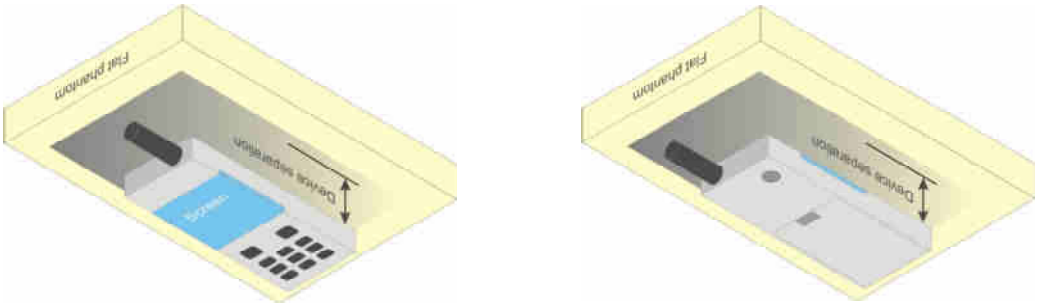


Fig 12.4 Body Worn Position

13.5 Product Specific 10g SAR Exposure

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

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

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

13.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined form general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

14. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

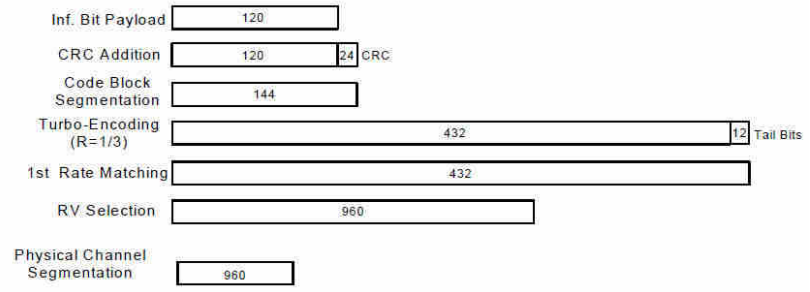


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:

1. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
2. The RF path losses were compensated into the measurements.
3. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2E:HSPA+:UL with 16QAM
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.4, quoted from the TS 34.121-1 s5.2E
   iii. Set Channel Parms
   iv. Set Cell Power = -86 dBm
   v. Set Channel Type = HSPA
   vi. Set UE Target Power =21 dBm
   vii. Power Ctrl Mode= All Up Bits
   viii. Set Manual Uplink DPCH Bc/Bd = Manual
   ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
   x. Set HSPA Conn DL Channel Levels
   xi. Set HS-SCCH Configs
   xii. Set RB Test Mode Setup
   xiii. Set Common HSUPA Parameters
   xiv. Set Serving Grant
   xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
4. The transmitted maximum output power was recorded.

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

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

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

Setup Configuration

<WCDMA Conducted Power>

General Note:

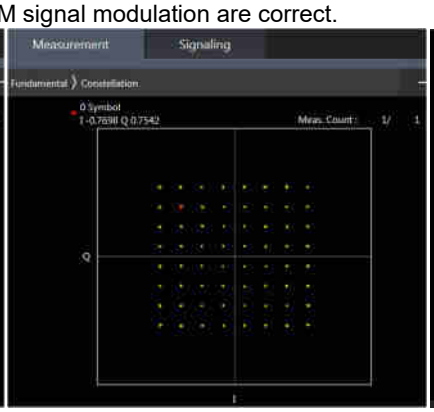
1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA /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

<LTE Conducted Power>

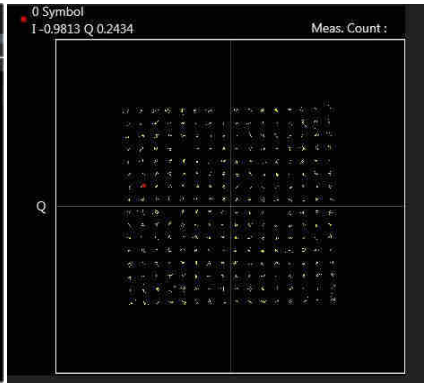
General Note:

1. Anritsu MT8821C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / 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 B4 / B5 / B17 / B38 SAR test was covered by 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 ≤ 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.

16QAM



64QAM



256QAM

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

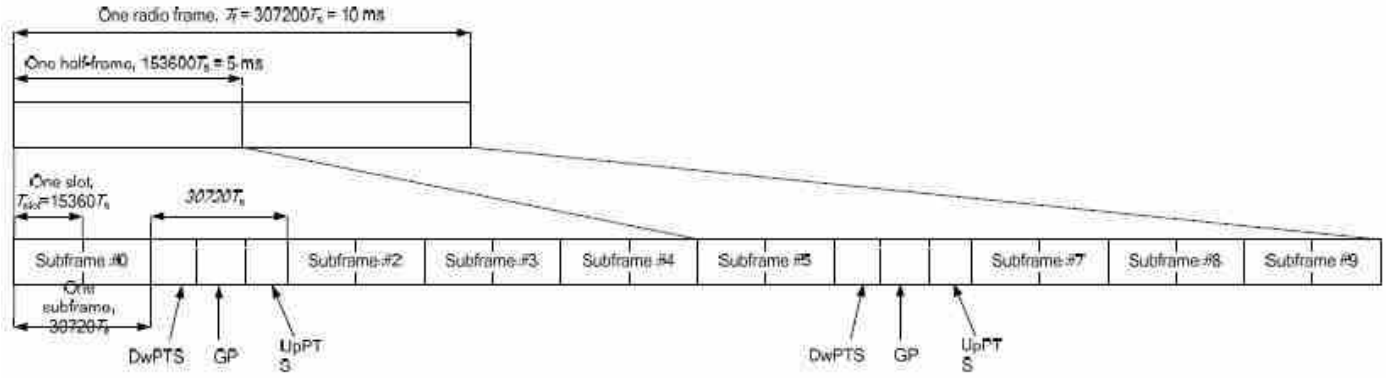


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

For LTE TDD Power class 2

i. Uplink-downlink configuration: 1. In a half-frame consisted of 5 subfames, 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 LTE TDD Power class 3

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.
ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.167)/5 = 63.3%
iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.143)/5 = 62.9%
v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

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>

The detailed LTE Carrier Aggregation conducted power table can refer to Appendix F.

General Note:

5. 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.
6. 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.
7. 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	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	CA_26A-41A		1	CA_2A-2A-4A	
2	CA_26A-66A	3CC-29	2	CA_2A-2A-5A	
3	CA_2A-26A		3	CA_2A-2A-66A	
4	CA_2A-2A	3CC-1	4	CA_2A-2A-7A	
5	CA_2A-38A		5	CA_2A-4A-4A	
6	CA_2A-4A	3CC-5	6	CA_2A-4A-5A	
7	CA_2A-5A	3CC-2	7	CA_2A-4A-7A	
8	CA_2A-66A	3CC-3	8	CA_2A-5A-66A	
9	CA_2A-7A	3CC-4	9	CA_2A-5A-7A	
10	CA_2C		10	CA_2A-66A-66A	
11	CA_38A-66A	3CC-30	11	CA_2A-7A-66A	
12	CA_38C		12	CA_2A-7A-7A	
13	CA_41A-41A	3CC-14	13	CA_2A-7C	
14	CA_41A-42A		14	CA_41A-41A-41A	
15	CA_41C		15	CA_41A-41C	
16	CA_42A-42A	3CC-31	16	CA_41A-42C	
17	CA_42C	3CC-16	17	CA_41C-42A	
18	CA_4A-4A	3CC-5	18	CA_41D	
19	CA_4A-5A	3CC-6	19	CA_42D	
20	CA_4A-7A	3CC-7	20	CA_4A-4A-5A	
21	CA_4C	3CC-24	21	CA_4A-4A-7A	
22	CA_5A-5A	3CC-25	22	CA_4A-5A-7A	
23	CA_5A-66A	3CC-26	23	CA_4A-7C	
24	CA_5A-7A	3CC-9	24	CA_4C-7A	
25	CA_66A-66A	3CC-10	25	CA_5A-5A-66A	
26	CA_66B		26	CA_5A-66A-66A	
27	CA_66C		27	CA_5A-7A-66A	
28	CA_7A-26A	3CC-29	28	CA_5A-7C	
29	CA_7A-42A	3CC-31	29	CA_7A-26A-66A	
30	CA_7A-66A	3CC-29	30	CA_7A-38A-66A	
31	CA_7A-7A	3CC-12	31	CA_7A-42A-42A	
32	CA_7B		32	CA_7A-66A-66A	
33	CA_7C	3CC-33	33	CA_7C-66A	

LTE Carrier Aggregation Conducted Power (Downlink)

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

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

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

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

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

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

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

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

LTE 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Band 2/4/7/38/41/42/66 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 2/4/7/38/41/42/66

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Intra-band	Antenna Tx	ASDiv-1 Tx
CA_38C	ANT1	ANT4
CA_41C	ANT1	ANT4
CA_42C	ANT3	
CA_7C	ANT1	ANT4

<Intra-band>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B7/42/41/38 with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.

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

iii. According 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 whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<Inter-band uplink carrier aggregation consideration>

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Inter-band	Main Antenna Tx	ASDiv-1 Tx
CA_2A-4A	ANT1+ANT4	ANT4+ANT1
CA_2A-66A	ANT1+ANT4	ANT4+ANT1
CA_2A-7A	ANT1+ANT4	ANT4+ANT1
CA_4A-5A	ANT1+ANT4	ANT4+ANT0
CA_4A-7A	ANT1+ANT4	ANT4+ANT1
CA_5A-66A	ANT4+ANT1	ANT0+ANT4
CA_5A-7A	ANT4+ANT1	ANT0+ANT4
CA_41A-42A	ANT1+ANT3	

General Note:

1. The single carrier of inte-band CA uplink power level is the same as Non-CA standalone LTE power level.
2. The product implements MediaTek TA-SAR feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. MediaTek's TA-SAR algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit. In Part 1 Report, simultaneous transmission compliance was evaluated with other Radios (WLAN or BT) using standalone LTE SAR mode.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n2/n5/n7 /n26/n66 /n38/n41 /n77/n78 is SA and NSA mode.
2. 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 QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
   d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
   f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
3. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
4. 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.
5. 5GNR NSA mode, the power level is the same as 5GNR SA mode, so 5GNR NSA mode and SA mode power table only show one time.
6. 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.
7. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
8. 5GNR n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
9. 5GNR n77/n78 HPUE with higher power, 5G NR n77/n78 HPUE SAR can represent power class 3 level SAR.
10. For NR inter-band ULCA mode, MediaTek's TA-SAR algorithm in WWAN adds directly the time-averaged RF exposure between two NR bands. TA-SAR algorithm algorithm controls the total RF exposure base on NR inter band ULCA bands to not exceed FCC limit.
11. 5GNR n77/78 supports UL MIMO.

<3GPP 38.101 MPR for EN-DC>

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

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

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

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

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

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

<EN-DC combination>

ENDC	Main Antenna Tx		ASDiv-1 Tx	
	LTE TX	NR TX	LTE TX	NR TX
DC_26A_n78A	ANT0	ANT3	ANT4	ANT5
DC_2A_n5A	ANT1	ANT4	ANT4	ANT0
DC_2A_n66A	ANT1	ANT4	ANT4	ANT1
DC_2A_n78A	ANT1	ANT3	ANT4	ANT5
DC_2A_n7A	ANT1	ANT4	ANT4	ANT1
DC_38A_n78A	ANT1	ANT3	ANT4	ANT5
DC_41A_n77A	ANT1	ANT3	ANT4	ANT5
DC_41A_n78A	ANT1	ANT3	ANT4	ANT5
DC_4A_n2A	ANT1	ANT4	ANT4	ANT1
DC_4A_n38A	ANT4	ANT1	ANT1	ANT4
DC_4A_n41A	ANT4	ANT1	ANT1	ANT4
DC_4A_n5A	ANT1	ANT4	ANT4	ANT0
DC_4A_n78A	ANT1	ANT3	ANT4	ANT5
DC_4A_n7A	ANT1	ANT4	ANT4	ANT1
DC_5A_n2A	ANT4	ANT1	ANT0	ANT4
DC_5A_n41A	ANT4	ANT1	ANT0	ANT4
DC_5A_n66A	ANT4	ANT1	ANT0	ANT4
DC_5A_n78A	ANT0	ANT3	ANT4	ANT5
DC_5A_n7A	ANT4	ANT1	ANT0	ANT4
DC_66A_n2A	ANT1	ANT4	ANT4	ANT1
DC_66A_n38A	ANT4	ANT1	ANT1	ANT4
DC_66A_n41A	ANT4	ANT1	ANT1	ANT4
DC_66A_n5A	ANT1	ANT4	ANT4	ANT0
DC_66A_n78A	ANT1	ANT3	ANT4	ANT5
DC_66A_n7A	ANT1	ANT4	ANT4	ANT1
DC_7A_n26A	ANT1	ANT4	ANT4	ANT0

DC_7A_n5A	ANT1	ANT4	ANT4	ANT0
DC_7A_n66A	ANT1	ANT4	ANT4	ANT1
DC_7A_n77A	ANT1	ANT3	ANT4	ANT5
DC_7A_n78A	ANT1	ANT3	ANT4	ANT5

Inter-Band CA Configuration:

NR Uplink CA	2CC Uplink Carrier Aggregation	
Inter-band	Main Antenna Tx	ASDiv-1 Tx
CA_n38A- n78A	ANT1+ANT3	ANT4+ANT5

UL MIMO Configuration:

ULMIMO	Main Antenna Tx	ASDiv Tx
5G NR n77/n78	Ant3	Ant5/7/9
	Ant5	Ant3/9/7
	Ant9	Ant3/5/7
	Ant7	Ant3/5/9

<WLAN Conducted Power>

General Note:

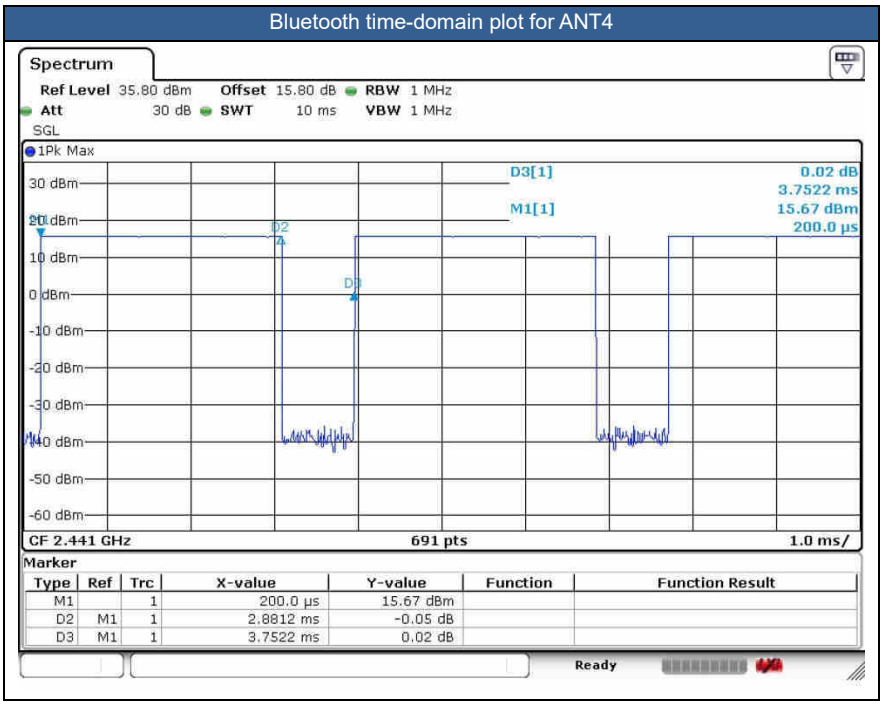
1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For “Not required”, SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) 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 in the initial test configuration. Additional output power measurements were not necessary.
2. 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.
3. 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).
4. 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.
5. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
    a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
    b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
    c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
6. The 2.4GHz/5GHz WLAN can transmit in SISO/MIMO antenna mode.
7. 802.11 ax supports both full tone size mode and partial tone size mode, after verification on partial tone size mode that partial size tone mode power will not be higher than full tone size mode, therefore, full tone mode power was chosen to be measured in this report.
8. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of two SISO antennas respectively to calculate sum of the power for MIMO mode.
9. SISO and MIMO all supported by WLAN2.4GHz/WLAN5GHz, for SISO mode power is less than per chain power of MIMO mode. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power, so only chose MIMO mode to perform SAR testing. However, in order to do SISO simultaneous transmission, additional tested the WLAN 2.4GHz SISO antenna 6 and the WLAN 5GHz SISO antenna 7.

<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 76.79% as following figure, Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation.

Bluetooth time-domain plot for ANT4



15. Antenna Location

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

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
   d. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   e. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   f. 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.
   g. 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 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements the power management, proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the MediaTek TA-SAR will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. For WLAN/BT when transmit simultaneously with each other, or when transmit simultaneous with WWAN/BT, power reduction will be activated to head exposure conditions. For WLAN/BT when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions.
6. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
7. Per KDB648474 D04v01r03, when the EUT is in flip open configuration with 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/IV/V, LTE Band 2/4/5/7/12/13/17/25/26/66/38/41/42, 5GNR n2/n7 /n66/n38/n41 /n77/n78, WLAN2.4 /5.2GHz/5.8GHz, therefore product specific 10g SAR is necessary.
   b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
   c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
8. Although the headset SAR is greater than 0.8 W/kg, the headset SAR verified the worst of the non-headset SAR and less than non-headset SAR, so there is no need to be tested other channels.
9. Although the distance 1gSAR is greater than 0.8 W/kg at body-worn exposure conditions, the distance SAR verified the

worst of the non-distance SAR and less than non-distance SAR, so there is no need to be tested other channels.

10. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
11. LTE Band 2/4/7/66/38/41 at ant1/4 and 5GNR n2/66 at ant1/4, 5GNR n77/78 at ant5/7 support different PAs for some antennas, and LTE/NR bands support Other PA only under ENDC & UL CA. Some LTE/NR bands support different PAs for some antennas, whether it is the maximum power of Main PA is higher than and very close to the other PA, for RF exposure, after verification all PAs in a same position, so the worst-case PA was chosen to perform full SAR testing to ensure the RF exposure is compliance and other PAs verified the worst case.

GSM Note:

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

WCDMA Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / 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 B4 / B5 / B17 / B38 SAR test was covered by 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 ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
   b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
   c. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
   d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
   e. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
   f. For 5G FR1 n5 /n7/n26/n66/n38/n41 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN/Bluetooth Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. The 2.4GHz/5GHz WLAN can transmit in SISO/MIMO antenna mode.
7. SISO and MIMO all supported by WLAN2.4GHz/WLAN5GHz, for SISO mode power is less than per chain power of MIMO mode. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power, so only chose MIMO mode to perform SAR testing. However, in order to do SISO simultaneous transmission, additional tested the WLAN 2.4GHz SISO antenna 6 and the WLAN 5GHz SISO antenna 7.
8. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. Further simplification chose the worse SAR value and the worst scaling factor from each transmit chain perform reported SAR calculation conservatively. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain.

ECI status description：

The device has the following ECI state which used at different exposure condition.

This WWAN bands enabled with MediaTek TA-SAR feature which located at chapter 5. The default power is Pmax power, When Plimit power higher than Pmax power, the output power will be limited at Pmax, and so the SAR will use Pmax power to do the testing.

Exposure Condition	ECI	Trigger conditions
Head SAR	ECI2	Earpiece On
Body worn Mode SAR	ECI3	Sensor On
Hotspot Mode SAR	ECI7	Hotspot On
Extremity(Handheld) SAR	ECI6	Sensor On
Sensor off SAR	ECI4	Sensor Off

16.1 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	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	0	-	Right Cheek	0mm	Ant 0	ECI 2	23095	707.5	1	22.35	24.00	1.462	-	-	0.08	0.123	0.180
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	ECI 2	23095	707.5	1	21.39	23.00	1.449	-	-	0.01	0.097	0.141
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	ECI 2	23095	707.5	1	22.35	24.00	1.462	-	-	0.03	0.088	0.129
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	ECI 2	23095	707.5	1	21.39	23.00	1.449	-	-	-0.08	0.071	0.103
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	23095	707.5	1	22.35	24.00	1.462	-	-	0.1	0.188	0.275
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	ECI 2	23095	707.5	1	21.39	23.00	1.449	-	-	-0.08	0.151	0.219
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	ECI 2	23095	707.5	1	22.35	24.00	1.462	-	-	0.1	0.107	0.156
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	ECI 2	23095	707.5	1	21.39	23.00	1.449	-	-	-0.18	0.085	0.123
01	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	23095	707.5	1	21.70	22.60	1.230	-	-	-0.09	0.713	**0.877**
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 4	ECI 2	23095	707.5	1	21.50	22.60	1.288	-	-	0.12	0.574	0.739
	LTE Band 12	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	23095	707.5	1	21.48	22.60	1.294	-	-	0.08	0.575	0.744
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	23095	707.5	1	21.70	22.60	1.230	-	-	-0.17	0.700	0.861
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 4	ECI 2	23095	707.5	1	21.50	22.60	1.288	-	-	-0.03	0.556	0.716
	LTE Band 12	10M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	23095	707.5	1	21.48	22.60	1.294	-	-	0.14	0.555	0.718
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	23095	707.5	1	21.70	22.60	1.230	-	-	0.11	0.355	0.437
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 4	ECI 2	23095	707.5	1	21.50	22.60	1.288	-	-	-0.05	0.289	0.372
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	23095	707.5	1	21.70	22.60	1.230	-	-	0.18	0.330	0.406
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 4	ECI 2	23095	707.5	1	21.50	22.60	1.288	-	-	0.14	0.257	0.331
	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	ECI 2	23230	782	1	22.52	24.00	1.406	-	-	0.1	0.146	0.205
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	ECI 2	23230	782	1	21.49	23.00	1.416	-	-	0.12	0.116	0.164
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	ECI 2	23230	782	1	22.52	24.00	1.406	-	-	0.08	0.102	0.143
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	ECI 2	23230	782	1	21.49	23.00	1.416	-	-	-0.17	0.082	0.116
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	23230	782	1	22.52	24.00	1.406	-	-	0.01	0.221	0.311
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	ECI 2	23230	782	1	21.49	23.00	1.416	-	-	-0.03	0.174	0.246
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	ECI 2	23230	782	1	22.52	24.00	1.406	-	-	0.14	0.130	0.183
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	ECI 2	23230	782	1	21.49	23.00	1.416	-	-	0.11	0.103	0.146
02	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	23230	782	1	21.45	22.60	1.303	-	-	-0.17	0.685	**0.893**
	LTE Band 13	10M	QPSK	1	0		Right Cheek	0mm	Ant 4	ECI 2	23230	782	2	21.45	22.60	1.303			0.02	0.580	0.756
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 4	ECI 2	23230	782	1	21.40	22.60	1.318	-	-	-0.17	0.543	0.716
	LTE Band 13	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	23230	782	1	21.34	22.60	1.337	-	-	0.17	0.560	0.748
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	23230	782	1	21.45	22.60	1.303	-	-	-0.05	0.634	0.826
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 4	ECI 2	23230	782	1	21.40	22.60	1.318	-	-	0.01	0.505	0.666
	LTE Band 13	10M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	23230	782	1	21.34	22.60	1.337	-	-	0.1	0.520	0.695
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	23230	782	1	21.45	22.60	1.303	-	-	-0.17	0.348	0.454
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 4	ECI 2	23230	782	1	21.40	22.60	1.318	-	-	0.04	0.290	0.382
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	23230	782	1	21.45	22.60	1.303	-	-	-0.01	0.321	0.418
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 4	ECI 2	23230	782	1	21.40	22.60	1.318	-	-	-0.08	0.263	0.347
835MHz																					
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	ECI 2	189	836.4	1	27.87	29.00	1.297	-	-	-0.05	0.181	0.235
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	ECI 2	189	836.4	1	27.87	29.00	1.297	-	-	0.18	0.111	0.144
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	ECI 2	189	836.4	1	27.87	29.00	1.297	-	-	0.02	0.272	0.353
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	ECI 2	189	836.4	1	27.87	29.00	1.297	-	-	0.14	0.151	0.196
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	ECI 2	189	836.4	1	25.54	26.50	1.247	-	-	0.14	0.684	0.853
03	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	ECI 2	128	824.2	1	25.49	26.50	1.262	-	-	-0.03	0.704	**0.888**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	ECI 2	128	824.2	2	25.49	26.50	1.262	-	-	0.02	0.599	0.756
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 4	ECI 2	251	848.8	1	25.52	26.50	1.253	-	-	-0.17	0.638	0.800
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 4	ECI 2	189	836.4	1	25.54	26.50	1.247	-	-	0.17	0.530	0.661
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 4	ECI 2	189	836.4	1	25.54	26.50	1.247	-	-	0.1	0.312	0.389

	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 4	ECI 2	189	836.4	1	25.54	26.50	1.247	-	-	-0.01	0.287	0.358
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	ECI 2	4182	836.4	1	22.53	24.00	1.403	-	-	-0.17	0.137	0.192
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	ECI 2	4182	836.4	1	22.53	24.00	1.403	-	-	0.17	0.082	0.115
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	ECI 2	4182	836.4	1	22.53	24.00	1.403	-	-	0.07	0.218	0.306
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	ECI 2	4182	836.4	1	22.53	24.00	1.403	-	-	-0.05	0.108	0.152
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	ECI 2	4182	836.4	1	21.48	22.40	1.236	-	-	0.05	0.681	0.842
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	ECI 2	4132	826.4	1	21.47	22.40	1.239	-	-	-0.06	0.707	**0.876**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	ECI 2	4233	846.6	1	21.46	22.40	1.242	-	-	0.06	0.673	0.836
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	ECI 2	4182	836.4	1	21.48	22.40	1.236	-	-	-0.09	0.528	0.653
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	ECI 2	4182	836.4	1	21.48	22.40	1.236	-	-	0.12	0.332	0.410
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	ECI 2	4182	836.4	1	21.48	22.40	1.236	-	-	0.03	0.388	0.480
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	ECI 2	26865	831.5	1	22.53	24.00	1.403	-	-	0.01	0.170	0.238
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	ECI 2	26865	831.5	1	21.48	23.00	1.419	-	-	0.1	0.137	0.194
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	ECI 2	26865	831.5	1	22.53	24.00	1.403	-	-	-0.17	0.104	0.146
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	ECI 2	26865	831.5	1	21.48	23.00	1.419	-	-	0.04	0.085	0.121
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	ECI 2	26865	831.5	1	22.53	24.00	1.403	-	-	0.01	0.256	0.359
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	ECI 2	26865	831.5	1	21.48	23.00	1.419	-	-	-0.01	0.207	0.294
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	ECI 2	26865	831.5	1	22.53	24.00	1.403	-	-	-0.08	0.137	0.192
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	ECI 2	26865	831.5	1	21.48	23.00	1.419	-	-	0.05	0.112	0.159
05	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	26865	831.5	1	22.30	23.00	1.175	-	-	0.03	0.704	**0.827**
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 4	ECI 2	26865	831.5	1	21.41	22.00	1.146	-	-	0.06	0.574	0.658
	LTE Band 26	15M	QPSK	75	0	-	Right Cheek	0mm	Ant 4	ECI 2	26865	831.5	1	21.36	22.00	1.159	-	-	-0.09	0.576	0.667
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	26865	831.5	1	22.30	23.00	1.175	-	-	-0.08	0.641	0.753
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 4	ECI 2	26865	831.5	1	21.41	22.00	1.146	-	-	0.13	0.521	0.597
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	26865	831.5	1	22.30	23.00	1.175	-	-	0.03	0.385	0.452
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 4	ECI 2	26865	831.5	1	21.41	22.00	1.146	-	-	0.18	0.315	0.361
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	26865	831.5	1	22.30	23.00	1.175	-	-	0.16	0.345	0.405
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 4	ECI 2	26865	831.5	1	21.41	22.00	1.146	-	-	-0.1	0.279	0.320
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	ECI 2	166300	831.5	1	22.96	24.00	1.271	-	-	0.07	0.082	0.104
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	ECI 2	166300	831.5	1	22.89	24.00	1.291	-	-	0.18	0.074	0.096
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	ECI 2	166300	831.5	1	22.96	24.00	1.271	-	-	-0.1	0.051	0.065
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	ECI 2	166300	831.5	1	22.89	24.00	1.291	-	-	0.01	0.045	0.058
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	ECI 2	166300	831.5	1	22.96	24.00	1.271	-	-	0.02	0.122	0.155
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	ECI 2	166300	831.5	1	22.89	24.00	1.291	-	-	-0.15	0.114	0.147
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	ECI 2	166300	831.5	1	22.96	24.00	1.271	-	-	0.19	0.071	0.090
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	ECI 2	166300	831.5	1	22.89	24.00	1.291	-	-	0.07	0.059	0.076
06	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	166300	831.5	1	22.85	23.80	1.245	-	-	-0.01	0.709	**0.882**
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	166300	831.5	1	22.70	23.80	1.288	-	-	-0.18	0.665	0.857
	FR1 n26	20M	QPSK	100	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	166300	831.5	1	21.75	23.00	1.334	-	-	0.03	0.574	0.765
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	166300	831.5	1	22.85	23.80	1.245	-	-	-0.15	0.607	0.755
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	166300	831.5	1	22.70	23.80	1.288	-	-	-0.15	0.409	0.527
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	ECI 2	166300	831.5	1	22.85	23.80	1.245	-	-	-0.08	0.353	0.439
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	ECI 2	166300	831.5	1	22.70	23.80	1.288	-	-	-0.17	0.255	0.329
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	ECI 2	166300	831.5	1	22.85	23.80	1.245	-	-	-0.08	0.326	0.406
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	ECI 2	166300	831.5	1	22.70	23.80	1.288	-	-	-0.04	0.239	0.308
1750MHz																					
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	ECI 2	1413	1732.6	1	22.55	24.00	1.396	-	-	-0.08	0.178	0.249
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	ECI 2	1413	1732.6	1	22.55	24.00	1.396	-	-	0.17	0.112	0.156

07	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	ECI 2	1413	1732.6	1	22.55	24.00	1.396	-	-	0.04	0.185	**0.258**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	ECI 2	1413	1732.6	1	22.55	24.00	1.396	-	-	0.18	0.097	0.135
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	132322	1745	1	22.39	24.00	1.449	-	-	-0.04	0.147	0.213
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	ECI 2	132322	1745	1	21.42	23.00	1.439	-	-	-0.08	0.159	0.229
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	ECI 2	132322	1745	1	22.39	24.00	1.449	-	-	-0.13	0.091	0.132
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	ECI 2	132322	1745	1	21.42	23.00	1.439	-	-	-0.13	0.086	0.124
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	132322	1745	1	22.39	24.00	1.449	-	-	-0.08	0.166	0.240
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	ECI 2	132322	1745	1	21.42	23.00	1.439	-	-	0.06	0.149	0.214
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	ECI 2	132322	1745	1	22.39	24.00	1.449	-	-	-0.03	0.076	0.110
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	ECI 2	132322	1745	1	21.42	23.00	1.439	-	-	-0.03	0.078	0.112
	LTE Band 66 other PA	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	132322	1745	1	22.39	24.00	1.449	-	-	-0.08	0.154	0.223
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	132322	1745	1	17.20	18.10	1.230	-	-	0.06	0.686	0.844
08	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	132072	1720	1	17.06	18.10	1.271	-	-	0.01	0.702	**0.892**
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	132572	1770	1	17.05	18.10	1.274	-	-	-0.09	0.657	0.837
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	132322	1745	1	17.06	18.10	1.271	-	-	-0.08	0.669	0.850
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	132072	1720	1	17.00	18.10	1.288	-	-	0.13	0.658	0.848
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	132572	1770	1	16.92	18.10	1.312	-	-	0.12	0.652	0.856
	LTE Band 66	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	ECI 2	132322	1745	1	17.03	18.10	1.279	-	-	0.03	0.649	0.830
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	132322	1745	1	17.20	18.10	1.230	-	-	0.18	0.601	0.739
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	132322	1745	1	17.06	18.10	1.271	-	-	0.07	0.594	0.755
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	132322	1745	1	17.20	18.10	1.230	-	-	-0.15	0.354	0.436
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	ECI 2	132322	1745	1	17.06	18.10	1.271	-	-	-0.18	0.360	0.457
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	132322	1745	1	17.20	18.10	1.230	-	-	0.11	0.484	0.595
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	ECI 2	132322	1745	1	17.06	18.10	1.271	-	-	-0.08	0.481	0.611
	LTE Band 66 other PA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	132072	1720	1	17.06	18.10	1.271	-	-	0.01	0.685	0.870
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	349000	1745	1	22.85	24.00	1.303	-	-	0.08	0.126	0.164
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	349000	1745	1	22.80	24.00	1.318	-	-	-0.07	0.137	0.181
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	ECI 2	349000	1745	1	22.85	24.00	1.303	-	-	0.05	0.083	0.108
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	ECI 2	349000	1745	1	22.80	24.00	1.318	-	-	-0.11	0.083	0.109
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	ECI 2	349000	1745	1	22.85	24.00	1.303	-	-	-0.12	0.131	0.171
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	ECI 2	349000	1745	1	22.80	24.00	1.318	-	-	-0.06	0.143	0.189
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	ECI 2	349000	1745	1	22.85	24.00	1.303	-	-	0.03	0.072	0.094
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	ECI 2	349000	1745	1	22.80	24.00	1.318	-	-	-0.16	0.073	0.096
	FR1 n66 other PA	45M	QPSK	120	60	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	ECI 2	349000	1745	1	22.80	24.00	1.318	-	-	0.02	0.138	0.182
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	349000	1745	1	18.06	19.00	1.242	-	-	-0.02	0.683	0.848
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	349000	1745	1	18.03	19.00	1.250	-	-	0.15	0.687	0.859
	FR1 n66	45M	QPSK	240	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	349000	1745	1	18.04	19.00	1.247	-	-	-0.09	0.666	0.831
09	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	349000	1745	1	18.06	19.00	1.242	-	-	0.01	0.715	**0.888**
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	349000	1745	1	18.03	19.00	1.250	-	-	0.11	0.703	0.879
	FR1 n66	45M	QPSK	240	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	349000	1745	1	18.04	19.00	1.247	-	-	-0.05	0.686	0.856
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	ECI 2	349000	1745	1	18.06	19.00	1.242	-	-	-0.08	0.414	0.514
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	ECI 2	349000	1745	1	18.03	19.00	1.250	-	-	0.16	0.434	0.543
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	ECI 2	349000	1745	1	18.06	19.00	1.242	-	-	0.05	0.574	0.713
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	ECI 2	349000	1745	1	18.03	19.00	1.250	-	-	-0.03	0.603	0.754
	FR1 n66 other PA	45M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	349000	1745	1	18.06	19.00	1.242	-	-	0.02	0.698	0.867
1900MHz																					
10	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	ECI 2	661	1880	1	25.22	26.50	1.343	-	-	-0.02	0.176	**0.236**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	ECI 2	661	1880	1	25.22	26.50	1.343	-	-	0.02	0.064	0.086
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	ECI 2	661	1880	1	25.22	26.50	1.343	-	-	0.07	0.112	0.150

	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 1	ECI 2	661	1880	1	25.22	26.50	1.343	-	-	0.16	0.080	0.107
11	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	ECI 2	9400	1880	1	22.63	24.00	1.371	-	-	-0.01	0.268	**0.367**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	ECI 2	9400	1880	1	22.63	24.00	1.371	-	-	0.13	0.118	0.162
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	ECI 2	9400	1880	1	22.63	24.00	1.371	-	-	-0.18	0.195	0.267
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	ECI 2	9400	1880	1	22.63	24.00	1.371	-	-	0.02	0.136	0.186
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	26340	1880	1	22.33	24.00	1.469	-	-	-0.09	0.273	0.401
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	ECI 2	26340	1880	1	21.36	23.00	1.459	-	-	0.16	0.210	0.306
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	ECI 2	26340	1880	1	22.33	24.00	1.469	-	-	-0.03	0.100	0.147
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	ECI 2	26340	1880	1	21.36	23.00	1.459	-	-	0.07	0.083	0.121
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	26340	1880	1	22.33	24.00	1.469	-	-	0.06	0.211	0.310
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	ECI 2	26340	1880	1	21.36	23.00	1.459	-	-	0.01	0.162	0.236
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	ECI 2	26340	1880	1	22.33	24.00	1.469	-	-	-0.01	0.119	0.175
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	ECI 2	26340	1880	1	21.36	23.00	1.459	-	-	-0.06	0.095	0.139
	LTE Band 2 other PA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	18900	1880	1	22.23	24.00	1.503	-	-	-0.09	0.245	0.368
12	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	26340	1880	1	16.78	17.70	1.236	-	-	0.05	0.720	**0.890**
	LTE Band 25	20M	QPSK	1	0		Right Cheek	0mm	Ant 4	ECI 2	26340	1880	2	16.78	17.70	1.236	-	-	0.01	0.511	0.632
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	26140	1860	1	16.67	17.70	1.268	-	-	0.18	0.676	0.857
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	26590	1905	1	16.71	17.70	1.256	-	-	-0.04	0.680	0.854
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	26340	1880	1	16.77	17.70	1.239	-	-	-0.08	0.674	0.835
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	26140	1860	1	16.62	17.70	1.282	-	-	-0.13	0.670	0.859
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	26590	1905	1	16.64	17.70	1.276	-	-	-0.13	0.657	0.839
	LTE Band 25	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	ECI 2	26340	1880	1	16.70	17.70	1.259	-	-	0.06	0.678	0.854
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	26340	1880	1	16.78	17.70	1.236	-	-	-0.03	0.680	0.840
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	26140	1860	1	16.67	17.70	1.268	-	-	-0.03	0.696	0.882
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	26590	1905	1	16.71	17.70	1.256	-	-	0.08	0.641	0.805
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	26340	1880	1	16.77	17.70	1.239	-	-	-0.07	0.634	0.785
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	26140	1860	1	16.62	17.70	1.282	-	-	0.05	0.650	0.834
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	26590	1905	1	16.64	17.70	1.276	-	-	-0.11	0.646	0.825
	LTE Band 25	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	ECI 2	26340	1880	1	16.70	17.70	1.259	-	-	-0.12	0.638	0.803
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	26340	1880	1	16.78	17.70	1.236	-	-	0.03	0.542	0.670
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	ECI 2	26340	1880	1	16.77	17.70	1.239	-	-	0.15	0.435	0.539
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	26340	1880	1	16.78	17.70	1.236	-	-	-0.08	0.684	0.845
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	26140	1860	1	16.67	17.70	1.268	-	-	0.16	0.680	0.862
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	26590	1905	1	16.71	17.70	1.256	-	-	0.05	0.649	0.815
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	ECI 2	26340	1880	1	16.77	17.70	1.239	-	-	0.05	0.634	0.785
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	ECI 2	26140	1860	1	16.62	17.70	1.282	-	-	-0.03	0.653	0.837
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	ECI 2	26590	1905	1	16.64	17.70	1.276	-	-	-0.15	0.614	0.784
	LTE Band 25	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 4	ECI 2	26340	1880	1	16.70	17.70	1.259	-	-	0.02	0.638	0.803
	LTE Band 2 other PA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	18900	1880	1	16.70	17.70	1.259	-	-	0.05	0.682	0.859
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	376000	1880	1	22.78	24.00	1.324	-	-	-0.04	0.151	0.200
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	376000	1880	1	22.77	24.00	1.327	-	-	0.02	0.163	0.216
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	ECI 2	376000	1880	1	22.78	24.00	1.324	-	-	-0.09	0.059	0.078
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	ECI 2	376000	1880	1	22.77	24.00	1.327	-	-	-0.17	0.064	0.085
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	ECI 2	376000	1880	1	22.78	24.00	1.324	-	-	-0.1	0.123	0.163
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	ECI 2	376000	1880	1	22.77	24.00	1.327	-	-	0.18	0.121	0.161
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	ECI 2	376000	1880	1	22.78	24.00	1.324	-	-	-0.17	0.064	0.085
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	ECI 2	376000	1880	1	22.77	24.00	1.327	-	-	-0.04	0.084	0.112
	FR1 n2 other PA	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	376000	1880	1	22.77	24.00	1.327	-	-	0.01	0.148	0.196
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	376000	1880	1	18.22	19.30	1.282	-	-	-0.05	0.679	0.871
13	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	376000	1880	1	18.20	19.30	1.288	-	-	0.06	0.684	**0.881**
	FR1 n2	40M	QPSK	216	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	376000	1880	1	18.18	19.30	1.294	-	-	-0.04	0.653	0.845

	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	376000	1880	1	18.22	19.30	1.282	-	-	-0.13	0.631	0.809
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	376000	1880	1	18.20	19.30	1.288	-	-	-0.01	0.626	0.806
	FR1 n2	40M	QPSK	216	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	376000	1880	1	18.18	19.30	1.294	-	-	-0.09	0.595	0.770
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	ECI 2	376000	1880	1	18.22	19.30	1.282	-	-	0.05	0.474	0.608
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	ECI 2	376000	1880	1	18.20	19.30	1.288	-	-	0.02	0.483	0.622
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	ECI 2	376000	1880	1	18.22	19.30	1.282	-	-	0.17	0.616	0.790
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	ECI 2	376000	1880	1	18.20	19.30	1.288	-	-	0.06	0.602	0.776
	FR1 n2 other PA	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	376000	1880	1	18.20	19.30	1.288	-	-	0.06	0.645	0.831
2600MHz																					
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	21100	2535	1	22.27	24.00	1.489	-	-	0.11	0.097	0.144
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	ECI 2	21100	2535	1	21.33	23.00	1.469	-	-	-0.02	0.079	0.116
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	ECI 2	21100	2535	1	22.27	24.00	1.489	-	-	0.1	0.083	0.124
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	ECI 2	21100	2535	1	21.33	23.00	1.469	-	-	0.04	0.064	0.094
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	21100	2535	1	22.27	24.00	1.489	-	-	0.01	**0.159**	0.237
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	ECI 2	21100	2535	1	21.33	23.00	1.469	-	-	0.13	0.118	0.173
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	ECI 2	21100	2535	1	22.27	24.00	1.489	-	-	-0.18	0.046	0.069
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	ECI 2	21100	2535	1	21.33	23.00	1.469	-	-	-0.11	0.031	0.046
	LTE Band 7 other PA	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	21100	2535	1	22.27	24.00	1.489	-	-	0.01	0.144	0.214
	LTE Band 7C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 1	ECI 2	21100+ 21298	2535+ 3554.8	1	22.12	24.00	1.542	-	-	0.06	0.135	0.208
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	21100	2535	1	18.05	18.90	1.216	-	-	0.07	0.586	0.713
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	21100	2535	1	18.03	18.90	1.222	-	-	-0.18	0.473	0.578
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	21100	2535	1	18.05	18.90	1.216	-	-	0.07	0.699	0.850
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	20850	2510	1	17.99	18.90	1.233	-	-	0.17	0.666	0.821
14	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	21350	2560	1	18.00	18.90	1.230	-	-	0.02	0.720	**0.886**
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	21100	2535	1	18.03	18.90	1.222	-	-	0.01	0.548	0.670
	LTE Band 7	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	ECI 2	21100	2535	1	18.00	18.90	1.230	-	-	-0.04	0.553	0.680
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	21100	2535	1	18.05	18.90	1.216	-	-	-0.09	0.544	0.662
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	ECI 2	21100	2535	1	18.03	18.90	1.222	-	-	0.18	0.440	0.538
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	21100	2535	1	18.05	18.90	1.216	-	-	0.06	0.594	0.722
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	ECI 2	21100	2535	1	18.03	18.90	1.222	-	-	-0.09	0.486	0.594
	LTE Band 7 other PA	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	21350	2560	1	18.00	18.90	1.230	-	-	0.02	0.689	0.848
	LTE Band 7C	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	21350+ 21152	2560+ 2540.2	1	17.84	18.90	1.276	-	-	0.02	0.666	0.850
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	ECI 2	40620	2593	1	22.52	24.00	1.406	62.9	1.006	-0.16	0.091	0.129
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	ECI 2	40620	2593	1	21.54	23.00	1.400	62.9	1.006	-0.15	0.059	0.083
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	ECI 2	40620	2593	1	22.52	24.00	1.406	62.9	1.006	-0.06	0.052	0.074
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	ECI 2	40620	2593	1	21.54	23.00	1.400	62.9	1.006	-0.14	0.036	0.051
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	40620	2593	1	22.52	24.00	1.406	62.9	1.006	-0.05	0.103	0.146
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	ECI 2	40620	2593	1	21.54	23.00	1.400	62.9	1.006	-0.19	0.062	0.087
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	ECI 2	40620	2593	1	22.52	24.00	1.406	62.9	1.006	0.01	0.048	0.068
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	ECI 2	40620	2593	1	21.54	23.00	1.400	62.9	1.006	0.06	0.026	0.037
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	40620	2593	1	25.56	27.00	1.393	42.9	1.009	0.06	0.131	0.184
	LTE Band 41 other PA	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	ECI 2	40620	2593	1	22.52	24.00	1.406	62.9	1.006	0.01	0.096	0.136
	LTE Band 41C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 1	ECI 2	40620+ 40818	2593+ 2612.8	1	22.47	24.00	1.422	62.9	1.006	0.01	0.095	0.136
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 1	ECI 2	40620+ 40818	2593+ 2612.8	1	25.52	27.00	1.406	42.9	1.009	0.01	0.125	0.177
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	40620	2593	1	18.62	19.70	1.282	62.9	1.006	0.08	0.587	0.757
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	39750	2506	1	18.55	19.70	1.303	62.9	1.006	0.01	0.566	0.742
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	40185	2549.5	1	18.58	19.70	1.294	62.9	1.006	0.03	0.599	0.780
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	41055	2636.5	1	18.52	19.70	1.312	62.9	1.006	-0.08	0.513	0.677
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	ECI 2	41490	2680	1	18.56	19.70	1.300	62.9	1.006	-0.08	0.539	0.705
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	ECI 2	40620	2593	1	18.57	19.70	1.297	62.9	1.006	0.1	0.371	0.484
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	ECI 2	40620	2593	1	18.54	19.70	1.306	62.9	1.006	-0.17	0.374	0.491
15	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	40620	2593	1	18.62	19.70	1.282	62.9	1.006	-0.13	0.691	**0.891**

	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	39750	2506	1	18.55	19.70	1.303	62.9	1.006	-0.03	0.671	0.880
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	40185	2549.5	1	18.58	19.70	1.294	62.9	1.006	0.14	0.665	0.866
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	41055	2636.5	1	18.52	19.70	1.312	62.9	1.006	0.11	0.595	0.785
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	41490	2680	1	18.56	19.70	1.300	62.9	1.006	-0.05	0.614	0.803
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	ECI 2	40620	2593	1	18.57	19.70	1.297	62.9	1.006	0.18	0.428	0.559
	LTE Band 41	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	ECI 2	40620	2593	1	18.54	19.70	1.306	62.9	1.006	0.01	0.427	0.561
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	40620	2593	1	18.62	19.70	1.282	62.9	1.006	0.1	0.559	0.721
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	39750	2506	1	18.55	19.70	1.303	62.9	1.006	-0.17	0.545	0.714
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	40185	2549.5	1	18.58	19.70	1.294	62.9	1.006	0.04	0.572	0.745
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	41055	2636.5	1	18.52	19.70	1.312	62.9	1.006	-0.01	0.493	0.651
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	ECI 2	41490	2680	1	18.56	19.70	1.300	62.9	1.006	-0.08	0.522	0.683
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	ECI 2	40620	2593	1	18.57	19.70	1.297	62.9	1.006	0.05	0.349	0.455
	LTE Band 41	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 4	ECI 2	40620	2593	1	18.54	19.70	1.306	62.9	1.006	0.06	0.351	0.461
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	40620	2593	1	18.62	19.70	1.282	62.9	1.006	-0.09	0.612	0.789
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	39750	2506	1	18.55	19.70	1.303	62.9	1.006	-0.08	0.621	0.814
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	40185	2549.5	1	18.58	19.70	1.294	62.9	1.006	0.13	0.628	0.818
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	41055	2636.5	1	18.52	19.70	1.312	62.9	1.006	0.12	0.534	0.705
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	ECI 2	41490	2680	1	18.56	19.70	1.300	62.9	1.006	0.03	0.558	0.730
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	ECI 2	40620	2593	1	18.57	19.70	1.297	62.9	1.006	0.18	0.381	0.497
	LTE Band 41	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 4	ECI 2	40620	2593	1	18.54	19.70	1.306	62.9	1.006	-0.1	0.384	0.505
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	40620	2593	1	20.20	21.30	1.288	42.9	1.009	-0.01	0.664	0.863
	LTE Band 41 other PA	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	ECI 2	40620	2593	1	18.62	19.70	1.282	62.9	1.006	-0.13	0.645	0.832
	LTE Band 41C	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 4	ECI 2	40620+ 40818	2593+ 2612.8	1	18.55	19.70	1.303	62.9	1.006	0.05	0.622	0.815
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 4	ECI 2	40620+ 40818	2593+ 2612.8	1	20.10	21.30	1.318	42.9	1.009	0.06	0.605	0.805
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	507000	2535	1	22.58	24.00	1.387	-	-	0.02	0.064	0.089
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	ECI 2	507000	2535	1	22.55	24.00	1.396	-	-	0.12	0.086	0.120
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	ECI 2	507000	2535	1	22.58	24.00	1.387	-	-	-0.16	0.057	0.079
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	ECI 2	507000	2535	1	22.55	24.00	1.396	-	-	-0.12	0.073	0.102
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	ECI 2	507000	2535	1	22.58	24.00	1.387	-	-	0.07	0.106	0.147
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	ECI 2	507000	2535	1	22.55	24.00	1.396	-	-	-0.03	0.141	0.197
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	ECI 2	507000	2535	1	22.58	24.00	1.387	-	-	-0.02	0.035	0.049
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	ECI 2	507000	2535	1	22.55	24.00	1.396	-	-	-0.05	0.048	0.067
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	507000	2535	1	18.46	19.40	1.242	-	-	-0.13	0.562	0.698
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	ECI 2	507000	2535	1	18.44	19.40	1.247	-	-	0.08	0.628	0.783
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	507000	2535	1	18.46	19.40	1.242	-	-	0.01	0.688	0.854
16	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	507000	2535	1	18.44	19.40	1.247	-	-	-0.03	0.713	**0.889**
	FR1 n7	50M	QPSK	270	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	ECI 2	507000	2535	1	18.44	19.40	1.247	-	-	-0.16	0.657	0.820
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	ECI 2	507000	2535	1	18.46	19.40	1.242	-	-	0.1	0.495	0.615
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	ECI 2	507000	2535	1	18.44	19.40	1.247	-	-	-0.04	0.577	0.720
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	ECI 2	507000	2535	1	18.46	19.40	1.242	-	-	0.03	0.587	0.729
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	ECI 2	507000	2535	1	18.44	19.40	1.247	-	-	-0.11	0.628	0.783
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	ECI 2	518598	2592.99	1	22.85	24.00	1.303	-	-	-0.15	0.076	0.099
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	ECI 2	518598	2592.99	1	22.84	24.00	1.306	-	-	0.03	0.099	0.129
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	ECI 2	518598	2592.99	1	22.85	24.00	1.303	-	-	-0.13	0.070	0.091
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	ECI 2	518598	2592.99	1	22.84	24.00	1.306	-	-	0.16	0.071	0.093
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	ECI 2	518598	2592.99	1	22.85	24.00	1.303	-	-	-0.06	0.141	0.184
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	ECI 2	518598	2592.99	1	22.84	24.00	1.306	-	-	-0.15	0.130	0.170
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	ECI 2	518598	2592.99	1	22.85	24.00	1.303	-	-	-0.02	0.039	0.051
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	ECI 2	518598	2592.99	1	22.84	24.00	1.306	-	-	-0.09	0.065	0.085

	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	ECI 2	518598	2592.99	1	18.88	19.70	1.208	-	-	0.14	0.650	0.785
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	ECI 2	518598	2592.99	1	18.80	19.70	1.230	-	-	0.1	0.636	0.782
17	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	ECI 2	518598	2592.99	1	18.88	19.70	1.208	-	-	-0.05	0.738	**0.891**
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	ECI 2	518598	2592.99	1	18.80	19.70	1.230	-	-	0.07	0.719	0.885
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	ECI 2	518598	2592.99	1	18.82	19.70	1.225	-	-	-0.09	0.663	0.812
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	ECI 2	518598	2592.99	1	18.88	19.70	1.208	-	-	-0.16	0.597	0.721
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	ECI 2	518598	2592.99	1	18.80	19.70	1.230	-	-	-0.18	0.587	0.722
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	ECI 2	518598	2592.99	1	18.88	19.70	1.208	-	-	0.11	0.665	0.803
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	ECI 2	518598	2592.99	1	18.80	19.70	1.230	-	-	-0.08	0.685	0.843
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	ECI 2	518598	2592.99	1	18.82	19.70	1.225	-	-	-0.1	0.584	0.715
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	ECI 2	518598	2592.99	1	18.58	19.60	1.265	-	-	0.09	0.698	0.883
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	ECI 2	518598	2592.99	2	18.58	19.60	1.265	-	-	0.02	0.643	0.813
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	ECI 2	518598	2592.99	1	18.43	19.60	1.309	-	-	-0.01	0.637	0.834
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	ECI 2	518598	2592.99	1	18.06	19.00	1.242	-	-	-0.09	0.583	0.724
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	ECI 2	518598	2592.99	1	18.58	19.60	1.265	-	-	-0.06	0.090	0.114
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	ECI 2	518598	2592.99	1	18.43	19.60	1.309	-	-	-0.17	0.078	0.102
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	ECI 2	518598	2592.99	1	18.58	19.60	1.265	-	-	-0.01	0.526	0.665
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	ECI 2	518598	2592.99	1	18.43	19.60	1.309	-	-	-0.11	0.410	0.537
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	ECI 2	518598	2592.99	1	18.58	19.60	1.265	-	-	0.03	0.056	0.071
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	ECI 2	518598	2592.99	1	18.43	19.60	1.309	-	-	0.1	0.048	0.063
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	ECI 2	518598	2592.99	1	21.29	22.00	1.178	-	-	0.08	0.045	0.053
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	ECI 2	518598	2592.99	1	21.25	22.00	1.189	-	-	0.01	0.049	0.058
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	ECI 2	518598	2592.99	1	21.29	22.00	1.178	-	-	0.03	0.044	0.052
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	ECI 2	518598	2592.99	1	21.25	22.00	1.189	-	-	-0.08	0.041	0.049
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	ECI 2	518598	2592.99	1	21.29	22.00	1.178	-	-	-0.08	0.072	0.085
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	ECI 2	518598	2592.99	1	21.25	22.00	1.189	-	-	0.01	0.080	0.095
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	ECI 2	518598	2592.99	1	21.29	22.00	1.178	-	-	0.1	0.032	0.038
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	ECI 2	518598	2592.99	1	21.25	22.00	1.189	-	-	-0.18	0.040	0.048
3500-3900MHz																					
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	42590	3500	1	15.00	16.00	1.259	62.9	1.006	-0.02	0.685	0.868
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	42190	3460	1	14.96	16.00	1.271	62.9	1.006	-0.04	0.656	0.838
18	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	42990	3540	1	14.92	16.00	1.282	62.9	1.006	0.06	0.689	**0.889**
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	42990	3540	2	14.92	16.00	1.282	62.9	1.006	0.02	0.562	0.725
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	ECI 2	42590	3500	1	14.97	16.00	1.268	62.9	1.006	-0.15	0.541	0.690
	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 3	ECI 2	42590	3500	1	14.93	16.00	1.279	62.9	1.006	0.1	0.537	0.691
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	ECI 2	42590	3500	1	15.00	16.00	1.259	62.9	1.006	0.04	0.262	0.332
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	ECI 2	42590	3500	1	14.97	16.00	1.268	62.9	1.006	-0.11	0.205	0.261
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	ECI 2	42590	3500	1	15.00	16.00	1.259	62.9	1.006	-0.14	0.184	0.233
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	ECI 2	42590	3500	1	14.97	16.00	1.268	62.9	1.006	0.06	0.143	0.182
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	ECI 2	42590	3500	1	15.00	16.00	1.259	62.9	1.006	-0.12	0.103	0.130
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	ECI 2	42590	3500	1	14.97	16.00	1.268	62.9	1.006	0.07	0.093	0.119
	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	ECI 2	42990+42792	3540+3520.2	1	14.74	16.00	1.337	62.9	1.006	0.02	0.588	0.791
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	ECI 2	656000	3840	1	17.56	18.50	1.242	-	-	0.01	0.656	0.815
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	ECI 2	656000	3840	1	17.48	18.50	1.265	-	-	0.1	0.697	0.882
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	ECI 2	656000	3840	2	17.48	18.50	1.265	-	-	0.03	0.618	0.782
	FR1 n77 Part 27O HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	ECI 2	656000	3840	1	17.46	18.50	1.271	-	-	0.12	0.625	0.794
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	656000	3840	1	17.56	18.50	1.242	-	-	0.08	0.226	0.281
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	ECI 2	656000	3840	1	17.48	18.50	1.265	-	-	-0.17	0.248	0.314

	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	ECI 2	656000	3840	1	17.56	18.50	1.242	-	-	0.14	0.135	0.168
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	ECI 2	656000	3840	1	17.48	18.50	1.265	-	-	0.11	0.144	0.182
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	ECI 2	656000	3840	1	17.56	18.50	1.242	-	-	0.18	0.079	0.098
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	ECI 2	656000	3840	1	17.48	18.50	1.265	-	-	0.14	0.086	0.109
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	ECI 2	656000	3840	1	18.42	19.30	1.225	-	-	-0.05	0.396	0.485
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	ECI 2	656000	3840	1	18.38	19.30	1.236	-	-	-0.13	0.471	0.582
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	ECI 2	656000	3840	1	18.42	19.30	1.225	-	-	0.16	0.518	0.634
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	ECI 2	656000	3840	1	18.38	19.30	1.236	-	-	0.01	0.599	0.740
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	ECI 2	656000	3840	1	18.42	19.30	1.225	-	-	0.1	0.468	0.573
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	ECI 2	656000	3840	1	18.38	19.30	1.236	-	-	-0.04	0.566	0.700
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	ECI 2	656000	3840	1	18.42	19.30	1.225	-	-	-0.06	0.692	0.847
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	ECI 2	656000	3840	1	18.38	19.30	1.236	-	-	-0.14	0.714	0.882
	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	ECI 2	656000	3840	1	18.40	19.30	1.230	-	-	-0.11	0.589	0.725
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	ECI 2	656000	3840	1	18.38	19.30	1.236	-	-	-0.09	0.653	0.807
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	ECI 2	656000	3840	1	16.75	18.00	1.334	-	-	-0.15	0.169	0.225
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	ECI 2	656000	3840	1	16.64	18.00	1.368	-	-	0.03	0.158	0.216
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	ECI 2	656000	3840	1	16.75	18.00	1.334	-	-	-0.13	0.130	0.173
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	ECI 2	656000	3840	1	16.64	18.00	1.368	-	-	0.16	0.128	0.175
19	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	ECI 2	656000	3840	1	16.75	18.00	1.334	-	-	0.08	0.670	**0.893**
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	ECI 2	656000	3840	2	16.75	18.00	1.334	-	-	0.03	0.585	0.780
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	ECI 2	656000	3840	1	16.64	18.00	1.368	-	-	-0.15	0.615	0.841
	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	ECI 2	656000	3840	1	16.70	18.00	1.349	-	-	-0.02	0.575	0.776
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	ECI 2	656000	3840	1	16.75	18.00	1.334	-	-	-0.09	0.300	0.400
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	ECI 2	656000	3840	1	16.64	18.00	1.368	-	-	0.14	0.262	0.358
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	ECI 2	656000	3840	1	16.75	18.00	1.334	-	-	0.01	0.630	0.840
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	ECI 2	656000	3840	1	26.04	27.00	1.247	-	-	-0.01	0.631	0.787
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	ECI 2	656000	3840	1	25.86	27.00	1.300	-	-	0.08	0.565	0.735
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	ECI 2	656000	3840	1	26.04	27.00	1.247	-	-	0.03	0.294	0.367
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	ECI 2	656000	3840	1	25.86	27.00	1.300	-	-	-0.08	0.282	0.367
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	ECI 2	656000	3840	1	26.04	27.00	1.247	-	-	-0.08	0.415	0.518
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	ECI 2	656000	3840	1	25.86	27.00	1.300	-	-	0.1	0.400	0.520
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	ECI 2	656000	3840	1	26.04	27.00	1.247	-	-	-0.18	0.410	0.511
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	ECI 2	656000	3840	1	25.86	27.00	1.300	-	-	0.1	0.392	0.510

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)
2450MHz																	
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6+8(6)	Standalone	1	2412	1	16.38	18.00	1.452	100	1.000	0.12	0.324	0.470
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6+8(6)	Standalone	1	2412	1	16.38	18.00	1.452	100	1.000	0.08	0.239	0.347
20	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Standalone	1	2412	1	16.38	18.00	1.452	100	1.000	-0.03	0.778	**1.130**
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Standalone	1	2412	2	16.38	18.00	1.452	100	1.000	0.05	0.547	0.794
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Standalone	11	2462	1	16.26	18.00	1.493	100	1.000	-0.03	0.648	0.967
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6+8(6)	Standalone	1	2412	1	16.38	18.00	1.452	100	1.000	0.14	0.478	0.694
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6+8(6)	WWAN+non DBS	1	2412	1	11.35	13.00	1.462	100	1.000	0.08	0.098	0.143
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6+8(6)	WWAN+non DBS	1	2412	1	11.35	13.00	1.462	100	1.000	0.01	0.072	0.105
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	WWAN+non DBS	1	2412	1	11.35	13.00	1.462	100	1.000	0.03	0.235	0.344
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6+8(6)	WWAN+non DBS	1	2412	1	11.35	13.00	1.462	100	1.000	-0.08	0.144	0.211
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6	DBS Only	1	2412	1	16.38	18.00	1.452	100	1.000	0.18	0.215	0.312
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6	DBS Only	1	2412	1	16.38	18.00	1.452	100	1.000	0.14	0.211	0.306
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	DBS Only	1	2412	1	16.38	18.00	1.452	100	1.000	0.07	0.526	0.764
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6	DBS Only	1	2412	1	16.38	18.00	1.452	100	1.000	-0.17	0.349	0.507
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6	WWAN+DBS	1	2412	1	10.47	12.00	1.422	100	1.000	0.17	0.054	0.077
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6	WWAN+DBS	1	2412	1	10.47	12.00	1.422	100	1.000	-0.05	0.053	0.075
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	WWAN+DBS	1	2412	1	10.47	12.00	1.422	100	1.000	0.01	0.132	0.188
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6	WWAN+DBS	1	2412	1	10.47	12.00	1.422	100	1.000	0.1	0.087	0.124
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	Standalone	39	2441	1	16.90	18.00	1.288	76.79	1.085	0.08	0.106	0.148
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 6	Standalone	39	2441	1	16.90	18.00	1.288	76.79	1.085	0.01	0.101	0.141
21	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Standalone	39	2441	1	16.90	18.00	1.288	76.79	1.085	0.07	0.530	**0.741**
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Standalone	39	2441	2	16.90	18.00	1.288	76.79	1.085	0.02	0.384	0.537
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 6	Standalone	39	2441	1	16.90	18.00	1.288	76.79	1.085	0.03	0.172	0.240
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	Simultaneous	39	2441	1	12.54	14.00	1.400	76.79	1.085	-0.08	0.037	0.056
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 6	Simultaneous	39	2441	1	12.54	14.00	1.400	76.79	1.085	-0.08	0.035	0.053
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Simultaneous	39	2441	1	12.54	14.00	1.400	76.79	1.085	0.1	0.187	0.284
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 6	Simultaneous	39	2441	1	12.54	14.00	1.400	76.79	1.085	-0.18	0.061	0.093
5000MHz																	
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 5+7(5)	Standalone	54	5270	1	14.35	16.00	1.462	93.75	1.067	0.17	0.381	0.594
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 5+7(5)	Standalone	54	5270	1	14.35	16.00	1.462	93.75	1.067	-0.05	0.403	0.629
22	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	54	5270	1	14.35	16.00	1.462	93.75	1.067	-0.02	0.720	**1.123**
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	54	5270	2	14.35	16.00	1.462	93.75	1.067	0.06	0.618	0.964
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	62	5310	1	11.79	13.50	1.483	93.75	1.067	0.05	0.415	0.656
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 5+7(5)	Standalone	54	5270	1	14.35	16.00	1.462	93.75	1.067	0.01	0.544	0.849
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 5+7(5)	Standalone	62	5310	1	11.79	13.50	1.483	93.75	1.067	0.04	0.301	0.476
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(5)	WWAN+non DBS	58	5290	1	9.90	11.50	1.445	87.32	1.145	0.1	0.122	0.202
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(5)	WWAN+non DBS	58	5290	1	9.90	11.50	1.445	87.32	1.145	-0.17	0.129	0.213
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	WWAN+non DBS	58	5290	1	9.90	11.50	1.445	87.32	1.145	0.04	0.231	0.382
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	WWAN+non DBS	58	5290	1	9.90	11.50	1.445	87.32	1.145	-0.01	0.175	0.290
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 7	DBS Only	54	5270	1	13.44	15.00	1.432	93.75	1.067	0.08	0.114	0.174
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 7	DBS Only	54	5270	1	13.44	15.00	1.432	93.75	1.067	0.01	0.084	0.128
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 7	DBS Only	54	5270	1	13.44	15.00	1.432	93.75	1.067	-0.05	0.503	0.769
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 7	DBS Only	54	5270	1	13.44	15.00	1.432	93.75	1.067	0.03	0.214	0.327
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7	WWAN+DBS	58	5290	1	7.38	9.00	1.452	87.32	1.145	0.01	0.026	0.043
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7	WWAN+DBS	58	5290	1	7.38	9.00	1.452	87.32	1.145	0.1	0.019	0.032
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7	WWAN+DBS	58	5290	1	7.38	9.00	1.452	87.32	1.145	-0.17	0.116	0.193
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7	WWAN+DBS	58	5290	1	7.38	9.00	1.452	87.32	1.145	0.04	0.049	0.081
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(5)	Standalone	138	5690	1	13.44	15.00	1.432	87.32	1.145	0.08	0.366	0.600
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(5)	Standalone	138	5690	1	13.44	15.00	1.432	87.32	1.145	0.03	0.364	0.597
23	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	138	5690	1	13.44	15.00	1.432	87.32	1.145	0.17	0.640	**1.050**

	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	122	5610	1	13.32	15.00	1.472	87.32	1.145	-0.08	0.581	0.979
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	Standalone	138	5690	1	13.44	15.00	1.432	87.32	1.145	0.1	0.535	0.877
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	Standalone	122	5610	1	13.32	15.00	1.472	87.32	1.145	-0.18	0.476	0.802
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(5)	WWAN+non DBS	138	5690	1	8.89	10.50	1.449	87.32	1.145	0.14	0.135	0.224
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(5)	WWAN+non DBS	138	5690	1	8.89	10.50	1.449	87.32	1.145	0.11	0.134	0.222
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	WWAN+non DBS	138	5690	1	8.89	10.50	1.449	87.32	1.145	-0.05	0.236	0.391
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	WWAN+non DBS	138	5690	1	8.89	10.50	1.449	87.32	1.145	0.18	0.197	0.327
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7	DBS Only	138	5690	1	13.65	15.00	1.365	87.32	1.145	-0.08	0.102	0.159
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7	DBS Only	138	5690	1	13.65	15.00	1.365	87.32	1.145	-0.08	0.073	0.114
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7	DBS Only	138	5690	1	13.65	15.00	1.365	87.32	1.145	-0.04	0.493	0.770
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7	DBS Only	138	5690	1	13.65	15.00	1.365	87.32	1.145	0.1	0.194	0.303
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7	WWAN+DBS	138	5690	1	7.59	9.00	1.384	87.32	1.145	-0.01	0.025	0.040
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7	WWAN+DBS	138	5690	1	7.59	9.00	1.384	87.32	1.145	-0.08	0.018	0.029
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7	WWAN+DBS	138	5690	1	7.59	9.00	1.384	87.32	1.145	0.05	0.120	0.190
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7	WWAN+DBS	138	5690	1	7.59	9.00	1.384	87.32	1.145	0.06	0.047	0.074
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(5)	Standalone	155	5775	1	13.28	15.00	1.486	87.32	1.145	0.08	0.223	0.379
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(5)	Standalone	155	5775	1	13.28	15.00	1.486	87.32	1.145	-0.17	0.243	0.413
24	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Standalone	155	5775	1	13.28	15.00	1.486	87.32	1.145	0.01	0.594	**1.011**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	Standalone	155	5775	1	13.28	15.00	1.486	87.32	1.145	-0.03	0.367	0.624
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(5)	WWAN+non DBS	155	5775	1	8.99	10.50	1.416	87.32	1.145	0.14	0.085	0.138
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(5)	WWAN+non DBS	155	5775	1	8.99	10.50	1.416	87.32	1.145	-0.17	0.092	0.149
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	WWAN+non DBS	155	5775	1	8.99	10.50	1.416	87.32	1.145	0.17	0.226	0.366
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	WWAN+non DBS	155	5775	1	8.99	10.50	1.416	87.32	1.145	-0.05	0.140	0.227
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7	DBS Only	155	5775	1	14.12	15.50	1.374	87.32	1.145	-0.18	0.112	0.176
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7	DBS Only	155	5775	1	14.12	15.50	1.374	87.32	1.145	0.1	0.122	0.192
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7	DBS Only	155	5775	1	14.12	15.50	1.374	87.32	1.145	-0.05	0.494	0.777
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7	DBS Only	155	5775	1	14.12	15.50	1.374	87.32	1.145	0.12	0.219	0.345
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 7	WWAN+DBS	155	5775	1	8.08	9.50	1.387	87.32	1.145	-0.09	0.027	0.043
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 7	WWAN+DBS	155	5775	1	8.08	9.50	1.387	87.32	1.145	-0.08	0.029	0.046
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 7	WWAN+DBS	155	5775	1	8.08	9.50	1.387	87.32	1.145	0.13	0.118	0.187
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 7	WWAN+DBS	155	5775	1	8.08	9.50	1.387	87.32	1.145	0.12	0.052	0.083

16.2 Hotspot 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	0	-	Front	5mm	Ant 0	ECI 7	23095	707.5	1	22.35	24.00	1.462	-	-	0.08	0.401	0.586
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	ECI 7	23095	707.5	1	21.39	23.00	1.449	-	-	0.01	0.327	0.474
25	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 7	23095	707.5	1	22.35	24.00	1.462	-	-	-0.02	0.835	**1.221**
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	ECI 7	23095	707.5	1	21.39	23.00	1.449	-	-	0.03	0.768	1.113
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	ECI 7	23095	707.5	1	21.35	23.00	1.462	-	-	-0.08	0.651	0.952
	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 7	23095	707.5	1	22.35	24.00	1.462	-	-	-0.17	0.700	1.024
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	ECI 7	23095	707.5	1	21.39	23.00	1.449	-	-	0.17	0.566	0.820
	LTE Band 12	10M	QPSK	50	0	-	Left Side	5mm	Ant 0	ECI 7	23095	707.5	1	21.35	23.00	1.462	-	-	-0.05	0.577	0.844
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 7	23095	707.5	1	22.35	24.00	1.462	-	-	0.01	0.449	0.657
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	ECI 7	23095	707.5	1	21.39	23.00	1.449	-	-	0.1	0.338	0.490
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 7	23095	707.5	1	20.75	21.90	1.303	-	-	-0.17	0.269	0.351
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 4	ECI 7	23095	707.5	1	20.74	21.90	1.306	-	-	0.04	0.212	0.277
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	23095	707.5	1	20.75	21.90	1.303	-	-	-0.01	0.454	0.592
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 4	ECI 7	23095	707.5	1	20.74	21.90	1.306	-	-	-0.08	0.391	0.511
	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 7	23095	707.5	1	20.75	21.90	1.303	-	-	0.06	0.324	0.422
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 4	ECI 7	23095	707.5	1	20.74	21.90	1.306	-	-	-0.09	0.250	0.327
	LTE Band 12	10M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	23095	707.5	1	20.75	21.90	1.303	-	-	0.09	0.482	0.628
	LTE Band 12	10M	QPSK	25	0	-	Top Side	5mm	Ant 4	ECI 7	23095	707.5	1	20.74	21.90	1.306	-	-	-0.08	0.372	0.486
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 0	ECI 7	23230	782	1	22.52	24.00	1.406	-	-	0.12	0.474	0.666
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	ECI 7	23230	782	1	21.49	23.00	1.416	-	-	0.08	0.369	0.522
26	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 7	23230	782	1	22.52	24.00	1.406	-	-	-0.05	0.887	**1.247**
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	ECI 7	23230	782	1	21.49	23.00	1.416	-	-	-0.17	0.706	1.000
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	ECI 7	23230	782	1	21.45	23.00	1.429	-	-	-0.03	0.722	1.032
	LTE Band 13	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 7	23230	782	1	22.52	24.00	1.406	-	-	-0.1	0.758	1.066
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	ECI 7	23230	782	1	21.49	23.00	1.416	-	-	0.07	0.648	0.917
	LTE Band 13	10M	QPSK	50	0	-	Left Side	5mm	Ant 0	ECI 7	23230	782	1	21.45	23.00	1.429	-	-	0.18	0.581	0.830
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 7	23230	782	1	22.52	24.00	1.406	-	-	-0.1	0.445	0.626
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	ECI 7	23230	782	1	21.49	23.00	1.416	-	-	0.01	0.372	0.527
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 7	23230	782	1	20.44	21.70	1.337	-	-	-0.15	0.246	0.329
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 4	ECI 7	23230	782	1	20.42	21.70	1.343	-	-	0.19	0.198	0.266
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	23230	782	1	20.44	21.70	1.337	-	-	0.07	0.410	0.548
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 4	ECI 7	23230	782	1	20.42	21.70	1.343	-	-	-0.18	0.329	0.442
	LTE Band 13	10M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 7	23230	782	1	20.44	21.70	1.337	-	-	-0.15	0.303	0.405
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 4	ECI 7	23230	782	1	20.42	21.70	1.343	-	-	-0.15	0.242	0.325
	LTE Band 13	10M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	23230	782	1	20.44	21.70	1.337	-	-	0.03	0.473	0.632
	LTE Band 13	10M	QPSK	25	0	-	Top Side	5mm	Ant 4	ECI 7	23230	782	1	20.42	21.70	1.343	-	-	0.11	0.379	0.509
835MHz																					
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	ECI 7	189	836.4	1	26.83	28.10	1.340	-	-	0.08	0.442	0.592
27	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 7	189	836.4	1	26.83	28.10	1.340	-	-	-0.04	0.962	**1.289**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 7	128	824.2	1	26.80	28.10	1.349	-	-	-0.08	0.884	1.192
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	ECI 7	251	848.8	1	26.78	28.10	1.355	-	-	-0.08	0.857	1.161
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	ECI 7	189	836.4	1	26.83	28.10	1.340	-	-	0.18	0.572	0.766
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	ECI 7	189	836.4	1	26.83	28.10	1.340	-	-	-0.13	0.453	0.607
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 4	ECI 7	189	836.4	1	27.18	28.00	1.208	-	-	0.1	0.239	0.289
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 4	ECI 7	189	836.4	1	27.18	28.00	1.208	-	-	-0.08	0.500	0.604
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 4	ECI 7	189	836.4	1	27.18	28.00	1.208	-	-	-0.11	0.274	0.331
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Top Side	5mm	Ant 4	ECI 7	189	836.4	1	27.18	28.00	1.208	-	-	-0.12	0.426	0.515
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	ECI 7	4182	836.4	1	22.53	24.00	1.403	-	-	-0.02	0.456	0.640
28	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 7	4182	836.4	1	22.53	24.00	1.403	-	-	-0.02	0.884	**1.240**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 7	4132	826.4	1	22.49	24.00	1.416	-	-	0.15	0.856	1.212

	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	ECI 7	4233	846.6	1	22.50	24.00	1.413	-	-	-0.09	0.847	1.196
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 7	4182	836.4	1	22.53	24.00	1.403	-	-	0.11	0.624	0.875
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 7	4132	826.4	1	22.49	24.00	1.416	-	-	-0.05	0.615	0.871
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	ECI 7	4233	846.6	1	22.50	24.00	1.413	-	-	-0.08	0.626	0.884
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	ECI 7	4182	836.4	1	22.53	24.00	1.403	-	-	0.16	0.415	0.582
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 4	ECI 7	4182	836.4	1	21.44	22.40	1.247	-	-	0.05	0.358	0.447
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 4	ECI 7	4182	836.4	1	21.44	22.40	1.247	-	-	-0.12	0.499	0.622
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 4	ECI 7	4182	836.4	1	21.44	22.40	1.247	-	-	0.05	0.307	0.383
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 4	ECI 7	4182	836.4	1	21.44	22.40	1.247	-	-	-0.03	0.480	0.599
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	ECI 7	26865	831.5	1	22.53	24.00	1.403	-	-	-0.15	0.464	0.651
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	ECI 7	26865	831.5	1	21.48	23.00	1.419	-	-	0.02	0.391	0.555
29	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	ECI 7	26865	831.5	1	22.53	24.00	1.403	-	-	-0.04	0.896	**1.257**
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	ECI 7	26865	831.5	1	21.48	23.00	1.419	-	-	0.07	0.742	1.053
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	ECI 7	26865	831.5	1	21.41	23.00	1.442	-	-	0.16	0.754	1.087
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 0	ECI 7	26865	831.5	1	22.53	24.00	1.403	-	-	0.13	0.558	0.783
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 0	ECI 7	26865	831.5	1	21.48	23.00	1.419	-	-	-0.18	0.485	0.688
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	ECI 7	26865	831.5	1	22.53	24.00	1.403	-	-	0.02	0.460	0.645
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	ECI 7	26865	831.5	1	21.48	23.00	1.419	-	-	0.16	0.419	0.595
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 7	26865	831.5	1	20.53	21.50	1.250	-	-	-0.03	0.314	0.393
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 4	ECI 7	26865	831.5	1	20.51	21.50	1.256	-	-	0.07	0.254	0.319
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	26865	831.5	1	20.53	21.50	1.250	-	-	-0.13	0.499	0.624
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 4	ECI 7	26865	831.5	1	20.51	21.50	1.256	-	-	0.02	0.407	0.511
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 7	26865	831.5	1	20.53	21.50	1.250	-	-	-0.01	0.255	0.319
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 4	ECI 7	26865	831.5	1	20.51	21.50	1.256	-	-	-0.06	0.204	0.256
	LTE Band 26	15M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	26865	831.5	1	20.53	21.50	1.250	-	-	-0.04	0.470	0.588
	LTE Band 26	15M	QPSK	36	0	-	Top Side	5mm	Ant 4	ECI 7	26865	831.5	1	20.51	21.50	1.256	-	-	-0.09	0.376	0.472
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 0	ECI 7	166300	831.5	1	22.96	24.00	1.271	-	-	0.01	0.252	0.320
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 0	ECI 7	166300	831.5	1	22.89	24.00	1.291	-	-	0.1	0.298	0.385
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 7	166300	831.5	1	22.96	24.00	1.271	-	-	-0.17	0.488	0.620
30	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	ECI 7	166300	831.5	1	22.89	24.00	1.291	-	-	-0.04	0.544	**0.702**
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 0	ECI 7	166300	831.5	1	22.96	24.00	1.271	-	-	-0.04	0.407	0.517
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 0	ECI 7	166300	831.5	1	22.89	24.00	1.291	-	-	-0.05	0.432	0.558
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 0	ECI 7	166300	831.5	1	22.96	24.00	1.271	-	-	0.01	0.237	0.301
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 0	ECI 7	166300	831.5	1	22.89	24.00	1.291	-	-	-0.13	0.290	0.374
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	ECI 7	166300	831.5	1	22.85	24.00	1.303	-	-	0.04	0.259	0.338
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 4	ECI 7	166300	831.5	1	22.70	24.00	1.349	-	-	-0.01	0.262	0.353
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	166300	831.5	1	22.85	24.00	1.303	-	-	-0.13	0.475	0.619
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	166300	831.5	1	22.70	24.00	1.349	-	-	-0.08	0.445	0.600
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 4	ECI 7	166300	831.5	1	22.85	24.00	1.303	-	-	0.17	0.228	0.297
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 4	ECI 7	166300	831.5	1	22.70	24.00	1.349	-	-	0.06	0.250	0.337
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	166300	831.5	1	22.85	24.00	1.303	-	-	0.02	0.418	0.545
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	166300	831.5	1	22.70	24.00	1.349	-	-	-0.13	0.456	0.615
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	ECI 7	1413	1732.6	1	18.94	20.30	1.368	-	-	-0.15	0.770	1.053
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	ECI 7	1312	1712.4	1	18.82	20.30	1.406	-	-	0.11	0.712	1.001
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	ECI 7	1513	1752.6	1	18.90	20.30	1.380	-	-	-0.02	0.706	0.975
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 7	1413	1732.6	1	18.94	20.30	1.368	-	-	0.1	0.686	0.938
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 7	1312	1712.4	1	18.82	20.30	1.406	-	-	0.04	0.664	0.934
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 7	1513	1752.6	1	18.90	20.30	1.380	-	-	0.13	0.657	0.907
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 1	ECI 7	1413	1732.6	1	18.94	20.30	1.368	-	-	-0.18	0.203	0.278
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	ECI 7	1413	1732.6	1	18.94	20.30	1.368	-	-	-0.11	0.212	0.290
31	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 7	1413	1732.6	1	18.94	20.30	1.368	-	-	-0.02	0.944	**1.291**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 7	1413	1732.6	2	18.94	20.30	1.368	-	-	0.01	0.833	1.139
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 7	1312	1712.4	1	18.82	20.30	1.406	-	-	-0.16	0.906	1.274
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 7	1513	1752.6	1	18.90	20.30	1.380	-	-	-0.15	0.920	1.270

	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	132322	1745	1	18.54	19.70	1.306	-	-	-0.12	0.876	1.144
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	132072	1720	1	18.42	19.70	1.343	-	-	0.07	0.820	1.101
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	132572	1770	1	18.45	19.70	1.334	-	-	-0.02	0.921	1.228
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	132322	1745	1	18.50	19.70	1.318	-	-	-0.05	0.708	0.933
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	132072	1720	1	18.44	19.70	1.337	-	-	-0.13	0.636	0.850
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	132572	1770	1	18.43	19.70	1.340	-	-	0.08	0.728	0.975
	LTE Band 66	20M	QPSK	100	0	-	Front	5mm	Ant 1	ECI 7	132322	1745	1	18.46	19.70	1.330	-	-	0.16	0.713	0.949
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	132322	1745	1	18.54	19.70	1.306	-	-	0.01	0.611	0.798
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	ECI 7	132322	1745	1	18.50	19.70	1.318	-	-	-0.04	0.596	0.786
	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	ECI 7	132322	1745	1	18.54	19.70	1.306	-	-	-0.06	0.175	0.229
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	ECI 7	132322	1745	1	18.50	19.70	1.318	-	-	-0.15	0.175	0.231
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 7	132322	1745	1	18.54	19.70	1.306	-	-	0.03	0.207	0.270
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	ECI 7	132322	1745	1	18.50	19.70	1.318	-	-	-0.13	0.203	0.268
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	132322	1745	1	18.54	19.70	1.306	-	-	0.16	0.911	1.190
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	132072	1720	1	18.42	19.70	1.343	-	-	-0.15	0.895	1.202
32	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	132572	1770	1	18.45	19.70	1.334	-	-	0.08	0.952	**1.270**
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	132322	1745	1	18.50	19.70	1.318	-	-	-0.02	0.896	1.181
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	132072	1720	1	18.44	19.70	1.337	-	-	-0.09	0.815	1.089
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	132572	1770	1	18.43	19.70	1.340	-	-	0.14	0.921	1.234
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	ECI 7	132322	1745	1	18.46	19.70	1.330	-	-	0.1	0.901	1.199
	LTE Band 66 other PA	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	132572	1770	1	18.45	19.70	1.334	-	-	0.08	0.926	1.235
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 7	132322	1745	1	14.29	15.30	1.262	-	-	0.02	0.295	0.372
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 4	ECI 7	132322	1745	1	14.26	15.30	1.271	-	-	-0.03	0.289	0.367
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	132322	1745	1	14.29	15.30	1.262	-	-	0.05	0.475	0.599
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 4	ECI 7	132322	1745	1	14.26	15.30	1.271	-	-	-0.01	0.466	0.592
	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 7	132322	1745	1	14.29	15.30	1.262	-	-	-0.18	0.163	0.206
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	ECI 7	132322	1745	1	14.26	15.30	1.271	-	-	0.16	0.159	0.202
	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	132322	1745	1	14.29	15.30	1.262	-	-	0.02	0.488	0.616
	LTE Band 66	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	ECI 7	132322	1745	1	14.26	15.30	1.271	-	-	0.08	0.475	0.604
	LTE Band 66 other PA	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	132322	1745	1	14.29	15.30	1.262	-	-	0.02	0.436	0.550
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	349000	1745	1	20.83	21.90	1.279	-	-	0.14	0.640	0.819
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	349000	1745	1	20.78	21.90	1.294	-	-	-0.01	0.671	0.868
	FR1 n66	45M	QPSK	240	0	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	349000	1745	1	20.74	21.90	1.306	-	-	-0.12	0.568	0.742
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 7	349000	1745	1	20.83	21.90	1.279	-	-	0.07	0.599	0.766
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 7	349000	1745	1	20.78	21.90	1.294	-	-	0.09	0.611	0.791
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	ECI 7	349000	1745	1	20.83	21.90	1.279	-	-	0.11	0.161	0.206
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Left Side	5mm	Ant 1	ECI 7	349000	1745	1	20.78	21.90	1.294	-	-	-0.13	0.174	0.225
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	ECI 7	349000	1745	1	20.83	21.90	1.279	-	-	0.12	0.216	0.276
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Right Side	5mm	Ant 1	ECI 7	349000	1745	1	20.78	21.90	1.294	-	-	-0.11	0.221	0.286
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	349000	1745	1	20.83	21.90	1.279	-	-	0.17	0.922	1.180
33	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	349000	1745	1	20.78	21.90	1.294	-	-	-0.15	0.991	**1.283**
	FR1 n66	45M	QPSK	240	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	349000	1745	1	20.74	21.90	1.306	-	-	-0.16	0.890	1.162
	FR1 n66 other PA	45M	QPSK	120	60	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	349000	1745	1	20.78	21.90	1.294	-	-	-0.15	0.956	1.237
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	ECI 7	349000	1745	1	15.98	17.00	1.265	-	-	0.08	0.320	0.405
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Front	5mm	Ant 4	ECI 7	349000	1745	1	15.92	17.00	1.282	-	-	0.01	0.312	0.400
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	349000	1745	1	15.98	17.00	1.265	-	-	-0.05	0.494	0.625
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	349000	1745	1	15.92	17.00	1.282	-	-	-0.11	0.481	0.617
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 4	ECI 7	349000	1745	1	15.98	17.00	1.265	-	-	0.09	0.156	0.197
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Left Side	5mm	Ant 4	ECI 7	349000	1745	1	15.92	17.00	1.282	-	-	0.1	0.154	0.197
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	349000	1745	1	15.98	17.00	1.265	-	-	0.15	0.433	0.548
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	349000	1745	1	15.92	17.00	1.282	-	-	0.09	0.448	0.574
	FR1 n66 other PA	45M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	349000	1745	1	15.98	17.00	1.265	-	-	-0.05	0.472	0.597
1900MHz																					
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 1	ECI 7	661	1880	1	23.62	24.70	1.282	-	-	0.07	0.799	1.025
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 1	ECI 7	512	1850.2	1	23.60	24.70	1.288	-	-	-0.03	0.837	1.078

	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 1	ECI 7	810	1909.8	1	23.58	24.70	1.294	-	-	0.09	0.807	1.044
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	ECI 7	661	1880	1	23.62	24.70	1.282	-	-	-0.08	0.822	1.054
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	ECI 7	512	1850.2	1	23.60	24.70	1.288	-	-	-0.05	0.807	1.040
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	ECI 7	810	1909.8	1	23.58	24.70	1.294	-	-	-0.03	0.720	0.932
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 1	ECI 7	661	1880	1	23.62	24.70	1.282	-	-	0.17	0.244	0.313
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 1	ECI 7	661	1880	1	23.62	24.70	1.282	-	-	-0.14	0.311	0.399
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 1	ECI 7	661	1880	1	23.62	24.70	1.282	-	-	0.06	0.845	1.084
34	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 1	ECI 7	512	1850.2	1	23.60	24.70	1.288	-	-	-0.02	0.982	**1.265**
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 1	ECI 7	810	1909.8	1	23.58	24.70	1.294	-	-	-0.06	0.854	1.105
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	ECI 7	9400	1880	1	19.00	20.10	1.288	-	-	0.02	0.942	1.214
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	ECI 7	9262	1852.4	1	18.87	20.10	1.327	-	-	0.18	0.844	1.120
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	ECI 7	9538	1907.6	1	18.88	20.10	1.324	-	-	-0.11	0.829	1.098
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 7	9400	1880	1	19.00	20.10	1.288	-	-	-0.05	0.851	1.096
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 7	9262	1852.4	1	18.87	20.10	1.327	-	-	-0.04	0.747	0.992
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	ECI 7	9538	1907.6	1	18.88	20.10	1.324	-	-	-0.08	0.788	1.044
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 1	ECI 7	9400	1880	1	19.00	20.10	1.288	-	-	0.16	0.257	0.331
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	ECI 7	9400	1880	1	19.00	20.10	1.288	-	-	-0.14	0.304	0.392
35	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 7	9400	1880	1	19.00	20.10	1.288	-	-	-0.01	0.987	**1.272**
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 7	9262	1852.4	1	18.87	20.10	1.327	-	-	0.01	0.891	1.183
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	ECI 7	9538	1907.6	1	18.88	20.10	1.324	-	-	0.18	0.869	1.151
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	26340	1880	1	18.36	19.50	1.300	-	-	0.02	0.777	1.010
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	26140	1860	1	18.30	19.50	1.318	-	-	-0.13	0.755	0.995
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	26590	1905	1	18.24	19.50	1.337	-	-	-0.1	0.746	0.997
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	26340	1880	1	18.31	19.50	1.315	-	-	-0.07	0.598	0.787
	LTE Band 25	20M	QPSK	100	0	-	Front	5mm	Ant 1	ECI 7	26340	1880	1	18.31	19.50	1.315	-	-	0.01	0.598	0.787
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	26340	1880	1	18.36	19.50	1.300	-	-	0.1	0.660	0.858
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	26140	1860	1	18.30	19.50	1.318	-	-	0.11	0.674	0.889
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	26590	1905	1	18.24	19.50	1.337	-	-	-0.07	0.656	0.877
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	ECI 7	26340	1880	1	18.31	19.50	1.315	-	-	0.18	0.517	0.680
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 1	ECI 7	26340	1880	1	18.31	19.50	1.315	-	-	0.15	0.517	0.680
	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	ECI 7	26340	1880	1	18.36	19.50	1.300	-	-	0.14	0.151	0.196
	LTE Band 25	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	ECI 7	26340	1880	1	18.31	19.50	1.315	-	-	-0.03	0.119	0.157
	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 7	26340	1880	1	18.36	19.50	1.300	-	-	-0.14	0.247	0.321
	LTE Band 25	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	ECI 7	26340	1880	1	18.31	19.50	1.315	-	-	0.17	0.192	0.253
36	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	26340	1880	1	18.36	19.50	1.300	-	-	0.02	0.975	**1.268**
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	26140	1860	1	18.30	19.50	1.318	-	-	0.11	0.939	1.238
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	26590	1905	1	18.24	19.50	1.337	-	-	0.07	0.917	1.226
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	26340	1880	1	18.31	19.50	1.315	-	-	-0.04	0.773	1.017
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	26140	1860	1	18.24	19.50	1.337	-	-	-0.18	0.755	1.009
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	26590	1905	1	18.26	19.50	1.330	-	-	-0.13	0.764	1.016
	LTE Band 25	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	ECI 7	26340	1880	1	18.31	19.50	1.315	-	-	-0.13	0.777	1.022
	LTE Band 2 other PA	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	18900	1880	1	18.30	19.50	1.318	-	-	0.02	0.928	1.223
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 7	26340	1880	1	13.28	14.30	1.265	-	-	0.01	0.352	0.445
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 4	ECI 7	26340	1880	1	13.27	14.30	1.268	-	-	-0.09	0.328	0.416
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	26340	1880	1	13.28	14.30	1.265	-	-	-0.19	0.431	0.545
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 4	ECI 7	26340	1880	1	13.27	14.30	1.268	-	-	-0.08	0.338	0.428
	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 7	26340	1880	1	13.28	14.30	1.265	-	-	0.09	0.136	0.172
	LTE Band 25	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	ECI 7	26340	1880	1	13.27	14.30	1.268	-	-	-0.03	0.105	0.133
	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	26340	1880	1	13.28	14.30	1.265	-	-	-0.02	0.494	0.625
	LTE Band 25	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	ECI 7	26340	1880	1	13.27	14.30	1.268	-	-	0.04	0.385	0.488
	LTE Band 2 other PA	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	18900	1880	1	13.00	14.30	1.349	-	-	-0.02	0.443	0.598
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	376000	1880	1	20.32	21.40	1.282	-	-	-0.16	0.687	0.881
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	376000	1880	1	20.30	21.40	1.288	-	-	0.15	0.701	0.903
	FR1 n2	40M	QPSK	216	0	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	376000	1880	1	20.31	21.40	1.285	-	-	-0.15	0.554	0.712
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 7	376000	1880	1	20.32	21.40	1.282	-	-	0.06	0.655	0.840

	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 7	376000	1880	1	20.30	21.40	1.288	-	-	0.15	0.650	0.837
	FR1 n2	40M	QPSK	216	0	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 7	376000	1880	1	20.31	21.40	1.285	-	-	-0.1	0.524	0.673
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	ECI 7	376000	1880	1	20.32	21.40	1.282	-	-	0.17	0.139	0.178
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 1	ECI 7	376000	1880	1	20.30	21.40	1.288	-	-	0.13	0.149	0.192
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	ECI 7	376000	1880	1	20.32	21.40	1.282	-	-	-0.02	0.241	0.309
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	ECI 7	376000	1880	1	20.30	21.40	1.288	-	-	0.03	0.247	0.318
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	376000	1880	1	20.32	21.40	1.282	-	-	0.1	0.948	1.216
37	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	376000	1880	1	20.30	21.40	1.288	-	-	-0.18	0.996	**1.283**
	FR1 n2	40M	QPSK	216	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	376000	1880	1	20.31	21.40	1.285	-	-	0.13	0.862	1.108
	FR1 n2 other PA	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	376000	1880	1	20.30	21.40	1.288	-	-	-0.18	0.924	1.190
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	ECI 7	376000	1880	1	15.21	16.20	1.256	-	-	0.07	0.189	0.237
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 4	ECI 7	376000	1880	1	15.15	16.20	1.274	-	-	0.01	0.190	0.242
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	376000	1880	1	15.21	16.20	1.256	-	-	0.19	0.481	0.604
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	376000	1880	1	15.15	16.20	1.274	-	-	-0.01	0.451	0.574
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 4	ECI 7	376000	1880	1	15.21	16.20	1.256	-	-	-0.03	0.153	0.192
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 4	ECI 7	376000	1880	1	15.15	16.20	1.274	-	-	-0.08	0.151	0.192
	FR1 n2	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	376000	1880	1	15.21	16.20	1.256	-	-	0.15	0.479	0.602
	FR1 n2	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	376000	1880	1	15.15	16.20	1.274	-	-	0.12	0.486	0.619
	FR1 n2 other PA	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	376000	1880	1	15.15	16.20	1.274	-	-	0.12	0.442	0.563
	2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	21100	2535	1	18.69	19.80	1.291	-	-	-0.12	0.693	0.895
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	20850	2510	1	18.66	19.80	1.300	-	-	0.18	0.678	0.882
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	21350	2560	1	18.61	19.80	1.315	-	-	0.14	0.733	0.964
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	21100	2535	1	18.67	19.80	1.297	-	-	0.03	0.582	0.755
	LTE Band 7	20M	QPSK	100	0	-	Front	5mm	Ant 1	ECI 7	21100	2535	1	18.62	19.80	1.312	-	-	-0.09	0.586	0.769
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	21100	2535	1	18.69	19.80	1.291	-	-	-0.18	0.515	0.665
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	ECI 7	21100	2535	1	18.67	19.80	1.297	-	-	0.11	0.388	0.503
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	ECI 7	21100	2535	1	18.69	19.80	1.291	-	-	0.12	0.098	0.127
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	ECI 7	21100	2535	1	18.67	19.80	1.297	-	-	0.02	0.078	0.101
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 7	21100	2535	1	18.69	19.80	1.291	-	-	-0.11	0.148	0.191
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	ECI 7	21100	2535	1	18.67	19.80	1.297	-	-	-0.11	0.112	0.145
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	21100	2535	1	18.69	19.80	1.291	-	-	-0.05	0.888	1.147
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	20850	2510	1	18.66	19.80	1.300	-	-	0.03	0.855	1.112
38	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	21350	2560	1	18.61	19.80	1.315	-	-	0.01	0.964	**1.268**
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	21100	2535	1	18.67	19.80	1.297	-	-	-0.06	0.702	0.911
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	20850	2510	1	18.62	19.80	1.312	-	-	0.01	0.700	0.919
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	21350	2560	1	18.65	19.80	1.303	-	-	-0.03	0.773	1.007
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	ECI 7	21100	2535	1	18.62	19.80	1.312	-	-	0.03	0.702	0.921
	LTE Band 7 other PA	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	21350	2560	1	18.61	19.80	1.315	-	-	0.01	0.922	1.213
	LTE Band 7C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	21350+ 21152	2560+ 2540.2	1	18.42	19.80	1.374	-	-	0.02	0.866	1.190
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 7	21100	2535	1	15.64	16.50	1.219	-	-	0.02	0.178	0.217
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 4	ECI 7	21100	2535	1	15.62	16.50	1.225	-	-	0.12	0.141	0.173
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	21100	2535	1	15.64	16.50	1.219	-	-	-0.06	0.498	0.607
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 4	ECI 7	21100	2535	1	15.62	16.50	1.225	-	-	0.09	0.387	0.474
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 7	21100	2535	1	15.64	16.50	1.219	-	-	0.06	0.035	0.043
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	ECI 7	21100	2535	1	15.62	16.50	1.225	-	-	0.01	0.027	0.033
	LTE Band 7	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	21100	2535	1	15.64	16.50	1.219	-	-	-0.11	0.465	0.567
	LTE Band 7	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	ECI 7	21100	2535	1	15.62	16.50	1.225	-	-	-0.02	0.359	0.440
	LTE Band 7 other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	21100	2535	1	15.64	16.50	1.219	-	-	-0.06	0.466	0.568
	LTE Band 7C	20M	QPSK	1	99	-	Back	5mm	Ant 4	ECI 7	21100+ 21298	2535+ 2554.8	1	15.49	16.50	1.262	-	-	0.05	0.425	0.536
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	40620	2593	1	20.65	21.70	1.274	62.9	1.006	-0.02	0.850	1.089
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	39750	2506	1	20.54	21.70	1.306	62.9	1.006	0.08	0.751	0.987
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	40185	2549.5	1	20.53	21.70	1.309	62.9	1.006	0.01	0.770	1.014
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	41055	2636.5	1	20.54	21.70	1.306	62.9	1.006	-0.04	0.792	1.041

	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	ECI 7	41490	2680	1	20.59	21.70	1.291	62.9	1.006	0.17	0.716	0.930
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	40620	2593	1	20.63	21.70	1.279	62.9	1.006	0.18	0.630	0.811
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	39750	2506	1	20.54	21.70	1.306	62.9	1.006	0.03	0.607	0.798
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	40185	2549.5	1	20.54	21.70	1.306	62.9	1.006	0.01	0.589	0.774
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	41055	2636.5	1	20.50	21.70	1.318	62.9	1.006	0.04	0.598	0.793
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	ECI 7	41490	2680	1	20.53	21.70	1.309	62.9	1.006	-0.16	0.640	0.843
	LTE Band 41	20M	QPSK	100	0	-	Front	5mm	Ant 1	ECI 7	40620	2593	1	20.59	21.70	1.291	62.9	1.006	-0.12	0.627	0.814
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	40620	2593	1	20.65	21.70	1.274	62.9	1.006	-0.08	0.544	0.697
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	39750	2506	1	20.54	21.70	1.306	62.9	1.006	-0.18	0.537	0.706
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	40185	2549.5	1	20.53	21.70	1.309	62.9	1.006	-0.13	0.512	0.674
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	41055	2636.5	1	20.54	21.70	1.306	62.9	1.006	-0.03	0.544	0.715
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	ECI 7	41490	2680	1	20.59	21.70	1.291	62.9	1.006	0.02	0.489	0.635
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	ECI 7	40620	2593	1	20.63	21.70	1.279	62.9	1.006	0.02	0.346	0.445
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 1	ECI 7	40620	2593	1	20.59	21.70	1.291	62.9	1.006	0.11	0.345	0.448
	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	ECI 7	40620	2593	1	20.65	21.70	1.274	62.9	1.006	-0.17	0.099	0.127
	LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	ECI 7	40620	2593	1	20.63	21.70	1.279	62.9	1.006	-0.04	0.065	0.084
	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	ECI 7	40620	2593	1	20.65	21.70	1.274	62.9	1.006	-0.17	0.153	0.196
	LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	ECI 7	40620	2593	1	20.63	21.70	1.279	62.9	1.006	-0.07	0.097	0.125
39	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	40620	2593	1	20.65	21.70	1.274	62.9	1.006	-0.02	1.010	**1.294**
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	40620	2593	2	20.65	21.70	1.274	62.9	1.006	0.09	0.856	1.097
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	39750	2506	1	20.54	21.70	1.306	62.9	1.006	0.04	0.907	1.192
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	40185	2549.5	1	20.53	21.70	1.309	62.9	1.006	0.01	0.981	1.292
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	41055	2636.5	1	20.54	21.70	1.306	62.9	1.006	0.04	0.968	1.272
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	41490	2680	1	20.59	21.70	1.291	62.9	1.006	-0.06	0.928	1.205
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	40620	2593	1	20.63	21.70	1.279	62.9	1.006	0.16	0.621	0.799
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	39750	2506	1	20.54	21.70	1.306	62.9	1.006	0.1	0.601	0.790
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	40185	2549.5	1	20.54	21.70	1.306	62.9	1.006	0.03	0.614	0.807
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	41055	2636.5	1	20.50	21.70	1.318	62.9	1.006	-0.03	0.611	0.810
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	ECI 7	41490	2680	1	20.53	21.70	1.309	62.9	1.006	0.09	0.511	0.673
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	ECI 7	40620	2593	1	20.59	21.70	1.291	62.9	1.006	-0.13	0.618	0.803
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	40620	2593	1	22.25	23.30	1.274	42.9	1.009	-0.01	0.982	1.262
	LTE Band 41 other PA	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	ECI 7	40620	2593	1	20.65	21.70	1.274	62.9	1.006	-0.02	0.945	1.211
	LTE Band 41C	20M	QPSK	1	99	-	Bottom Side	5mm	Ant 1	ECI 7	40620+ 40818	2593+ 2612.8	1	20.48	21.70	1.324	62.9	1.006	0.05	0.895	1.192
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Bottom Side	5mm	Ant 1	ECI 7	40620+ 40818	2593+ 2612.8	1	22.14	23.30	1.306	42.9	1.009	0.01	0.885	1.166
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 4	ECI 7	40620	2593	1	16.96	18.00	1.271	62.9	1.006	0.06	0.190	0.243
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 4	ECI 7	40620	2593	1	16.94	18.00	1.276	62.9	1.006	-0.08	0.113	0.145
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	40620	2593	1	16.96	18.00	1.271	62.9	1.006	-0.06	0.493	0.630
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	39750	2506	1	16.88	18.00	1.294	62.9	1.006	-0.07	0.439	0.572
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	40185	2549.5	1	16.91	18.00	1.285	62.9	1.006	-0.03	0.473	0.612
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	41055	2636.5	1	16.95	18.00	1.274	62.9	1.006	0.01	0.479	0.614
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	41490	2680	1	16.93	18.00	1.279	62.9	1.006	0.09	0.422	0.543
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 4	ECI 7	40620	2593	1	16.94	18.00	1.276	62.9	1.006	-0.02	0.325	0.417
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 4	ECI 7	40620	2593	1	16.92	18.00	1.282	62.9	1.006	0.1	0.311	0.401
	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	ECI 7	40620	2593	1	16.96	18.00	1.271	62.9	1.006	0.03	0.046	0.059
	LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	ECI 7	40620	2593	1	16.94	18.00	1.276	62.9	1.006	0.06	0.028	0.036
	LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	ECI 7	40620	2593	1	16.96	18.00	1.271	62.9	1.006	0.12	0.466	0.596
	LTE Band 41	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	ECI 7	40620	2593	1	16.94	18.00	1.276	62.9	1.006	0.09	0.302	0.388
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	40620	2593	1	18.62	19.60	1.253	42.9	1.009	-0.09	0.478	0.604
	LTE Band 41 other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	ECI 7	40620	2593	1	16.96	18.00	1.271	62.9	1.006	-0.06	0.451	0.576
	LTE Band 41C	20M	QPSK	1	99	-	Back	5mm	Ant 4	ECI 7	40620+ 40818	2593+ 2612.8	1	16.87	18.00	1.297	62.9	1.006	0.01	0.435	0.568
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Back	5mm	Ant 4	ECI 7	40620+ 40818	2593+ 2612.8	1	18.45	19.60	1.303	42.9	1.009	0.06	0.422	0.555
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	507000	2535	1	18.10	19.30	1.318	-	-	0.02	0.690	0.910
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	507000	2535	1	18.08	19.30	1.324	-	-	-0.05	0.703	0.931
	FR1 n7	50M	QPSK	270	0	DFT-SCS-15KHz	Front	5mm	Ant 1	ECI 7	507000	2535	1	18.07	19.30	1.327	-	-	-0.11	0.635	0.843

	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 7	507000	2535	1	18.10	19.30	1.318	-	-	0.03	0.477	0.629
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	5mm	Ant 1	ECI 7	507000	2535	1	18.08	19.30	1.324	-	-	0.05	0.509	0.674
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	ECI 7	507000	2535	1	18.10	19.30	1.318	-	-	-0.17	0.071	0.094
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Side	5mm	Ant 1	ECI 7	507000	2535	1	18.08	19.30	1.324	-	-	0.05	0.089	0.118
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	ECI 7	507000	2535	1	18.10	19.30	1.318	-	-	0.13	0.137	0.181
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Right Side	5mm	Ant 1	ECI 7	507000	2535	1	18.08	19.30	1.324	-	-	0.05	0.167	0.221
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	507000	2535	1	18.10	19.30	1.318	-	-	-0.03	0.837	1.103
40	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	507000	2535	1	18.08	19.30	1.324	-	-	-0.08	0.960	**1.271**
	FR1 n7	50M	QPSK	270	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	ECI 7	507000	2535	1	18.07	19.30	1.327	-	-	-0.12	0.808	1.073
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	ECI 7	507000	2535	1	15.00	15.90	1.230	-	-	0.06	0.147	0.181
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Front	5mm	Ant 4	ECI 7	507000	2535	1	14.95	15.90	1.245	-	-	0.15	0.162	0.202
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	507000	2535	1	15.00	15.90	1.230	-	-	-0.08	0.509	0.626
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Back	5mm	Ant 4	ECI 7	507000	2535	1	14.95	15.90	1.245	-	-	-0.15	0.487	0.606
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 4	ECI 7	507000	2535	1	15.00	15.90	1.230	-	-	0.1	0.031	0.038
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Left Side	5mm	Ant 4	ECI 7	507000	2535	1	14.95	15.90	1.245	-	-	-0.05	0.034	0.042
	FR1 n7	50M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	507000	2535	1	15.00	15.90	1.230	-	-	-0.03	0.360	0.443
	FR1 n7	50M	QPSK	135	68	DFT-SCS-15KHz	Top Side	5mm	Ant 4	ECI 7	507000	2535	1	14.95	15.90	1.245	-	-	0.09	0.405	0.504
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 1	ECI 7	518598	2592.99	1	18.33	19.40	1.279	-	-	0.18	0.710	0.908
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 1	ECI 7	518598	2592.99	1	18.32	19.40	1.282	-	-	-0.08	0.732	0.939
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 1	ECI 7	518598	2592.99	1	18.29	19.40	1.291	-	-	0.04	0.673	0.869
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 1	ECI 7	518598	2592.99	1	18.33	19.40	1.279	-	-	-0.07	0.573	0.733
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 1	ECI 7	518598	2592.99	1	18.32	19.40	1.282	-	-	0.13	0.508	0.651
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 1	ECI 7	518598	2592.99	1	18.33	19.40	1.279	-	-	0.11	0.100	0.128
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 1	ECI 7	518598	2592.99	1	18.32	19.40	1.282	-	-	-0.12	0.106	0.136
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 1	ECI 7	518598	2592.99	1	18.33	19.40	1.279	-	-	-0.08	0.183	0.234
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 1	ECI 7	518598	2592.99	1	18.32	19.40	1.282	-	-	-0.16	0.157	0.201
41	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 1	ECI 7	518598	2592.99	1	18.33	19.40	1.279	-	-	0.08	1.010	**1.292**
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 1	ECI 7	518598	2592.99	1	18.32	19.40	1.282	-	-	0.02	0.994	1.275
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	5mm	Ant 1	ECI 7	518598	2592.99	1	18.29	19.40	1.291	-	-	-0.02	0.835	1.078
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 7	518598	2592.99	1	15.31	16.10	1.199	-	-	0.12	0.369	0.443
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 4	ECI 7	518598	2592.99	1	15.28	16.10	1.208	-	-	0.02	0.361	0.436
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 4	ECI 7	518598	2592.99	1	15.31	16.10	1.199	-	-	-0.12	0.482	0.578
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 4	ECI 7	518598	2592.99	1	15.28	16.10	1.208	-	-	0.02	0.516	0.623
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 4	ECI 7	518598	2592.99	1	15.31	16.10	1.199	-	-	-0.07	0.029	0.035
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 4	ECI 7	518598	2592.99	1	15.28	16.10	1.208	-	-	0.04	0.041	0.050
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 4	ECI 7	518598	2592.99	1	15.31	16.10	1.199	-	-	0.04	0.393	0.471
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 4	ECI 7	518598	2592.99	1	15.28	16.10	1.208	-	-	0.1	0.437	0.528
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 2	ECI 7	518598	2592.99	1	13.20	14.20	1.259	-	-	-0.06	0.171	0.215
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 2	ECI 7	518598	2592.99	1	13.05	14.20	1.303	-	-	0.18	0.183	0.238
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 2	ECI 7	518598	2592.99	1	13.20	14.20	1.259	-	-	0.03	0.173	0.218
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 2	ECI 7	518598	2592.99	1	13.05	14.20	1.303	-	-	-0.01	0.178	0.232
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 2	ECI 7	518598	2592.99	1	13.20	14.20	1.259	-	-	0.06	0.489	0.616
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 2	ECI 7	518598	2592.99	1	13.05	14.20	1.303	-	-	-0.05	0.413	0.538
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 2	ECI 7	518598	2592.99	1	13.20	14.20	1.259	-	-	0.06	0.013	0.016
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 2	ECI 7	518598	2592.99	1	13.05	14.20	1.303	-	-	-0.13	0.011	0.014
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 0	ECI 7	518598	2592.99	1	21.29	22.00	1.178	-	-	-0.15	0.272	0.320
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 0	ECI 7	518598	2592.99	1	21.25	22.00	1.189	-	-	0.04	0.308	0.366
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 0	ECI 7	518598	2592.99	1	21.29	22.00	1.178	-	-	-0.05	0.771	0.908
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 0	ECI 7	518598	2592.99	2	21.29	22.00	1.178	-	-	0.03	0.622	0.732
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 0	ECI 7	518598	2592.99	1	21.25	22.00	1.189	-	-	0.08	0.756	0.899
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 0	ECI 7	518598	2592.99	1	20.29	21.00	1.178	-	-	-0.02	0.683	0.804
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 0	ECI 7	518598	2592.99	1	21.29	22.00	1.178	-	-	-0.03	0.115	0.135
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 0	ECI 7	518598	2592.99	1	21.25	22.00	1.189	-	-	-0.06	0.173	0.206
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	ECI 7	518598	2592.99	1	21.29	22.00	1.178	-	-	0.08	0.400	0.471
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	ECI 7	518598	2592.99	1	21.25	22.00	1.189	-	-	-0.11	0.416	0.494

3500 ~ 3900MHz																				
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 3	ECI 7	42590	3500	1	16.05	17.00	1.245	62.9	1.006	-0.17	0.264	0.331
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 3	ECI 7	42590	3500	1	16.00	17.00	1.259	62.9	1.006	0.1	0.246	0.312
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 3	ECI 7	42590	3500	1	16.05	17.00	1.245	62.9	1.006	0.14	0.261	0.327
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 3	ECI 7	42590	3500	1	16.00	17.00	1.259	62.9	1.006	-0.01	0.211	0.267
42	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 3	ECI 7	42590	3500	1	16.05	17.00	1.245	62.9	1.006	0.11	0.489	**0.612**
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 3	ECI 7	42590	3500	1	16.00	17.00	1.259	62.9	1.006	0.05	0.380	0.481
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	5mm	Ant 3	ECI 7	42590	3500	1	16.05	17.00	1.245	62.9	1.006	-0.17	0.045	0.056
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	5mm	Ant 3	ECI 7	42590	3500	1	16.00	17.00	1.259	62.9	1.006	-0.09	0.036	0.046
	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Left Side	5mm	Ant 3	ECI 7	42590+ 42788	3500+ 3519.8	1	15.97	17.00	1.268	62.9	1.006	0.02	0.443	0.565
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 7	656000	3840	1	14.58	15.40	1.208	-	-	-0.08	0.283	0.342
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	ECI 7	656000	3840	1	14.50	15.40	1.230	-	-	0.13	0.271	0.333
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 3	ECI 7	656000	3840	1	14.58	15.40	1.208	-	-	0.01	0.278	0.336
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 3	ECI 7	656000	3840	1	14.50	15.40	1.230	-	-	-0.04	0.277	0.341
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 3	ECI 7	656000	3840	1	14.58	15.40	1.208	-	-	-0.07	0.518	0.626
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 3	ECI 7	656000	3840	1	14.50	15.40	1.230	-	-	-0.09	0.488	0.600
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 3	ECI 7	656000	3840	1	14.58	15.40	1.208	-	-	0.06	0.055	0.066
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 3	ECI 7	656000	3840	1	14.50	15.40	1.230	-	-	0.18	0.068	0.084
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 5	ECI 7	656000	3840	1	15.47	16.60	1.297	-	-	-0.15	0.125	0.162
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 5	ECI 7	656000	3840	1	15.45	16.60	1.303	-	-	-0.04	0.145	0.189
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 5	ECI 7	656000	3840	1	15.47	16.60	1.297	-	-	0.12	0.295	0.383
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 5	ECI 7	656000	3840	1	15.45	16.60	1.303	-	-	-0.09	0.351	0.457
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 5	ECI 7	656000	3840	1	15.47	16.60	1.297	-	-	-0.04	0.071	0.092
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 5	ECI 7	656000	3840	1	15.45	16.60	1.303	-	-	0.13	0.069	0.090
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 5	ECI 7	656000	3840	1	15.47	16.60	1.297	-	-	-0.03	0.056	0.073
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 5	ECI 7	656000	3840	1	15.45	16.60	1.303	-	-	0.13	0.062	0.081
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 5	ECI 7	656000	3840	1	15.47	16.60	1.297	-	-	-0.11	0.448	0.581
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 5	ECI 7	656000	3840	1	15.45	16.60	1.303	-	-	-0.1	0.474	0.618
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 5	ECI 7	656000	3840	1	15.45	16.60	1.303	-	-	-0.06	0.439	0.572
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 7	ECI 7	656000	3840	1	17.70	18.70	1.259	-	-	0.18	0.323	0.407
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 7	ECI 7	656000	3840	1	17.69	18.70	1.262	-	-	0.18	0.331	0.418
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 7	ECI 7	656000	3840	1	17.70	18.70	1.259	-	-	0.01	0.459	0.578
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 7	ECI 7	656000	3840	1	17.69	18.70	1.262	-	-	0.01	0.497	0.627
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 7	ECI 7	656000	3840	1	17.70	18.70	1.259	-	-	-0.02	0.419	0.527
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 7	ECI 7	656000	3840	1	17.69	18.70	1.262	-	-	-0.13	0.369	0.466
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 7	ECI 7	656000	3840	1	17.70	18.70	1.259	-	-	0.04	0.121	0.152
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 7	ECI 7	656000	3840	1	17.69	18.70	1.262	-	-	0.13	0.142	0.179
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 7	ECI 7	656000	3840	1	17.69	18.70	1.262	-	-	0.06	0.468	0.591
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 9	ECI 7	656000	3840	1	17.98	18.70	1.180	-	-	0.08	0.518	0.611
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 9	ECI 7	656000	3840	1	17.93	18.70	1.194	-	-	0.01	0.580	0.693
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 9	ECI 7	656000	3840	1	17.98	18.70	1.180	-	-	-0.08	0.584	0.689
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 9	ECI 7	656000	3840	1	17.93	18.70	1.194	-	-	-0.08	0.610	0.728
43	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 9	ECI 7	656000	3840	1	17.98	18.70	1.180	-	-	0.05	1.080	**1.275**
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 9	ECI 7	656000	3840	1	17.93	18.70	1.194	-	-	0.1	1.020	1.218
	FR1 n77 Part 27O HPUE	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	5mm	Ant 9	ECI 7	656000	3840	1	17.86	18.70	1.213	-	-	0.05	1.000	1.213
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 9	ECI 7	656000	3840	1	17.98	18.70	1.180	-	-	0.12	0.394	0.465
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 9	ECI 7	656000	3840	1	17.93	18.70	1.194	-	-	0.08	0.444	0.530

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)
2450MHz																	
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6+8(6)	Hotspot	1	2412	1	14.56	16.00	1.393	100	1.000	-0.18	0.167	0.233
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(6)	Hotspot	1	2412	1	14.56	16.00	1.393	100	1.000	0.03	0.222	0.309
	WLAN2.4GHz	802.11b 1Mbps	Left Side	5mm	Ant 6+8(6)	Hotspot	1	2412	1	14.56	16.00	1.393	100	1.000	-0.15	0.011	0.015
44	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 6+8(6)	Hotspot	1	2412	1	14.56	16.00	1.393	100	1.000	-0.12	0.407	**0.567**
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 6+8(6)	Hotspot	1	2412	1	14.56	16.00	1.393	100	1.000	-0.15	0.127	0.177
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6	WWAN+DBS	1	2412	1	15.90	17.50	1.445	100	1.000	0.11	0.133	0.192
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	WWAN+DBS	1	2412	1	15.90	17.50	1.445	100	1.000	-0.08	0.206	0.298
	WLAN2.4GHz	802.11b 1Mbps	Left Side	5mm	Ant 6	WWAN+DBS	1	2412	1	15.90	17.50	1.445	100	1.000	-0.17	0.015	0.022
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 6	WWAN+DBS	1	2412	1	15.90	17.50	1.445	100	1.000	-0.08	0.081	0.117
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 6	WWAN+DBS	1	2412	1	15.90	17.50	1.445	100	1.000	-0.09	0.212	0.306
	Bluetooth	1Mbps	Front	5mm	Ant 6	Hotspot	39	2441	1	15.93	17.00	1.279	76.79	1.085	-0.08	0.086	0.119
	Bluetooth	1Mbps	Back	5mm	Ant 6	Hotspot	39	2441	1	15.93	17.00	1.279	76.79	1.085	0.1	0.054	0.075
	Bluetooth	1Mbps	Left Side	5mm	Ant 6	Hotspot	39	2441	1	15.93	17.00	1.279	76.79	1.085	-0.18	0.001	0.001
	Bluetooth	1Mbps	Right Side	5mm	Ant 6	Hotspot	39	2441	1	15.93	17.00	1.279	76.79	1.085	0.1	0.038	0.053
45	Bluetooth	1Mbps	Top Side	5mm	Ant 6	Hotspot	39	2441	1	15.93	17.00	1.279	76.79	1.085	0.15	0.164	**0.228**
5000MHz																	
	WLAN5.2GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+7(7)	Hotspot	46	5230	1	11.99	13.50	1.416	93.75	1.067	0.16	0.209	0.316
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5+7(7)	Hotspot	46	5230	1	11.99	13.50	1.416	93.75	1.067	-0.1	0.301	0.455
	WLAN5.2GHz	802.11n-HT40 MCS0	Left Side	5mm	Ant 5+7(7)	Hotspot	46	5230	1	11.99	13.50	1.416	93.75	1.067	0.07	0.059	0.089
46	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	5mm	Ant 5+7(7)	Hotspot	46	5230	1	11.99	13.50	1.416	93.75	1.067	-0.03	0.421	**0.636**
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	5mm	Ant 5+7(7)	Hotspot	46	5230	2	11.99	13.50	1.416	93.75	1.067	0.05	0.413	0.624
	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	5mm	Ant 5+7(7)	Hotspot	46	5230	1	11.99	13.50	1.416	93.75	1.067	0.18	0.410	0.619
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 7	WWAN+DBS	42	5210	1	7.33	9.00	1.469	87.32	1.145	0.1	0.067	0.113
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 7	WWAN+DBS	42	5210	1	7.33	9.00	1.469	87.32	1.145	-0.18	0.100	0.168
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 7	WWAN+DBS	42	5210	1	7.33	9.00	1.469	87.32	1.145	0.1	0.006	0.010
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7	WWAN+DBS	42	5210	1	7.33	9.00	1.469	87.32	1.145	0.12	0.175	0.294
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 7	WWAN+DBS	42	5210	1	7.33	9.00	1.469	87.32	1.145	0.08	0.020	0.034
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+7(5)	Hotspot	155	5775	1	7.52	9.00	1.406	87.32	1.145	0.08	0.111	0.179
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+7(5)	Hotspot	155	5775	1	7.52	9.00	1.406	87.32	1.145	0.01	0.215	0.346
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 5+7(5)	Hotspot	155	5775	1	7.52	9.00	1.406	87.32	1.145	0.03	0.014	0.023
47	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 5+7(5)	Hotspot	155	5775	1	7.52	9.00	1.406	87.32	1.145	-0.06	0.374	**0.602**
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5+7(5)	Hotspot	155	5775	1	7.52	9.00	1.406	87.32	1.145	-0.08	0.127	0.204
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 7	WWAN+DBS	155	5775	1	5.62	7.00	1.374	87.32	1.145	0.07	0.041	0.065
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 7	WWAN+DBS	155	5775	1	5.62	7.00	1.374	87.32	1.145	0.18	0.087	0.137
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 7	WWAN+DBS	155	5775	1	5.62	7.00	1.374	87.32	1.145	-0.1	0.004	0.006
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 7	WWAN+DBS	155	5775	1	5.62	7.00	1.374	87.32	1.145	0.01	0.189	0.297
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 7	WWAN+DBS	155	5775	1	5.62	7.00	1.374	87.32	1.145	-0.15	0.027	0.042

16.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Headset	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	0	-	Front	5mm	Ant 0	-	ECI 3	23095	707.5	1	22.35	24.00	1.462	-	-	0.08	0.401	0.586
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	ECI 3	23095	707.5	1	21.39	23.00	1.449	-	-	0.01	0.327	0.474
48	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	23095	707.5	1	22.35	24.00	1.462	-	-	-0.02	0.835	**1.221**
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	ECI 3	23095	707.5	1	21.39	23.00	1.449	-	-	0.03	0.768	1.113
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	ECI 3	23095	707.5	1	21.35	23.00	1.462	-	-	-0.08	0.651	0.952
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	ECI 3	23095	707.5	1	22.35	24.00	1.462	-	-	0.03	0.816	1.193
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 4	-	ECI 3	23095	707.5	1	22.49	24.00	1.416	-	-	-0.08	0.358	0.507
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 4	-	ECI 3	23095	707.5	1	21.50	23.00	1.413	-	-	0.1	0.282	0.398
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 4	-	ECI 3	23095	707.5	1	22.49	24.00	1.416	-	-	-0.12	0.606	0.858
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 4	-	ECI 3	23095	707.5	1	21.50	23.00	1.413	-	-	-0.18	0.522	0.737
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 4	-	ECI 3	23095	707.5	1	21.48	23.00	1.419	-	-	0.1	0.525	0.745
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 0	-	ECI 3	23230	782	1	22.52	24.00	1.406	-	-	0.12	0.474	0.666
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	ECI 3	23230	782	1	21.49	23.00	1.416	-	-	0.08	0.369	0.522
49	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	23230	782	1	22.52	24.00	1.406	-	-	-0.05	0.887	**1.247**
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	ECI 3	23230	782	1	21.49	23.00	1.416	-	-	-0.17	0.706	1.000
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	ECI 3	23230	782	1	21.45	23.00	1.429	-	-	-0.03	0.722	1.032
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	ECI 3	23230	782	1	22.52	24.00	1.406	-	-	0.06	0.848	1.192
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 4	-	ECI 3	23230	782	1	22.42	24.00	1.439	-	-	0.14	0.368	0.529
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 4	-	ECI 3	23230	782	1	21.40	23.00	1.445	-	-	0.11	0.297	0.429
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 4	-	ECI 3	23230	782	1	22.42	24.00	1.439	-	-	-0.16	0.615	0.885
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 4	-	ECI 3	23230	782	1	21.40	23.00	1.445	-	-	-0.05	0.494	0.714
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 4	-	ECI 3	23230	782	1	21.34	23.00	1.466	-	-	0.18	0.423	0.620
835MHz																						
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	-	ECI 3	189	836.4	1	26.83	28.10	1.340	-	-	0.08	0.442	0.592
50	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	ECI 3	189	836.4	1	26.83	28.10	1.340	-	-	-0.04	0.962	**1.289**
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	ECI 3	128	824.2	1	26.80	28.10	1.349	-	-	-0.08	0.884	1.192
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	ECI 3	251	848.8	1	26.78	28.10	1.355	-	-	-0.08	0.857	1.161
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	Headset	ECI 3	189	836.4	1	26.83	28.10	1.340	-	-	0.03	0.931	1.247
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	15mm	Ant 0	-	ECI 4	189	836.4	1	27.87	29.00	1.297	-	-	-0.09	0.215	0.279
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	15mm	Ant 0	-	ECI 4	189	836.4	1	27.87	29.00	1.297	-	-	0.11	0.228	0.296
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 4	-	ECI 3	189	836.4	1	27.18	28.00	1.208	-	-	0.1	0.239	0.289
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 4	-	ECI 3	189	836.4	1	27.18	28.00	1.208	-	-	-0.08	0.500	0.604
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	ECI 3	4182	836.4	1	22.53	24.00	1.403	-	-	0.12	0.456	0.640
51	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	4182	836.4	1	22.53	24.00	1.403	-	-	-0.02	0.884	**1.240**
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	4132	826.4	1	22.49	24.00	1.416	-	-	0.08	0.856	1.212
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	ECI 3	4233	846.6	1	22.50	24.00	1.413	-	-	-0.17	0.874	1.235
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Headset	ECI 3	4182	836.4	1	22.53	24.00	1.403	-	-	0.02	0.849	1.191
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 4	-	ECI 3	4182	836.4	1	22.26	23.00	1.186	-	-	-0.03	0.448	0.531
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 4	-	ECI 3	4182	836.4	1	22.26	23.00	1.186	-	-	-0.1	0.624	0.740
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	-	ECI 3	26865	831.5	1	22.53	24.00	1.403	-	-	0.14	0.464	0.651
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	-	ECI 3	26865	831.5	1	21.48	23.00	1.419	-	-	0.11	0.391	0.555
52	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	ECI 3	26865	831.5	1	22.53	24.00	1.403	-	-	-0.04	0.896	**1.257**
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	ECI 3	26865	831.5	1	21.48	23.00	1.419	-	-	-0.05	0.742	1.053
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	-	ECI 3	26865	831.5	1	21.41	23.00	1.442	-	-	0.18	0.754	1.087
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	ECI 3	26865	831.5	1	22.53	24.00	1.403	-	-	0.02	0.862	1.209
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 4	-	ECI 3	26865	831.5	1	22.30	23.00	1.175	-	-	0.14	0.467	0.549
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 4	-	ECI 3	26865	831.5	1	21.41	22.00	1.146	-	-	-0.17	0.378	0.433
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 4	-	ECI 3	26865	831.5	1	22.30	23.00	1.175	-	-	0.02	0.742	0.872
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 4	-	ECI 3	26865	831.5	1	21.41	22.00	1.146	-	-	0.17	0.605	0.693
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 4	-	ECI 3	26865	831.5	1	21.36	22.00	1.159	-	-	-0.05	0.606	0.702

	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 0	-	ECI 3	166300	831.5	1	22.96	24.00	1.271	-	-	0.01	0.252	0.320
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 0	-	ECI 3	166300	831.5	1	22.89	24.00	1.291	-	-	0.1	0.298	0.385
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 0	-	ECI 3	166300	831.5	1	22.96	24.00	1.271	-	-	-0.17	0.488	0.620
53	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	-	ECI 3	166300	831.5	1	22.89	24.00	1.291	-	-	-0.04	0.544	**0.702**
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	-	ECI 3	166300	831.5	1	22.85	24.00	1.303	-	-	0.04	0.259	0.338
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 4	-	ECI 3	166300	831.5	1	22.70	24.00	1.349	-	-	-0.01	0.262	0.353
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	ECI 3	166300	831.5	1	22.85	24.00	1.303	-	-	-0.13	0.475	0.619
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 4	-	ECI 3	166300	831.5	1	22.70	24.00	1.349	-	-	-0.08	0.445	0.600
1750MHz																						
54	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	ECI 3	1413	1732.6	1	20.44	21.30	1.219	-	-	0.07	1.040	**1.268**
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	ECI 3	1312	1712.4	1	20.28	21.30	1.265	-	-	0.06	0.991	1.253
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	ECI 3	1513	1752.6	1	20.31	21.30	1.256	-	-	-0.09	0.981	1.232
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	1413	1732.6	1	20.44	21.30	1.219	-	-	-0.08	0.926	1.129
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	1312	1712.4	1	20.28	21.30	1.265	-	-	0.13	0.906	1.146
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	ECI 3	1513	1752.6	1	20.31	21.30	1.256	-	-	0.12	0.898	1.128
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	Headset	ECI 3	1413	1732.6	1	20.44	21.30	1.219	-	-	0.02	1.010	1.231
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 1	-	ECI 4	1413	1732.6	1	22.55	24.00	1.396	-	-	-0.02	0.396	0.553
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	-	ECI 4	1312	1712.4	1	22.46	24.00	1.426	-	-	0.15	0.401	0.572
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	132322	1745	1	21.52	22.20	1.169	-	-	0.03	1.030	1.205
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	132072	1720	1	21.45	22.20	1.189	-	-	0.18	0.991	1.178
55	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	132572	1770	1	21.48	22.20	1.180	-	-	-0.17	1.080	**1.275**
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	ECI 3	132322	1745	1	21.42	22.20	1.197	-	-	0.16	0.929	1.112
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	ECI 3	132072	1720	1	21.28	22.20	1.236	-	-	-0.1	0.946	1.169
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	ECI 3	132572	1770	1	21.29	22.20	1.233	-	-	0.07	0.953	1.175
	LTE Band 66	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	ECI 3	132322	1745	1	21.39	22.20	1.205	-	-	0.18	0.935	1.127
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	132322	1745	1	21.52	22.20	1.169	-	-	-0.1	0.716	0.837
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	132072	1720	1	21.45	22.20	1.189	-	-	0.01	0.684	0.813
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	ECI 3	132572	1770	1	21.48	22.20	1.180	-	-	-0.15	0.728	0.859
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	ECI 3	132322	1745	1	21.42	22.20	1.197	-	-	0.19	0.698	0.835
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	ECI 3	132072	1720	1	21.28	22.20	1.236	-	-	0.07	0.658	0.813
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	ECI 3	132572	1770	1	21.29	22.20	1.233	-	-	-0.18	0.686	0.846
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	ECI 3	132322	1745	1	21.39	22.20	1.205	-	-	0.03	0.704	0.848
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	Headset	ECI 3	132572	1770	1	21.48	22.20	1.180	-	-	0.02	1.040	1.228
	LTE Band 66 other PA	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	ECI 3	132572	1770	1	21.48	22.20	1.180	-	-	-0.17	1.000	1.180
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 1	-	ECI 4	132572	1770	1	22.33	24.00	1.469	-	-	0.03	0.387	0.568
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 1	-	ECI 4	132572	1770	1	22.33	24.00	1.469	-	-	-0.16	0.419	0.615
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	ECI 3	132322	1745	1	15.66	16.70	1.271	-	-	0.08	0.351	0.446
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	ECI 3	132322	1745	1	15.63	16.70	1.279	-	-	-0.08	0.342	0.438
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	ECI 3	132322	1745	1	15.66	16.70	1.271	-	-	0.02	**0.702**	0.892
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	ECI 3	132072	1720	1	15.61	16.70	1.285	-	-	0.1	0.665	0.855
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	ECI 3	132572	1770	1	15.63	16.70	1.279	-	-	0.12	0.650	0.832
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	ECI 3	132322	1745	1	15.63	16.70	1.279	-	-	0.08	0.696	0.890
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	ECI 3	132072	1720	1	15.57	16.70	1.297	-	-	-0.17	0.665	0.863
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	ECI 3	132572	1770	1	15.59	16.70	1.291	-	-	-0.03	0.684	0.883
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 4	-	ECI 3	132322	1745	1	15.59	16.70	1.291	-	-	0.14	0.671	0.866
	LTE Band 66 other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	ECI 3	132322	1745	1	15.66	16.70	1.271	-	-	0.02	0.645	0.820
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 4	-	ECI 4	132322	1745	1	21.78	23.00	1.324	-	-	-0.11	0.320	0.424
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 4	-	ECI 4	132322	1745	1	21.78	23.00	1.324	-	-	-0.12	0.522	0.691
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	-	ECI 3	349000	1745	1	21.88	22.90	1.265	-	-	-0.08	0.963	1.218
56	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Front	5mm	Ant 1	-	ECI 3	349000	1745	1	21.86	22.90	1.271	-	-	-0.09	1.010	**1.283**
	FR1 n66	45M	QPSK	240	0	DFT-SCS-15KHz	Front	5mm	Ant 1	-	ECI 3	349000	1745	1	21.85	22.90	1.274	-	-	-0.04	0.954	1.215
	FR1 n66	45M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	ECI 3	349000	1745	1	21.88	22.90	1.265	-	-	-0.08	0.901	1.140
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Back	5mm	Ant 1	-	ECI 3	349000	1745	1	21.86	22.90	1.271	-	-	0.17	0.919	1.168
	FR1 n66	45M	QPSK	240	0	DFT-SCS-15KHz	Back	5mm	Ant 1	-	ECI 3	349000	1745	1	21.85	22.90	1.274	-	-	0.18	0.891	1.135
	FR1 n66	45M	QPSK	120	60	DFT-SCS-15KHz	Front	5mm	Ant 1	Headset	ECI 3	349000	1745	1	21.86	22.90	1.271	-	-	0.02	0.988	1.255