

FCC SAR Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2403-1, XT2403-2
FCC ID : IHDT56AQ5
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)

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA3D1818	Rev. 01	Initial issue of report.	Jan. 30, 2024
FA3D1818	Rev. 02	1. Revised Frequency Range of WPT on page 8; 2. Added 70M bandwidth conducted power for 5GNR n41; 3. Updated 5GNR n77/78 at ant4 DSI2 Plimit and relevant data	Feb. 18, 2024



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2403-1, XT2403-2**, 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	0.84	0.97	0.97	1.59
		GSM1900	0.84	1.28	1.30	
	WCDMA	WCDMA II	0.89	1.28	1.30	
		WCDMA IV	0.88	1.29	1.28	
		WCDMA V	0.88	1.27	1.27	
	LTE	LTE Band 2	0.88	1.29	1.28	
		LTE Band 66/4	0.88	1.27	1.29	
		LTE Band 26/5	0.88	0.72	0.76	
		LTE Band 7	0.88	1.29	1.29	
		LTE Band 12/17	0.89	0.85	0.87	
		LTE Band 13	0.88	0.85	0.88	
		LTE Band 41/38	0.90	1.30	1.30	
		LTE Band 42	0.89	0.59	0.62	
		LTE Band 48/43/42	0.83	0.63	0.61	
	5G NR	FR1 n2	0.88	1.29	1.27	
		FR1 n26/n5	0.89	0.74	0.87	
		FR1 n7	0.87	1.27	1.29	
		FR1 n66	0.88	1.29	1.30	
		FR1 n41/n38	0.88	1.28	1.27	
		FR1 n77/n78	0.89	1.27	0.88	
DTS	WLAN	2.4GHz WLAN	1.29	0.60	1.30	1.59
NII		5GHz WLAN	1.11	0.64	1.19	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.49	0.29	0.29	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM850	1.89	3.75
		GSM1900	2.53	
	WCDMA	WCDMA II	3.11	
		WCDMA IV	3.14	
		WCDMA V	1.86	
	LTE	LTE Band 2	3.18	
		LTE Band 66/4	3.14	
		LTE Band 7	3.21	
		LTE Band 41/38	3.16	
		LTE Band 42	2.22	
		LTE Band 48/43	2.47	
	5G NR	FR1 n2	3.13	

		FR1 n7	3.20	
		FR1 n66	3.13	
		FR1 n41/38	3.16	
		FR1 n77/n78	3.19	
DTS	WLAN	2.4GHz WLAN	1.73	3.75
NII		5GHz WLAN	3.15	3.75
Date of Testing:			2023/12/23 ~ 2024/2/5	

Remark:

1. This device supports LTE B4 / B5 / B17 / B38 / B42(3550 MHz ~3600 MHz)/B43 and B66 / B26 / B12 / B41 / B48. Since the supported frequency span for LTE B4 / B5 / B17 / B38 / B42(3550 MHz ~3600 MHz)/B43 falls completely within the supports frequency span for LTE B66 / B26 / B12 / B41 / B48, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66 / B26 / B12 / B41 / B48.
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.
	SAR06-KS 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	XT2403-1, XT2403-2
FCC ID	IHDT56AQ5
IMEI Code	IMEI1:354958440023555 IMEI2:354958440023563
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 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, 3550 MHz ~ 3600 MHz LTE Band 43: 3600 MHz ~ 3700 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66: 1710 MHz ~ 1780 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 Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz WPT: 110 kHz ~ 148 kHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac/ax VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 WLAN 6GHz 802.11a/ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK

	WPT: ASK
HW Version	DVT2
SW Version	U2UM34.9
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). 4. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12. 5. The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO antenna mode only. 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 Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E. 8. For WLAN/BT when transmit simultaneous with WWAN/BT, power reduction will be activated to head exposure condition. 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. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the LTE and 5GNR modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information can be referred to section 18 and appendix F. 10. LTE Band 38/41 and 5GNR n77/n78 supports HPUE, HPUE power and SAR testing performed separately. 11. LTE Band 38/41 and 5GNR n77/n78 HPUE with higher power, 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 verified the worst case of power class 3 SAR. 12. For 5GNR n77/n78 HPUE, 5GNR n77/n78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM to perform SAR with default 100% transmission. 13. There are two models: XT2403-1 is pSIM+pSIM sample, XT2403-2 is pSIM + eSIM sample, no other difference, the model XT2403-2 was chosen to perform full SAR testing. 14. This device has NFC function and the NFC SAR report will be separately submitted. 15. RF exposure report for WPC (Wireless power charging) will be separately submitted. 16. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.	

<5G NR>

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

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																							
FCC ID	IHDT56AQ5																																																																						
Equipment Name	Mobile Cellular Phone																																																																						
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 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, 3550 MHz ~3600 MHz LTE Band 43: 3600 MHz ~ 3700 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz																																																																						
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 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 43: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																																																																						
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM																																																																						
LTE Voice / Data requirements	Voice and Data																																																																						
LTE Release Version	R16, Cat18																																																																						
CA Support	Supported, Uplink and Downlink																																																																						
LTE MPR permanently built-in by design	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><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>	Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
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256 QAM	≥ 1						≤ 5																																																																
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																																						
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																																						
Power reduction applied to satisfy SAR compliance	Yes, when operating in 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.																																																																						
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.																																																																						
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 5 carriers in the downlink and 2 carriers in the uplink.																																																																						

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	826.5	20450	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20625	846.5	20600	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20825	2507.5	20850	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21375	2562.5	21350	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23035	701.5	23060	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23155	713.5	23130	713.5	23130	711
LTE Band 13												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782	23230	782	23230	782	23230	782	23230	782
M	23230	782	23255	784.5	23255	784.5	23255	784.5	23255	784.5	23255	784.5
H	23255	784.5	23280	787	23280	787	23280	787	23280	787	23280	787
LTE Band 17												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23755	706.5	23780	709	23780	709	23780	709	23780	709	23780	709
M	23790	710	23790	710	23790	710	23790	710	23790	710	23790	710
H	23825	713.5	23800	711	23800	711	23800	711	23800	711	23800	711
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37825	2577.5	37850	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38175	2612.5	38150	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39725	2503.5	39750	2503.5	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40173	2548.3	40185	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41068	2637.8	41055	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41515	2682.5	41490	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	

LTE Band 43									
	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	43615	3602.5	43640	3605	43665	3607.5	43690	3610	
M	44090	3650	44090	3650	44090	3650	44090	3650	
H	44565	3697.5	44540	3695	44515	3692.5	44490	3690	

LTE Band 48									
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560	
LM	55810	3607	55815	3607.5	55820	3608	55830	3609	
MH	56170	3643	56165	3642.5	56160	3642	56150	3641	
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690	

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	43115	3552.5	43140	3555	43165	3557.5	43190	3560	
M	43340	3575	43340	3575	43340	3575	43340	3575	
H	43565	3597.5	43540	3595	43515	3592.5	43490	3590	

<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 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
LTE Band 42			Yes	Yes	Yes	Yes
LTE Band 43			Yes	Yes	Yes	Yes
LTE Band 48			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
LTE Band 12	Ant 0	24	24	24	24	24	24
LTE Band 17	Ant 0	24	24	24	24	24	24
LTE Band 26	Ant 0	24	24	24	24	24	24
LTE Band 5	Ant 0	24	24	24	24	24	24
LTE Band 38	Ant 0	23	22.8	19.9	22.5	23	23
LTE Band 41	Ant 0	23	22.8	19.9	22.5	23	23
LTE Band 38 HPUE	Ant 0	26	24.4	21.5	24.1	26	26
LTE Band 41 HPUE	Ant 0	26	24.4	21.5	24.1	26	26

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
LTE Band 12	Ant 1	22	24	23	24	24	24
LTE Band 17	Ant 1	22	24	23	24	24	24
LTE Band 26	Ant 1	21.1	24	22.9	24	24	24
LTE Band 5	Ant 1	21.1	24	22.9	24	24	24
LTE Band 4	Ant 1	16.3	15.7	13.9	19.3	22.5	22.5
LTE Band 66	Ant 1	16.3	15.7	13.9	19.3	22.5	22.5
LTE Band 38	Ant 1	15.8	18.4	13.9	20.5	23	23
LTE Band 41	Ant 1	15.8	18.4	13.9	20.5	23	23
LTE Band 38 HPUE	Ant 1	17.4	20	15.5	22.1	26	26
LTE Band 41 HPUE	Ant 1	17.4	20	15.5	22.1	26	26

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
LTE Band 4	Ant 2	24	21	19.9	22.9	24	24
LTE Band 66	Ant 2	24	21	19.9	22.9	24	24
LTE Band 38	Ant 2	23.5	23.5	22.5	23.5	23.5	23.5
LTE Band 41	Ant 2	23.5	23.5	22.5	23.5	23.5	23.5
LTE Band 38 HPUE	Ant 2	26.5	25.1	24.1	25.5	26.5	26.5
LTE Band 41 HPUE	Ant 2	26.5	25.1	24.1	25.5	26.5	26.5

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
LTE Band 42	Ant 7	19.2	20.4	18.6	20.4	24	24
LTE Band 43	Ant 7	19.2	20.4	18.6	20.4	24	24
LTE Band 48	Ant 7	19.2	20.4	18.6	20.4	24	24

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
LTE Band 38	Ant 10	23.3	22	19.2	22	22	24
LTE Band 41	Ant 10	23.3	22	19.2	22	22	24
LTE Band 38 HPUE	Ant 10	24.9	23.6	20.8	23.6	23.6	27
LTE Band 41 HPUE	Ant 10	24.9	23.6	20.8	23.6	23.6	27

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 n38: 2570 MHz ~ 2620 MHz												
				5G NR n41: 2496 MHz ~ 2690 MHz												
				5G NR n66: 1710 MHz ~ 1780 MHz												
				5G NR n77: 3700 MHz ~ 3980 MHz												
				5G NR n78: 3700 MHz ~ 3800 MHz												
Channel Bandwidth				The detail please refers to section 4.1 5G NR FR1 bands table.												
SCS				FDD: 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 B4/5/7/66												
LTE Anchor Bands for n5				LTE B7												
LTE Anchor Bands for n7				LTE B2/4/5/66												
LTE Anchor Bands for n26				LTE B7												
LTE Anchor Bands for n38				LTE B2/4/5/66												
LTE Anchor Bands for n41				LTE B2/4/5/26/66												
LTE Anchor Bands for n66				LTE B2/5/7												
LTE Anchor Bands for n77				LTE B7/41												
LTE Anchor Bands for n78				LTE B2/4/5/7/38/41/26/66												
Transmission (H, M, L) channel numbers and frequencies in each 5G NR band																
NR Band 2																
	Bandwidth 5MHz			Bandwidth 10MHz			Bandwidth 15MHz			Bandwidth 20MHz						
	Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)				
L	370500		1852.5	371000		1855	371500		1857.5	372000		1860				
M	376000		1880	376000		1880	376000		1880	376000		1880				
H	381500		1907.5	381000		1905	380500		1902.5	380000		1900				
NR Band 5																
	Bandwidth 5MHz			Bandwidth 10MHz			Bandwidth 15MHz			Bandwidth 20MHz						
	Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)	Ch. #		Freq. (MHz)				
L	165300		826.5	165800		829	166300		831.5	166800		834				
M	167300		836.5	167300		836.5	167300		836.5	167300		836.5				
H	169300		846.5	168800		844	168300		841.5	167800		839				
NR Band 7																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520		
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535		
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550		
NR Band 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	
	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
M	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

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

NR Band 41 SCS30KHz																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	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
H 537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	537000	2685	529998	2649.99	528996	2644.98	528000	2640

NR Band 77																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M 656000	3840	656000	3840	656000	3840	656000	3840.00	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H 665000	3975	664832	3972.48	664666	3969.99	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M 650000	3750	650000	3750	650000	3750	650000	3750.00	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H 653000	3795	652834	3792.51	652668	3790.02	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	40 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						
FR1 n41		Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FR1 n77		Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FR1 n78		Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

2) NR Bands Tune up:

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI 4 Tune-up Limit	Default Tune-up Limit
5G NR n5	Ant 0	24	24	24	24	24	24
5G NR n26	Ant 0	24	24	24	24	24	24
5G NR n38	Ant 0	22	20.8	19.6	21.3	22	22
5G NR n41	Ant 0	22	20.8	19.6	21.3	22	22

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI 4 Tune-up Limit	Default Tune-up Limit
5G NR n5	Ant 1	23	24	23	24	24	24
5G NR n26	Ant 1	23	24	23	24	24	24
5G NR n38	Ant 1	14.8	17.3	13.5	20.6	22.5	22.5
5G NR n41	Ant 1	14.8	17.3	13.5	20.6	22.5	22.5

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
5G NR n38	Ant 2	24	21.1	19.5	20.8	24	24
5G NR n41	Ant 2	24	21.1	19.5	20.8	24	24

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
5G NR n38	Ant 10	24	24	21.3	24	24	24
5G NR n41	Ant 10	24	24	21.3	24	24	24

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
5G NR n77	Ant 4	19	19	17.5	24	24	24
5G NR n78	Ant 4	19	19	17.5	24	24	24
5G NR n77 HPUE	Ant 4	22	22	20.5	27	27	27
5G NR n78 HPUE	Ant 4	22	22	20.5	27	27	27

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
5G NR n77	Ant 5	15.6	17.8	13.5	19.4	24	24
5G NR n78	Ant 5	15.6	17.8	13.5	19.4	24	24
5G NR n77 HPUE	Ant 5	18.6	20.8	16.5	22.4	27	27
5G NR n78 HPUE	Ant 5	18.6	20.8	16.5	22.4	27	27

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
5G NR n77	Ant 7	17.7	19.5	15.4	19.5	24	24
5G NR n78	Ant 7	17.7	19.5	15.4	19.5	24	24
5G NR n77 HPUE	Ant 7	20.7	22.5	18.4	22.5	27	27
5G NR n78 HPUE	Ant 7	20.7	22.5	18.4	22.5	27	27

Band	Antenna	Head DSI 2 Tune-up Limit	Body-worn DSI 3 Tune-up Limit	Hotspot DSI 7 Tune-up Limit	Extremity DSI 6 Tune-up Limit	Sensor Off DSI4 Tune-up Limit	Default Tune-up Limit
5G NR n77	Ant 8	24	23.3	21.3	23.3	23.3	24
5G NR n78	Ant 8	24	23.3	21.3	23.3	23.3	24
5G NR n77 HPUE	Ant 8	27	26.3	24.3	26.3	26.3	27
5G NR n78 HPUE	Ant 8	27	26.3	24.3	26.3	26.3	27

5. Smart Transmit feature for RF Exposure compliance

The 2nd generation of Smart Transmit (GEN2) operates based on pre-defined sub6 antenna groups (AG). This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature. The RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6 GHz). 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.

Note that WLAN/BT operations are not enabled with Smart Transmit.

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) to enable the Smart Transmit Gen2 Feature.

<Terminologies in this report>

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

<SAR Characterization>

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

<SAR design target and uncertainty>

Item	Uncertainty dB (k=2)
Total uncertainty	1.5

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

$$SAR_{design_target} < SAR_{regulatory_limit} \times 10^{\frac{-total\ uncertainty}{10}}$$

Antenna Group:

Antenna Group 0 (AG0)	ANT1 & ANT4 & ANT5 & ANT7 & ANT10
Antenna Group 1 (AG1)	ANT0 & ANT2 & ANT8

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

Smart Transmit allows the device to transmit at higher power instantaneously, as high as Pmax, when needed, but enforces power limiting to maintain time-averaged transmit power to Plimit. Below table shows Plimit EFS settings and maximum tune up output power Pmax configured for this EUT for various transmit conditions (Device State Index DSI).

<P_{limit} for supported technologies and bands (P_{limit} in EFS file)>

Band	Antenna	Head DSI 2	Body-Worn DSI 3	Hotspot DSI 7	Extremity DSI 6	Sensor off DSI 4	Pmax*
GSM850	Ant 0	33.6	23.9	23.9	27.0	24.7	24.7
GSM850	Ant 1	21.5	23.4	21.8	24.5	24.5	24.5
GSM1900	Ant 1	14.6	15.1	13.3	17.0	19.7	19.7
GSM1900	Ant 2	32.3	20.7	19.4	21.7	20.7	20.7
WCDMA II	Ant 1	13.7	13.1	11.6	17.4	21.5	21.5
WCDMA II	Ant 2	30.9	20.4	19.0	21.8	22.0	22.0
WCDMA IV	Ant 1	14.3	14.7	13.3	18.9	21.5	21.5
WCDMA IV	Ant 2	32.1	19.1	18.2	21.8	22.0	22.0
WCDMA V	Ant 0	31.7	23.1	23.1	23.0	23.0	23.0
WCDMA V	Ant 1	20	23.0	20.3	23.0	23.0	23.0
LTE Band 2	Ant 1	13.8	12.6	12.2	16.0	21.5	21.5
LTE Band 2	Ant 2	32.1	20.9	19.5	23.0	23.0	23.0
LTE Band 66(4)	Ant 1	15.3	14.7	12.9	18.3	21.5	21.5
LTE Band 66(4)	Ant 2	33.5	20.0	18.9	21.9	23.0	23.0
LTE Band 26(5)	Ant 0	31.1	25.5	25.5	23.0	23.0	23.0
LTE Band 26(5)	Ant 1	20.1	23.7	21.9	23.0	23.0	23.0
LTE Band 7	Ant 0	29.7	21.5	20.9	21.1	21.5	21.5
LTE Band 7	Ant 1	12.7	16.1	12.2	17.6	21.5	21.5
LTE Band 7	Ant 2	31.6	21.1	19.4	20.8	23.0	23.0
LTE Band 7	Ant 10	21.9	18.6	17.0	18.6	18.6	23.0
LTE Band 12(17)	Ant 0	31.2	24.8	24.8	23.0	23.0	23.0
LTE Band 12(17)	Ant 1	21	23.1	22.0	23.0	23.0	23.0
LTE Band 13	Ant 0	30.8	24.8	24.8	23.0	23.0	23.0
LTE Band 13	Ant 1	20.2	23.0	21.8	23.0	23.0	23.0
LTE Band 41(38)	Ant 0	29.6	19.8	16.9	19.5	21.9	20.0
LTE Band 41(38)HPUE	Ant 0	29.6	19.8	16.9	19.5	21.9	21.4
LTE Band 41(38)	Ant 1	12.8	15.4	10.9	17.5	21.9	20.0
LTE Band 41(38)HPUE	Ant 1	12.8	15.4	10.9	17.5	21.9	21.4
LTE Band 41(38)	Ant 2	31	20.5	19.5	20.9	21.9	20.5
LTE Band 41(38)HPUE	Ant 2	31	20.5	19.5	20.9	21.9	21.9
LTE Band 41(38)	Ant 10	20.3	19.0	16.2	19.0	19.0	21.0
LTE Band 41(38)HPUE	Ant 10	20.3	19.0	16.2	19.0	19.0	22.4
LTE Band 42 Part27Q	Ant 7	16.2	17.4	15.6	17.4	21.0	21.0
LTE Band 48(42 43)	Ant 7	16.2	17.4	15.6	17.4	21.0	21.0
FR1 n2	Ant 1	16.5	15.9	13.5	19.6	23.0	23.0
FR1 n2 other PA	Ant 1	16.5	15.9	13.5	19.6	22.0	22.0
FR1 n2	Ant 2	32.2	20.7	19.4	22.1	23.0	23.0
FR1 n2 other PA	Ant 2	32.2	20.7	19.4	22.1	22.0	22.0
FR1 n26(5)	Ant 0	32	25.4	25.4	23.0	23.0	23.0
FR1 n26(5)	Ant 1	22	23.1	22.0	23.0	23.0	23.0
FR1 n7	Ant 1	16	16.4	11.8	19.3	23.0	23.0
FR1 n7 other PA	Ant 1	16	16.4	11.8	19.3	21.5	21.5
FR1 n7	Ant 2	31.8	20.3	19.2	21.2	23.0	23.0
FR1 n66	Ant 1	15.9	15.8	14.0	18.9	23.0	23.0
FR1 n66 other PA	Ant 1	15.9	15.8	14.0	18.9	23.0	23.0
FR1 n66	Ant 2	32.7	20.9	19.2	22.3	23.0	23.0
FR1 n66 other PA	Ant 2	32.7	20.9	19.2	22.3	22.0	22.0

FR1 n41(38)	Ant 0	27.4	19.8	18.6	20.3	21.0	21.0
FR1 n41(38)	Ant 1	13.8	16.3	12.5	19.6	21.5	21.5
FR1 n41(38)	Ant 2	31.6	20.1	18.5	19.8	23.0	23.0
FR1 n41(38)	Ant 10	25.5	23.0	20.3	23.0	23.0	23.0
FR1 n77(78)	Ant 4	18.0	18.0	16.5	23.7	23.0	23.0
FR1 n77(78)HPUE	Ant 4	18.0	18.0	16.5	23.7	23.0	23.0
FR1 n77(78)	Ant 5	14.6	16.8	12.5	18.4	23.0	23.0
FR1 n77(78)HPUE	Ant 5	14.6	16.8	12.5	18.4	23.0	23.0
FR1 n77(78)	Ant 7	16.7	18.5	14.4	18.5	23.0	23.0
FR1 n77(78)HPUE	Ant 7	16.7	18.5	14.4	18.5	23.0	23.0
FR1 n77(78)	Ant 8	29.9	22.3	20.3	22.3	22.3	23.0
FR1 n77(78)HPUE	Ant 8	29.9	22.3	20.3	22.3	22.3	23.0

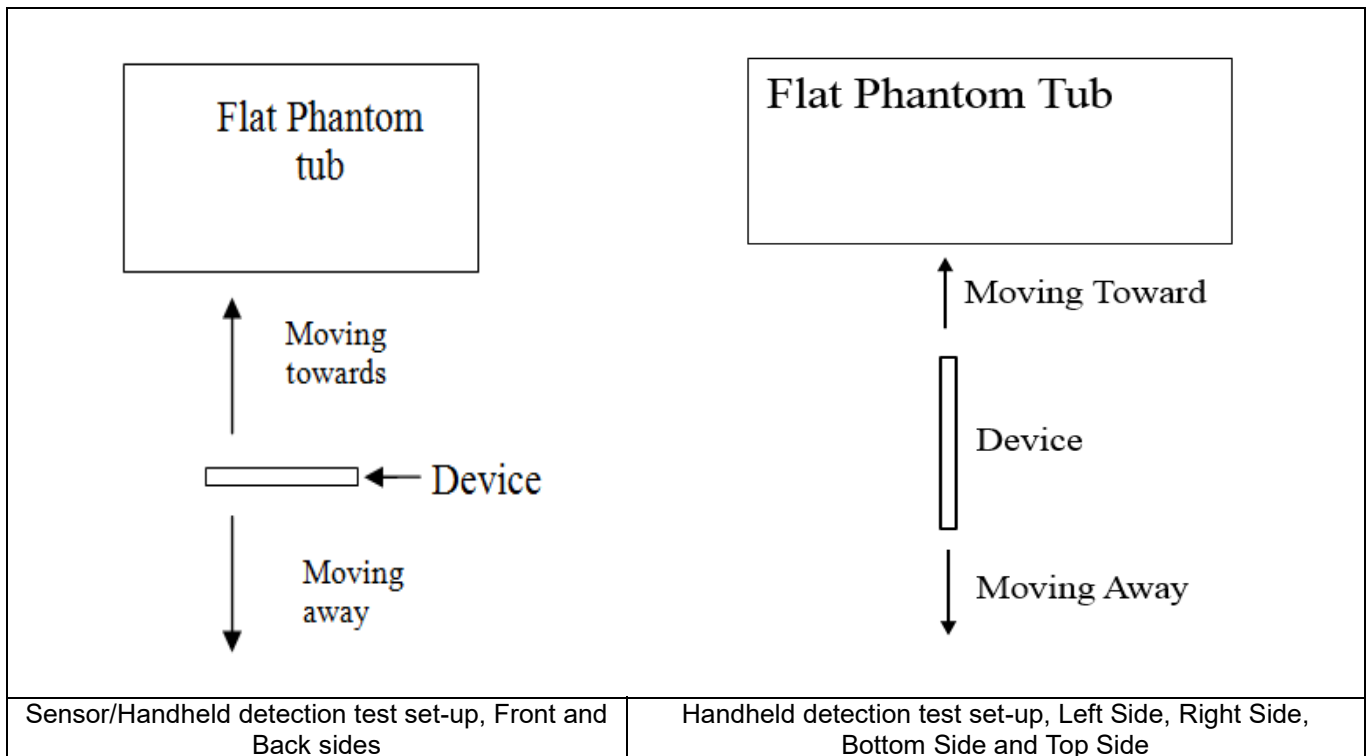
Note:

- 1) *Pmax 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.
- 4) For 5GNR n77/n78 HPUE, 5GNR n77/n78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM to perform SAR with default 100% transmission.

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 (5850MHz) and lowest (835MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s). When front or back body worn condition is detected reduced power will be active.
5. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left/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:



<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	17	22	21	25

<Handheld for ANT 0>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	7	12	12	17	13	18	14	19

<Handheld for ANT1&7>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	14	13	18	10	15	16	20

<Handheld for ANT3&4&5&6>

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	11	16	9	15	13	19	11	16

<Handheld for ANT 2>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	7	14	8	14	14	20

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:

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

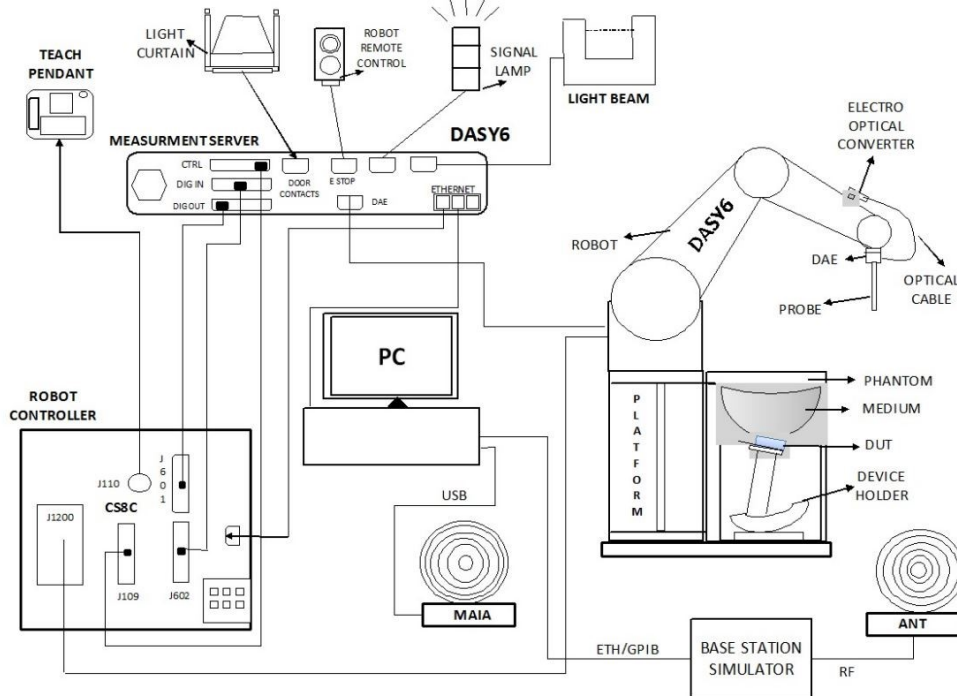
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

9. System Description and Setup

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 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	10 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/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 from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

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 dB) 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	≤ 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 $\leq$ 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 to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 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: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
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 <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> 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 to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

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	2025/2/23
SPEAG	835MHz System Validation Kit	D835V2	4d091	2022/8/19	2025/8/18
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2022/2/24	2025/2/23
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	2022/3/30	2025/3/29
SPEAG	2450MHz System Validation Kit	D2450V2	1040	2023/4/25	2024/4/24
SPEAG	2600MHz System Validation Kit	D2600V2	1070	2021/12/20	2024/12/18
SPEAG	3500MHz System Validation Kit	D3500V2	1076	2022/5/9	2025/5/8
SPEAG	3700MHz System Validation Kit	D3700V2	1037	2022/5/9	2025/5/8
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2023/3/9	2024/3/8
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2022/9/23	2025/9/22
SPEAG	Data Acquisition Electronics	DAE4	1649	2023/4/24	2024/4/23
SPEAG	Data Acquisition Electronics	DAE4	1358	2023/2/21	2024/2/20
SPEAG	Dosimetric E-Field Probe	EX3DV4	7764	2023/10/5	2024/10/4
SPEAG	Dosimetric E-Field Probe	EX3DV4	7706	2023/1/26	2024/1/25
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-2024	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-2022	NCR	NCR
Testo	Thermo-Hygrometer	608-H1	1241332126	2023/7/10	2024/7/9
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	1071	2023/2/20	2024/2/19
Anritsu	Vector Signal Generator	MG3710A	6201682672	2023/1/5	2024/1/4
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	2023/5/15	2024/5/14
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	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	

Note:

- 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
- 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.
- 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.

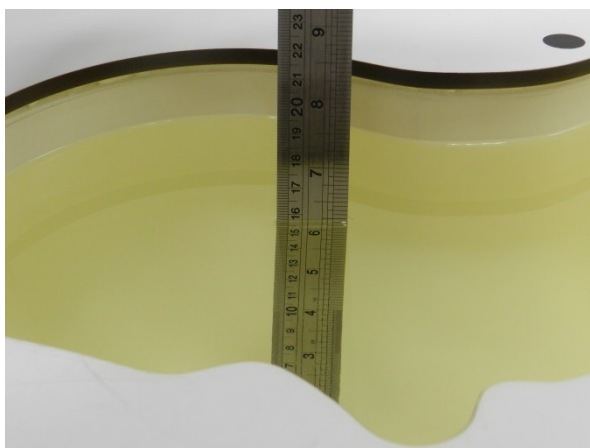


Fig 11.1 Photo of Liquid Height for Head SAR



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 (ϵ_r)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Conductivity Target (σ)	Permittivity Target (ε _r)	Delta (σ) (%)	Delta (ε _r) (%)	Limit (%)	Date
750	Head	22.7	0.926	42.5	0.89	41.90	4.04	1.43	±5	2023/12/23
835	Head	22.8	0.915	41.3	0.90	41.50	1.67	-0.48	±5	2023/12/24
1750	Head	22.7	1.38	40.3	1.37	40.10	0.73	0.50	±5	2023/12/25
1900	Head	22.9	1.45	40.0	1.40	40.00	3.57	0.00	±5	2023/12/26
2450	Head	22.6	1.84	39.3	1.80	39.20	2.22	0.26	±5	2023/12/27
2600	Head	22.6	1.94	39.1	1.96	39.00	-1.02	0.26	±5	2023/12/28
3500	Head	22.9	2.88	38.5	2.91	37.90	-1.03	1.58	±5	2023/12/29
3700	Head	22.9	3.08	38.0	3.12	37.70	-1.28	0.80	±5	2023/12/30
3900	Head	22.9	3.28	37.6	3.32	37.50	-1.20	0.27	±5	2023/12/31
5250	Head	22.7	4.66	36.7	4.71	35.90	-1.06	2.23	±5	2024/1/1
5600	Head	22.7	5.07	36.0	5.07	35.50	0.00	1.41	±5	2024/1/2
5750	Head	22.7	5.24	35.8	5.22	35.40	0.38	1.13	±5	2024/1/3
750	Head	22.7	0.926	42.4	0.89	41.90	4.04	1.19	±5	2024/1/4
835	Head	22.8	0.920	40.6	0.90	41.50	2.22	-2.17	±5	2024/1/6
1750	Head	22.7	1.35	40.1	1.37	40.10	-1.46	0.00	±5	2024/1/7
1900	Head	22.9	1.43	38.6	1.40	40.00	2.14	-3.50	±5	2024/1/9
2450	Head	22.6	1.85	38.2	1.80	39.20	2.78	-2.55	±5	2024/1/11
2600	Head	22.6	1.93	39.0	1.96	39.00	-1.53	0.00	±5	2024/1/13
3500	Head	22.9	2.78	38.9	2.91	37.90	-4.47	2.64	±5	2024/1/15
3700	Head	22.9	2.99	38.7	3.12	37.70	-4.17	2.65	±5	2024/1/17
3900	Head	22.9	3.25	37.8	3.32	37.50	-2.11	0.80	±5	2024/1/18
5250	Head	22.7	4.57	35.5	4.71	35.90	-2.97	-1.11	±5	2024/1/19
5600	Head	22.7	4.95	34.8	5.07	35.50	-2.37	-1.97	±5	2024/1/20
5750	Head	22.7	5.13	34.6	5.22	35.40	-1.72	-2.26	±5	2024/1/21
750	Head	22.7	0.925	42.4	0.89	41.90	3.93	1.19	±5	2023/12/23
835	Head	22.8	0.916	42.2	0.90	41.50	1.78	1.69	±5	2023/12/24
1750	Head	22.7	1.37	40.2	1.37	40.10	0.00	0.25	±5	2023/12/25
1900	Head	22.9	1.46	39.9	1.40	40.00	4.29	-0.25	±5	2023/12/26
2450	Head	22.6	1.87	39.2	1.80	39.20	3.89	0.00	±5	2023/12/27
2600	Head	22.6	1.90	39.5	1.96	39.00	-3.06	1.28	±5	2023/12/28
3500	Head	22.9	2.80	39.4	2.91	37.90	-3.78	3.96	±5	2023/12/29
3700	Head	22.9	2.98	38.4	3.12	37.70	-4.49	1.86	±5	2023/12/30
3900	Head	22.9	3.26	37.7	3.32	37.50	-1.81	0.53	±5	2023/12/31
5250	Head	22.7	4.56	35.0	4.71	35.90	-3.18	-2.51	±5	2024/1/1
5600	Head	22.7	4.96	34.4	5.07	35.50	-2.17	-3.10	±5	2024/1/2
5750	Head	22.7	5.12	34.1	5.22	35.40	-1.92	-3.67	±5	2024/1/3
750	Head	22.7	0.905	42.7	0.89	41.90	1.69	1.91	±5	2024/1/4
835	Head	22.8	0.924	41.4	0.90	41.50	2.67	-0.24	±5	2024/1/6
1750	Head	22.7	1.36	40.0	1.37	40.10	-0.73	-0.25	±5	2024/1/7
1900	Head	22.9	1.44	39.8	1.40	40.00	2.86	-0.50	±5	2024/1/9
2450	Head	22.6	1.86	38.4	1.80	39.20	3.33	-2.04	±5	2024/1/11
2600	Head	22.6	1.96	40.4	1.96	39.00	0.00	3.59	±5	2024/1/13
3500	Head	22.9	2.89	38.6	2.91	37.90	-0.69	1.85	±5	2024/1/15
3700	Head	22.9	3.09	38.2	3.12	37.70	-0.96	1.33	±5	2024/1/17
3900	Head	22.9	3.29	37.5	3.32	37.50	-0.90	0.00	±5	2024/1/18
5250	Head	22.7	4.55	35.9	4.71	35.90	-3.40	0.00	±5	2024/1/19
5600	Head	22.7	4.92	34.7	5.07	35.50	-2.96	-2.25	±5	2024/1/20
5750	Head	22.7	5.11	34.5	5.22	35.40	-2.11	-2.54	±5	2024/1/21
3500	Head	22.8	2.88	38.600	2.91	37.90	-1.03	1.85	±5	2024/2/5
3700	Head	22.7	3.04	38.300	3.12	37.70	-2.56	1.59	±5	2024/2/5
3900	Head	22.8	3.28	38.100	3.32	37.50	-1.20	1.60	±5	2024/2/5



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 (%)
2023/12/23	750	Head	50	1087	7706	1649	0.406	8.58	8.12	-5.36
2023/12/24	835	Head	50	4d091	7706	1649	0.447	9.45	8.94	-5.40
2023/12/25	1750	Head	50	1090	7706	1649	1.73	37.00	34.6	-6.49
2023/12/26	1900	Head	50	5d118	7706	1649	2.11	39.30	42.2	7.38
2023/12/27	2450	Head	50	1040	7706	1649	2.70	52.70	54	2.47
2023/12/28	2600	Head	50	1070	7706	1649	2.63	56.20	52.6	-6.41
2023/12/29	3500	Head	50	1076	7706	1649	3.10	66.20	62	-6.34
2023/12/30	3700	Head	50	1037	7706	1649	3.27	66.70	65.4	-1.95
2023/12/31	3900	Head	50	1048	7706	1649	3.40	69.10	68	-1.59
2024/1/1	5250	Head	50	1113	7706	1649	4.05	81.50	81	-0.61
2024/1/2	5600	Head	50	1113	7706	1649	4.36	82.60	87.2	5.57
2024/1/3	5750	Head	50	1113	7706	1649	3.96	80.80	79.2	-1.98
2024/1/4	750	Head	50	1087	7706	1649	0.405	8.58	8.1	-5.59
2024/1/6	835	Head	50	4d091	7706	1649	0.449	9.45	8.98	-4.97
2024/1/7	1750	Head	50	1090	7706	1649	1.75	37.00	35	-5.41
2024/1/9	1900	Head	50	5d118	7706	1649	1.84	39.30	36.8	-6.36
2024/1/11	2450	Head	50	1040	7706	1649	2.69	52.70	53.8	2.09
2024/1/13	2600	Head	50	1070	7706	1649	2.67	56.20	53.4	-4.98
2024/1/15	3500	Head	50	1076	7706	1649	3.15	66.20	63	-4.83
2024/1/17	3700	Head	50	1037	7706	1649	3.31	66.70	66.2	-0.75
2024/1/18	3900	Head	50	1048	7706	1649	3.41	69.10	68.2	-1.30
2024/1/19	5250	Head	50	1113	7706	1649	3.92	81.50	78.4	-3.80
2024/1/20	5600	Head	50	1113	7706	1649	4.28	82.60	85.6	3.63
2024/1/21	5750	Head	50	1113	7706	1649	3.88	80.80	77.6	-3.96
2023/12/23	750	Head	50	1087	7764	1358	0.413	8.58	8.26	-3.73
2023/12/24	835	Head	50	4d091	7764	1358	0.465	9.45	9.3	-1.59
2023/12/25	1750	Head	50	1090	7764	1358	1.88	37.00	37.6	1.62
2023/12/26	1900	Head	50	5d118	7764	1358	2.06	39.30	41.2	4.83
2023/12/27	2450	Head	50	1040	7764	1358	2.53	52.70	50.6	-3.98
2023/12/28	2600	Head	50	1070	7764	1358	2.64	56.20	52.8	-6.05
2023/12/29	3500	Head	50	1076	7764	1358	3.19	66.20	63.8	-3.63
2023/12/30	3700	Head	50	1037	7764	1358	3.22	66.70	64.4	-3.45
2023/12/31	3900	Head	50	1048	7764	1358	3.31	69.10	66.2	-4.20
2024/1/1	5250	Head	50	1113	7764	1358	3.82	81.50	76.4	-6.26
2024/1/2	5600	Head	50	1113	7764	1358	3.87	82.60	77.4	-6.30
2024/1/3	5750	Head	50	1113	7764	1358	3.81	80.80	76.2	-5.69
2024/1/4	750	Head	50	1087	7764	1358	0.402	8.58	8.04	-6.29
2024/1/6	835	Head	50	4d091	7764	1358	0.472	9.45	9.44	-0.11
2024/1/7	1750	Head	50	1090	7764	1358	1.84	37.00	36.8	-0.54
2024/1/9	1900	Head	50	5d118	7764	1358	2.03	39.30	40.6	3.31
2024/1/11	2450	Head	50	1040	7764	1358	2.55	52.70	51	-3.23
2024/1/13	2600	Head	50	1070	7764	1358	2.67	56.20	53.4	-4.98
2024/1/15	3500	Head	50	1076	7764	1358	3.21	66.20	64.2	-3.02
2024/1/17	3700	Head	50	1037	7764	1358	3.32	66.70	66.4	-0.45
2024/1/18	3900	Head	50	1048	7764	1358	3.29	69.10	65.8	-4.78
2024/1/19	5250	Head	50	1113	7764	1358	3.87	81.50	77.4	-5.03
2024/1/20	5600	Head	50	1113	7764	1358	3.88	82.60	77.6	-6.05
2024/1/21	5750	Head	50	1113	7764	1358	3.79	80.80	75.8	-6.19



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2024/2/5	3500	Head	50	1076	7764	1358	3.350	66.20	67	1.21
2024/2/5	3700	Head	50	1037	7764	1358	3.340	66.70	66.8	0.15
2024/2/5	3900	Head	50	1048	7764	1358	3.360	69.10	67.2	-2.75

<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 (%)
2023/12/23	750	Head	50	1087	7706	1649	0.272	5.65	5.44	-3.72
2023/12/24	835	Head	50	4d091	7706	1649	0.297	6.22	5.94	-4.50
2023/12/25	1750	Head	50	1090	7706	1649	0.909	19.50	18.18	-6.77
2023/12/26	1900	Head	50	5d118	7706	1649	1.09	20.40	21.8	6.86
2023/12/27	2450	Head	50	1040	7706	1649	1.28	24.60	25.6	4.07
2023/12/28	2600	Head	50	1070	7706	1649	1.18	24.60	23.6	-4.07
2023/12/29	3500	Head	50	1076	7706	1649	1.18	25.50	23.6	-7.45
2023/12/30	3700	Head	50	1037	7706	1649	1.22	24.60	24.4	-0.81
2023/12/31	3900	Head	50	1048	7706	1649	1.23	24.10	24.6	2.07
2024/1/1	5250	Head	50	1113	7706	1649	1.18	23.30	23.6	1.29
2024/1/2	5600	Head	50	1113	7706	1649	1.26	23.70	25.2	6.33
2024/1/3	5750	Head	50	1113	7706	1649	1.15	23.00	23	0.00
2024/1/4	750	Head	50	1087	7706	1649	0.269	5.65	5.38	-4.78
2024/1/6	835	Head	50	4d091	7706	1649	0.295	6.22	5.9	-5.14
2024/1/7	1750	Head	50	1090	7706	1649	0.917	19.50	18.34	-5.95
2024/1/9	1900	Head	50	5d118	7706	1649	0.949	20.40	18.98	-6.96
2024/1/11	2450	Head	50	1040	7706	1649	1.27	24.60	25.4	3.25
2024/1/13	2600	Head	50	1070	7706	1649	1.15	24.60	23	-6.50
2024/1/15	3500	Head	50	1076	7706	1649	1.23	25.50	24.6	-3.53
2024/1/17	3700	Head	50	1037	7706	1649	1.21	24.60	24.2	-1.63
2024/1/18	3900	Head	50	1048	7706	1649	1.23	24.10	24.6	2.07
2024/1/19	5250	Head	50	1113	7706	1649	1.14	23.30	22.8	-2.15
2024/1/20	5600	Head	50	1113	7706	1649	1.23	23.70	24.6	3.80
2024/1/21	5750	Head	50	1113	7706	1649	1.12	23.00	22.4	-2.61
2023/12/23	750	Head	50	1087	7764	1358	0.270	5.65	5.4	-4.42
2023/12/24	835	Head	50	4d091	7764	1358	0.301	6.22	6.02	-3.22
2023/12/25	1750	Head	50	1090	7764	1358	0.989	19.50	19.78	1.44
2023/12/26	1900	Head	50	5d118	7764	1358	1.06	20.40	21.2	3.92
2023/12/27	2450	Head	50	1040	7764	1358	1.18	24.60	23.6	-4.07
2023/12/28	2600	Head	50	1070	7764	1358	1.19	24.60	23.8	-3.25
2023/12/29	3500	Head	50	1076	7764	1358	1.20	25.50	24	-5.88
2023/12/30	3700	Head	50	1037	7764	1358	1.19	24.60	23.8	-3.25
2023/12/31	3900	Head	50	1048	7764	1358	1.17	24.10	23.4	-2.90
2024/1/1	5250	Head	50	1113	7764	1358	1.09	23.30	21.8	-6.44
2024/1/2	5600	Head	50	1113	7764	1358	1.11	23.70	22.2	-6.33
2024/1/3	5750	Head	50	1113	7764	1358	1.09	23.00	21.8	-5.22
2024/1/4	750	Head	50	1087	7764	1358	0.263	5.65	5.26	-6.90
2024/1/6	835	Head	50	4d091	7764	1358	0.305	6.22	6.1	-1.93
2024/1/7	1750	Head	50	1090	7764	1358	0.968	19.50	19.36	-0.72
2024/1/9	1900	Head	50	5d118	7764	1358	1.04	20.40	20.8	1.96
2024/1/11	2450	Head	50	1040	7764	1358	1.19	24.60	23.8	-3.25
2024/1/13	2600	Head	50	1070	7764	1358	1.20	24.60	24	-2.44
2024/1/15	3500	Head	50	1076	7764	1358	1.23	25.50	24.6	-3.53
2024/1/17	3700	Head	50	1037	7764	1358	1.23	24.60	24.6	0.00
2024/1/18	3900	Head	50	1048	7764	1358	1.18	24.10	23.6	-2.07
2024/1/19	5250	Head	50	1113	7764	1358	1.09	23.30	21.8	-6.44
2024/1/20	5600	Head	50	1113	7764	1358	1.11	23.70	22.2	-6.33
2024/1/21	5750	Head	50	1113	7764	1358	1.08	23.00	21.6	-6.09

2024/2/5	3500	Head	50	1076	7764	1358	1.320	25.50	26.4	3.53
2024/2/5	3700	Head	50	1037	7764	1358	1.220	24.60	24.4	-0.81
2024/2/5	3900	Head	50	1048	7764	1358	1.200	24.10	24	-0.41

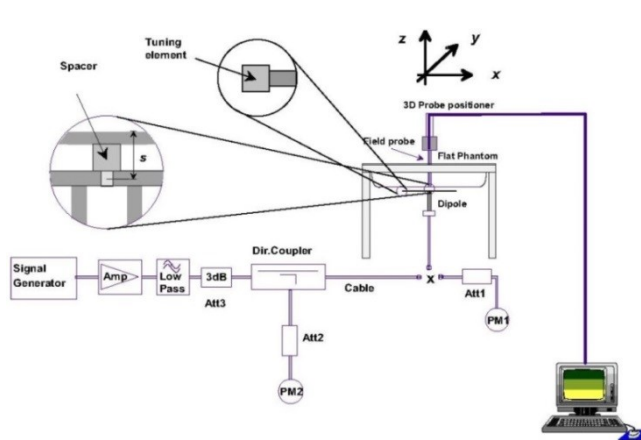


Fig 11.3.1 System Performance Check Setup

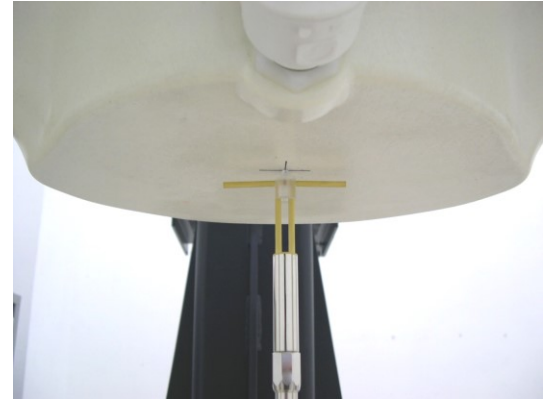


Fig 11.3.2 Setup Photo

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.

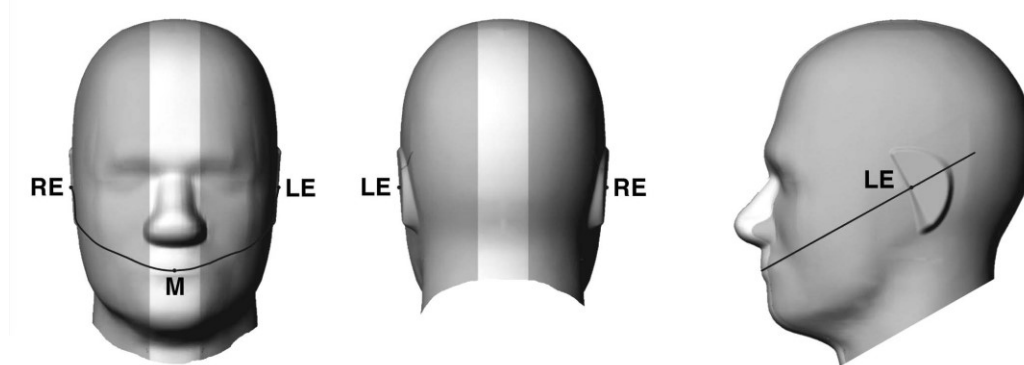


Fig 12.1.1 Front, back, and side views of SAM twin phantom

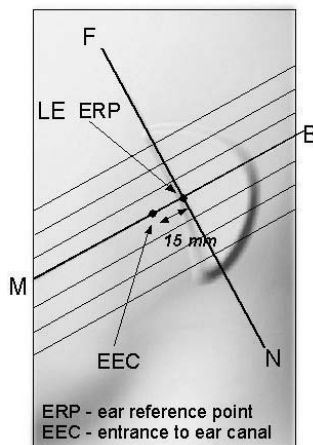


Fig 12.1.2 Close-up side view of phantom showing the ear region.

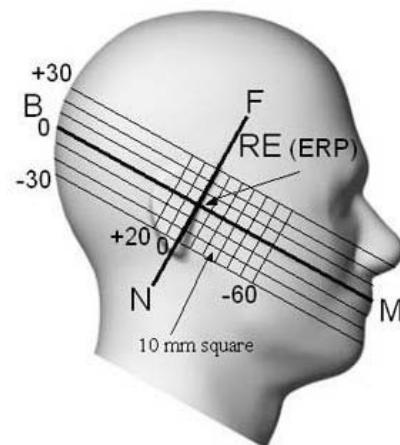


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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 w_t of the handset at the level of the acoustic output (point A in Figure 12.2.1 and Figure 12.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 12.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the handset. 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.

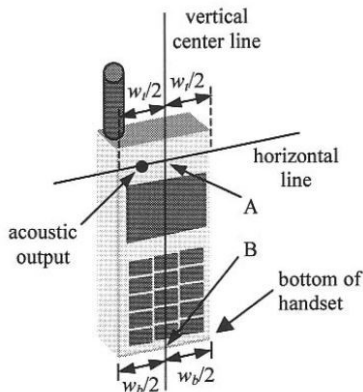


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

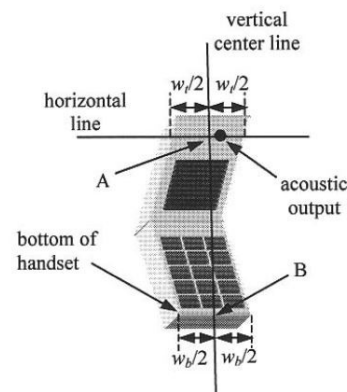


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

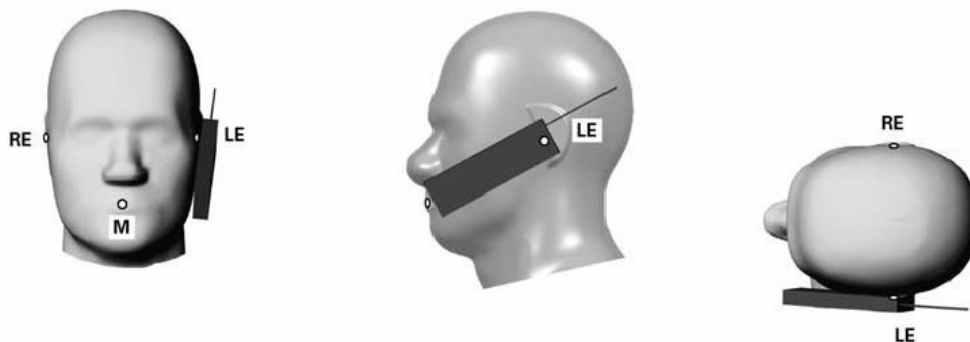


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

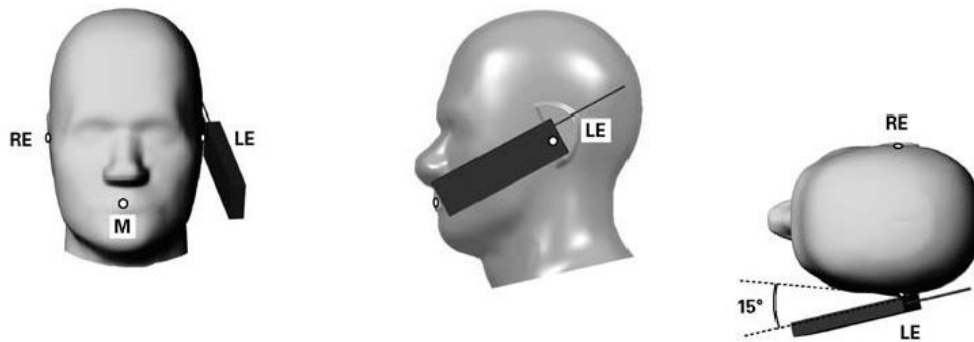


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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 $> 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a 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-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

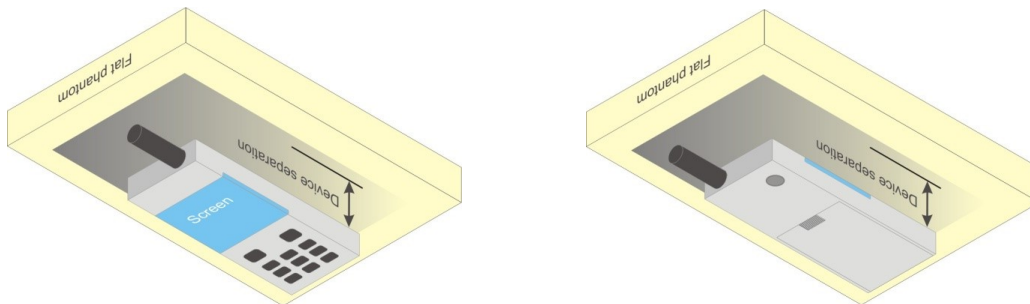


Fig 12.4 Body Worn Position

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 ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 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 $\leq 1/4$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For 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_o/β_d	β_{HS} (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5
Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$. Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{HS} = 24/15 * \beta_c$. Note 3: CM = 1 for $\beta_o/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPCCH, 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_o/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 $\beta_c = 11/15$ and $\beta_d = 15/15$.							

Setup Configuration

HSUPA Setup Configuration:

- The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- The RF path losses were compensated into the measurements.
- A call was established between EUT and Base Station with following setting * :
 - Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
 - 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
 - Set Cell Power = -86 dBm
 - Set Channel Type = 12.2k + HSPA
 - Set UE Target Power
 - Power Ctrl Mode= Alternating bits
 - Set and observe the E-TFCI
 - Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- 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} (Note 1)	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	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1} : 47/15 β_{ed2} : 47/15	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 $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{hs} = 5/15 * \beta_c$.

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

Note 3: For subtest 1 the 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 $\beta_c = 10/15$ and $\beta_d = 15/15$.

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

Note 5: 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

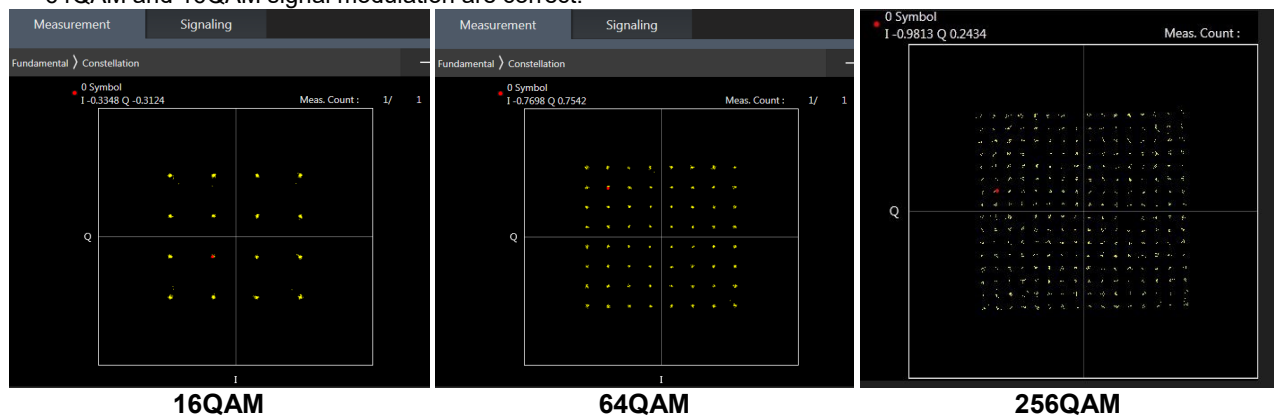
<WCDMA Conducted Power>**General Note:**

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 is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA.

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 / B42(3550 MHz ~3600 MHz)/B43 SAR test was covered by B66 / B26 / B12 / B41 / B48; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to May 2017 TCB workshop, for 16QAM and 64QAM, 256QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 256QAM, 64QAM and 16QAM signal modulation are correct.



<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

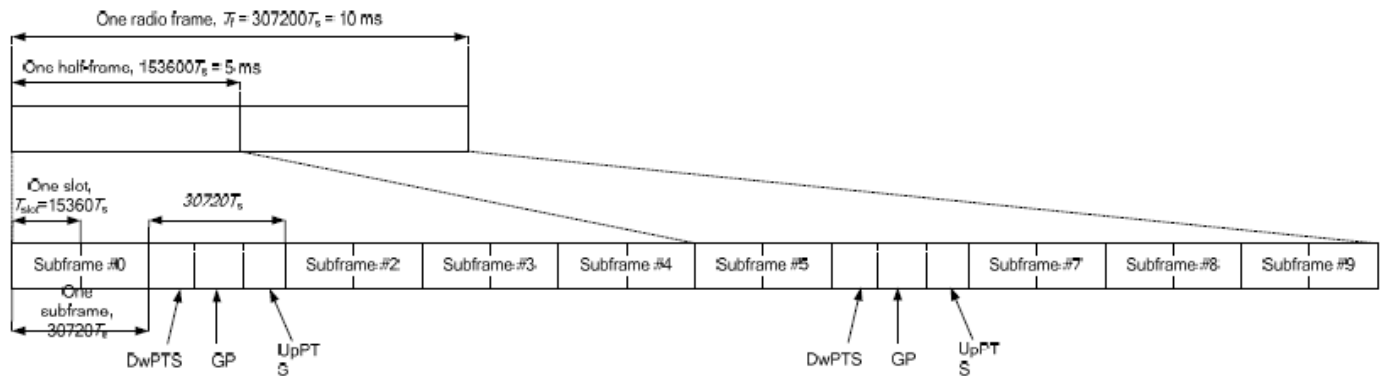


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$			$20480 \cdot T_s$		
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

- Uplink-downlink configuration: 1. In a half-frame consisted of 5 subframes, uplink operation is in 2 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.167)/5 = 43.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.143)/5 = 42.9\%$
- 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

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

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

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



<LTE Carrier Aggregation>

General Note:

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

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation			4CC Downlink Carrier Aggregation			5CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	CA_2A-26A	3CC-4	1	CA_26A-41C		1	CA_2A-2A-4A-4A		1	CA_2A-2A-5A-66A-66A	
2	CA_2A-2A	3CC-2	2	CA_2A-2A-4A	4CC-1	2	CA_2A-2A-4A-5A		2	CA_41C-41D	
3	CA_2A-38A	3CC-12	3	CA_2A-2A-5A	4CC-2	3	CA_2A-2A-5A-66A	5CC-1	3	CA_41F	
4	CA_2A-4A	3CC-2	4	CA_2A-2A-66A	4CC-4	4	CA_2A-2A-66A-66A	5CC-1	4	CA_5A-7C-66A-66A	
5	CA_2A-5A	3CC-3	5	CA_7C-66A	4CC-19	5	CA_2A-4A-4A-5A				
6	CA_2A-66A	3CC-4	6	CA_2A-4A-4A	4CC-1	6	CA_2A-4A-7C				
7	CA_2A-7A	3CC-8	7	CA_2A-4A-5A	4CC-2	7	CA_2A-5A-66A-66A	5CC-1			
8	CA_2C		8	CA_2A-4A-7A		8	CA_2A-7A-66A-66A				
9	CA_7C	3CC-15	9	CA_2A-5A-66A	4CC-3	9	CA_7C-66A-66A	5CC-1			
10	CA_38A-66A		10	CA_2A-5A-7A		10	CA_2A-7C-38A				
11	CA_38C		11	CA_2A-66A-66A	4CC-8	11	CA_41A-41A-41C				
12	CA_41A-41A	3CC-16	12	CA_2A-7A-38A		12	CA_41A-41D				
13	CA_41A-42A		13	CA_2A-7A-66A	4CC-8	13	CA_41C-41C				
14	CA_41C	3CC-19	14	CA_2A-7A-7A		14	CA_41C-42C				
15	CA_42A-42A		15	CA_2A-7C		15	CA_41E				
16	CA_42C	3CC-18	16	CA_41A-41A-41A		16	CA_42E				
17	CA_4A-4A	3CC-22	17	CA_41A-41C	4CC-11	17	CA_5A-5A-66A-66A				
18	CA_4A-5A	3CC-18	18	CA_41A-42C		18	CA_5A-7A-66A-66A				
19	CA_4A-7A	3CC-22	19	CA_41C-42A		19	CA_5A-7C-66A	5CC-1			
20	CA_5A-38A		20	CA_41D	4CC-12						
21	CA_5A-41A		21	CA_42D							
22	CA_5A-66A	3CC-27	22	CA_4A-4A-5A	4CC-5						
23	CA_5A-7A	3CC-10	23	CA_4A-4A-7A							
24	CA_66A-66A	3CC-11	24	CA_4A-7A-7A							
25	CA_66B		25	CA_4A-7C	4CC-6						
26	CA_66C	3CC-28	26	CA_5A-5A-66A	4CC-17						
27	CA_7A-26A		27	CA_5A-66A-66A	4CC-17						
28	CA_7B		28	CA_5A-66C							
29	CA_7A-42A		29	CA_5A-7A-66A	4CC-18						
30	CA_7A-66A	3CC-13	30	CA_5A-7C	4CC-19						
31	CA_7A-7A	3CC-14	31	CA_7A-66A-66A	4CC-18						
32	CA_26A-41A	3CC-1									

LTE Carrier Aggregation Conducted Power (Downlink)

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink four carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.
- vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

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

LTE 4x4 MIMO (Downlink)

This device supports downlink 4x4 MIMO operations for LTE Band 2/4/7/38/41/42/43/48/66 only. Uplink transmission is limited to a single output stream. Power measurements were performed with downlink 4x4 MIMO active for the configuration with highest measured maximum conducted power with 4x4 downlink MIMO inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.

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

4X4 MIMO	Band
	LTE Band 2/4/7/38/41/42/43/48/66

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Intra-band	Antenna Tx	ASDiv-1 Tx
CA_7C	Ant 2	Ant 1/10/0
CA_66B	Ant 2	Ant 1
CA_38C	Ant 2	Ant 1/10/0
CA_41C	Ant 2	Ant 1/10/0
CA_42C	Ant 7	-

<Intra-band>
General Note:

- i. The device supports intra-band uplink carrier aggregation for LTE B7/66/38/41/42 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 with other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<Inter-band uplink carrier aggregation consideration>

LTE Uplink CA	2CC Uplink Carrier Aggregation	
Inter-band	Main Antenna Tx	ASDiv-1 Tx
CA_4A-5A	Ant 2 + Ant 1	Ant 1+ Ant 0
CA_4A-7A	Ant 2 + Ant 1	-
CA_5A-7A	Ant 1 + Ant 2/10/0	ANT0+ANT1/10
CA_2A-7A	Ant 2 + Ant 1	-
CA_2A-66A	Ant 2 + Ant 1	-
CA_5A-66A	Ant 1 + Ant 2	ANT0+ANT1
CA_2A-4A	Ant 2 + Ant 1	-

General Note:

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

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n2/n5/n7/n26/n66/n38/n41/n77/n78 is SA/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. 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.
4. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
5. 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.
6. 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.
7. 5G NR n77/n78 supports HPUE, HPUE power and SAR testing performed separately.
8. 5G NR n77/n78 HPUE with higher power, 5G NR n77/n78 HPUE SAR can represent power class 3 level SAR.
9. For 5G NR n77/n78 HPUE, 5G NR n77/n78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM to perform SAR with default 100% transmission.

<3GPP 38.101 MPR for EN-DC>
Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 ²
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
CP-OFDM	256 QAM	≤ 4.5		
	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		ASD1v-1 Tx	
	LTE TX	NR TX	LTE TX	NR TX
DC_4A_n2A	ANT1	Ant 2	-	-
DC_5A_n2A	Ant 1	Ant 2	Ant 0	Ant 1
DC_7A_n2A	Ant 2	Ant 1	-	-
DC_66A_n2A	Ant 1	Ant 2	-	-
DC_7A_n5A	Ant 2	Ant 1	Ant 1 Ant 10 Ant 0	Ant 0 Ant 0/Ant 1 Ant 1
DC_2A_n7A	Ant 2	Ant 1	-	-
DC_4A_n7A	Ant 2	Ant 1	-	-
DC_5A_n7A	ANT0	ANT1	Ant 1	Ant 2
DC_66A_n7A	Ant 2	Ant 1	-	-
DC_7A_n26A	Ant 2	Ant 1	Ant 1 Ant 10 Ant 0	Ant 0 Ant 0/Ant 1 Ant 1
DC_2A_n66A	Ant 2	Ant 1	-	-
DC_5A_n66A	Ant 1	Ant 2	Ant 0	Ant 1
DC_7A_n66A	Ant 2	Ant 1	-	-
DC_2A_n38A	Ant 1	Ant 2	-	-
DC_4A_n38A	Ant 1	Ant 2	-	-
DC_5A_n38A	Ant 1	Ant 2	Ant 1 Ant 0	Ant 10/Ant 0 Ant 1/Ant 10
DC_66A_n38A	Ant 1	Ant 2	-	-
DC_2A_n41A	Ant 1	Ant 2	-	-
DC_4A_n41A	Ant 1	Ant 2	-	-
DC_5A_n41A	Ant 1	Ant 2	Ant 1 Ant 0	Ant 10/Ant 0 Ant 1/Ant 10
DC_26A_n41A	Ant 1	Ant 2	Ant 1 Ant 0	Ant 10/Ant 0 Ant 1/Ant 10
DC_66A_n41A	Ant 1	Ant 2	-	-
DC_7A_n77A	Ant 2	Ant 7	-	-
DC_41A_n77A	Ant 2	Ant 7	-	-

DC_2A_n78A	Ant 2	Ant 7	-	-
DC_4A_n78A	Ant 2	Ant 7	-	-
DC_5A_n78A	Ant 0	Ant 7	Ant 0 Ant 1	Ant 4/5/8 Ant 5/8
DC_7A_n78A	Ant 2	Ant 7	-	-
DC_26A_n78A	Ant 0	Ant 7	Ant 0 Ant 1	Ant 4/5/8 Ant 5/8
DC_38A_n78A	Ant 2	Ant 7	-	-
DC_41A_n78A	Ant 2	Ant 7	-	-
DC_66A_n78A	Ant 2	Ant 7	-	-

<WLAN Conducted Power>

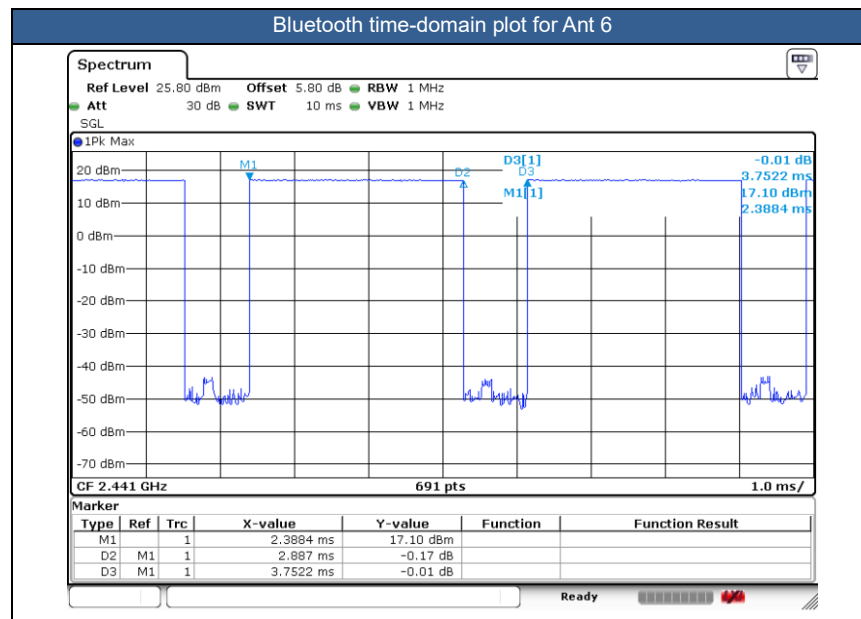
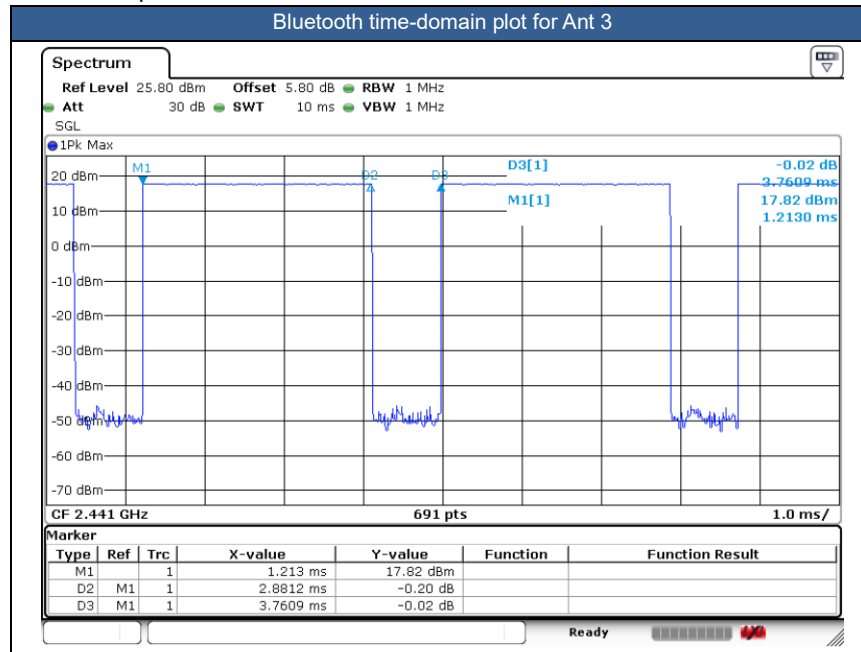
General Note:

- 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.
- 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.
- 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).
- 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.
- 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:
 - 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.
 - 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.
 - 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.
- 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.
- The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO antenna mode only.

<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 76.61% for ant 3 and 76.94% for ant 6 as following figure, for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to 83.3% for Bluetooth reported SAR calculation





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.
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 ≥ 0.8 W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. For WLAN/BT when transmit simultaneous with WWAN/BT, power reduction will be activated to head exposure condition. 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. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
 - a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM850/1900, WCDMA Band II/IV/V, LTE Band 2/4/7/66/38/41/42/43/48, 5GNR n2/n7/n66/n38/ n41/n78/n77, WLAN2.4/5.2/5.8GHz, 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.
7. 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.
8. 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).
9. For determination of the scaling factor for reported 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.
10. 5GNR n2/7/66 at ant1 and 5GNR n2/66 at ant2 support different PAs for some antennas, and NR bands support Other PA

only under ENDC. Some 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 $\leq \frac{1}{4}$ 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 is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA.

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 $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 / B42(3550 MHz ~3600 MHz)/B43 SAR test was covered by B66 / B26 / B12 / B41/ B48; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing start with the largest channel bandwidth and measure SAR for 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 $\frac{1}{2}$ 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 $\frac{1}{2}$ 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/n77 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN/Bluetooth Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

DSI status description:

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

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

Exposure Condition	DSI	Trigger Conditions
Head SAR	DSI 2	Receiver on
Body worn SAR	DSI 3	Sensor On
Hotspot SAR	DSI 7	Hotspot On
Extremity (Handheld) SAR	DSI 6	Sensor On
Sensor Off SAR	DSI 4	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)	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	DSI 2	23095	707.5	22.50	24.00	1.413	-	-	-0.15	0.090	0.127
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	21.55	23.00	1.396	-	-	0.02	0.053	0.074
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	22.50	24.00	1.413	-	-	0.07	0.055	0.078
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	21.55	23.00	1.396	-	-	0.16	0.026	0.036
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	22.50	24.00	1.413	-	-	-0.09	0.137	0.194
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	21.55	23.00	1.396	-	-	0.13	0.079	0.110
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	22.50	24.00	1.413	-	-	-0.18	0.076	0.107
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	21.55	23.00	1.396	-	-	0.02	0.041	0.057
01	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.99	22.00	1.262	-	-	-0.06	0.701	0.885
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.94	22.00	1.276	-	-	0.08	0.689	0.879
	LTE Band 12	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.90	22.00	1.288	-	-	0.01	0.657	0.846
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.99	22.00	1.262	-	-	0.03	0.682	0.861
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.94	22.00	1.276	-	-	-0.08	0.660	0.842
	LTE Band 12	10M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.90	22.00	1.288	-	-	-0.08	0.638	0.822
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.99	22.00	1.262	-	-	0.1	0.284	0.358
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	20.94	22.00	1.276	-	-	-0.18	0.163	0.208
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.99	22.00	1.262	-	-	0.1	0.315	0.397
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI 2	23095	707.5	20.94	22.00	1.276	-	-	0.12	0.177	0.226
	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	22.60	24.00	1.380	-	-	0.16	0.108	0.149
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	21.61	23.00	1.377	-	-	-0.03	0.068	0.094
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	22.60	24.00	1.380	-	-	0.07	0.070	0.097
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	21.61	23.00	1.377	-	-	0.06	0.032	0.044
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	22.60	24.00	1.380	-	-	0.05	0.154	0.213
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	21.61	23.00	1.377	-	-	0.01	0.100	0.138
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	22.60	24.00	1.380	-	-	-0.01	0.100	0.138
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	21.61	23.00	1.377	-	-	-0.06	0.065	0.090
02	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	23230	782	19.82	21.20	1.374	-	-	-0.01	0.643	0.884
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	DSI 2	23230	782	19.78	21.20	1.387	-	-	-0.03	0.623	0.864
	LTE Band 13	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	23230	782	19.70	21.20	1.413	-	-	0.09	0.598	0.845
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	23230	782	19.82	21.20	1.374	-	-	0.06	0.626	0.860
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	DSI 2	23230	782	19.78	21.20	1.387	-	-	-0.04	0.596	0.827
	LTE Band 13	10M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	23230	782	19.70	21.20	1.413	-	-	0.17	0.583	0.824
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	23230	782	19.82	21.20	1.374	-	-	0.06	0.294	0.404
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	DSI 2	23230	782	19.78	21.20	1.387	-	-	0.01	0.186	0.258
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	23230	782	19.82	21.20	1.374	-	-	-0.11	0.307	0.422
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	DSI 2	23230	782	19.78	21.20	1.387	-	-	0.03	0.191	0.265
835MHz																				
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	189	836.4	28.74	30.00	1.337	-	-	0.01	0.084	0.112
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	189	836.4	28.74	30.00	1.337	-	-	-0.16	0.035	0.047
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	28.74	30.00	1.337	-	-	0.02	0.125	0.167
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant 0	DSI 2	189	836.4	28.74	30.00	1.337	-	-	0.01	0.062	0.083
03	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 2	189	836.4	24.51	25.50	1.256	-	-	0.06	0.671	0.843
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 2	128	824.2	24.23	25.50	1.340	-	-	-0.02	0.623	0.835
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 2	251	848.8	24.41	25.50	1.285	-	-	0.15	0.653	0.839
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 2	189	836.4	24.51	25.50	1.256	-	-	-0.08	0.647	0.813
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 2	128	824.2	24.23	25.50	1.340	-	-	0.06	0.613	0.821
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 2	251	848.8	24.41	25.50	1.285	-	-	0.15	0.629	0.808
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI 2	189	836.4	24.51	25.50	1.256	-	-	-0.08	0.325	0.408
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 1	DSI 2	189	836.4	24.51	25.50	1.256	-	-	-0.05	0.324	0.407
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4182	836.4	22.32	24.00	1.472	-	-	0.05	0.070	0.103



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	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4182	836.4	22.32	24.00	1.472	-	-	0.05	0.033	0.049
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4182	836.4	22.32	24.00	1.472	-	-	-0.01	0.117	0.172
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	4182	836.4	22.32	24.00	1.472	-	-	-0.03	0.060	0.088
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	4182	836.4	20.01	21.00	1.256	-	-	0.01	0.700	0.879
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	4132	826.4	19.95	21.00	1.274	-	-	0.08	0.663	0.844
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	4233	846.6	19.98	21.00	1.265	-	-	-0.17	0.685	0.866
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	4182	836.4	20.01	21.00	1.256	-	-	-0.03	0.671	0.843
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	4132	826.4	19.95	21.00	1.274	-	-	0.14	0.637	0.811
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	4233	846.6	19.98	21.00	1.265	-	-	0.11	0.654	0.827
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	4182	836.4	20.01	21.00	1.256	-	-	-0.05	0.338	0.425
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	4182	836.4	20.01	21.00	1.256	-	-	0.18	0.342	0.430
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	22.82	24.00	1.312	-	-	-0.09	0.094	0.123
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	21.91	23.00	1.285	-	-	-0.17	0.061	0.078
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	22.82	24.00	1.312	-	-	-0.1	0.055	0.072
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	21.91	23.00	1.285	-	-	0.18	0.021	0.027
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	22.82	24.00	1.312	-	-	0.09	0.150	0.197
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	21.91	23.00	1.285	-	-	-0.17	0.102	0.131
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	22.82	24.00	1.312	-	-	-0.04	0.089	0.117
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	21.91	23.00	1.285	-	-	-0.05	0.063	0.081
05	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.67	21.10	1.390	-	-	-0.02	0.633	0.880
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.66	21.10	1.393	-	-	0.14	0.622	0.867
	LTE Band 26	15M	QPSK	75	0	-	Right Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.62	21.10	1.406	-	-	-0.15	0.613	0.862
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.67	21.10	1.390	-	-	0.02	0.627	0.872
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.66	21.10	1.393	-	-	-0.03	0.612	0.853
	LTE Band 26	15M	QPSK	75	0	-	Right Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.62	21.10	1.406	-	-	-0.16	0.606	0.852
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.67	21.10	1.390	-	-	-0.02	0.292	0.406
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	19.66	21.10	1.393	-	-	0.08	0.201	0.280
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.67	21.10	1.390	-	-	0.06	0.311	0.432
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 1	DSI 2	26865	831.5	19.66	21.10	1.393	-	-	-0.04	0.198	0.276
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.86	24.00	1.300	-	-	-0.11	0.072	0.094
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.71	24.00	1.346	-	-	-0.06	0.061	0.082
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.86	24.00	1.300	-	-	-0.15	0.050	0.065
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.71	24.00	1.346	-	-	0.03	0.024	0.032
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.86	24.00	1.300	-	-	0.05	0.125	0.163
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.71	24.00	1.346	-	-	-0.13	0.099	0.133
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.86	24.00	1.300	-	-	0.16	0.071	0.092
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.71	24.00	1.346	-	-	-0.15	0.053	0.071
06	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	21.47	23.00	1.422	-	-	-0.01	0.625	0.889
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	21.44	23.00	1.432	-	-	0.17	0.613	0.878
	FR1 n26	20M	QPSK	100	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	21.43	23.00	1.435	-	-	-0.05	0.607	0.871
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	166300	831.5	21.47	23.00	1.422	-	-	0.01	0.527	0.750
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	166300	831.5	21.44	23.00	1.432	-	-	0.04	0.478	0.685
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	166300	831.5	21.47	23.00	1.422	-	-	-0.08	0.268	0.381
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	166300	831.5	21.44	23.00	1.432	-	-	0.05	0.209	0.299
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	166300	831.5	21.47	23.00	1.422	-	-	0.06	0.266	0.378
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	166300	831.5	21.44	23.00	1.432	-	-	-0.09	0.212	0.304
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	1413	1732.6	22.07	23.00	1.239	-	-	0.04	0.102	0.126
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	DSI 2	1413	1732.6	22.07	23.00	1.239	-	-	0.07	0.051	0.063
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 2	1413	1732.6	22.07	23.00	1.239	-	-	-0.02	0.075	0.093
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	DSI 2	1413	1732.6	22.07	23.00	1.239	-	-	-0.05	0.050	0.062
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	1413	1732.6	14.04	15.30	1.337	-	-	-0.01	0.608	0.813
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	1312	1712.4	13.98	15.30	1.355	-	-	-0.08	0.596	0.808
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	1513	1752.6	14.00	15.30	1.349	-	-	0.18	0.624	0.842
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	1413	1732.6	14.04	15.30	1.337	-	-	0.1	0.643	0.859
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	1312	1712.4	13.98	15.30	1.355	-	-	0.03	0.617	0.836



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07	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	1513	1752.6	14.00	15.30	1.349	-	-	-0.01	0.652	0.880
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	1413	1732.6	14.04	15.30	1.337	-	-	-0.09	0.215	0.287
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	1413	1732.6	14.04	15.30	1.337	-	-	0.01	0.276	0.369
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	132322	1745	22.64	24.00	1.368	-	-	-0.02	0.084	0.115
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	132322	1745	21.67	23.00	1.358	-	-	0.1	0.051	0.069
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 2	132322	1745	22.64	24.00	1.368	-	-	0.04	0.044	0.060
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	132322	1745	21.67	23.00	1.358	-	-	0.13	0.032	0.043
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	132322	1745	22.64	24.00	1.368	-	-	-0.18	0.067	0.092
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	132322	1745	21.67	23.00	1.358	-	-	-0.11	0.042	0.057
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 2	132322	1745	22.64	24.00	1.368	-	-	-0.16	0.042	0.057
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	132322	1745	21.67	23.00	1.358	-	-	-0.15	0.026	0.035
	LTE Band 66B	15M	QPSK	1	74	-	Right Cheek	0mm	Ant 2	DSI 2	132322+132415	1745+1754.3	22.34	24.00	1.466	-	-	0.06	0.072	0.106
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	132322	1745	15.08	16.30	1.324	-	-	-0.08	0.588	0.779
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	132322	1745	15.06	16.30	1.330	-	-	0.03	0.382	0.508
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	132322	1745	15.08	16.30	1.324	-	-	0.07	0.651	0.862
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	132072	1720	15.00	16.30	1.349	-	-	0.18	0.608	0.820
08	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	132572	1770	15.02	16.30	1.343	-	-	0.03	0.656	0.881
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	132322	1745	15.06	16.30	1.330	-	-	-0.1	0.639	0.850
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	132072	1720	14.91	16.30	1.377	-	-	0.06	0.603	0.830
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	132572	1770	15.02	16.30	1.343	-	-	0.01	0.622	0.835
	LTE Band 66	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 1	DSI 2	132322	1745	15.04	16.30	1.337	-	-	0.19	0.609	0.814
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	132322	1745	15.08	16.30	1.324	-	-	0.07	0.206	0.273
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	132322	1745	15.06	16.30	1.330	-	-	-0.18	0.135	0.180
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	132322	1745	15.08	16.30	1.324	-	-	0.03	0.269	0.356
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	132322	1745	15.06	16.30	1.330	-	-	-0.15	0.174	0.231
	LTE Band 66B	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	132597+132504	1772.5+1763.2	14.90	16.30	1.380	-	-	0.03	0.623	0.860
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	349000	1745	22.58	24.00	1.387	-	-	0.01	0.100	0.139
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	349000	1745	22.53	24.00	1.403	-	-	-0.01	0.080	0.112
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	349000	1745	22.58	24.00	1.387	-	-	-0.09	0.053	0.073
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	349000	1745	22.53	24.00	1.403	-	-	-0.06	0.041	0.058
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	349000	1745	22.58	24.00	1.387	-	-	-0.17	0.077	0.107
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	349000	1745	22.53	24.00	1.403	-	-	-0.01	0.060	0.084
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	349000	1745	22.58	24.00	1.387	-	-	-0.11	0.045	0.062
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	349000	1745	22.53	24.00	1.403	-	-	0.14	0.043	0.060
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	349000	1745	21.49	23.00	1.416	-	-	0.06	0.085	0.120
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	16.15	16.90	1.189	-	-	-0.02	0.623	0.740
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	16.12	16.90	1.197	-	-	-0.05	0.621	0.743
09	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	16.15	16.90	1.189	-	-	0.05	0.736	0.875
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	16.12	16.90	1.197	-	-	-0.03	0.699	0.837
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	16.06	16.90	1.213	-	-	0.07	0.684	0.830
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	349000	1745	16.15	16.90	1.189	-	-	0.16	0.252	0.300
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	349000	1745	16.12	16.90	1.197	-	-	0.13	0.221	0.264
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	349000	1745	16.15	16.90	1.189	-	-	-0.18	0.305	0.362
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	349000	1745	16.12	16.90	1.197	-	-	0.02	0.289	0.346
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	16.09	16.90	1.205	-	-	0.06	0.718	0.865
1900MHz																				
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Cheek	0mm	Ant 2	DSI 2	661	1880	24.78	26.00	1.324	-	-	0.01	0.067	0.089
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Right Tilted	0mm	Ant 2	DSI 2	661	1880	24.78	26.00	1.324	-	-	-0.04	0.034	0.045
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Cheek	0mm	Ant 2	DSI 2	661	1880	24.78	26.00	1.324	-	-	-0.01	0.055	0.073
	GSM1900	-	-	-	-	GPRS (3 Tx slots)	Left Tilted	0mm	Ant 2	DSI 2	661	1880	24.78	26.00	1.324	-	-	0.06	0.026	0.034
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 2	661	1880	17.69	18.60	1.233	-	-	0.08	0.658	0.811
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 2	512	1850.2	17.61	18.60	1.256	-	-	0.01	0.642	0.806
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 1	DSI 2	810	1909.8	17.62	18.60	1.253	-	-	0.03	0.667	0.836
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 2	661	1880	17.69	18.60	1.233	-	-	-0.08	0.660	0.814
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 2	512	1850.2	17.61	18.60	1.256	-	-	0.02	0.665	0.835



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10	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 1	DSI 2	810	1909.8	17.62	18.60	1.253	-	-	0.06	0.672	0.842
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 1	DSI 2	661	1880	17.69	18.60	1.233	-	-	0.1	0.308	0.380
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 1	DSI 2	661	1880	17.69	18.60	1.233	-	-	-0.18	0.438	0.540
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	9400	1880	22.15	23.00	1.216	-	-	0.01	0.135	0.164
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	DSI 2	9400	1880	22.15	23.00	1.216	-	-	-0.13	0.060	0.073
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 2	9400	1880	22.15	23.00	1.216	-	-	0.08	0.078	0.095
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	DSI 2	9400	1880	22.15	23.00	1.216	-	-	0.16	0.060	0.073
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	9400	1880	13.80	14.70	1.230	-	-	0.08	0.667	0.821
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	9262	1852.4	13.73	14.70	1.250	-	-	0.01	0.685	0.856
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	9538	1907.6	13.75	14.70	1.245	-	-	0.03	0.686	0.854
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	9400	1880	13.80	14.70	1.230	-	-	-0.08	0.701	0.862
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	9262	1852.4	13.73	14.70	1.250	-	-	-0.08	0.698	0.873
11	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	9538	1907.6	13.75	14.70	1.245	-	-	0.04	0.717	0.892
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	9400	1880	13.80	14.70	1.230	-	-	0.1	0.344	0.423
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	9400	1880	13.80	14.70	1.230	-	-	-0.18	0.507	0.624
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	18900	1880	22.63	24.00	1.371	-	-	-0.04	0.116	0.159
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	18900	1880	21.67	23.00	1.358	-	-	0.17	0.088	0.120
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 2	18900	1880	22.63	24.00	1.371	-	-	0.06	0.081	0.111
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	18900	1880	21.67	23.00	1.358	-	-	0.01	0.055	0.075
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	18900	1880	22.63	24.00	1.371	-	-	-0.04	0.113	0.155
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	18900	1880	21.67	23.00	1.358	-	-	-0.15	0.077	0.105
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 2	18900	1880	22.63	24.00	1.371	-	-	0.11	0.065	0.089
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	18900	1880	21.67	23.00	1.358	-	-	-0.02	0.034	0.046
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	18900	1880	13.50	14.80	1.349	-	-	0.08	0.580	0.782
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	18900	1880	13.44	14.80	1.368	-	-	0.14	0.417	0.570
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	18900	1880	13.50	14.80	1.349	-	-	0.14	0.611	0.824
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	18700	1860	13.41	14.80	1.377	-	-	-0.17	0.628	0.865
12	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	19100	1900	13.45	14.80	1.365	-	-	0.01	0.644	0.879
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	18900	1880	13.44	14.80	1.368	-	-	0.17	0.632	0.864
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	18700	1860	13.34	14.80	1.400	-	-	-0.05	0.615	0.861
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	19100	1900	13.34	14.80	1.400	-	-	0.01	0.618	0.865
	LTE Band 2	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 1	DSI 2	18900	1880	13.42	14.80	1.374	-	-	0.1	0.609	0.837
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	18900	1880	13.50	14.80	1.349	-	-	-0.17	0.303	0.409
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	18900	1880	13.44	14.80	1.368	-	-	0.04	0.212	0.290
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	18900	1880	13.50	14.80	1.349	-	-	-0.01	0.448	0.604
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	18900	1880	13.44	14.80	1.368	-	-	0.06	0.315	0.431
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	376000	1880	22.72	24.00	1.343	-	-	0.06	0.114	0.153
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	376000	1880	22.61	24.00	1.377	-	-	0.03	0.093	0.128
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	376000	1880	22.72	24.00	1.343	-	-	0.1	0.053	0.071
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	376000	1880	22.61	24.00	1.377	-	-	0.16	0.037	0.051
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	376000	1880	22.72	24.00	1.343	-	-	-0.06	0.061	0.082
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	376000	1880	22.61	24.00	1.377	-	-	0.02	0.050	0.069
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	376000	1880	22.72	24.00	1.343	-	-	-0.16	0.054	0.073
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	376000	1880	22.61	24.00	1.377	-	-	0.05	0.038	0.052
	FR1 n2 Other PA	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	376000	1880	21.67	23.00	1.358	-	-	0.06	0.088	0.120
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	376000	1880	16.15	17.50	1.365	-	-	0.16	0.556	0.759
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	376000	1880	16.13	17.50	1.371	-	-	0.11	0.521	0.714
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	376000	1880	16.15	17.50	1.365	-	-	-0.01	0.615	0.839
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	372000	1860	16.10	17.50	1.380	-	-	-0.06	0.623	0.860
13	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	380000	1900	16.12	17.50	1.374	-	-	0.02	0.643	0.884
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	376000	1880	16.13	17.50	1.371	-	-	-0.04	0.595	0.816
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	372000	1860	15.99	17.50	1.416	-	-	0.02	0.605	0.857
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	380000	1900	16.07	17.50	1.390	-	-	0.01	0.600	0.834
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	376000	1880	16.07	17.50	1.390	-	-	-0.09	0.593	0.824
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	376000	1880	16.15	17.50	1.365	-	-	-0.17	0.291	0.397
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	376000	1880	16.13	17.50	1.371	-	-	-0.1	0.283	0.388



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	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	376000	1880	16.15	17.50	1.365	-	-	0.18	0.413	0.564
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	376000	1880	16.13	17.50	1.371	-	-	-0.17	0.393	0.539
	FR1 n2 Other PA	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	380000	1900	15.96	17.50	1.426	-	-	0.02	0.601	0.857
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	21100	2535	22.80	24.00	1.318	-	-	-0.04	0.133	0.175
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	21100	2535	21.80	23.00	1.318	-	-	0.09	0.084	0.111
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 2	21100	2535	22.80	24.00	1.318	-	-	-0.13	0.044	0.058
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	21100	2535	21.80	23.00	1.318	-	-	-0.01	0.021	0.028
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	21100	2535	22.80	24.00	1.318	-	-	-0.09	0.119	0.157
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	21100	2535	21.80	23.00	1.318	-	-	0.05	0.075	0.099
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 2	21100	2535	22.80	24.00	1.318	-	-	0.02	0.066	0.087
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	21100	2535	21.80	23.00	1.318	-	-	-0.13	0.045	0.059
	LTE Band 7C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	DSI 2	21100+ 21298	2535+ 2554.8	22.66	24.00	1.361	-	-	0.06	0.121	0.165
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	12.85	13.70	1.216	-	-	-0.15	0.601	0.731
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	12.83	13.70	1.222	-	-	-0.17	0.589	0.720
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	12.85	13.70	1.216	-	-	0.17	0.675	0.821
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	20850	2510	12.78	13.70	1.236	-	-	0.18	0.667	0.824
14	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	21350	2560	12.80	13.70	1.230	-	-	0.01	0.716	0.881
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	12.83	13.70	1.222	-	-	-0.04	0.662	0.809
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	20850	2510	12.74	13.70	1.247	-	-	0.02	0.678	0.846
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	21350	2560	12.78	13.70	1.236	-	-	0.03	0.654	0.808
	LTE Band 7	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	12.79	13.70	1.233	-	-	-0.13	0.647	0.798
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	12.85	13.70	1.216	-	-	0.06	0.426	0.518
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	12.83	13.70	1.222	-	-	0.08	0.383	0.468
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	12.85	13.70	1.216	-	-	0.05	0.515	0.626
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	12.83	13.70	1.222	-	-	0.03	0.497	0.607
	LTE Band 7C	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	21350+ 21152	2560+ 2540.2	12.67	13.70	1.268	-	-	0.06	0.684	0.867
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DSI 2	21100	2535	21.54	22.90	1.368	-	-	0.05	0.344	0.470
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DSI 2	21100	2535	21.52	22.90	1.374	-	-	-0.11	0.313	0.430
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DSI 2	21100	2535	21.54	22.90	1.368	-	-	-0.12	0.103	0.141
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DSI 2	21100	2535	21.52	22.90	1.374	-	-	0.03	0.098	0.135
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	21100	2535	21.54	22.90	1.368	-	-	0.07	0.639	0.874
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	20850	2510	21.50	22.90	1.380	-	-	-0.16	0.618	0.853
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	21350	2560	21.52	22.90	1.374	-	-	-0.02	0.609	0.837
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	21100	2535	21.52	22.90	1.374	-	-	0.15	0.594	0.816
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	20850	2510	21.45	22.90	1.396	-	-	0.02	0.587	0.820
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	21350	2560	21.42	22.90	1.406	-	-	0.03	0.576	0.810
	LTE Band 7	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 10	DSI 2	21100	2535	21.51	22.90	1.377	-	-	-0.09	0.570	0.785
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 10	DSI 2	21100	2535	21.54	22.90	1.368	-	-	0.11	0.063	0.086
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 10	DSI 2	21100	2535	21.52	22.90	1.374	-	-	-0.05	0.038	0.052
	LTE Band 7C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 10	DSI 2	21100+ 21298	2535+ 2554.8	21.46	22.90	1.393	-	-	0.01	0.618	0.861
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	21100	2535	20.94	22.50	1.432	-	-	0.12	0.079	0.113
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	21100	2535	19.96	21.50	1.426	-	-	0.08	0.052	0.074
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	21100	2535	20.94	22.50	1.432	-	-	-0.17	0.082	0.117
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	21100	2535	19.96	21.50	1.426	-	-	-0.03	0.053	0.076
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	21100	2535	20.94	22.50	1.432	-	-	0.04	0.135	0.193
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	21100	2535	19.96	21.50	1.426	-	-	0.14	0.089	0.127
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	21100	2535	20.94	22.50	1.432	-	-	0.11	0.046	0.066
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	21100	2535	19.96	21.50	1.426	-	-	-0.05	0.029	0.041
	LTE Band 7C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 0	DSI 2	21100+ 21298	2535+ 2554.8	20.85	22.50	1.462	-	-	0.03	0.124	0.181
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	40620	2593	22.41	23.50	1.285	62.9	1.006	0.05	0.090	0.116
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	40620	2593	21.37	22.50	1.297	62.9	1.006	-0.06	0.055	0.072
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 2	40620	2593	22.41	23.50	1.285	62.9	1.006	-0.14	0.042	0.054
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	40620	2593	21.37	22.50	1.297	62.9	1.006	-0.19	0.026	0.034
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	40620	2593	22.41	23.50	1.285	62.9	1.006	0.01	0.069	0.089



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	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	40620	2593	21.37	22.50	1.297	62.9	1.006	0.06	0.042	0.055
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 2	40620	2593	22.41	23.50	1.285	62.9	1.006	0.02	0.056	0.072
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	40620	2593	21.37	22.50	1.297	62.9	1.006	0.12	0.035	0.046
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	40620	2593	25.45	26.50	1.274	42.9	1.009	0.04	0.118	0.152
	LTE Band 41C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	DSI 2	40620+ 40818	2593+ 2612.8	22.31	23.50	1.315	62.9	1.006	0.06	0.081	0.107
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 2	DSI 2	40620+ 40818	2593+ 2612.8	25.33	26.50	1.309	42.9	1.009	0.01	0.109	0.144
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	14.80	15.80	1.259	62.9	1.006	-0.08	0.583	0.738
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	39750	2506	14.75	15.80	1.274	62.9	1.006	0.13	0.558	0.715
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	40185	2549.5	14.72	15.80	1.282	62.9	1.006	0.12	0.566	0.730
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	41055	2636.5	14.76	15.80	1.271	62.9	1.006	0.03	0.613	0.784
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	41490	2680	14.71	15.80	1.285	62.9	1.006	0.18	0.553	0.715
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	14.78	15.80	1.265	62.9	1.006	0.16	0.504	0.641
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	39750	2506	14.65	15.80	1.303	62.9	1.006	-0.1	0.462	0.606
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	40185	2549.5	14.64	15.80	1.306	62.9	1.006	0.07	0.465	0.611
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	41055	2636.5	14.76	15.80	1.271	62.9	1.006	0.18	0.509	0.651
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	41490	2680	14.62	15.80	1.312	62.9	1.006	-0.1	0.482	0.636
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	14.75	15.80	1.274	62.9	1.006	0.01	0.504	0.646
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	14.80	15.80	1.259	62.9	1.006	-0.15	0.672	0.851
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	39750	2506	14.75	15.80	1.274	62.9	1.006	0.19	0.680	0.871
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	40185	2549.5	14.72	15.80	1.282	62.9	1.006	0.07	0.665	0.858
15	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	41055	2636.5	14.76	15.80	1.271	62.9	1.006	-0.06	0.702	0.897
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	41490	2680	14.71	15.80	1.285	62.9	1.006	-0.18	0.635	0.821
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	14.78	15.80	1.265	62.9	1.006	0.03	0.617	0.785
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	39750	2506	14.65	15.80	1.303	62.9	1.006	-0.15	0.589	0.772
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	40185	2549.5	14.64	15.80	1.306	62.9	1.006	-0.15	0.612	0.804
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	41055	2636.5	14.76	15.80	1.271	62.9	1.006	0.11	0.594	0.759
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	41490	2680	14.62	15.80	1.312	62.9	1.006	-0.08	0.587	0.775
	LTE Band 41	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	14.75	15.80	1.274	62.9	1.006	-0.17	0.604	0.774
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	14.80	15.80	1.259	62.9	1.006	-0.08	0.449	0.569
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	14.78	15.80	1.265	62.9	1.006	-0.04	0.395	0.503
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	14.80	15.80	1.259	62.9	1.006	-0.13	0.466	0.590
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	14.78	15.80	1.265	62.9	1.006	0.08	0.405	0.515
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	41055	2636.5	16.55	17.40	1.216	42.9	1.009	0.02	0.670	0.822
	LTE Band 41C	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 1	DSI 2	41055+ 41253	2636.5+ 2656.3	14.64	15.80	1.306	62.9	1.006	0.03	0.676	0.888
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 1	DSI 2	41055+ 41253	2636.5+ 2656.3	16.44	17.40	1.247	42.9	1.009	0.06	0.642	0.808
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 10	DSI 2	40620	2593	22.20	23.30	1.288	62.9	1.006	-0.08	0.382	0.495
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 10	DSI 2	40620	2593	21.91	23.00	1.285	62.9	1.006	0.16	0.250	0.323
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 10	DSI 2	40620	2593	22.20	23.30	1.288	62.9	1.006	0.05	0.128	0.166
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 10	DSI 2	40620	2593	21.91	23.00	1.285	62.9	1.006	0.05	0.088	0.114
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	40620	2593	22.20	23.30	1.288	62.9	1.006	-0.03	0.618	0.801
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	39750	2506	22.12	23.30	1.312	62.9	1.006	0.16	0.612	0.808
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	40185	2549.5	22.14	23.30	1.306	62.9	1.006	0.13	0.661	0.869
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	41055	2636.5	22.18	23.30	1.294	62.9	1.006	-0.18	0.658	0.857
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	41490	2680	22.15	23.30	1.303	62.9	1.006	-0.06	0.680	0.891
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	40620	2593	21.91	23.00	1.285	62.9	1.006	-0.15	0.632	0.817
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	39750	2506	21.80	23.00	1.318	62.9	1.006	0.08	0.618	0.820
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	40185	2549.5	21.86	23.00	1.300	62.9	1.006	-0.17	0.609	0.797
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	41055	2636.5	21.88	23.00	1.294	62.9	1.006	-0.03	0.620	0.807
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 10	DSI 2	41490	2680	21.81	23.00	1.315	62.9	1.006	0.14	0.635	0.840
	LTE Band 41	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 10	DSI 2	40620	2593	21.89	23.00	1.291	62.9	1.006	0.02	0.592	0.769
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 10	DSI 2	40620	2593	22.20	23.30	1.288	62.9	1.006	0.02	0.060	0.078
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 10	DSI 2	40620	2593	21.91	23.00	1.285	62.9	1.006	0.07	0.040	0.052
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	41490	2680	23.70	24.90	1.318	42.9	1.009	-0.12	0.667	0.887
	LTE Band 41C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	41490+ 41292	2680+ 2660.2	22.09	23.30	1.321	62.9	1.006	0.06	0.662	0.880
	LTE Band 41C HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 10	DSI 2	41490+	2680+	23.63	24.90	1.340	42.9	1.009	0.03	0.649	0.877



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											41292	2660.2								
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	40620	2593	21.52	23.00	1.406	62.9	1.006	0.18	0.069	0.098
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	40620	2593	20.56	22.00	1.393	62.9	1.006	0.14	0.047	0.066
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	40620	2593	21.52	23.00	1.406	62.9	1.006	-0.17	0.070	0.099
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	40620	2593	20.56	22.00	1.393	62.9	1.006	0.17	0.041	0.057
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	40620	2593	21.52	23.00	1.406	62.9	1.006	-0.05	0.100	0.141
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	40620	2593	20.56	22.00	1.393	62.9	1.006	0.01	0.063	0.088
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	40620	2593	21.52	23.00	1.406	62.9	1.006	0.1	0.050	0.071
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	40620	2593	20.56	22.00	1.393	62.9	1.006	-0.17	0.036	0.050
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	40620	2593	24.55	26.00	1.396	42.9	1.009	0.08	0.131	0.185
	LTE Band 41C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 0	DSI 2	40620+ 40818	2593+ 2612.8	21.41	23.00	1.442	62.9	1.006	0.03	0.090	0.131
	LTE Band 41C HPUE	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 0	DSI 2	40620+ 40818	2593+ 2612.8	24.42	26.00	1.439	42.9	1.009	0.01	0.106	0.154
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	507000	2535	22.63	24.00	1.371	-	-	0.02	0.123	0.169
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	507000	2535	22.54	24.00	1.400	-	-	-0.03	0.103	0.144
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	507000	2535	22.63	24.00	1.371	-	-	0.17	0.039	0.053
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	507000	2535	22.54	24.00	1.400	-	-	-0.15	0.021	0.029
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	507000	2535	22.63	24.00	1.371	-	-	0.16	0.098	0.134
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	507000	2535	22.54	24.00	1.400	-	-	0.05	0.079	0.111
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	507000	2535	22.63	24.00	1.371	-	-	-0.06	0.072	0.099
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	507000	2535	22.54	24.00	1.400	-	-	-0.13	0.056	0.078
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	16.05	17.00	1.245	-	-	-0.04	0.667	0.830
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	16.01	17.00	1.256	-	-	-0.13	0.652	0.819
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	15.99	17.00	1.262	-	-	-0.01	0.644	0.813
16	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	16.05	17.00	1.245	-	-	-0.1	0.700	0.871
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	16.01	17.00	1.256	-	-	0.02	0.685	0.860
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	15.99	17.00	1.262	-	-	-0.13	0.677	0.854
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	507000	2535	16.05	17.00	1.245	-	-	0.17	0.453	0.564
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	507000	2535	16.01	17.00	1.256	-	-	0.06	0.397	0.499
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	507000	2535	16.05	17.00	1.245	-	-	0.01	0.481	0.599
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	507000	2535	16.01	17.00	1.256	-	-	-0.04	0.445	0.559
	FR1 n7 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	15.96	17.00	1.271	-	-	0.02	0.656	0.833
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	518598	2592.99	22.66	24.00	1.361	-	-	-0.01	0.124	0.169
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	518598	2592.99	22.56	24.00	1.393	-	-	0.04	0.128	0.178
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	518598	2592.99	22.66	24.00	1.361	-	-	-0.11	0.027	0.037
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	518598	2592.99	22.56	24.00	1.393	-	-	0.19	0.042	0.059
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	22.66	24.00	1.361	-	-	-0.14	0.058	0.079
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	518598	2592.99	22.56	24.00	1.393	-	-	-0.18	0.071	0.099
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	518598	2592.99	22.66	24.00	1.361	-	-	-0.06	0.064	0.087
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	518598	2592.99	22.56	24.00	1.393	-	-	0.02	0.065	0.091
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 2	518598	2592.99	13.90	14.80	1.230	-	-	-0.15	0.541	0.666
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 1	DSI 2	518598	2592.99	13.83	14.80	1.250	-	-	0.1	0.559	0.699
17	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 2	518598	2592.99	13.90	14.80	1.230	-	-	-0.03	0.714	0.878
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 2	518598	2592.99	13.83	14.80	1.250	-	-	-0.15	0.691	0.864
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Tilted	0mm	Ant 1	DSI 2	518598	2592.99	13.81	14.80	1.256	-	-	-0.19	0.678	0.852
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 2	518598	2592.99	13.90	14.80	1.230	-	-	0.01	0.351	0.432
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 1	DSI 2	518598	2592.99	13.83	14.80	1.250	-	-	0.12	0.391	0.489
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 2	518598	2592.99	13.90	14.80	1.230	-	-	-0.02	0.424	0.522
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 1	DSI 2	518598	2592.99	13.83	14.80	1.250	-	-	0.08	0.466	0.583
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DSI 2	518598	2592.99	22.96	24.00	1.271	-	-	0.01	0.261	0.332
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 10	DSI 2	518598	2592.99	22.85	24.00	1.303	-	-	0.03	0.265	0.345
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DSI 2	518598	2592.99	22.96	24.00	1.271	-	-	-0.08	0.070	0.089
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 10	DSI 2	518598	2592.99	22.85	24.00	1.303	-	-	-0.08	0.072	0.094
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DSI 2	518598	2592.99	22.96	24.00	1.271	-	-	0.1	0.349	0.443
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 10	DSI 2	518598	2592.99	22.85	24.00	1.303	-	-	-0.03	0.378	0.493
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DSI 2	518598	2592.99	22.96	24.00	1.271	-	-	-0.18	0.034	0.043



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	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 10	DSI 2	518598	2592.99	22.85	24.00	1.303	-	-	0.1	0.037	0.048
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 2	518598	2592.99	20.94	22.00	1.276	-	-	0.04	0.124	0.158
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 2	518598	2592.99	20.85	22.00	1.303	-	-	-0.01	0.125	0.163
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 2	518598	2592.99	20.94	22.00	1.276	-	-	-0.08	0.126	0.161
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 2	518598	2592.99	20.85	22.00	1.303	-	-	0.05	0.118	0.154
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 2	518598	2592.99	20.94	22.00	1.276	-	-	0.06	0.222	0.283
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 2	518598	2592.99	20.85	22.00	1.303	-	-	0.04	0.227	0.296
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 2	518598	2592.99	20.94	22.00	1.276	-	-	-0.09	0.078	0.100
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 2	518598	2592.99	20.85	22.00	1.303	-	-	-0.08	0.071	0.093
3500MHz																				
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	42590	3500	18.25	19.20	1.245	62.9	1.006	0.16	0.687	0.860
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	42190	3460	18.20	19.20	1.259	62.9	1.006	-0.03	0.690	0.874
18	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	42990	3540	18.23	19.20	1.250	62.9	1.006	-0.08	0.706	0.888
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	42590	3500	18.22	19.20	1.253	62.9	1.006	0.07	0.668	0.842
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	42190	3460	18.15	19.20	1.274	62.9	1.006	0.02	0.632	0.810
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	42990	3540	18.13	19.20	1.279	62.9	1.006	0.01	0.654	0.842
	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 7	DSI 2	42590	3500	18.21	19.20	1.256	62.9	1.006	-0.01	0.650	0.821
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	42590	3500	18.25	19.20	1.245	62.9	1.006	-0.06	0.232	0.290
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 2	42590	3500	18.22	19.20	1.253	62.9	1.006	-0.04	0.147	0.185
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 7	DSI 2	42590	3500	18.25	19.20	1.245	62.9	1.006	-0.09	0.190	0.238
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 7	DSI 2	42590	3500	18.22	19.20	1.253	62.9	1.006	-0.17	0.121	0.153
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	42590	3500	18.25	19.20	1.245	62.9	1.006	-0.1	0.092	0.115
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 7	DSI 2	42590	3500	18.22	19.20	1.253	62.9	1.006	0.18	0.059	0.074
	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	42990+42792	3540+3520.2	18.17	19.20	1.268	62.9	1.006	0.06	0.685	0.874
19	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	55830	3609	18.35	19.20	1.216	62.9	1.006	-0.03	0.675	0.826
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	55340	3560	18.31	19.20	1.227	62.9	1.006	-0.17	0.657	0.811
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	56150	3641	18.33	19.20	1.222	62.9	1.006	-0.04	0.660	0.811
	LTE Band 48	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 7	DSI 2	56640	3690	18.28	19.20	1.236	62.9	1.006	-0.05	0.661	0.822
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	55830	3609	18.34	19.20	1.219	62.9	1.006	0.01	0.641	0.786
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	55340	3560	18.28	19.20	1.236	62.9	1.006	-0.13	0.638	0.793
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	56150	3641	18.28	19.20	1.236	62.9	1.006	-0.01	0.617	0.767
	LTE Band 48	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 7	DSI 2	56640	3690	18.19	19.20	1.262	62.9	1.006	-0.09	0.610	0.774
	LTE Band 48	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 7	DSI 2	55830	3609	18.25	19.20	1.245	62.9	1.006	0.05	0.604	0.756
	LTE Band 48	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 7	DSI 2	55830	3609	18.35	19.20	1.216	62.9	1.006	0.02	0.199	0.243
	LTE Band 48	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 7	DSI 2	55830	3609	18.34	19.20	1.219	62.9	1.006	-0.13	0.128	0.157
	LTE Band 48	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 7	DSI 2	55830	3609	18.35	19.20	1.216	62.9	1.006	0.17	0.257	0.314
	LTE Band 48	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 7	DSI 2	55830	3609	18.34	19.20	1.219	62.9	1.006	0.06	0.158	0.194
	LTE Band 48	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 7	DSI 2	55830	3609	18.35	19.20	1.216	62.9	1.006	0.02	0.093	0.114
	LTE Band 48	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 7	DSI 2	55830	3609	18.34	19.20	1.219	62.9	1.006	-0.04	0.062	0.076
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	656000	3840	16.81	17.70	1.227	-	-	0.13	0.700	0.859
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	656000	3840	16.75	17.70	1.245	-	-	0.07	0.708	0.881
	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	656000	3840	16.73	17.70	1.250	-	-	-0.1	0.685	0.856
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	16.81	17.70	1.227	-	-	0.07	0.160	0.196
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	16.75	17.70	1.245	-	-	0.01	0.158	0.197
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	656000	3840	16.81	17.70	1.227	-	-	-0.18	0.281	0.345
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	656000	3840	16.75	17.70	1.245	-	-	-0.15	0.323	0.402
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	DSI 2	656000	3840	16.81	17.70	1.227	-	-	-0.08	0.063	0.077
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	DSI 2	656000	3840	16.75	17.70	1.245	-	-	-0.04	0.064	0.080
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	656000	3840	19.65	20.70	1.274	50	1.000	0.06	0.657	0.837
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	18.05	19.00	1.245	-	-	0.17	0.393	0.489
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	18.02	19.00	1.253	-	-	0.18	0.385	0.482



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	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	18.05	19.00	1.245	-	-	-0.04	0.400	0.498
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	18.02	19.00	1.253	-	-	-0.08	0.426	0.534
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	18.05	19.00	1.245	-	-	-0.13	0.659	0.820
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	18.02	19.00	1.253	-	-	-0.13	0.673	0.843
	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	17.89	19.00	1.291	-	-	-0.03	0.516	0.666
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	18.05	19.00	1.245	-	-	0.08	0.664	0.826
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	18.02	19.00	1.253	-	-	0.01	0.674	0.845
	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	17.89	19.00	1.291	-	-	-0.11	0.540	0.697
	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	21.00	22.00	1.259	50	1.000	-0.03	0.634	0.798
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	DSI 2	656000	3840	22.29	24.00	1.483	-	-	0.03	0.178	0.264
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	DSI 2	656000	3840	22.25	24.00	1.496	-	-	0.08	0.155	0.232
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	DSI 2	656000	3840	22.29	24.00	1.483	-	-	0.01	0.061	0.090
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	DSI 2	656000	3840	22.25	24.00	1.496	-	-	0.03	0.071	0.106
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	DSI 2	656000	3840	22.29	24.00	1.483	-	-	-0.08	0.136	0.202
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	DSI 2	656000	3840	22.25	24.00	1.496	-	-	-0.08	0.137	0.205
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	DSI 2	656000	3840	22.29	24.00	1.483	-	-	0.1	0.105	0.156
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	DSI 2	656000	3840	22.25	24.00	1.496	-	-	-0.18	0.098	0.147
	FR1 n77 Part 27O HPUE	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 8	DSI 2	656000	3840	25.28	27.00	1.486	50	1.000	0.09	0.170	0.253
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 2	656000	3840	14.85	15.60	1.189	-	-	0.03	0.270	0.321
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 2	656000	3840	14.80	15.60	1.202	-	-	-0.16	0.271	0.326
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 2	656000	3840	14.85	15.60	1.189	-	-	-0.02	0.248	0.295
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 2	656000	3840	14.80	15.60	1.202	-	-	0.15	0.269	0.323
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	14.85	15.60	1.189	-	-	-0.09	0.678	0.806
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	14.80	15.60	1.202	-	-	-0.04	0.710	0.854
	FR1 n77 Part 27O	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	14.74	15.60	1.219	-	-	0.05	0.689	0.840
	FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 2	656000	3840	14.85	15.60	1.189	-	-	0.05	0.511	0.607
	FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 2	656000	3840	14.80	15.60	1.202	-	-	0.02	0.536	0.644
20	FR1 n77 Part 27O HPUE	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	17.80	18.60	1.202	50	1.000	-0.06	0.737	0.886

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN/BT																
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6+3(6)	Standalone	1	2412	14.36	16.00	1.459	100	1.000	0.08	0.424	0.619
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6+3(6)	Standalone	1	2412	14.36	16.00	1.459	100	1.000	-0.08	0.494	0.721
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+3(6)	Standalone	1	2412	14.36	16.00	1.459	100	1.000	-0.18	0.825	1.204
21	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+3(6)	Standalone	6	2437	14.12	16.00	1.542	100	1.000	0.14	0.836	1.289
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+3(6)	Standalone	11	2462	14.22	16.00	1.507	100	1.000	0.1	0.802	1.208
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 6+3(6)	Standalone	6	2437	14.21	16.00	1.510	98.97	1.010	0.06	0.766	1.168
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6+3(6)	Standalone	1	2412	14.36	16.00	1.459	100	1.000	0.12	0.656	0.957
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6+3(6)	Standalone	6	2437	14.12	16.00	1.542	100	1.000	0.08	0.729	1.124
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6+3(6)	Simultaneous	6	2437	8.54	10.50	1.570	100	1.000	-0.15	0.150	0.236
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6+3(6)	Simultaneous	6	2437	8.54	10.50	1.570	100	1.000	0.19	0.163	0.256
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+3(6)	Simultaneous	6	2437	8.54	10.50	1.570	100	1.000	0.07	0.241	0.378
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6+3(6)	Simultaneous	6	2437	8.54	10.50	1.570	100	1.000	-0.18	0.210	0.330
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	Standalone	78	2480	14.63	15.00	1.089	76.94	1.083	-0.03	0.082	0.097
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 6	Standalone	78	2480	14.63	15.00	1.089	76.94	1.083	0.14	0.023	0.027
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Standalone	78	2480	14.63	15.00	1.089	76.94	1.083	0.11	0.136	0.160
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 6	Standalone	78	2480	14.63	15.00	1.089	76.94	1.083	-0.05	0.042	0.050
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	Simultaneous	78	2480	11.63	12.50	1.222	76.94	1.083	0.13	0.043	0.057
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 6	Simultaneous	78	2480	11.63	12.50	1.222	76.94	1.083	0.12	0.012	0.016
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Simultaneous	78	2480	11.63	12.50	1.222	76.94	1.083	0.03	0.072	0.095
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 6	Simultaneous	78	2480	11.63	12.50	1.222	76.94	1.083	0.18	0.022	0.029
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3	Standalone	0	2402	14.75	15.00	1.059	76.61	1.087	0.14	0.251	0.289



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	Bluetooth	1Mbps	Right Tilted	0mm	Ant 3	Standalone	0	2402	14.75	15.00	1.059	76.61	1.087	-0.17	0.298	0.343
22	Bluetooth	1Mbps	Left Cheek	0mm	Ant 3	Standalone	0	2402	14.75	15.00	1.059	76.61	1.087	0.03	0.423	0.487
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 3	Standalone	0	2402	14.75	15.00	1.059	76.61	1.087	-0.05	0.368	0.424
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3	Simultaneous	0	2402	11.73	12.50	1.194	76.61	1.087	0.16	0.128	0.166
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 3	Simultaneous	0	2402	11.73	12.50	1.194	76.61	1.087	-0.1	0.152	0.197
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 3	Simultaneous	0	2402	11.73	12.50	1.194	76.61	1.087	0.07	0.216	0.280
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 3	Simultaneous	0	2402	11.73	12.50	1.194	76.61	1.087	0.18	0.188	0.244
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+4(4)	Standalone	58	5290	13.41	15.00	1.442	100.00	1.000	0.1	0.431	0.622
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+4(4)	Standalone	58	5290	13.41	15.00	1.442	100.00	1.000	-0.17	0.399	0.575
23	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+4(4)	Standalone	58	5290	13.41	15.00	1.442	100.00	1.000	0.11	0.754	1.087
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+4(4)	Standalone	58	5290	13.41	15.00	1.442	100.00	1.000	0.04	0.637	0.919
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+4(5)	Simultaneous	58	5290	8.96	10.00	1.271	100.00	1.000	0.03	0.138	0.175
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+4(5)	Simultaneous	58	5290	8.96	10.00	1.271	100.00	1.000	-0.15	0.128	0.163
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+4(5)	Simultaneous	58	5290	8.96	10.00	1.271	100.00	1.000	-0.15	0.241	0.306
	WLAN5.3GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+4(5)	Simultaneous	58	5290	8.96	10.00	1.271	100.00	1.000	0.11	0.204	0.259
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+4(4)	Standalone	106	5530	12.04	13.50	1.400	100.00	1.000	-0.08	0.401	0.561
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+4(4)	Standalone	106	5530	12.04	13.50	1.400	100.00	1.000	-0.09	0.421	0.589
24	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+4(4)	Standalone	106	5530	12.04	13.50	1.400	100.00	1.000	0.12	0.790	1.106
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+4(4)	Standalone	122	5610	12.02	13.50	1.406	100.00	1.000	0.12	0.722	1.015
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+4(4)	Standalone	106	5530	12.04	13.50	1.400	100.00	1.000	0.18	0.622	0.871
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+4(4)	Standalone	122	5610	12.02	13.50	1.406	100.00	1.000	0.16	0.596	0.838
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+4(4)	Simultaneous	106	5530	7.14	8.50	1.368	100.00	1.000	-0.08	0.135	0.185
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+4(4)	Simultaneous	106	5530	7.14	8.50	1.368	100.00	1.000	-0.17	0.142	0.194
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+4(4)	Simultaneous	106	5530	7.14	8.50	1.368	100.00	1.000	-0.08	0.266	0.364
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+4(4)	Simultaneous	106	5530	7.14	8.50	1.368	100.00	1.000	-0.04	0.209	0.286
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+4(4)	Standalone	155	5775	11.58	13.00	1.387	100.00	1.000	0.18	0.381	0.528
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+4(4)	Standalone	155	5775	11.58	13.00	1.387	100.00	1.000	-0.1	0.394	0.546
25	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+4(4)	Standalone	155	5775	11.58	13.00	1.387	100.00	1.000	0.03	0.795	1.102
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+4(4)	Standalone	155	5775	11.58	13.00	1.387	100.00	1.000	0.01	0.639	0.886
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+4(4)	Simultaneous	155	5775	6.65	8.00	1.365	100.00	1.000	-0.08	0.117	0.160
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+4(4)	Simultaneous	155	5775	6.65	8.00	1.365	100.00	1.000	0.17	0.121	0.165
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+4(4)	Simultaneous	155	5775	6.65	8.00	1.365	100.00	1.000	0.18	0.253	0.345
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+4(4)	Simultaneous	155	5775	6.65	8.00	1.365	100.00	1.000	-0.04	0.197	0.269



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)	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	DSI 7	23095	707.5	22.50	24.00	1.413	-	-	-0.15	0.346	0.489
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23095	707.5	21.55	23.00	1.396	-	-	-0.15	0.192	0.268
26	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	22.50	24.00	1.413	-	-	-0.07	0.604	0.853
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	21.55	23.00	1.396	-	-	0.11	0.485	0.677
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	21.52	23.00	1.406	-	-	-0.08	0.472	0.664
	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	23095	707.5	22.50	24.00	1.413	-	-	-0.17	0.414	0.585
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	DSI 7	23095	707.5	21.55	23.00	1.396	-	-	-0.08	0.219	0.306
	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	23095	707.5	22.50	24.00	1.413	-	-	-0.08	0.076	0.107
	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	DSI 7	23095	707.5	21.55	23.00	1.396	-	-	0.17	0.045	0.063
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	22.50	24.00	1.413	-	-	0.18	0.445	0.629
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	21.55	23.00	1.396	-	-	-0.04	0.250	0.349
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	23095	707.5	21.90	23.00	1.288	-	-	0.01	0.275	0.354
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 1	DSI 7	23095	707.5	21.87	23.00	1.297	-	-	0.03	0.255	0.331
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	23095	707.5	21.90	23.00	1.288	-	-	-0.02	0.486	0.626
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 1	DSI 7	23095	707.5	21.87	23.00	1.297	-	-	-0.08	0.467	0.606
	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	23095	707.5	21.90	23.00	1.288	-	-	0.1	0.482	0.621
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 1	DSI 7	23095	707.5	21.87	23.00	1.297	-	-	-0.18	0.474	0.615
	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	23095	707.5	21.90	23.00	1.288	-	-	0.12	0.092	0.119
	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 1	DSI 7	23095	707.5	21.87	23.00	1.297	-	-	0.08	0.083	0.108
	LTE Band 12	10M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	23095	707.5	21.90	23.00	1.288	-	-	-0.17	0.466	0.600
	LTE Band 12	10M	QPSK	25	0	-	Top Side	5mm	Ant 1	DSI 7	23095	707.5	21.87	23.00	1.297	-	-	-0.03	0.462	0.599
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	23230	782	22.60	24.00	1.380	-	-	-0.13	0.341	0.471
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23230	782	21.61	23.00	1.377	-	-	0.06	0.216	0.297
27	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23230	782	22.60	24.00	1.380	-	-	-0.01	0.618	0.853
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23230	782	21.61	23.00	1.377	-	-	-0.03	0.497	0.684
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23230	782	21.60	23.00	1.380	-	-	-0.03	0.492	0.679
	LTE Band 13	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	23230	782	22.60	24.00	1.380	-	-	0.08	0.505	0.697
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	DSI 7	23230	782	21.61	23.00	1.377	-	-	-0.07	0.312	0.430
	LTE Band 13	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	23230	782	22.60	24.00	1.380	-	-	-0.11	0.051	0.070
	LTE Band 13	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	DSI 7	23230	782	21.61	23.00	1.377	-	-	-0.12	0.033	0.045
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23230	782	22.60	24.00	1.380	-	-	0.03	0.458	0.632
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	DSI 7	23230	782	21.61	23.00	1.377	-	-	-0.16	0.287	0.395
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	23230	782	21.43	22.80	1.371	-	-	0.11	0.257	0.352
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 1	DSI 7	23230	782	21.38	22.80	1.387	-	-	-0.05	0.238	0.330
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	23230	782	21.43	22.80	1.371	-	-	-0.02	0.453	0.621
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 1	DSI 7	23230	782	21.38	22.80	1.387	-	-	0.18	0.377	0.523
	LTE Band 13	10M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	23230	782	21.43	22.80	1.371	-	-	-0.17	0.392	0.537
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 1	DSI 7	23230	782	21.38	22.80	1.387	-	-	0.17	0.346	0.480
	LTE Band 13	10M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	23230	782	21.43	22.80	1.371	-	-	0.01	0.050	0.069
	LTE Band 13	10M	QPSK	25	0	-	Right Side	5mm	Ant 1	DSI 7	23230	782	21.38	22.80	1.387	-	-	0.1	0.031	0.043
	LTE Band 13	10M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	23230	782	21.43	22.80	1.371	-	-	-0.17	0.337	0.462
	LTE Band 13	10M	QPSK	25	0	-	Top Side	5mm	Ant 1	DSI 7	23230	782	21.38	22.80	1.387	-	-	0.04	0.318	0.441
835MHz																				
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	DSI 7	189	836.4	26.98	27.90	1.236	-	-	0.02	0.470	0.581
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	189	836.4	26.98	27.90	1.236	-	-	0.07	0.728	0.900
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	128	824.2	26.88	27.90	1.265	-	-	0.03	0.674	0.852
28	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	251	848.8	26.87	27.90	1.268	-	-	-0.01	0.767	0.972
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	DSI 7	189	836.4	26.98	27.90	1.236	-	-	0.13	0.567	0.701
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 0	DSI 7	189	836.4	26.98	27.90	1.236	-	-	-0.16	0.087	0.108
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	189	836.4	26.98	27.90	1.236	-	-	-0.15	0.675	0.834



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	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	128	824.2	26.88	27.90	1.265	-	-	-0.06	0.624	0.789
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	251	848.8	26.87	27.90	1.268	-	-	-0.14	0.647	0.820
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 1	DSI 7	189	836.4	24.85	25.80	1.245	-	-	0.03	0.322	0.401
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	DSI 7	189	836.4	24.85	25.80	1.245	-	-	0.04	0.494	0.615
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 1	DSI 7	189	836.4	24.85	25.80	1.245	-	-	0.01	0.276	0.343
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 1	DSI 7	189	836.4	24.85	25.80	1.245	-	-	0.06	0.087	0.108
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Top Side	5mm	Ant 1	DSI 7	189	836.4	24.85	25.80	1.245	-	-	0.02	0.453	0.564
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	4182	836.4	22.32	24.00	1.472	-	-	0.15	0.523	0.770
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4182	836.4	22.32	24.00	1.472	-	-	-0.09	0.808	1.190
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4132	826.4	22.28	24.00	1.486	-	-	0.16	0.800	1.189
29	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4233	846.6	22.18	24.00	1.521	-	-	0.02	0.833	1.267
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	4182	836.4	22.32	24.00	1.472	-	-	0.11	0.591	0.870
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	4132	826.4	22.28	24.00	1.486	-	-	0.03	0.575	0.854
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	4233	846.6	22.18	24.00	1.521	-	-	0.01	0.543	0.826
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 0	DSI 7	4182	836.4	22.32	24.00	1.472	-	-	-0.05	0.102	0.150
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	4182	836.4	22.32	24.00	1.472	-	-	-0.08	0.584	0.860
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	4132	826.4	22.28	24.00	1.486	-	-	0.03	0.562	0.835
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	4233	846.6	22.18	24.00	1.521	-	-	0.02	0.552	0.839
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	4182	836.4	20.10	21.30	1.318	-	-	-0.05	0.212	0.279
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	4182	836.4	20.10	21.30	1.318	-	-	-0.14	0.470	0.620
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 7	4182	836.4	20.10	21.30	1.318	-	-	0.16	0.210	0.277
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	DSI 7	4182	836.4	20.10	21.30	1.318	-	-	0.01	0.058	0.076
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 1	DSI 7	4182	836.4	20.10	21.30	1.318	-	-	-0.16	0.387	0.510
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	26865	831.5	22.82	24.00	1.312	-	-	-0.1	0.303	0.398
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	DSI 7	26865	831.5	21.91	23.00	1.285	-	-	0.07	0.195	0.251
30	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	22.82	24.00	1.312	-	-	-0.03	0.545	0.715
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	21.91	23.00	1.285	-	-	0.18	0.354	0.455
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	26865	831.5	22.82	24.00	1.312	-	-	0.01	0.410	0.538
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 0	DSI 7	26865	831.5	21.91	23.00	1.285	-	-	-0.15	0.250	0.321
	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	26865	831.5	22.82	24.00	1.312	-	-	0.19	0.074	0.097
	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 0	DSI 7	26865	831.5	21.91	23.00	1.285	-	-	0.07	0.047	0.060
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	22.82	24.00	1.312	-	-	-0.18	0.424	0.556
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	21.91	23.00	1.285	-	-	0.03	0.253	0.325
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	26865	831.5	21.73	22.90	1.309	-	-	-0.01	0.319	0.418
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 1	DSI 7	26865	831.5	21.69	22.90	1.321	-	-	-0.08	0.208	0.275
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	26865	831.5	21.73	22.90	1.309	-	-	0.03	0.470	0.615
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 1	DSI 7	26865	831.5	21.69	22.90	1.321	-	-	0.05	0.305	0.403
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	26865	831.5	21.73	22.90	1.309	-	-	-0.09	0.462	0.605
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 1	DSI 7	26865	831.5	21.69	22.90	1.321	-	-	-0.08	0.262	0.346
	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	26865	831.5	21.73	22.90	1.309	-	-	0.12	0.093	0.122
	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 1	DSI 7	26865	831.5	21.69	22.90	1.321	-	-	0.03	0.056	0.074
	LTE Band 26	15M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	26865	831.5	21.73	22.90	1.309	-	-	0.18	0.461	0.604
	LTE Band 26	15M	QPSK	36	0	-	Top Side	5mm	Ant 1	DSI 7	26865	831.5	21.69	22.90	1.321	-	-	0.16	0.295	0.390
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 0	DSI 7	166300	831.5	22.86	24.00	1.300	-	-	-0.09	0.389	0.506
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 0	DSI 7	166300	831.5	22.71	24.00	1.346	-	-	-0.17	0.400	0.538
31	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 0	DSI 7	166300	831.5	22.86	24.00	1.300	-	-	0.02	0.569	0.740
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	DSI 7	166300	831.5	22.71	24.00	1.346	-	-	-0.1	0.535	0.720
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 0	DSI 7	166300	831.5	22.86	24.00	1.300	-	-	0.02	0.346	0.450
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 0	DSI 7	166300	831.5	22.71	24.00	1.346	-	-	0.12	0.458	0.616
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 0	DSI 7	166300	831.5	22.86	24.00	1.300	-	-	-0.16	0.050	0.065
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 0	DSI 7	166300	831.5	22.71	24.00	1.346	-	-	-0.12	0.036	0.048
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 0	DSI 7	166300	831.5	22.86	24.00	1.300	-	-	0.07	0.470	0.611
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 0	DSI 7	166300	831.5	22.71	24.00	1.346	-	-	-0.02	0.399	0.537
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	166300	831.5	22.00	23.00	1.259	-	-	-0.03	0.259	0.326
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	166300	831.5	21.98	23.00	1.265	-	-	0.08	0.295	0.373
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	166300	831.5	22.00	23.00	1.259	-	-	-0.07	0.450	0.567



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	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	166300	831.5	21.98	23.00	1.265	-	-	-0.03	0.487	0.616
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	166300	831.5	22.00	23.00	1.259	-	-	-0.11	0.321	0.404
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	166300	831.5	21.98	23.00	1.265	-	-	-0.12	0.251	0.317
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	166300	831.5	22.00	23.00	1.259	-	-	0.03	0.065	0.082
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	166300	831.5	21.98	23.00	1.265	-	-	-0.16	0.075	0.095
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	166300	831.5	22.00	23.00	1.259	-	-	-0.02	0.468	0.589
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	166300	831.5	21.98	23.00	1.265	-	-	0.15	0.437	0.553
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	DSI 7	1413	1732.6	18.18	19.20	1.265	-	-	0.08	0.767	0.970
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	DSI 7	1312	1712.4	18.14	19.20	1.276	-	-	0.01	0.803	1.025
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	DSI 7	1513	1752.6	18.15	19.20	1.274	-	-	0.03	0.747	0.951
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 2	DSI 7	1413	1732.6	18.18	19.20	1.265	-	-	-0.08	0.678	0.857
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 2	DSI 7	1312	1712.4	18.14	19.20	1.276	-	-	-0.08	0.691	0.882
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 2	DSI 7	1513	1752.6	18.15	19.20	1.274	-	-	0.1	0.609	0.776
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 7	1413	1732.6	18.18	19.20	1.265	-	-	-0.18	0.349	0.441
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 2	DSI 7	1413	1732.6	18.18	19.20	1.265	-	-	0.1	0.388	0.491
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 2	DSI 7	1413	1732.6	18.18	19.20	1.265	-	-	0.12	0.938	1.186
32	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 2	DSI 7	1312	1712.4	18.14	19.20	1.276	-	-	-0.02	1.010	1.289
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 2	DSI 7	1513	1752.6	18.15	19.20	1.274	-	-	0.08	0.913	1.163
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	1413	1732.6	13.18	14.30	1.294	-	-	-0.03	0.221	0.286
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	1413	1732.6	13.18	14.30	1.294	-	-	0.02	0.479	0.620
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 7	1413	1732.6	13.18	14.30	1.294	-	-	-0.11	0.321	0.415
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	DSI 7	1413	1732.6	13.18	14.30	1.294	-	-	-0.16	0.005	0.006
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 1	DSI 7	1413	1732.6	13.18	14.30	1.294	-	-	-0.02	0.327	0.423
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	DSI 7	132322	1745	18.80	19.90	1.288	-	-	0.18	0.720	0.928
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	DSI 7	132072	1720	18.78	19.90	1.294	-	-	0.14	0.761	0.985
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 2	DSI 7	132572	1770	18.75	19.90	1.303	-	-	-0.17	0.684	0.891
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	132322	1745	18.74	19.90	1.306	-	-	0.17	0.671	0.876
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	132072	1720	18.65	19.90	1.334	-	-	-0.05	0.690	0.920
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	132572	1770	18.64	19.90	1.337	-	-	0.01	0.646	0.863
	LTE Band 66	20M	QPSK	100	0	-	Front	5mm	Ant 2	DSI 7	132322	1745	18.71	19.90	1.315	-	-	0.1	0.664	0.873
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	132322	1745	18.80	19.90	1.288	-	-	-0.17	0.609	0.785
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	132322	1745	18.74	19.90	1.306	-	-	-0.08	0.589	0.769
	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	132322	1745	18.80	19.90	1.288	-	-	0.06	0.333	0.429
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 2	DSI 7	132322	1745	18.74	19.90	1.306	-	-	-0.09	0.178	0.232
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant 2	DSI 7	132322	1745	18.80	19.90	1.288	-	-	-0.08	0.344	0.443
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 2	DSI 7	132322	1745	18.74	19.90	1.306	-	-	0.13	0.180	0.235
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	132322	1745	18.80	19.90	1.288	-	-	0.12	0.904	1.165
33	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	132072	1720	18.78	19.90	1.294	-	-	0.05	0.981	1.270
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	132572	1770	18.75	19.90	1.303	-	-	0.03	0.973	1.268
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	132322	1745	18.74	19.90	1.306	-	-	0.18	0.940	1.228
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	132072	1720	18.65	19.90	1.334	-	-	0.03	0.916	1.222
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	132572	1770	18.64	19.90	1.337	-	-	0.02	0.906	1.211
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 2	DSI 7	132322	1745	18.71	19.90	1.315	-	-	0.16	0.854	1.123
	LTE Band 66B	15M	QPSK	1	74	-	Bottom Side	5mm	Ant 2	DSI 7	132047+132140	1717.5+1726.8	18.63	19.90	1.340	-	-	0.06	0.889	1.191
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	132322	1745	12.30	13.90	1.445	-	-	0.13	0.203	0.293
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	132322	1745	12.28	13.90	1.452	-	-	-0.18	0.138	0.200
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	132322	1745	12.30	13.90	1.445	-	-	0.03	0.424	0.613
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	132322	1745	12.28	13.90	1.452	-	-	-0.03	0.413	0.600
	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	132322	1745	12.30	13.90	1.445	-	-	-0.01	0.265	0.383
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	DSI 7	132322	1745	12.28	13.90	1.452	-	-	-0.09	0.167	0.243
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	132322	1745	12.30	13.90	1.445	-	-	-0.17	0.006	0.009
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	132322	1745	12.28	13.90	1.452	-	-	-0.04	0.003	0.004
	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	132322	1745	12.30	13.90	1.445	-	-	-0.05	0.303	0.438
	LTE Band 66	20M	QPSK	50	0	-	Top Side	5mm	Ant 1	DSI 7	132322	1745	12.28	13.90	1.452	-	-	-0.01	0.196	0.285
	LTE Band 66B	15M	QPSK	1	74	-	Back	5mm	Ant 1	DSI 7	132322+	1745+	12.16	13.90	1.493	-	-	0.05	0.395	0.590



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											132415	1754.3								
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	349000	1745	19.05	20.20	1.303	-	-	-0.15	0.701	0.914
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	349000	1745	18.99	20.20	1.321	-	-	0.19	0.680	0.898
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	349000	1745	18.96	20.20	1.330	-	-	0.07	0.671	0.893
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	349000	1745	19.05	20.20	1.303	-	-	-0.18	0.542	0.706
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	349000	1745	18.99	20.20	1.321	-	-	0.03	0.556	0.735
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 2	DSI 7	349000	1745	19.05	20.20	1.303	-	-	-0.15	0.184	0.240
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 2	DSI 7	349000	1745	18.99	20.20	1.321	-	-	0.11	0.120	0.159
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 2	DSI 7	349000	1745	19.05	20.20	1.303	-	-	-0.08	0.319	0.416
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 2	DSI 7	349000	1745	18.99	20.20	1.321	-	-	-0.17	0.286	0.378
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	349000	1745	19.05	20.20	1.303	-	-	-0.08	0.953	1.242
34	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	349000	1745	18.99	20.20	1.321	-	-	0.08	0.973	1.286
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	349000	1745	18.96	20.20	1.330	-	-	-0.04	0.883	1.175
	FR1 n66 Other PA	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	349000	1745	18.90	20.20	1.349	-	-	-0.13	0.885	1.194
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	349000	1745	13.65	15.00	1.365	-	-	-0.16	0.229	0.312
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	349000	1745	13.62	15.00	1.374	-	-	-0.15	0.224	0.308
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	349000	1745	13.65	15.00	1.365	-	-	-0.06	0.456	0.622
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	349000	1745	13.62	15.00	1.374	-	-	-0.14	0.447	0.614
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	349000	1745	13.65	15.00	1.365	-	-	0.01	0.265	0.362
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	349000	1745	13.62	15.00	1.374	-	-	0.06	0.250	0.344
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	349000	1745	13.65	15.00	1.365	-	-	0.12	0.007	0.010
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	349000	1745	13.62	15.00	1.374	-	-	-0.16	0.006	0.008
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	349000	1745	13.65	15.00	1.365	-	-	-0.12	0.322	0.439
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	349000	1745	13.62	15.00	1.374	-	-	0.07	0.321	0.441
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	349000	1745	13.60	15.00	1.380	-	-	0.06	0.431	0.595
1900MHz																				
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 2	DSI 7	661	1880	22.58	23.40	1.208	-	-	0.05	0.989	1.195
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 2	DSI 7	512	1850.2	22.49	23.40	1.233	-	-	0.05	0.900	1.110
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 2	DSI 7	810	1909.8	22.55	23.40	1.216	-	-	-0.03	0.935	1.137
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 2	DSI 7	661	1880	22.58	23.40	1.208	-	-	-0.15	0.697	0.842
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 2	DSI 7	512	1850.2	22.49	23.40	1.233	-	-	0.02	0.681	0.840
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 2	DSI 7	810	1909.8	22.55	23.40	1.216	-	-	0.07	0.651	0.792
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 2	DSI 7	661	1880	22.58	23.40	1.208	-	-	0.16	0.307	0.371
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 2	DSI 7	661	1880	22.58	23.40	1.208	-	-	0.13	0.641	0.774
35	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 2	DSI 7	661	1880	22.58	23.40	1.208	-	-	-0.01	1.060	1.280
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 2	DSI 7	512	1850.2	22.49	23.40	1.233	-	-	0.16	0.962	1.186
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 2	DSI 7	810	1909.8	22.55	23.40	1.216	-	-	-0.03	0.935	1.137
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 1	DSI 7	661	1880	16.33	17.30	1.250	-	-	-0.04	0.265	0.331
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 1	DSI 7	661	1880	16.33	17.30	1.250	-	-	0.07	0.505	0.631
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 1	DSI 7	661	1880	16.33	17.30	1.250	-	-	-0.13	0.294	0.368
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 1	DSI 7	661	1880	16.33	17.30	1.250	-	-	-0.01	0.020	0.025
	GSM1900	-	-	-	-	GPRS (4 Tx slots)	Top Side	5mm	Ant 1	DSI 7	661	1880	16.33	17.30	1.250	-	-	-0.09	0.484	0.605
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	DSI 7	9400	1880	19.05	20.00	1.245	-	-	-0.06	0.820	1.021
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	DSI 7	9262	1852.4	19.00	20.00	1.259	-	-	-0.15	0.842	1.060
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 2	DSI 7	9538	1907.6	19.01	20.00	1.256	-	-	0.03	0.717	0.901
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 2	DSI 7	9400	1880	19.05	20.00	1.245	-	-	-0.13	0.646	0.804
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 2	DSI 7	9262	1852.4	19.00	20.00	1.259	-	-	0.16	0.655	0.825
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 2	DSI 7	9538	1907.6	19.01	20.00	1.256	-	-	-0.15	0.652	0.819
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 2	DSI 7	9400	1880	19.05	20.00	1.245	-	-	-0.02	0.230	0.286
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 2	DSI 7	9400	1880	19.05	20.00	1.245	-	-	-0.09	0.441	0.549
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 2	DSI 7	9400	1880	19.05	20.00	1.245	-	-	0.14	0.942	1.172
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 2	DSI 7	9262	1852.4	19.00	20.00	1.259	-	-	0.1	0.926	1.166
36	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 2	DSI 7	9538	1907.6	19.01	20.00	1.256	-	-	0.03	1.020	1.281
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	9400	1880	11.83	12.60	1.194	-	-	-0.09	0.302	0.361
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	9400	1880	11.83	12.60	1.194	-	-	-0.07	0.524	0.626
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 7	9400	1880	11.83	12.60	1.194	-	-	0.18	0.380	0.454



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	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	DSI 7	9400	1880	11.83	12.60	1.194	-	-	0.07	0.026	0.031
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	5mm	Ant 1	DSI 7	9400	1880	11.83	12.60	1.194	-	-	0.18	0.488	0.583
	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 2	DSI 7	18900	1880	19.40	20.50	1.288	-	-	-0.1	0.679	0.875
	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 2	DSI 7	18700	1860	19.35	20.50	1.303	-	-	-0.01	0.692	0.902
	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 2	DSI 7	19100	1900	19.36	20.50	1.300	-	-	-0.09	0.644	0.837
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	18900	1880	19.31	20.50	1.315	-	-	-0.06	0.632	0.831
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	18700	1860	19.21	20.50	1.346	-	-	0.03	0.616	0.829
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	19100	1900	19.25	20.50	1.334	-	-	0.02	0.620	0.827
	LTE Band 2	20M	QPSK	100	0	-	Front	5mm	Ant 2	DSI 7	18900	1880	19.29	20.50	1.321	-	-	-0.17	0.574	0.758
	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	18900	1880	19.40	20.50	1.288	-	-	-0.01	0.574	0.739
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	18900	1880	19.31	20.50	1.315	-	-	0.03	0.317	0.417
	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	18900	1880	19.40	20.50	1.288	-	-	0.1	0.145	0.187
	LTE Band 2	20M	QPSK	50	0	-	Left Side	5mm	Ant 2	DSI 7	18900	1880	19.31	20.50	1.315	-	-	0.16	0.075	0.099
	LTE Band 2	20M	QPSK	1	0	-	Right Side	5mm	Ant 2	DSI 7	18900	1880	19.40	20.50	1.288	-	-	-0.06	0.354	0.456
	LTE Band 2	20M	QPSK	50	0	-	Right Side	5mm	Ant 2	DSI 7	18900	1880	19.31	20.50	1.315	-	-	0.02	0.343	0.451
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	18900	1880	19.40	20.50	1.288	-	-	-0.16	0.922	1.188
37	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	18700	1860	19.35	20.50	1.303	-	-	-0.01	0.992	1.293
	LTE Band 2	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	19100	1900	19.36	20.50	1.300	-	-	0.05	0.970	1.261
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	18900	1880	19.31	20.50	1.315	-	-	-0.03	0.913	1.201
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	18700	1860	19.21	20.50	1.346	-	-	0.17	0.944	1.270
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	19100	1900	19.25	20.50	1.334	-	-	-0.15	0.935	1.247
	LTE Band 2	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 2	DSI 7	18900	1880	19.29	20.50	1.321	-	-	0.16	0.916	1.210
	LTE Band 2	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	18900	1880	11.88	13.20	1.355	-	-	-0.04	0.250	0.339
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	18900	1880	11.86	13.20	1.361	-	-	-0.08	0.172	0.234
	LTE Band 2	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	18900	1880	11.88	13.20	1.355	-	-	-0.06	0.457	0.619
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	18900	1880	11.86	13.20	1.361	-	-	-0.04	0.315	0.429
	LTE Band 2	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	18900	1880	11.88	13.20	1.355	-	-	0.06	0.298	0.404
	LTE Band 2	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	DSI 7	18900	1880	11.86	13.20	1.361	-	-	0.08	0.212	0.289
	LTE Band 2	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	18900	1880	11.88	13.20	1.355	-	-	0.05	0.021	0.028
	LTE Band 2	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	18900	1880	11.86	13.20	1.361	-	-	-0.11	0.014	0.019
	LTE Band 2	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	18900	1880	11.88	13.20	1.355	-	-	-0.12	0.429	0.581
	LTE Band 2	20M	QPSK	50	0	-	Top Side	5mm	Ant 1	DSI 7	18900	1880	11.86	13.20	1.361	-	-	-0.02	0.300	0.408
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	376000	1880	19.70	20.40	1.175	-	-	0.03	0.936	1.100
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	372000	1860	19.66	20.40	1.186	-	-	-0.08	1.040	1.233
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	380000	1900	19.68	20.40	1.180	-	-	-0.08	0.942	1.112
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	376000	1880	19.66	20.40	1.186	-	-	0.1	1.010	1.198
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	372000	1860	19.55	20.40	1.216	-	-	-0.18	1.030	1.253
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	380000	1900	19.62	20.40	1.197	-	-	0.1	0.977	1.169
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	376000	1880	19.62	20.40	1.197	-	-	0.12	0.976	1.168
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	376000	1880	19.70	20.40	1.175	-	-	0.08	0.681	0.800
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	372000	1860	19.66	20.40	1.186	-	-	-0.17	0.676	0.802
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	380000	1900	19.68	20.40	1.180	-	-	-0.1	0.690	0.814
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	376000	1880	19.66	20.40	1.186	-	-	-0.17	0.705	0.836
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	372000	1860	19.55	20.40	1.216	-	-	0.18	0.685	0.833
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	380000	1900	19.62	20.40	1.197	-	-	-0.17	0.645	0.772
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	376000	1880	19.62	20.40	1.197	-	-	0.12	0.636	0.761
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 2	DSI 7	376000	1880	19.70	20.40	1.175	-	-	-0.03	0.210	0.247
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 2	DSI 7	376000	1880	19.66	20.40	1.186	-	-	0.14	0.190	0.225
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 2	DSI 7	376000	1880	19.70	20.40	1.175	-	-	0.11	0.366	0.430
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 2	DSI 7	376000	1880	19.66	20.40	1.186	-	-	-0.05	0.365	0.433
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	376000	1880	19.70	20.40	1.175	-	-	0.18	1.040	1.222
38	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	372000	1860	19.66	20.40	1.186	-	-	-0.11	1.090	1.292
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	380000	1900	19.68	20.40	1.180	-	-	0.14	0.942	1.112
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	376000	1880	19.66	20.40	1.186	-	-	-0.17	1.040	1.233
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	372000	1860	19.55	20.40	1.216	-	-	0.17	0.990	1.204
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	380000	1900	19.62	20.40	1.197	-	-	-0.05	0.930	1.113



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	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	376000	1880	19.62	20.40	1.197	-	-	0.01	0.888	1.063
	FR1 n2 Other PA	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	372000	1860	19.53	20.40	1.222	-	-	0.01	0.937	1.145
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	376000	1880	13.54	14.50	1.247	-	-	-0.18	0.239	0.298
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	376000	1880	13.48	14.50	1.265	-	-	0.02	0.260	0.329
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	376000	1880	13.54	14.50	1.247	-	-	0.16	0.447	0.558
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	376000	1880	13.48	14.50	1.265	-	-	-0.07	0.495	0.626
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	376000	1880	13.54	14.50	1.247	-	-	-0.06	0.360	0.449
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	376000	1880	13.48	14.50	1.265	-	-	-0.17	0.313	0.396
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	376000	1880	13.54	14.50	1.247	-	-	-0.04	0.016	0.020
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	376000	1880	13.48	14.50	1.265	-	-	-0.05	0.052	0.066
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	376000	1880	13.54	14.50	1.247	-	-	0.08	0.400	0.499
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	376000	1880	13.48	14.50	1.265	-	-	-0.09	0.389	0.492
	FR1 n2 Other PA	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	376000	1880	13.37	14.50	1.297	-	-	0.06	0.366	0.475
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 2	DSI 7	21100	2535	19.15	20.40	1.334	-	-	-0.11	0.599	0.799
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	21100	2535	19.09	20.40	1.352	-	-	0.14	0.299	0.404
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	21100	2535	19.15	20.40	1.334	-	-	-0.12	0.641	0.855
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	20850	2510	19.10	20.40	1.349	-	-	0.07	0.599	0.808
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	21350	2560	19.13	20.40	1.340	-	-	0.09	0.619	0.829
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	21100	2535	19.09	20.40	1.352	-	-	0.04	0.621	0.840
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	20850	2510	19.06	20.40	1.361	-	-	0.03	0.613	0.835
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	21350	2560	19.02	20.40	1.374	-	-	0.05	0.603	0.829
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant 2	DSI 7	21100	2535	19.07	20.40	1.358	-	-	0.11	0.601	0.816
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	21100	2535	19.15	20.40	1.334	-	-	-0.13	0.096	0.128
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 2	DSI 7	21100	2535	19.09	20.40	1.352	-	-	0.12	0.047	0.064
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 2	DSI 7	21100	2535	19.15	20.40	1.334	-	-	-0.11	0.183	0.244
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 2	DSI 7	21100	2535	19.09	20.40	1.352	-	-	0.17	0.093	0.126
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	21100	2535	19.15	20.40	1.334	-	-	-0.16	0.939	1.252
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	20850	2510	19.10	20.40	1.349	-	-	-0.17	0.920	1.241
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	21350	2560	19.13	20.40	1.340	-	-	0.01	0.952	1.275
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	21100	2535	19.09	20.40	1.352	-	-	0.11	0.903	1.221
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	20850	2510	19.06	20.40	1.361	-	-	0.03	0.857	1.167
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	21350	2560	19.02	20.40	1.374	-	-	0.01	0.876	1.204
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 2	DSI 7	21100	2535	19.07	20.40	1.358	-	-	-0.05	0.896	1.217
	LTE Band 7C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	21350+ 21152	2560+ 2540.2	18.99	20.40	1.384	-	-	0.02	0.857	1.186
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	21100	2535	12.27	13.20	1.239	-	-	-0.16	0.337	0.417
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	21100	2535	12.22	13.20	1.253	-	-	-0.14	0.308	0.386
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	21100	2535	12.27	13.20	1.239	-	-	0.01	0.340	0.421
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	21100	2535	12.22	13.20	1.253	-	-	0.12	0.317	0.397
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	21100	2535	12.27	13.20	1.239	-	-	-0.12	0.088	0.109
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	DSI 7	21100	2535	12.22	13.20	1.253	-	-	0.07	0.075	0.094
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	21100	2535	12.27	13.20	1.239	-	-	-0.02	0.027	0.033
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	21100	2535	12.22	13.20	1.253	-	-	-0.05	0.020	0.025
	LTE Band 7	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	21100	2535	12.27	13.20	1.239	-	-	0.01	0.497	0.616
	LTE Band 7	20M	QPSK	50	0	-	Top Side	5mm	Ant 1	DSI 7	21100	2535	12.22	13.20	1.253	-	-	0.16	0.467	0.585
	LTE Band 7C	20M	QPSK	1	99	-	Top Side	5mm	Ant 1	DSI 7	21100+ 21298	2535+ 2554.8	12.16	13.20	1.271	-	-	-0.02	0.465	0.591
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 10	DSI 7	21100	2535	17.02	18.00	1.253	-	-	0.08	0.188	0.236
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 10	DSI 7	21100	2535	16.96	18.00	1.271	-	-	0.01	0.173	0.220
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 10	DSI 7	21100	2535	17.02	18.00	1.253	-	-	0.03	0.214	0.268
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 10	DSI 7	21100	2535	16.96	18.00	1.271	-	-	0.1	0.197	0.250
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 10	DSI 7	21100	2535	17.02	18.00	1.253	-	-	-0.04	0.499	0.625
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 10	DSI 7	21100	2535	16.96	18.00	1.271	-	-	0.08	0.474	0.602
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 10	DSI 7	21100	2535	17.02	18.00	1.253	-	-	0.11	0.012	0.015
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 10	DSI 7	21100	2535	16.96	18.00	1.271	-	-	-0.05	0.010	0.013
	LTE Band 7	20M	QPSK	1	0	-	Top Side	5mm	Ant 10	DSI 7	21100	2535	17.02	18.00	1.253	-	-	0.18	0.015	0.019



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	LTE Band 7	20M	QPSK	50	0	-	Top Side	5mm	Ant 10	DSI 7	21100	2535	16.96	18.00	1.271	-	-	0.14	0.011	0.014
	LTE Band 7C	20M	QPSK	1	99	-	Left Side	5mm	Ant 10	DSI 7	21100+ 21298	2535+ 2554.8	16.95	18.00	1.274	-	-	0.02	0.477	0.607
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	21100	2535	20.94	21.90	1.247	-	-	0.04	0.727	0.907
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	20850	2510	20.90	21.90	1.259	-	-	-0.01	0.705	0.888
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	21350	2560	20.89	21.90	1.262	-	-	-0.08	0.684	0.863
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	21100	2535	19.96	21.50	1.426	-	-	0.05	0.612	0.872
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	20850	2510	19.93	21.50	1.435	-	-	0.19	0.589	0.846
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	21350	2560	19.84	21.50	1.466	-	-	-0.06	0.575	0.843
	LTE Band 7	20M	QPSK	100	0	-	Front	5mm	Ant 0	DSI 7	21100	2535	19.92	21.50	1.439	-	-	0.06	0.562	0.809
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	21100	2535	20.94	21.90	1.247	-	-	-0.09	0.675	0.842
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	20850	2510	20.90	21.90	1.259	-	-	-0.08	0.669	0.842
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	21350	2560	20.89	21.90	1.262	-	-	0.13	0.627	0.791
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	21100	2535	19.96	21.50	1.426	-	-	0.12	0.575	0.820
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	20850	2510	19.93	21.50	1.435	-	-	0.02	0.566	0.812
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	21350	2560	19.84	21.50	1.466	-	-	-0.03	0.553	0.810
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant 0	DSI 7	21100	2535	19.92	21.50	1.439	-	-	0.03	0.496	0.714
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	21100	2535	20.94	21.90	1.247	-	-	0.18	0.674	0.841
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	20850	2510	20.90	21.90	1.259	-	-	0.16	0.690	0.869
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	21350	2560	20.89	21.90	1.262	-	-	-0.1	0.650	0.820
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 0	DSI 7	21100	2535	19.96	21.50	1.426	-	-	0.07	0.586	0.835
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 0	DSI 7	20850	2510	19.93	21.50	1.435	-	-	0.07	0.566	0.812
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 0	DSI 7	21350	2560	19.84	21.50	1.466	-	-	-0.12	0.550	0.806
	LTE Band 7	20M	QPSK	100	0	-	Left Side	5mm	Ant 0	DSI 7	21100	2535	19.92	21.50	1.439	-	-	0.18	0.551	0.793
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	21100	2535	20.94	21.90	1.247	-	-	-0.1	0.044	0.055
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 0	DSI 7	21100	2535	19.96	21.50	1.426	-	-	0.01	0.040	0.057
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	21100	2535	20.94	21.90	1.247	-	-	-0.15	0.962	1.200
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	20850	2510	20.90	21.90	1.259	-	-	0.19	0.939	1.182
39	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	21350	2560	20.89	21.90	1.262	-	-	0.06	1.020	1.287
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	21100	2535	19.96	21.50	1.426	-	-	0.07	0.857	1.222
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	20850	2510	19.93	21.50	1.435	-	-	-0.18	0.829	1.190
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	21350	2560	19.84	21.50	1.466	-	-	0.03	0.786	1.152
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 0	DSI 7	21100	2535	19.92	21.50	1.439	-	-	-0.15	0.770	1.108
	LTE Band 7C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	21350+ 21152	2560+ 2540.2	20.79	21.90	1.291	-	-	0.05	0.917	1.184
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 2	DSI 7	40620	2593	21.30	22.50	1.318	62.9	1.006	-0.15	0.415	0.550
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 2	DSI 7	40620	2593	21.24	22.50	1.337	62.9	1.006	-0.12	0.401	0.539
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	40620	2593	21.30	22.50	1.318	62.9	1.006	-0.17	0.550	0.729
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	39750	2506	21.22	22.50	1.343	62.9	1.006	0.08	0.459	0.620
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	40185	2549.5	21.25	22.50	1.334	62.9	1.006	0.01	0.528	0.708
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	41055	2636.5	21.26	22.50	1.330	62.9	1.006	0.02	0.528	0.707
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 2	DSI 7	41490	2680	21.28	22.50	1.324	62.9	1.006	-0.11	0.524	0.698
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	40620	2593	21.24	22.50	1.337	62.9	1.006	-0.01	0.519	0.698
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	39750	2506	21.19	22.50	1.352	62.9	1.006	0.04	0.522	0.710
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	40185	2549.5	21.12	22.50	1.374	62.9	1.006	0.13	0.513	0.709
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	41055	2636.5	21.15	22.50	1.365	62.9	1.006	-0.18	0.500	0.686
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 2	DSI 7	41490	2680	21.17	22.50	1.358	62.9	1.006	-0.11	0.498	0.680
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 2	DSI 7	40620	2593	21.19	22.50	1.352	62.9	1.006	0.09	0.509	0.692
	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	DSI 7	40620	2593	21.30	22.50	1.318	62.9	1.006	0.1	0.078	0.103
	LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 2	DSI 7	40620	2593	21.24	22.50	1.337	62.9	1.006	-0.04	0.058	0.078
	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 2	DSI 7	40620	2593	21.30	22.50	1.318	62.9	1.006	0.15	0.127	0.168
	LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 2	DSI 7	40620	2593	21.24	22.50	1.337	62.9	1.006	0.09	0.098	0.132
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	40620	2593	21.30	22.50	1.318	62.9	1.006	-0.16	0.936	1.241
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	39750	2506	21.22	22.50	1.343	62.9	1.006	0.05	0.878	1.186
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	40185	2549.5	21.25	22.50	1.334	62.9	1.006	0.08	0.896	1.202
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	41055	2636.5	21.26	22.50	1.330	62.9	1.006	-0.18	0.841	1.126
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	41490	2680	21.28	22.50	1.324	62.9	1.006	0.01	0.966	1.287



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LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	40620	2593	21.24	22.50	1.337	62.9	1.006	-0.03	0.917	1.233
LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	39750	2506	21.19	22.50	1.352	62.9	1.006	-0.04	0.845	1.149
LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	40185	2549.5	21.12	22.50	1.374	62.9	1.006	-0.09	0.847	1.171
LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	41055	2636.5	21.15	22.50	1.365	62.9	1.006	0.18	0.824	1.131
LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 2	DSI 7	41490	2680	21.17	22.50	1.358	62.9	1.006	0.11	0.820	1.120
LTE Band 41	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 2	DSI 7	40620	2593	21.19	22.50	1.352	62.9	1.006	0.07	0.817	1.111
LTE Band 41 HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	41490	2680	22.92	24.10	1.312	42.9	1.009	-0.01	0.952	1.260
LTE Band 41C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	41490+41292	2680+2660.2	21.12	22.50	1.374	62.9	1.006	0.06	0.856	1.183
LTE Band 41C HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 2	DSI 7	41490+41292	2680+2660.2	22.82	24.10	1.343	42.9	1.009	0.03	0.875	1.185
LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	40620	2593	12.85	13.90	1.274	62.9	1.006	0.14	0.269	0.345
LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	40620	2593	12.76	13.90	1.300	62.9	1.006	-0.16	0.256	0.335
LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	40620	2593	12.85	13.90	1.274	62.9	1.006	-0.01	0.287	0.368
LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	40620	2593	12.76	13.90	1.300	62.9	1.006	-0.11	0.269	0.352
LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	40620	2593	12.85	13.90	1.274	62.9	1.006	0.02	0.080	0.102
LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	DSI 7	40620	2593	12.76	13.90	1.300	62.9	1.006	-0.16	0.079	0.103
LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	40620	2593	12.85	13.90	1.274	62.9	1.006	0.05	0.017	0.022
LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	40620	2593	12.76	13.90	1.300	62.9	1.006	-0.03	0.018	0.024
LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	40620	2593	12.85	13.90	1.274	62.9	1.006	0.03	0.495	0.634
LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	39750	2506	12.80	13.90	1.288	62.9	1.006	0.05	0.488	0.632
LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	40185	2549.5	12.82	13.90	1.282	62.9	1.006	-0.06	0.475	0.613
LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	41055	2636.5	12.79	13.90	1.291	62.9	1.006	-0.13	0.464	0.603
LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	41490	2680	12.76	13.90	1.300	62.9	1.006	-0.01	0.459	0.600
LTE Band 41	20M	QPSK	50	0	-	Top Side	5mm	Ant 1	DSI 7	40620	2593	12.76	13.90	1.300	62.9	1.006	0.17	0.482	0.630
LTE Band 41	20M	QPSK	50	0	-	Top Side	5mm	Ant 1	DSI 7	39750	2506	12.72	13.90	1.312	62.9	1.006	-0.11	0.477	0.630
LTE Band 41	20M	QPSK	50	0	-	Top Side	5mm	Ant 1	DSI 7	40185	2549.5	12.74	13.90	1.306	62.9	1.006	0.19	0.468	0.615
LTE Band 41	20M	QPSK	50	0	-	Top Side	5mm	Ant 1	DSI 7	41055	2636.5	12.75	13.90	1.303	62.9	1.006	-0.14	0.452	0.593
LTE Band 41	20M	QPSK	50	0	-	Top Side	5mm	Ant 1	DSI 7	41490	2680	12.73	13.90	1.309	62.9	1.006	-0.18	0.462	0.608
LTE Band 41	20M	QPSK	100	0	-	Top Side	5mm	Ant 1	DSI 7	40620	2593	12.75	13.90	1.303	62.9	1.006	-0.06	0.456	0.598
LTE Band 41 HPUE	20M	QPSK	1	0	-	Top Side	5mm	Ant 1	DSI 7	40620	2593	14.52	15.50	1.253	42.9	1.009	0.03	0.489	0.618
LTE Band 41C	20M	QPSK	1	99	-	Top Side	5mm	Ant 1	DSI 7	40620+40818	2593+2612.8	12.77	13.90	1.297	62.9	1.006	0.06	0.468	0.611
LTE Band 41C HPUE	20M	QPSK	1	99	-	Top Side	5mm	Ant 1	DSI 7	40620+40818	2593+2612.8	14.44	15.50	1.276	42.9	1.009	0.01	0.456	0.587
LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 10	DSI 7	40620	2593	18.32	19.20	1.225	62.9	1.006	-0.01	0.209	0.257
LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 10	DSI 7	40620	2593	18.30	19.20	1.230	62.9	1.006	-0.08	0.173	0.214
LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 10	DSI 7	40620	2593	18.32	19.20	1.225	62.9	1.006	0.05	0.285	0.351
LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 10	DSI 7	40620	2593	18.30	19.20	1.230	62.9	1.006	0.12	0.224	0.277
LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 10	DSI 7	40620	2593	18.32	19.20	1.225	62.9	1.006	-0.02	0.507	0.625
LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 10	DSI 7	39750	2506	18.28	19.20	1.236	62.9	1.006	0.18	0.481	0.598
LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 10	DSI 7	40185	2549.5	18.26	19.20	1.242	62.9	1.006	0.16	0.473	0.591
LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 10	DSI 7	41055	2636.5	18.30	19.20	1.230	62.9	1.006	-0.1	0.481	0.595
LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 10	DSI 7	41490	2680	18.25	19.20	1.245	62.9	1.006	0.07	0.455	0.570
LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 10	DSI 7	40620	2593	18.30	19.20	1.230	62.9	1.006	0.18	0.493	0.610
LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 10	DSI 7	39750	2506	18.26	19.20	1.242	62.9	1.006	-0.1	0.481	0.601
LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 10	DSI 7	40185	2549.5	18.21	19.20	1.256	62.9	1.006	0.01	0.461	0.583
LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 10	DSI 7	41055	2636.5	18.26	19.20	1.242	62.9	1.006	-0.15	0.459	0.573
LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 10	DSI 7	41490	2680	18.15	19.20	1.274	62.9	1.006	0.19	0.442	0.566
LTE Band 41	20M	QPSK	100	0	-	Left Side	5mm	Ant 10	DSI 7	40620	2593	18.23	19.20	1.250	62.9	1.006	0.07	0.430	0.541
LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 10	DSI 7	40620	2593	18.32	19.20	1.225	62.9	1.006	-0.18	0.005	0.006
LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 10	DSI 7	40620	2593	18.30	19.20	1.230	62.9	1.006	0.03	0.002	0.002
LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 10	DSI 7	40620	2593	18.32	19.20	1.225	62.9	1.006	-0.15	0.023	0.028
LTE Band 41	20M	QPSK	50	0	-	Top Side	5mm	Ant 10	DSI 7	40620	2593	18.30	19.20	1.230	62.9	1.006	-0.15	0.024	0.030
LTE Band 41 HPUE	20M	QPSK	1	0	-	Left Side	5mm	Ant 10	DSI 7	40620	2593	19.96	20.80	1.213	42.9	1.009	-0.02	0.503	0.616
LTE Band 41C	20M	QPSK	1	99	-	Left Side	5mm	Ant 10	DSI 7	40620+40818	2593+2612.8	18.24	19.20	1.247	62.9	1.006	0.06	0.485	0.609
LTE Band 41C HPUE	20M	QPSK	1	99	-	Left Side	5mm	Ant 10	DSI 7	40620+40818	2593+2612.8	19.87	20.80	1.239	42.9	1.009	0.02	0.487	0.609



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	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	40620	2593	18.65	19.90	1.334	62.9	1.006	-0.17	0.360	0.483
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 0	DSI 7	40620	2593	18.57	19.90	1.358	62.9	1.006	-0.04	0.238	0.325
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	40620	2593	18.65	19.90	1.334	62.9	1.006	0.08	0.346	0.464
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	40620	2593	18.57	19.90	1.358	62.9	1.006	-0.16	0.228	0.312
	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	40620	2593	18.65	19.90	1.334	62.9	1.006	0.16	0.336	0.451
	LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 0	DSI 7	40620	2593	18.57	19.90	1.358	62.9	1.006	0.07	0.244	0.333
	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	40620	2593	18.65	19.90	1.334	62.9	1.006	0.07	0.055	0.074
	LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 0	DSI 7	40620	2593	18.57	19.90	1.358	62.9	1.006	-0.13	0.040	0.055
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	40620	2593	18.65	19.90	1.334	62.9	1.006	0.01	0.940	1.261
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	39750	2506	18.59	19.90	1.352	62.9	1.006	-0.06	0.882	1.200
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	40185	2549.5	18.58	19.90	1.355	62.9	1.006	-0.04	0.935	1.275
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	41055	2636.5	18.60	19.90	1.349	62.9	1.006	-0.09	0.917	1.244
40	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	41490	2680	18.62	19.90	1.343	62.9	1.006	0.01	0.964	1.302
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	40620	2593	18.57	19.90	1.358	62.9	1.006	-0.17	0.890	1.216
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	39750	2506	18.49	19.90	1.384	62.9	1.006	0.18	0.884	1.230
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	40185	2549.5	18.50	19.90	1.380	62.9	1.006	-0.17	0.891	1.237
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	41055	2636.5	18.48	19.90	1.387	62.9	1.006	-0.04	0.873	1.218
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	41490	2680	18.49	19.90	1.384	62.9	1.006	-0.05	0.866	1.205
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 0	DSI 7	40620	2593	18.55	19.90	1.365	62.9	1.006	0.01	0.856	1.175
	LTE Band 41 HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	41490	2680	20.15	21.50	1.365	42.9	1.009	0.02	0.931	1.282
	LTE Band 41C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	41490+41292	2680+2660.2	18.50	19.90	1.380	62.9	1.006	0.09	0.857	1.190
	LTE Band 41C HPUE	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	41490+41292	2680+2660.2	20.08	21.50	1.387	42.9	1.009	0.03	0.848	1.187
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	507000	2535	19.11	20.20	1.285	-	-	0.08	0.528	0.679
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 2	DSI 7	507000	2535	19.08	20.20	1.294	-	-	0.01	0.525	0.679
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	507000	2535	19.11	20.20	1.285	-	-	0.03	0.757	0.973
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	507000	2535	19.08	20.20	1.294	-	-	-0.08	0.711	0.920
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Back	5mm	Ant 2	DSI 7	507000	2535	19.07	20.20	1.297	-	-	0.03	0.706	0.916
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 2	DSI 7	507000	2535	19.11	20.20	1.285	-	-	-0.08	0.088	0.113
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 2	DSI 7	507000	2535	19.08	20.20	1.294	-	-	0.1	0.078	0.101
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 2	DSI 7	507000	2535	19.11	20.20	1.285	-	-	-0.18	0.270	0.347
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 2	DSI 7	507000	2535	19.08	20.20	1.294	-	-	0.1	0.233	0.302
41	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	507000	2535	19.11	20.20	1.285	-	-	0.01	0.989	1.271
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	507000	2535	19.08	20.20	1.294	-	-	-0.17	0.964	1.248
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 2	DSI 7	507000	2535	19.07	20.20	1.297	-	-	0.11	0.936	1.214
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	507000	2535	11.60	12.80	1.318	-	-	-0.18	0.339	0.447
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	507000	2535	11.56	12.80	1.330	-	-	-0.15	0.301	0.400
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	507000	2535	11.60	12.80	1.318	-	-	-0.08	0.357	0.471
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	507000	2535	11.56	12.80	1.330	-	-	0.17	0.295	0.392
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	507000	2535	11.60	12.80	1.318	-	-	-0.13	0.062	0.082
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	507000	2535	11.56	12.80	1.330	-	-	-0.13	0.053	0.071
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	507000	2535	11.60	12.80	1.318	-	-	0.06	0.029	0.038
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	507000	2535	11.56	12.80	1.330	-	-	-0.03	0.019	0.025
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	507000	2535	11.60	12.80	1.318	-	-	0.04	0.472	0.622
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	507000	2535	11.56	12.80	1.330	-	-	-0.07	0.438	0.583
	FR1 n7 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 1	DSI 7	507000	2535	11.54	12.80	1.337	-	-	0.01	0.456	0.609
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 2	DSI 7	518598	2592.99	18.65	19.50	1.216	-	-	0.01	0.607	0.738
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 2	DSI 7	518598	2592.99	18.59	19.50	1.233	-	-	0.12	0.598	0.737
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 2	DSI 7	518598	2592.99	18.65	19.50	1.216	-	-	-0.02	0.626	0.761
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 2	DSI 7	518598	2592.99	18.59	19.50	1.233	-	-	0.08	0.668	0.824
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 2	DSI 7	518598	2592.99	18.54	19.50	1.247	-	-	-0.16	0.599	0.747
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 2	DSI 7	518598	2592.99	18.65	19.50	1.216	-	-	0.1	0.088	0.107
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 2	DSI 7	518598	2592.99	18.59	19.50	1.233	-	-	-0.04	0.081	0.100
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 2	DSI 7	518598	2592.99	18.65	19.50	1.216	-	-	-0.01	0.202	0.246
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 2	DSI 7	518598	2592.99	18.59	19.50	1.233	-	-	0.03	0.212	0.261
42	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 2	DSI 7	518598	2592.99	18.65	19.50	1.216	-	-	-0.03	1.050	1.277



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	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 2	DSI 7	518598	2592.99	18.59	19.50	1.233	-	-	-0.15	1.020	1.258
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	5mm	Ant 2	DSI 7	518598	2592.99	18.54	19.50	1.247	-	-	0.16	0.995	1.241
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 1	DSI 7	518598	2592.99	12.60	13.50	1.230	-	-	-0.03	0.300	0.369
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 1	DSI 7	518598	2592.99	12.56	13.50	1.242	-	-	0.01	0.277	0.344
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 1	DSI 7	518598	2592.99	12.60	13.50	1.230	-	-	-0.09	0.322	0.396
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 1	DSI 7	518598	2592.99	12.56	13.50	1.242	-	-	0.18	0.301	0.374
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 1	DSI 7	518598	2592.99	12.60	13.50	1.230	-	-	0.12	0.058	0.071
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 1	DSI 7	518598	2592.99	12.56	13.50	1.242	-	-	-0.13	0.044	0.055
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 1	DSI 7	518598	2592.99	12.60	13.50	1.230	-	-	-0.01	0.020	0.025
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 1	DSI 7	518598	2592.99	12.56	13.50	1.242	-	-	-0.09	0.014	0.017
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 1	DSI 7	518598	2592.99	12.60	13.50	1.230	-	-	-0.07	0.497	0.611
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 1	DSI 7	518598	2592.99	12.56	13.50	1.242	-	-	-0.13	0.425	0.528
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 10	DSI 7	518598	2592.99	20.00	21.30	1.349	-	-	-0.01	0.178	0.240
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 10	DSI 7	518598	2592.99	19.95	21.30	1.365	-	-	-0.11	0.192	0.262
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 10	DSI 7	518598	2592.99	20.00	21.30	1.349	-	-	0.14	0.200	0.270
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 10	DSI 7	518598	2592.99	19.95	21.30	1.365	-	-	0.03	0.232	0.317
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 10	DSI 7	518598	2592.99	20.00	21.30	1.349	-	-	0.02	0.460	0.621
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 10	DSI 7	518598	2592.99	19.95	21.30	1.365	-	-	-0.06	0.449	0.613
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 10	DSI 7	518598	2592.99	20.00	21.30	1.349	-	-	-0.03	0.010	0.013
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 10	DSI 7	518598	2592.99	19.95	21.30	1.365	-	-	0.17	0.006	0.008
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 10	DSI 7	518598	2592.99	20.00	21.30	1.349	-	-	-0.15	0.026	0.035
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 10	DSI 7	518598	2592.99	19.95	21.30	1.365	-	-	0.16	0.020	0.027
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 0	DSI 7	518598	2592.99	18.46	19.60	1.300	-	-	0.05	0.685	0.891
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 0	DSI 7	518598	2592.99	18.40	19.60	1.318	-	-	-0.01	0.690	0.910
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 0	DSI 7	518598	2592.99	18.37	19.60	1.327	-	-	-0.14	0.672	0.892
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 0	DSI 7	518598	2592.99	18.46	19.60	1.300	-	-	-0.18	0.646	0.840
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 0	DSI 7	518598	2592.99	18.40	19.60	1.318	-	-	0.16	0.654	0.862
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 0	DSI 7	518598	2592.99	18.37	19.60	1.327	-	-	0.13	0.625	0.830
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 0	DSI 7	518598	2592.99	18.46	19.60	1.300	-	-	0.12	0.477	0.620
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 0	DSI 7	518598	2592.99	18.40	19.60	1.318	-	-	0.07	0.473	0.624
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 0	DSI 7	518598	2592.99	18.46	19.60	1.300	-	-	0.08	0.072	0.094
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 0	DSI 7	518598	2592.99	18.40	19.60	1.318	-	-	0.19	0.097	0.128
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	DSI 7	518598	2592.99	18.46	19.60	1.300	-	-	-0.06	0.938	1.220
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	DSI 7	518598	2592.99	18.40	19.60	1.318	-	-	-0.05	0.954	1.258
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	5mm	Ant 0	DSI 7	518598	2592.99	18.37	19.60	1.327	-	-	-0.03	0.914	1.213
3500MHz																				
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 7	DSI 7	42590	3500	17.00	18.60	1.445	62.9	1.006	-0.02	0.225	0.327
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 7	DSI 7	42590	3500	16.92	18.60	1.472	62.9	1.006	0.13	0.146	0.216
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 7	DSI 7	42590	3500	17.00	18.60	1.445	62.9	1.006	-0.15	0.314	0.457
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 7	DSI 7	42590	3500	16.92	18.60	1.472	62.9	1.006	-0.19	0.197	0.292
43	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 7	DSI 7	42590	3500	17.00	18.60	1.445	62.9	1.006	-0.09	0.408	0.593
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 7	DSI 7	42590	3500	16.92	18.60	1.472	62.9	1.006	-0.12	0.260	0.385
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	5mm	Ant 7	DSI 7	42590	3500	17.00	18.60	1.445	62.9	1.006	-0.13	0.045	0.065
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	5mm	Ant 7	DSI 7	42590	3500	16.92	18.60	1.472	62.9	1.006	0.08	0.030	0.044
	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Left Side	5mm	Ant 7	DSI 7	42590+42788	3500+3519.8	16.90	18.60	1.479	62.9	1.006	0.01	0.385	0.573
	LTE Band 48	20M	QPSK	1	0	-	Front	5mm	Ant 7	DSI 7	55830	3609	17.15	18.60	1.396	62.9	1.006	-0.15	0.196	0.275
	LTE Band 48	20M	QPSK	50	0	-	Front	5mm	Ant 7	DSI 7	55830	3609	17.06	18.60	1.426	62.9	1.006	0.1	0.130	0.186
	LTE Band 48	20M	QPSK	1	0	-	Back	5mm	Ant 7	DSI 7	55830	3609	17.15	18.60	1.396	62.9	1.006	0.07	0.345	0.485
	LTE Band 48	20M	QPSK	50	0	-	Back	5mm	Ant 7	DSI 7	55830	3609	17.06	18.60	1.426	62.9	1.006	-0.07	0.231	0.331
	LTE Band 48	20M	QPSK	1	0	-	Left Side	5mm	Ant 7	DSI 7	55830	3609	17.15	18.60	1.396	62.9	1.006	-0.09	0.435	0.611
	LTE Band 48	20M	QPSK	1	0	-	Left Side	5mm	Ant 7	DSI 7	55340	3560	17.13	18.60	1.403	62.9	1.006	-0.06	0.407	0.574
	LTE Band 48	20M	QPSK	1	0	-	Left Side	5mm	Ant 7	DSI 7	56150	3641	17.12	18.60	1.406	62.9	1.006	-0.17	0.419	0.593
44	LTE Band 48	20M	QPSK	1	0	-	Left Side	5mm	Ant 7	DSI 7	56640	3690	17.10	18.60	1.413	62.9	1.006	-0.07	0.445	0.632