

FCC SAR Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2529-1
FCC ID : IHDT56AV1
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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



Approved by: Si Zhang

Sporton International Inc. (Kunshan)

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

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Sporton International Inc. (Kunshan)

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2529-1**, 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	0.43	1.32	1.32	1.59
		GSM1900	0.22	1.40	1.43	
	WCDMA	WCDMA II	0.32	1.23	1.30	
		WCDMA IV	0.18	1.26	1.39	
		WCDMA V	0.34	1.39	1.39	
	LTE	LTE Band 2	0.83	0.69	0.84	
		LTE Band 5	0.51	0.40	0.40	
		LTE Band 7	0.44	1.25	1.25	
		LTE Band 12/17	0.28	1.09	1.09	
		LTE Band 13	0.20	0.97	0.97	
		LTE Band 25	0.30	1.28	1.26	
		LTE Band 26	0.26	1.43	1.43	
		LTE Band 66/4	0.81	1.23	1.24	
		LTE Band 41/38	0.26	1.20	1.20	
		LTE Band 42	0.77	0.66	0.85	
	5G NR	FR1 n2	0.16	1.28	1.36	
		FR1 n7	0.82	1.25	1.25	
		FR1 n26/n5	0.21	0.75	0.75	
		FR1 n66	0.59	1.38	1.41	
		FR1 n41/n38	0.75	1.25	1.25	
		FR1 n77/n78	0.77	1.34	1.05	
DTS	WLAN	2.4GHz WLAN	1.31	0.85	1.16	1.59
NII		5GHz WLAN	1.17	0.69	1.15	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.15	0.19	0.19	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	3.09	3.98
		GSM1900	3.47	
	WCDMA	WCDMA II	3.12	
		WCDMA IV	3.53	
		WCDMA V	2.73	
	LTE	LTE Band 2	2.34	
		LTE Band 7	3.24	
		LTE Band 25	3.20	
		LTE Band 26/5	2.19	
		LTE Band 66/4	3.20	
		LTE Band 41/38	2.85	
		LTE Band 42	2.61	
	5G NR	FR1 n2	3.00	
		FR1 n7	3.54	
		FR1 n66	3.36	
		FR1 n41/ n38	2.71	
		FR1 n77/n78	3.00	
NII	WLAN	WLAN5GHz	2.96	3.98
Date of Testing:			2025/2/13 ~ 2025/3/8	

Remark:

1. This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the support's frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.
2. This device supports 5G NR n5 / n38 / n78 and n26 / n41 / n77. Since the supported frequency span for 5G NR n5 / n38 / n78 falls completely within the support's frequency span for n26 / n41 / n77, both 5G NR bands have the same target power, and both 5G NR bands share the same transmission path; therefore, SAR was only assessed for n26 / n41 / 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.
	SAR05-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	XT2529-1
FCC ID	IHDT56AV1
IMEI Code	Sample 1 IMEI 1: 351291190029132 IMEI 2: 351291190029140 Sample 2 IMEI 1: 351291190036574 IMEI 2: 351291190036582 Sample 3 IMEI 1: 351291190043737 IMEI 2: 351291190043745
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40

	WLAN 2.4GHz 802.11ac VHT20/VHT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC: ASK
HW Version	DVT2
SW Version	V2VO35.57
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. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). 6. The device implements Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. 7. For WLAN when transmit simultaneously together with WWAN/BT antenna, the device power will be reduced power at head conditions. For WLAN transmitter, while the device WLAN is transmitting simultaneously with the WWAN/BT antenna and Proximity sensors trigger, the device power will be reduced power at and body-worn/extremity exposure conditions. 8. For some WWAN bands, sensor on power level is higher than hotspot power level, so front/back sensor on SAR can represent hotspot conservatively. 9. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission. 10. For 5GNR FDD/TDD supports SCS15KHz and SCS30KHz, after verification for 30KHz at FDD power level is less than 15KHz at FDD power level, also verification for 15KHz at TDD power level is less than 30KHz at TDD power level, so only show 15KHz at FDD power and 30KHz at TDD power and chose higher power which is SCS15KHz for FDD bands and SCS30KHz for TDD bands to perform SAR testing. 11. For 5GNR EN-DC mode, standalone SAR performed for 5GNR NSA band with the maximum power, EN-DC SAR summed EN-DC mode 5GNR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively. 12. There are three samples, the difference between them refer to the XT2529-1_Operational Description of Product Equality Declaration which is exhibit separately. According to the difference, sample 1 was chosen to perform full SAR testing and sample 2/3 verified the worst case of sample 1. 13. This device has NFC function and the NFC SAR report will be separately submitted. 14. 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	n7	FDD	15	5, 10, 15, 20, 25, 30, 40, 50
			30	10, 15, 20, 25, 30, 40, 50
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 45
			30	10, 15, 20, 25, 30, 35, 40, 45
	n38	TDD	15	10, 15, 20, 25, 30, 40
			30	10, 15, 20, 25, 30, 40
	n41	TDD	15	10, 15, 20, 30, 35, 40, 50
			30	10, 15, 20, 30, 35, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	15	10, 15, 20, 25, 30, 40, 50
			30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
SA	n2	FDD	15	5, 10, 15, 20, 25, 30, 40
			30	10, 15, 20, 25, 30, 40
	n5	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40, 50
			30	10, 15, 20, 25, 30, 40, 50
	n26	FDD	15	5, 10, 15, 20
			30	10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 45
			30	10, 15, 20, 25, 30, 35, 40, 45
	n38	TDD	15	10, 15, 20, 25, 30, 40
			30	10, 15, 20, 25, 30, 40
	n41	TDD	15	10, 15, 20, 30, 35, 40, 50
			30	10, 15, 20, 30, 35, 40, 50, 60, 70, 80, 90, 100
	n77	TDD	15	10, 15, 20, 25, 30, 40, 50
			30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	15	10, 15, 20, 25, 30, 40, 50
			30	10, 15, 20, 25, 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	IHDT56AV1																																																																												
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 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz																																																																												
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz																																																																												
uplink modulations used	QPSK / 16QAM / 64QAM																																																																												
LTE Voice / Data requirements	Voice and Data																																																																												
LTE Release Version	R15																																																																												
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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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																																																																						
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 3 carriers in the downlink and 2 carriers in the uplink.																																																																												

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829	20475	830.5	20500	832
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	20600	844	20575	843	20550	842
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 25 MHz		Bandwidth 30 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	20850	2510	20875	2512.5	20900	2515
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21325	2557.5	21300	2555
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23085	706.5	23110	709
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	23130	711	23105	709	23080	707
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23255		784.5	
M	23230		782		23255		784.5		23280		786.5	
H	23255		784.5		23280		786.5		23305		788.5	
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)		Channel #		Freq. (MHz)	
L	23755		706.5		23780		709		23805		711	
M	23790		710		23815		713		23840		716	
H	23825		713.5		23850		716.5		23875		719.5	
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26790	824.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5	26940	838.5

LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 42												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460				
M	42590	3500	42590	3500	42590	3500	42590	3500				
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540				

<For LTE Overlap Bands Description>

1) LTE Bands BW

Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE Band 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 12	Yes	Yes	Yes	Yes		
LTE Band 17			Yes	Yes		
LTE Band 25	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Antenna	Default Tune-up Limit	Head	Body Worn	Hotspot	Extremity	Sensor Off
			Receiver on	Sensor on	Hotspot on	Handheld	Receiver off
			Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 66(4)	Ant 1	24	24	21	22.5	20	24
LTE Band 66(4)	Ant 4	23	19	17.5	21	16.5	23
LTE Band 66(4) Other PA	Ant 1	24	24	21	22.5	20	24
LTE Band 12(17)	Ant 0	24	24	24	24	24	24
LTE Band 25(2)	Ant 1	24	24	20.5	22.5	20	24
LTE Band 26(5)	Ant 0	24	24	24	24	24	24
LTE Band 41(38)	Ant 1	24	24	22.5	23	22.5	24
LTE Band 41(38) Other PA	Ant 1	24	24	22.5	23	22.5	24

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: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz													
Channel Bandwidth			5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz													
Channel Bandwidth			The detail please refers to section 4.1 5GNR FR1 bands table.													
SCS			FDD: SCS15KHz, TDD: SCS30KHz													
uplink modulations used			DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM													
A-MPR (Additional MPR) disabled for SAR Testing?			CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM													
LTE Anchor Bands for n7			Yes													
LTE Anchor Bands for n66			LTE B2/4/5/66													
LTE Anchor Bands for n38			LTE B2/5/7													
LTE Anchor Bands for n41			LTE B2/4/66													
LTE Anchor Bands for n66			LTE B4/66													
LTE Anchor Bands for n78			LTE B2/4/5/7/26/38/41/66													
Transmission (H, M, L) channel numbers and frequencies in each 5G NR band																
NR Band 2 SCS15KHz																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	374000	1870		
M	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880		
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900	379500	1897.5	379000	1895	378000	1890		
NR Band 2 SCS30KHz																
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	374000	1870				
M	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880				
H	381000	1905	380500	1902.5	380000	1900	379500	1897.5	379000	1895	378000	1890				
NR Band 5 SCS15KHz																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	165300	826.5	165800	829	166300	831.5	166800	834			167300	836.5				
M	167300	836.5	167800	839	168300	841.5	168800	844								
H	169300	846.5	169800	849	170300	851.5	170800	854								
NR Band 5 SCS30KHz																
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz											
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	165800	829	166300	831.5	166800	834			167300	836.5	167800	839				
M	167300	836.5	167800	839	168300	841.5										
H	168800	844	169300	846.5	169800	849										
NR Band 7 SCS15KHz																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520	505000	2525
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550	509000	2545
NR Band 7 SCS30KHz																
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	503500	2517.5	504000	2520	505000	2525
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510500	2552.5	510000	2550	509000	2545

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

NR Band 26 SCS30KHz						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	163800	819	164300	821.5	164800	824
M	166300	831.5	166300	831.5	166300	831.5
H	168800	844	168300	841.5	167800	839

NR Band 66 SCS15KHz																		
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730	346500	1732.5
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760	351500	1757.5

NR Band 66 SCS30KHz																
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730	346500	1732.5
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760	351500	1757.5

NR Band 38 SCS15/30KHz												
	Bandwidth10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515004	2575.02	515502	2577.51	516000	2580	516504	2582.52	517002	2585.01	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	522996	2614.98	522498	2612.49	522000	2610	521496	2607.48	520998	2604.99	519996	2599.98

NR Band 41 SCS15KHz														
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	502704	2513.52	503202	2516.01	504204	2521.02
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534498	2672.49	534000	2670	532998	2664.99

NR Band 41 SCS30KHz																		
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz	
	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	502704	2513.52	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01
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
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534498	2672.49	534000	2670	532998	2664.99	531996	2659.98	531000	2655



NR Band 77 SCS15KHz														
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01
M	656000	3840	656000	3840	656000	3840	656000	3840.00	656000	3840.00	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664500	3967.50	664332	3964.98	664000	3960	663666	3954.99

NR Band 77 SCS30KHz																								
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840.00	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	664500	3967.50	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78 SCS15KHz														
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01
M	650000	3750	650000	3750	650000	3750	650000	3750.00	650000	3750.00	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652500	3787.5	652332	3784.98	652000	3780	651666	3774.99

NR Band 78 SCS30KHz																								
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750	650000	3750	650000	3750.00	650000	3750.00	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652500	3787.5	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		

For <3450 MHz ~ 3550 MHz >

NR Band 77 SCS15KHz														
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	630834	3462.51	631000	3465	631334	3470.01	631668	3475.02
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H	636332	3544.98	636166	3542.49	636000	3540	635832	3537.48	635666	3534.99	635332	3529.98	635000	3525

NR Band 77 SCS30KHz																								
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	630334	3455.01	630500	3457.5	630668	3460.02	630834	3462.51	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H	636332	3544.98	636166	3542.49	636000	3540	635832	3537.48	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

NR Band 78 SCS15KHz														
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	630834	3462.51	631000	3465	631334	3470.01	631668	3475.02
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H	636332	3544.98	636166	3542.49	636000	3540	635832	3537.48	635666	3534.99	635332	3529.98	635000	3525

NR Band 78 SCS30KHz																								
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	630334	3455.01	630500	3457.5	630668	3460.02	630834	3462.51	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H	636332	3544.98	636166	3542.49	636000	3540	635832	3537.48	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

<For NR Overlap Bands Description>
1) NR Bands BW

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

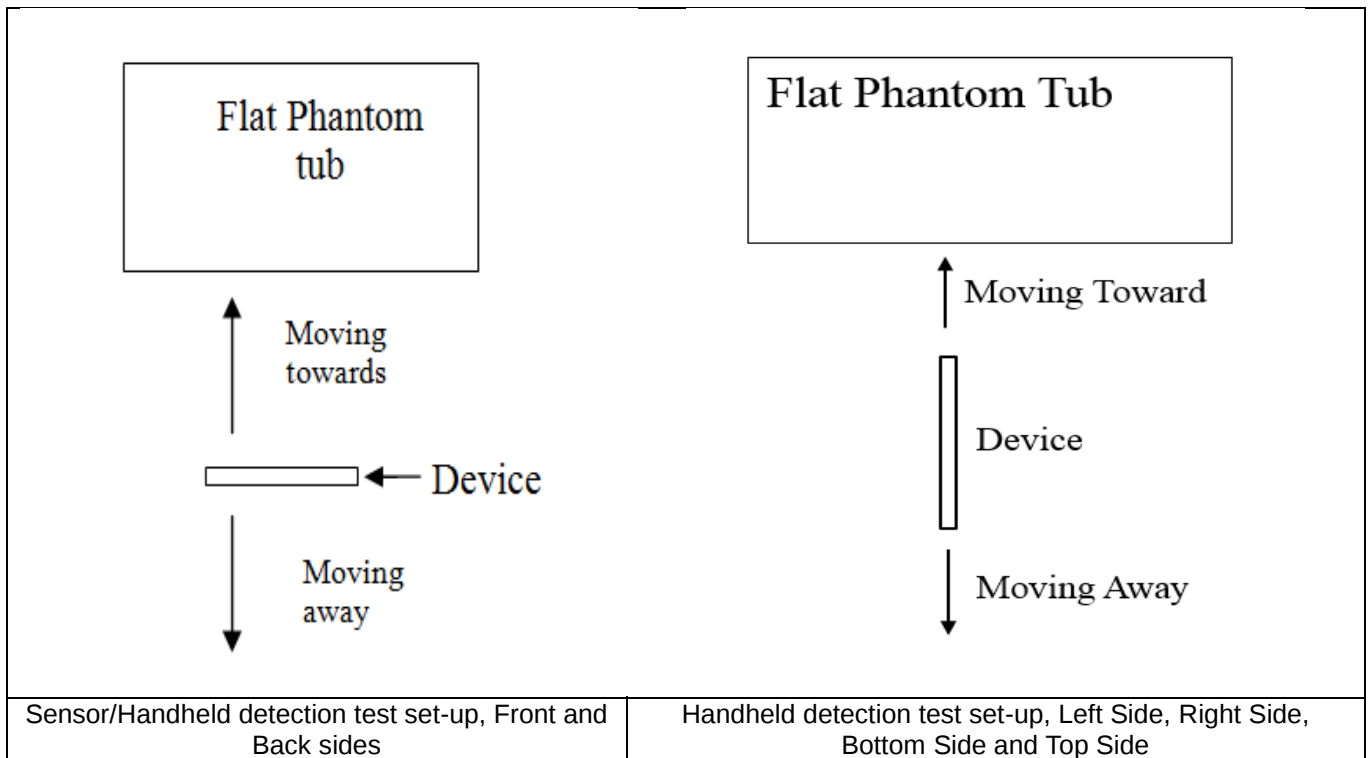
2) NR Bands Tune up:

Band	Antenna	Default Tune-up Limit	Head	Body Worn	Hotspot	Extremity	Sensor Off
			Receiver on	Sensor on	Hotspot on	Handheld	Receiver off
			Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
FR1 n26(5)	Ant 0	24	24	24	24	24	24
FR1 n41(38)	Ant 1	24	24	22	22	22	24
FR1 n41(38)	Ant 4	23	23	14.5	23	13.5	23
FR1 n77(78)	Ant 5	24	15	14	21.5	13	24
FR1 n77(78)	Ant 3	19.5	19.5	13.5	19.5	12.5	18
FR1 n77(78)	Ant 7	24	18.5	15	21	14	24
FR1 n77(78)	Ant 9	19.5	19.5	19.5	19.5	17.5	19.5

5. 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	21	24	27

<Handheld for ANT 1>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	13	6	10	10	16

<Handheld for ANT4>

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	13	18	19	24	14	20	15	19

<Handheld for ANT 5&6&7>

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	9	14	16	21	10	16	11	16

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

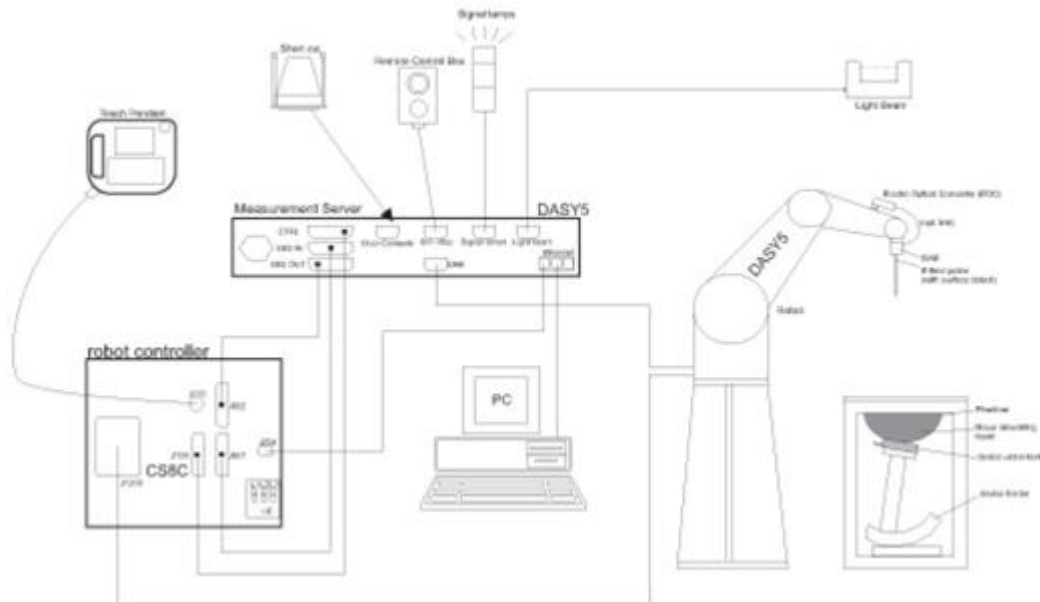
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



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

8.1 E-Field Probe

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

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – 10 GHz Linearity: ± 0.2 dB (30 MHz – 10 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 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	

8.2 Data Acquisition Electronics (DAE)

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

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



Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values 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

9.2 Power Reference Measurement

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

9.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in 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.	

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

9.5 Volume Scan Procedures

The volume scan is used 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.

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2022/2/24	2025/2/22
SPEAG	835MHz System Validation Kit	D835V2	4d162	2024/12/13	2027/12/12
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2022/2/24	2025/2/22
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	2022/3/30	2025/3/28
SPEAG	2450MHz System Validation Kit	D2450V2	1095	2024/2/8	2027/2/7
SPEAG	2600MHz System Validation Kit	D2600V2	1112	2023/12/18	2026/12/17
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2023/11/20	2026/11/19
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2023/11/20	2026/11/19
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2023/3/9	2026/3/8
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2022/9/23	2025/9/21
SPEAG	Data Acquisition Electronics	DAE4	690	2024/10/8	2025/10/7
SPEAG	Dosimetric E-Field Probe	EX3DV4	7729	2024/12/16	2025/12/15
SPEAG	SAM Twin Phantom	SAM Twin	TP-1754	NCR	NCR
CHIGO	Thermo-Hygrometer	HTC-1	55009	2025/1/2	2026/1/1
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6262306175	2024/7/4	2025/7/3
Agilent	ENA Series Network Analyzer	E5071C	MY46112129	2024/7/4	2025/7/3
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2024/8/20	2025/8/19
SPEAG	Dielectric Probe Kit	DAK-12	1156	2024/7/15	2025/7/14
Anritsu	Vector Signal Generator	MG3710A	6201682672	2025/1/3	2026/1/2
Rohde & Schwarz	Power Meter	NRVD	102081	2024/7/4	2025/7/3
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2024/7/4	2025/7/3
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2024/7/4	2025/7/3
R&S	BLUETOOTH TESTER	CBT	101246	2024/7/4	2025/7/3
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	2024/10/11	2025/10/10
TES	DIGITAC THERMOMETER	TYPE-K	220305411	2025/1/2	2026/1/1
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
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	

Note:

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

11. System Verification

11.1 Tissue Simulating Liquids

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

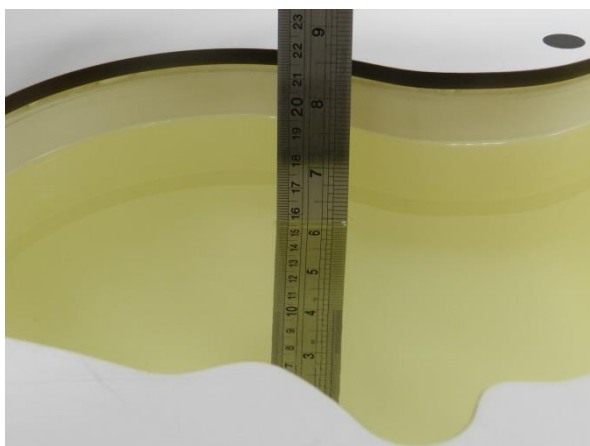


Fig 11.1 Photo of Liquid Height for Head SAR



Fig 11.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (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	22.5	0.909	43.235	0.89	41.90	2.13	3.19	±5	2025/2/21
835	Head	22.7	0.904	42.154	0.90	41.50	0.44	1.58	±5	2025/2/23
835	Head	22.4	0.931	41.367	0.90	41.50	3.44	-0.32	±5	2025/3/4
1750	Head	22.3	1.369	41.154	1.37	40.10	-0.07	2.63	±5	2025/2/13
1750	Head	22.6	1.351	39.760	1.37	40.10	-1.39	-0.85	±5	2025/2/15
1900	Head	22.4	1.454	41.003	1.40	40.00	3.86	2.51	±5	2025/2/18
1900	Head	22.5	1.434	39.412	1.40	40.00	2.43	-1.47	±5	2025/3/3
2450	Head	22.3	1.826	40.182	1.80	39.20	1.44	2.51	±5	2025/2/19
2450	Head	22.6	1.815	40.186	1.80	39.20	0.83	2.52	±5	2025/2/20
2600	Head	22.7	1.949	40.038	1.96	39.00	-0.56	2.66	±5	2025/2/17
2600	Head	22.5	1.908	40.336	1.96	39.00	-2.65	3.43	±5	2025/2/22
3500	Head	22.8	2.860	38.425	2.91	37.90	-1.72	1.39	±5	2025/2/23
3500	Head	22.6	2.852	37.173	2.91	37.90	-1.99	-1.92	±5	2025/3/5
3700	Head	22.4	3.049	38.067	3.12	37.70	-2.28	0.97	±5	2025/2/25
3700	Head	22.3	3.009	36.927	3.12	37.70	-3.56	-2.05	±5	2025/3/6
3900	Head	22.5	3.252	37.707	3.33	37.51	-2.34	0.53	±5	2025/2/26
3900	Head	22.7	3.181	36.696	3.33	37.51	-4.47	-2.17	±5	2025/3/7
5250	Head	22.6	4.513	35.625	4.71	35.95	-4.18	-0.90	±5	2025/2/23
5250	Head	22.4	4.642	35.966	4.71	35.95	-1.44	0.04	±5	2025/2/24
5600	Head	22.3	4.893	35.040	5.07	35.50	-3.49	-1.30	±5	2025/2/25
5600	Head	22.8	4.991	35.477	5.07	35.50	-1.56	-0.06	±5	2025/3/6
5750	Head	22.7	5.060	34.732	5.22	35.35	-3.07	-1.75	±5	2025/2/26
5750	Head	22.5	5.144	35.220	5.22	35.35	-1.46	-0.37	±5	2025/3/8

11.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2025/2/21	750	Head	250	1087	7729	690	2.130	8.580	8.52	-0.70
2025/2/23	835	Head	250	4d162	7729	690	2.420	9.080	9.68	6.61
2025/3/4	835	Head	250	4d162	7729	690	2.430	9.080	9.72	7.05
2025/2/13	1750	Head	250	1090	7729	690	8.970	37.000	35.88	-3.03
2025/2/15	1750	Head	250	1090	7729	690	8.940	37.000	35.76	-3.35
2025/2/18	1900	Head	250	5d118	7729	690	10.100	39.300	40.4	2.80
2025/3/3	1900	Head	250	5d118	7729	690	10.500	39.300	42	6.87
2025/2/19	2450	Head	250	1095	7729	690	13.100	52.600	52.4	-0.38
2025/2/20	2450	Head	250	1095	7729	690	13.300	52.600	53.2	1.14
2025/2/17	2600	Head	250	1112	7729	690	13.000	55.100	52	-5.63
2025/2/22	2600	Head	250	1112	7729	690	14.100	55.100	56.4	2.36
2025/2/23	3500	Head	100	1037	7729	690	6.970	65.400	69.7	6.57
2025/3/5	3500	Head	100	1037	7729	690	6.240	65.400	62.4	-4.59
2025/2/25	3700	Head	100	1008	7729	690	7.100	67.200	71	5.65
2025/3/6	3700	Head	100	1008	7729	690	6.460	67.200	64.6	-3.87
2025/2/26	3900	Head	100	1048	7729	690	6.960	69.100	69.6	0.72
2025/3/7	3900	Head	100	1048	7729	690	6.770	69.100	67.7	-2.03
2025/2/23	5250	Head	100	1113	7729	690	8.780	81.500	87.8	7.73
2025/2/24	5250	Head	100	1113	7729	690	8.590	81.500	85.9	5.40
2025/2/25	5600	Head	100	1113	7729	690	8.750	82.600	87.5	5.93
2025/3/6	5600	Head	100	1113	7729	690	8.370	82.600	83.7	1.33
2025/2/26	5750	Head	100	1113	7729	690	8.040	80.800	80.4	-0.50
2025/3/8	5750	Head	100	1113	7729	690	8.340	80.800	83.4	3.22

<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 (%)
2025/2/21	750	Head	250	1087	7729	690	1.450	5.650	5.8	2.65
2025/2/23	835	Head	250	4d162	7729	690	1.540	5.850	6.16	5.30
2025/3/4	835	Head	250	4d162	7729	690	1.560	5.850	6.24	6.67
2025/2/13	1750	Head	250	1090	7729	690	4.800	19.500	19.2	-1.54
2025/2/15	1750	Head	250	1090	7729	690	4.750	19.500	19	-2.56
2025/2/18	1900	Head	250	5d118	7729	690	5.130	20.400	20.52	0.59
2025/3/3	1900	Head	250	5d118	7729	690	5.440	20.400	21.76	6.67
2025/2/19	2450	Head	250	1095	7729	690	6.080	24.700	24.32	-1.54
2025/2/20	2450	Head	250	1095	7729	690	6.040	24.700	24.16	-2.19
2025/2/17	2600	Head	250	1112	7729	690	5.860	24.800	23.44	-5.48
2025/2/22	2600	Head	250	1112	7729	690	6.350	24.800	25.4	2.42
2025/2/23	3500	Head	100	1037	7729	690	2.570	24.700	25.7	4.05
2025/3/5	3500	Head	100	1037	7729	690	2.340	24.700	23.4	-5.26
2025/2/25	3700	Head	100	1008	7729	690	2.540	24.400	25.4	4.10
2025/3/6	3700	Head	100	1008	7729	690	2.350	24.400	23.5	-3.69
2025/2/26	3900	Head	100	1048	7729	690	2.540	24.100	25.4	5.39
2025/3/7	3900	Head	100	1048	7729	690	2.470	24.100	24.7	2.49
2025/2/23	5250	Head	100	1113	7729	690	2.490	23.300	24.9	6.87
2025/2/24	5250	Head	100	1113	7729	690	2.410	23.300	24.1	3.43
2025/2/25	5600	Head	100	1113	7729	690	2.430	23.700	24.3	2.53
2025/3/6	5600	Head	100	1113	7729	690	2.300	23.700	23	-2.95
2025/2/26	5750	Head	100	1113	7729	690	2.220	23.000	22.2	-3.48
2025/3/8	5750	Head	100	1113	7729	690	2.310	23.000	23.1	0.43

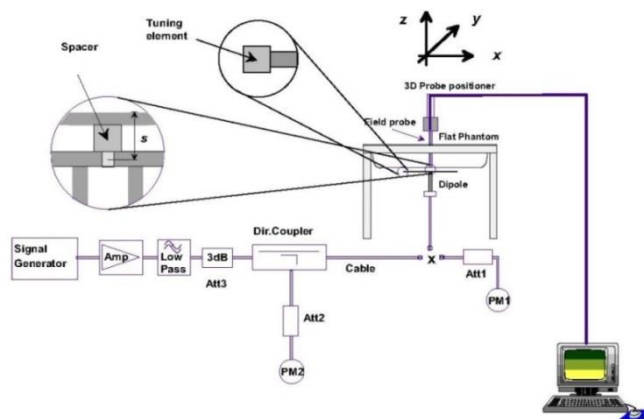


Fig 11.3.1 System Performance Check Setup



Fig 11.3.2 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

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

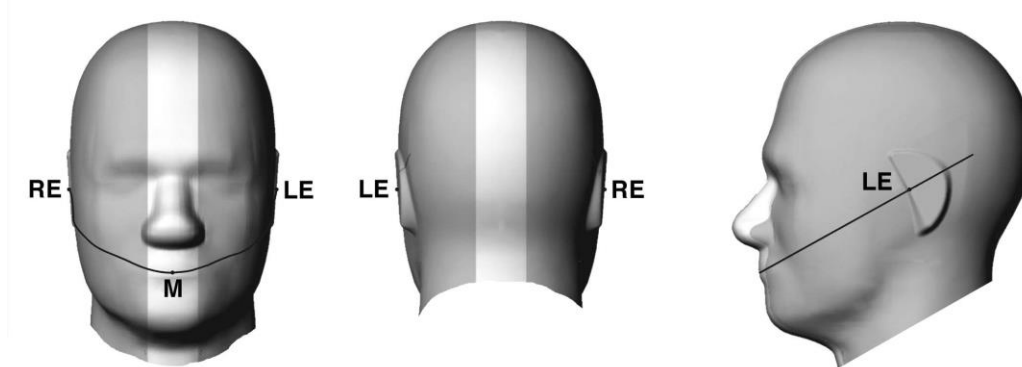


Fig 12.1.1 Front, back, and side views of SAM twin phantom

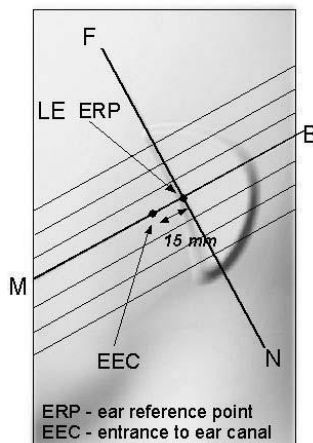


Fig 12.1.2 Close-up side view of phantom showing the ear region.

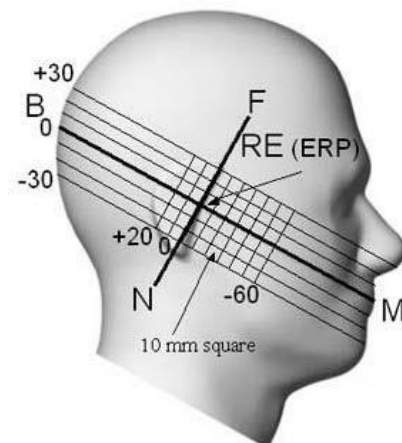


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

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

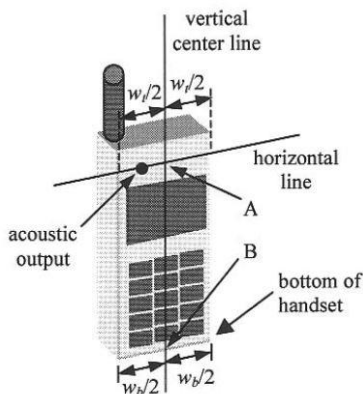


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

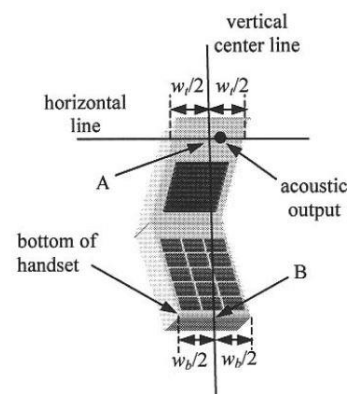


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

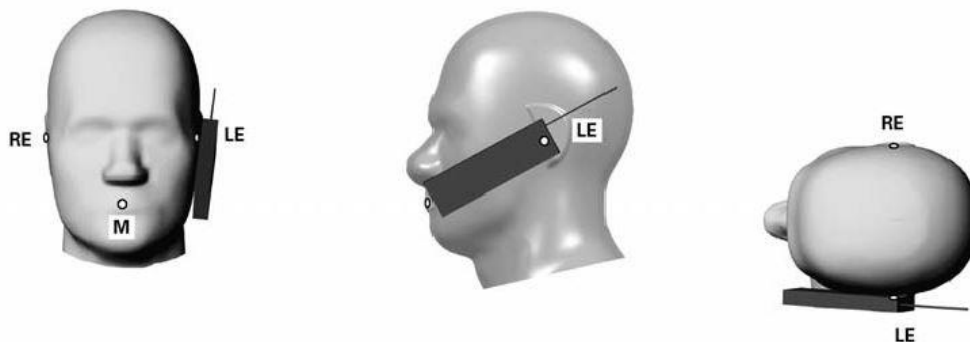


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 Definition of the tilt position

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

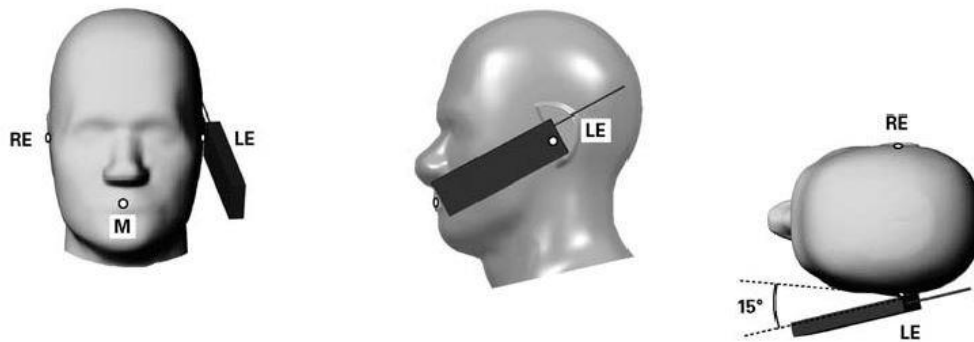


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 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.

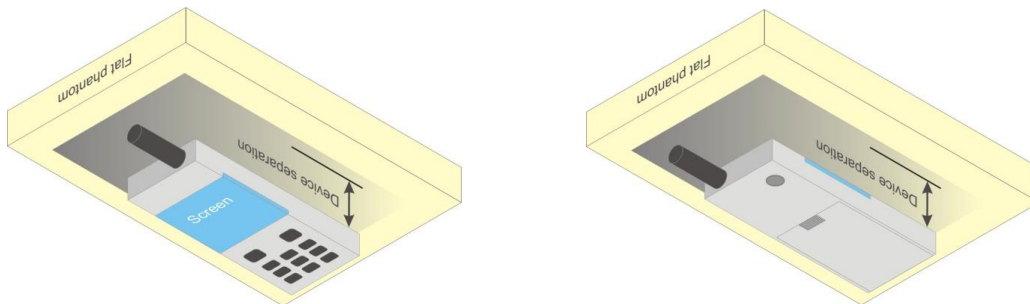


Fig 12.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

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

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

12.6 Wireless Router

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

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

13. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ 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_c/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 $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

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

DC-HSDPA 3GPP release 8 Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set RMC 12.2Kbps + HSDPA mode.
 - ii. Set Cell Power = -25 dBm
 - iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
 - iv. Select HSDPA Uplink Parameters
 - v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
 - a). Subtest 1: $\beta_c/\beta_d=2/15$
 - b). Subtest 2: $\beta_c/\beta_d=12/15$
 - c). Subtest 3: $\beta_c/\beta_d=15/8$
 - d). Subtest 4: $\beta_c/\beta_d=15/4$
 - vi. Set Delta ACK, Delta NACK and Delta CQI = 8
 - vii. Set Ack-Nack Repetition Factor to 3
 - viii. Set CQI Feedback Cycle (k) to 4 ms
 - ix. Set CQI Repetition Factor to 2
 - x. Power Ctrl Mode = All Up bits
- d. The transmitted maximum output power was recorded.

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

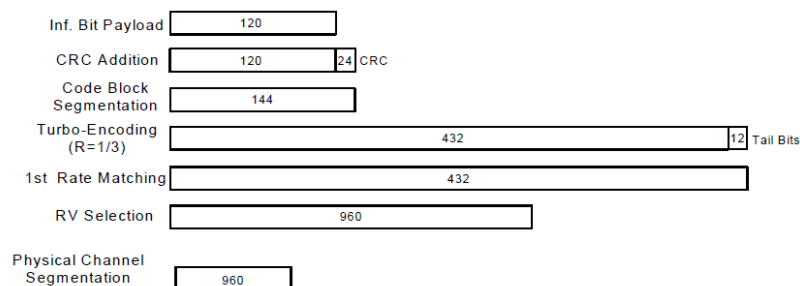


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

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

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

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

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{fs} = 30/15 * \beta_c$.

Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).

Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.

Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

Setup Configuration

<WCDMA Conducted Power>

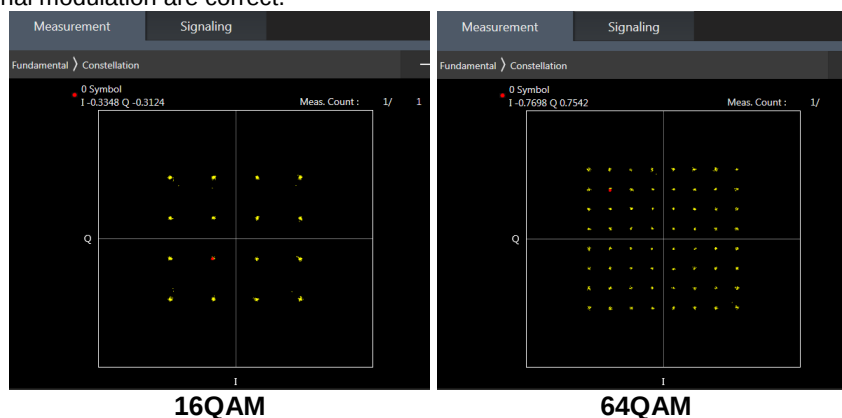
General Note:

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

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ 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 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 B2 / B17 / B4 / B5 / B38 SAR test was covered by B25 / B12 / B66 / B26 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to May 2017 TCB workshop, for 16QAM and 64QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



<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.

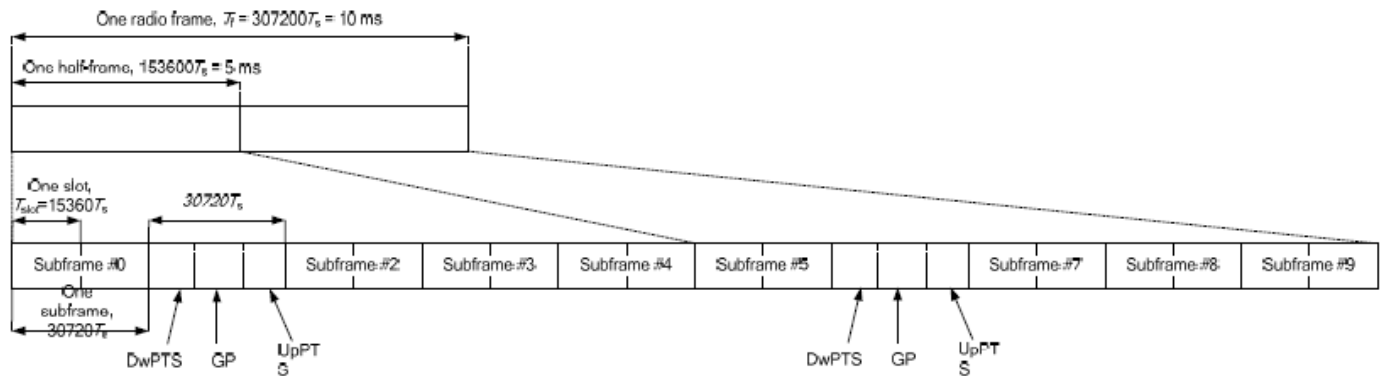


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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 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.

<LTE Carrier Aggregation>

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

General Note:

1. Per Oct. 2024 TCB workshop, the downlink (DL) pertains to receiver functionality, thus it is not related to RF exposure compliance limits related to cumulative effects of different transmitters.
2. Per Oct. 2024 TCB workshop, equipment authorization applications shall refer to the worst-case UL powers resulting from all the possible modes of operations. Accordingly, CA-DL cases do not need to be analyzed separately, unless pertinent to establishing UL power setting.
3. Per Oct. 2024 TCB workshop, Manufacturer declares that TX power measurement for multiple DL CA configurations is deemed not required as the DL CA has no impact on the TX power according to preliminary scan. TX power measured in LTE standalone operation represents the worst case.
4. This device supports LTE carrier aggregation in the downlink. All 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.

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Uplink CA	2CC Uplink Carrier Aggregation
Intra-band	Antenna Tx
CA_7C	Ant 1

<Intra-band>
General Note:

- The device supports intra-band uplink carrier aggregation for LTE B7 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.
- The device supports uplink carrier aggregation with a maximum of two component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- 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.
- 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 Inter CA	LTE TX0	TX0 Ant	LTE TX1	TX1 Ant
CA_5A-7A	5A	Ant 4	7A	Ant 1
CA_2A-4A	2A	Ant 1	4A	Ant 4
CA_2A-7A	2A	Ant 4	7A	Ant 1
CA_2A-66A	2A	Ant 1	66A	Ant 4
CA_4A-5A	4A	Ant 1	5A	Ant 4
CA_4A-7A	4A	Ant 4	7A	Ant 1

General Note:

- For Inter-band CA co-located SAR analysis is performed using standalone SAR summed together and they are more conservatively for inter band CA.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n7/n66/n38/n41/n78 is NSA mode.
2. 5G NR n2/n5/n7/n26/n66/n38/n41/n77/n78 is SA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-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
4. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
5. 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.
6. 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.
7. 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.
8. 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.
9. For 5G NR EN-DC mode, standalone SAR performed for 5G NR NSA band with the maximum power, EN-DC SAR summed EN-DC mode 5G NR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.

<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	NR TX	NR Ant	LTE TX	LTE Ant
DC_2A_n7A	n7A	Ant 4	2A	Ant 1
DC_4A_n7A	n7A	Ant 4	4A	Ant 1
DC_5A_n7A	n7A	Ant 1	5A	Ant 4
DC_66A_n7A	n7A	Ant 4	66A	Ant 1
DC_2A_n78A	n78A	Ant 5	2A	Ant 1
DC_4A_n78A	n78A	Ant 5	4A	Ant 1
DC_5A_n78A	n78A	Ant 5	5A	Ant 0
DC_7A_n78A	n78A	Ant 5	7A	Ant 1
DC_26A_n78A	n78A	Ant 5	26A	Ant 0
DC_66A_n78A	n78A	Ant 5	66A	Ant 1
DC_38A_n78A	n78A	Ant 5	38A	Ant 1
DC_41A_n78A	n78A	Ant 5	41A	Ant 1
DC_2A_n66A	n66A	Ant 4	2A	Ant 1
DC_5A_n66A	n66A	Ant 1	5A	Ant 4
DC_7A_n66A	n66A	Ant 4	7A	Ant 1
DC_4A_n41A	n41A	Ant 4	4A	Ant 1
DC_66A_n41A	n41A	Ant 4	66A	Ant 1
DC_2A_n38A	n38A	Ant 4	2A	Ant 1
DC_4A_n38A	n38A	Ant 4	4A	Ant 1
DC_66A_n38A	n38A	Ant 4	66A	Ant 1

<WLAN Conducted Power>

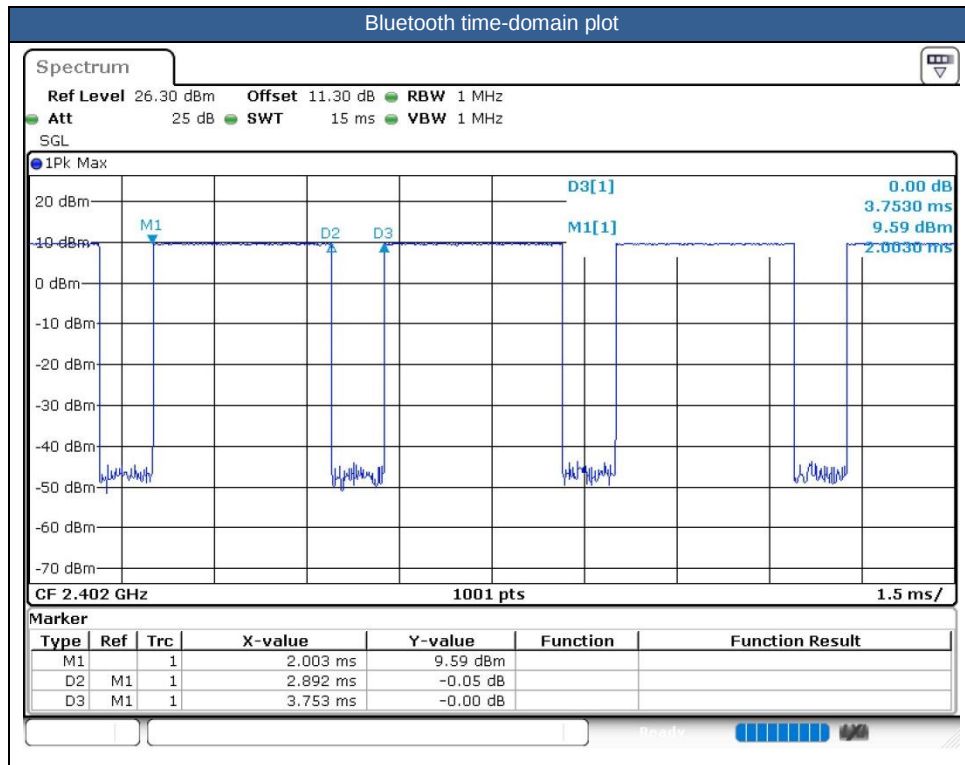
General Note:

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration. Additional output power measurements were not necessary.
2. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
3. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
4. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
5. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

<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 77.06% 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 the theoretical value of Bluetooth reported SAR calculation.





14. Antenna Location

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

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
 - d. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - e. For WLAN/Bluetooth: 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 Proximity sensors/receiver detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table.
5. 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 2/4/5/7/25/26/66/38/41/42, 5GNR n2/n7/n66/n38 /n41/n77/n78, WLAN 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.
6. 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.
7. 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).
8. LTE B2/4/7/66/38/41 and 5GNR n2/n7/n66 at Ant 1 support different PAs for same antennas. And some LTE/NR bands support Other PA only under ENDC& UL CA. Some LTE/NR bands support different PAs for some antennas, whether it is the maximum power of Main PA is higher than and very close to the other PA, for RF exposure, after verification all PAs in a same position, so the worst-case PA was chosen to perform full SAR testing to ensure the RF exposure is compliance and another PA verified the worst case.
9. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot SAR.
10. For Phablet devices, when hotspot mode is not supported, Product specific 10-g SAR is required for all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions.

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ 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 / DC-HSDPA / HSPA+ is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA / HSPA+ to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA / HSPA+) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA / HSPA+ .

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ 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 SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ 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 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE B2 / B4 / B5 / B17 / B38 SAR test was covered by B25 / B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing start with the largest channel bandwidth and measure SAR for 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 n2/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.



15.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																					
01	LTE Band 12	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	Receiver on	23095	707.5	1	22.30	24.00	1.479	-	-	0.13	0.124	0.183
	LTE Band 12	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 0	Receiver on	23095	707.5	1	22.30	24.00	1.479	-	-	-0.17	0.070	0.104
	LTE Band 12	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 0	Receiver on	23095	707.5	1	22.30	24.00	1.479	-	-	-0.16	0.191	0.283
	LTE Band 12	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 0	Receiver on	23095	707.5	1	22.30	24.00	1.479	-	-	-0.02	0.105	0.155
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	Receiver on	23095	707.5	1	21.27	23.00	1.489	-	-	0.1	0.101	0.150
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	Receiver on	23095	707.5	1	21.27	23.00	1.489	-	-	-0.18	0.065	0.097
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	Receiver on	23095	707.5	1	21.27	23.00	1.489	-	-	-0.15	0.142	0.211
02	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	Receiver on	23095	707.5	1	21.27	23.00	1.489	-	-	0.15	0.082	0.122
	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 0	Receiver on	23230	782	1	22.63	24.00	1.371	-	-	-0.17	0.103	0.141
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 0	Receiver on	23230	782	1	22.63	24.00	1.371	-	-	0.01	0.051	0.070
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 0	Receiver on	23230	782	1	22.63	24.00	1.371	-	-	0.18	0.148	0.203
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 0	Receiver on	23230	782	1	22.63	24.00	1.371	-	-	0.11	0.085	0.117
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	Receiver on	23230	782	1	21.55	23.00	1.396	-	-	0.06	0.078	0.109
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	Receiver on	23230	782	1	21.55	23.00	1.396	-	-	0	0.040	0.056
03	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	Receiver on	23230	782	1	21.55	23.00	1.396	-	-	0.04	0.108	0.151
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	Receiver on	23230	782	1	21.55	23.00	1.396	-	-	0.06	0.063	0.088
	835MHz																				
	GSM850	-	-	-	-	GPRS 4 TX Slot	Right Cheek	0mm	Ant 0	Receiver on	189	836.4	1	28.59	30.50	1.552	-	-	0.12	0.184	0.286
	GSM850	-	-	-	-	GPRS 4 TX Slot	Right Tilted	0mm	Ant 0	Receiver on	189	836.4	1	28.59	30.50	1.552	-	-	0.16	0.083	0.129
	GSM850	-	-	-	-	GPRS 4 TX Slot	Left Cheek	0mm	Ant 0	Receiver on	189	836.4	1	28.59	30.50	1.552	-	-	0.11	0.258	0.401
	GSM850	-	-	-	-	GPRS 4 TX Slot	Left Tilted	0mm	Ant 0	Receiver on	189	836.4	1	28.59	30.50	1.552	-	-	-0.08	0.132	0.205
04	GSM850	-	-	-	-	GPRS 4 TX Slot	Left Cheek	0mm	Ant 0	Receiver on	128	824.2	1	28.52	30.50	1.578	-	-	-0.17	0.250	0.394
	GSM850	-	-	-	-	GPRS 4 TX Slot	Left Cheek	0mm	Ant 0	Receiver on	251	848.8	1	28.54	30.50	1.570	-	-	0.05	0.271	0.426
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	Receiver on	4182	836.4	1	22.61	24.00	1.377	-	-	0.1	0.158	0.218
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	Receiver on	4182	836.4	1	22.61	24.00	1.377	-	-	0.19	0.084	0.116
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	Receiver on	4182	836.4	1	22.61	24.00	1.377	-	-	-0.18	0.233	0.321
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	Receiver on	4182	836.4	1	22.61	24.00	1.377	-	-	-0.19	0.127	0.175
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	Receiver on	4132	826.4	1	22.56	24.00	1.393	-	-	0.17	0.235	0.327
05	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	Receiver on	4233	846.6	1	22.50	24.00	1.413	-	-	-0.19	0.239	0.338
	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 0	Receiver on	26865	831.5	1	22.74	24.00	1.337	-	-	-0.13	0.130	0.174
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 0	Receiver on	26865	831.5	1	22.74	24.00	1.337	-	-	0.08	0.069	0.092
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 0	Receiver on	26865	831.5	1	22.74	24.00	1.337	-	-	-0.04	0.176	0.235
	LTE Band 26	15M	QPSK	1	37	-	Left Tilted	0mm	Ant 0	Receiver on	26865	831.5	1	22.74	24.00	1.337	-	-	-0.13	0.099	0.132
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 0	Receiver on	26765	821.5	1	22.51	24.00	1.409	-	-	0.08	0.177	0.249
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 0	Receiver on	26965	841.5	1	22.45	24.00	1.429	-	-	-0.09	0.181	0.259
06	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	Receiver on	26865	831.5	1	21.64	23.00	1.368	-	-	0	0.099	0.135
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	Receiver on	26865	831.5	1	21.64	23.00	1.368	-	-	-0.05	0.054	0.074
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	Receiver on	26865	831.5	1	21.64	23.00	1.368	-	-	0.05	0.141	0.193
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	Receiver on	26865	831.5	1	21.64	23.00	1.368	-	-	-0.06	0.078	0.107
	LTE Band 5	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 4	Receiver on	20525	836.5	1	22.35	24.00	1.462	-	-	0.01	0.347	0.507
	LTE Band 5	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 4	Receiver on	20525	836.5	2	22.35	24.00	1.462	-	-	0.07	0.339	0.496
	LTE Band 5	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 4	Receiver on	20525	836.5	3	22.35	24.00	1.462	-	-	-0.14	0.345	0.504
	LTE Band 5	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 4	Receiver on	20525	836.5	1	22.35	24.00	1.462	-	-	0.1	0.285	0.417
	LTE Band 5	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 4	Receiver on	20525	836.5	1	22.35	24.00	1.462	-	-	0.04	0.151	0.221
	LTE Band 5	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 4	Receiver on	20525	836.5	1	22.35	24.00	1.462	-	-	0.12	0.142	0.208
	LTE Band 5	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 4	Receiver on	20525	836.5	1	21.32	23.00	1.472	-	-	-0.17	0.255	0.375
	LTE Band 5	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 4	Receiver on	20525	836.5	1	21.32	23.00	1.472	-	-	0.09	0.218	0.321
	LTE Band 5	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 4	Receiver on	20525	836.5	1	21.32	23.00	1.472	-	-	0	0.118	0.174
	LTE Band 5	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 4	Receiver on	20525	836.5	1	21.32	23.00	1.472	-	-	0.14	0.107	0.158
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 0	Receiver on	166300	831.5	1	22.76	24.00	1.330	-	-	0.19	0.109	0.145



FCC SAR Test Report

Report No. : FA520602

	FR1 n26	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 0	Receiver on	166300	831.5	1	22.76	24.00	1.330	-	-	0.14	0.063	0.084
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 0	Receiver on	166300	831.5	1	22.76	24.00	1.330	-	-	-0.05	0.143	0.190
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 0	Receiver on	166300	831.5	1	22.76	24.00	1.330	-	-	0	0.081	0.108
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 0	Receiver on	166300	831.5	1	22.46	24.00	1.426	-	-	-0.18	0.114	0.163
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 0	Receiver on	166300	831.5	1	22.46	24.00	1.426	-	-	-0.04	0.060	0.086
07	FR1 n26	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 0	Receiver on	166300	831.5	1	22.46	24.00	1.426	-	-	-0.03	0.147	0.210
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 0	Receiver on	166300	831.5	1	22.46	24.00	1.426	-	-	-0.14	0.086	0.123
1750MHz																					
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	Receiver on	1413	1732.6	1	22.38	24.00	1.452	-	-	0.08	0.087	0.126
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	Receiver on	1413	1732.6	1	22.38	24.00	1.452	-	-	-0.13	0.050	0.073
08	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	Receiver on	1413	1732.6	1	22.38	24.00	1.452	-	-	0.13	0.127	0.184
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	Receiver on	1413	1732.6	1	22.38	24.00	1.452	-	-	-0.02	0.054	0.078
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	Receiver on	1312	1712.4	1	22.33	24.00	1.469	-	-	0.04	0.120	0.176
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	Receiver on	1513	1752.6	1	22.32	24.00	1.472	-	-	0	0.117	0.172
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	132322	1745	1	22.60	24.00	1.380	-	-	-0.18	0.111	0.153
	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	Receiver on	132322	1745	1	22.60	24.00	1.380	-	-	-0.05	0.062	0.086
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	Receiver on	132322	1745	1	22.60	24.00	1.380	-	-	0.01	0.143	0.197
	LTE Band 66	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	Receiver on	132322	1745	1	22.60	24.00	1.380	-	-	0.1	0.059	0.081
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	Receiver on	132072	1720	1	22.47	24.00	1.422	-	-	0.11	0.151	0.215
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	Receiver on	132572	1770	1	22.49	24.00	1.416	-	-	-0.13	0.154	0.218
	LTE Band 66 Other PA	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	Receiver on	132572	1770	1	23.18	24.00	1.208	-	-	0.11	0.102	0.123
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	132322	1745	1	21.49	23.00	1.416	-	-	0.01	0.080	0.113
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	132322	1745	1	21.49	23.00	1.416	-	-	0.05	0.054	0.076
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	132322	1745	1	21.49	23.00	1.416	-	-	0.1	0.119	0.168
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	132322	1745	1	21.49	23.00	1.416	-	-	0.11	0.046	0.065
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	Receiver on	132322	1745	1	17.39	19.00	1.449	-	-	-0.05	0.415	0.601
	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 4	Receiver on	132322	1745	1	17.39	19.00	1.449	-	-	0.06	0.317	0.459
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 4	Receiver on	132322	1745	1	17.39	19.00	1.449	-	-	-0.18	0.215	0.311
	LTE Band 66	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 4	Receiver on	132322	1745	1	17.39	19.00	1.449	-	-	-0.09	0.246	0.356
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	Receiver on	132072	1720	1	17.22	19.00	1.507	-	-	-0.07	0.211	0.318
09	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	Receiver on	132572	1770	1	17.34	19.00	1.466	-	-	-0.04	0.552	0.809
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	Receiver on	132322	1745	1	16.33	18.00	1.469	-	-	0.12	0.298	0.438
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	Receiver on	132322	1745	1	16.33	18.00	1.469	-	-	-0.04	0.291	0.427
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	Receiver on	132322	1745	1	16.33	18.00	1.469	-	-	0.13	0.197	0.289
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	Receiver on	132322	1745	1	16.33	18.00	1.469	-	-	0.16	0.226	0.332
	LTE Band 66	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	Receiver on	132322	1745	1	16.23	18.00	1.503	-	-	-0.16	0.286	0.430
	FR1 n66	45M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	Receiver on	349000	1745	1	22.37	24.00	1.455	-	-	-0.04	0.077	0.112
	FR1 n66	45M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	Receiver on	349000	1745	1	22.37	24.00	1.455	-	-	-0.06	0.050	0.073
	FR1 n66	45M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	Receiver on	349000	1745	1	22.37	24.00	1.455	-	-	-0.07	0.114	0.166
	FR1 n66	45M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	Receiver on	349000	1745	1	22.37	24.00	1.455	-	-	-0.14	0.043	0.063
	FR1 n66	45M	QPSK	120	60	DFT-15	Right Cheek	0mm	Ant 1	Receiver on	349000	1745	1	22.32	24.00	1.472	-	-	0.12	0.088	0.130
	FR1 n66	45M	QPSK	120	60	DFT-15	Right Tilted	0mm	Ant 1	Receiver on	349000	1745	1	22.32	24.00	1.472	-	-	0.17	0.059	0.087
	FR1 n66	45M	QPSK	120	60	DFT-15	Left Cheek	0mm	Ant 1	Receiver on	349000	1745	1	22.32	24.00	1.472	-	-	-0.08	0.128	0.188
	FR1 n66Other PA	45M	QPSK	120	60	DFT-15	Left Cheek	0mm	Ant 1	Receiver on	349000	1745	1	22.60	24.00	1.380	-	-	0.05	0.072	0.099
	FR1 n66	45M	QPSK	120	60	DFT-15	Left Tilted	0mm	Ant 1	Receiver on	349000	1745	1	22.32	24.00	1.472	-	-	0.01	0.045	0.066
10	FR1 n66	45M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 4	Receiver on	349000	1745	1	19.43	21.00	1.435	-	-	-0.16	0.414	0.594
	FR1 n66	45M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 4	Receiver on	349000	1745	1	19.43	21.00	1.435	-	-	-0.05	0.397	0.570
	FR1 n66	45M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 4	Receiver on	349000	1745	1	19.43	21.00	1.435	-	-	-0.15	0.255	0.366
	FR1 n66	45M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 4	Receiver on	349000	1745	1	19.43	21.00	1.435	-	-	0.06	0.289	0.415
	FR1 n66	45M	QPSK	120	60	DFT-15	Right Cheek	0mm	Ant 4	Receiver on	349000	1745	1	19.35	21.00	1.462	-	-	-0.14	0.398	0.582
	FR1 n66	45M	QPSK	120	60	DFT-15	Right Tilted	0mm	Ant 4	Receiver on	349000	1745	1	19.35	21.00	1.462	-	-	0.05	0.393	0.575
	FR1 n66	45M	QPSK	120	60	DFT-15	Left Cheek	0mm	Ant 4	Receiver on	349000	1745	1	19.35	21.00	1.462	-	-	0.01	0.252	0.368
	FR1 n66	45M	QPSK	120	60	DFT-15	Left Tilted	0mm	Ant 4	Receiver on	349000	1745	1	19.35	21.00	1.462	-	-	-0.1	0.286	0.418
1900MHz																					
11	GSM1900	-	-	-	-	GPRS 4 TX Slot	Right Cheek	0mm	Ant 1	Receiver on	661	1880	1	25.61	27.50	1.545	-	-	0.04	0.140	0.216
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Right Tilted	0mm	Ant 1	Receiver on	661	1880	1	25.61	27.50	1.545	-	-	-0.17	0.049	0.076



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	GSM1900	-	-	-	-	GPRS 4 TX Slot	Left Cheek	0mm	Ant 1	Receiver on	661	1880	1	25.61	27.50	1.545	-	-	0	0.128	0.198
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Left Tilted	0mm	Ant 1	Receiver on	661	1880	1	25.61	27.50	1.545	-	-	-0.05	0.043	0.066
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Right Cheek	0mm	Ant 1	Receiver on	512	1850.2	1	25.50	27.50	1.585	-	-	0.12	0.121	0.192
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Right Cheek	0mm	Ant 1	Receiver on	810	1909.8	1	25.54	27.50	1.570	-	-	0.1	0.099	0.155
12	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	Receiver on	9400	1880	1	22.78	24.00	1.324	-	-	0.09	0.242	0.320
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	Receiver on	9400	1880	1	22.78	24.00	1.324	-	-	0.19	0.120	0.159
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	Receiver on	9400	1880	1	22.78	24.00	1.324	-	-	0.17	0.220	0.291
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	Receiver on	9400	1880	1	22.78	24.00	1.324	-	-	-0.06	0.108	0.143
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	Receiver on	9262	1852.4	1	22.54	24.00	1.400	-	-	0.14	0.226	0.316
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	Receiver on	9538	1907.6	1	22.74	24.00	1.337	-	-	0.1	0.205	0.274
13	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	26340	1880	1	22.65	24.00	1.365	-	-	-0.12	0.220	0.300
	LTE Band 2 Other PA	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	18900	1880	1	23.20	24.00	1.202	-	-	0.07	0.135	0.162
	LTE Band 25	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	Receiver on	26340	1880	1	22.65	24.00	1.365	-	-	0.12	0.107	0.146
	LTE Band 25	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	Receiver on	26340	1880	1	22.65	24.00	1.365	-	-	-0.07	0.196	0.267
	LTE Band 25	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	Receiver on	26340	1880	1	22.65	24.00	1.365	-	-	-0.18	0.088	0.120
	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	26140	1860	1	22.56	24.00	1.393	-	-	-0.17	0.199	0.277
	LTE Band 25	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	26590	1905	1	22.55	24.00	1.396	-	-	-0.15	0.187	0.261
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	26340	1880	1	21.57	23.00	1.390	-	-	-0.04	0.171	0.238
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	26340	1880	1	21.57	23.00	1.390	-	-	-0.11	0.076	0.106
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	26340	1880	1	21.57	23.00	1.390	-	-	-0.01	0.154	0.214
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	26340	1880	1	21.57	23.00	1.390	-	-	-0.05	0.079	0.110
14	LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	Receiver on	18900	1880	1	18.51	20.00	1.409	-	-	0.08	0.589	0.830
	LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	Receiver on	18900	1880	2	18.51	20.00	1.409	-	-	0.14	0.452	0.637
	LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	Receiver on	18900	1880	3	18.51	20.00	1.409	-	-	0.07	0.412	0.581
	LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 4	Receiver on	18900	1880	1	18.51	20.00	1.409	-	-	-0.08	0.378	0.533
	LTE Band 2	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 4	Receiver on	18900	1880	1	18.51	20.00	1.409	-	-	-0.02	0.356	0.502
	LTE Band 2	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 4	Receiver on	18900	1880	1	18.51	20.00	1.409	-	-	-0.09	0.371	0.523
	LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	Receiver on	18700	1860	1	18.37	20.00	1.455	-	-	-0.03	0.545	0.793
	LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 4	Receiver on	19100	1900	1	18.30	20.00	1.479	-	-	0.12	0.515	0.762
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	Receiver on	18900	1880	1	17.46	19.00	1.426	-	-	0.19	0.463	0.660
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	Receiver on	18900	1880	1	17.46	19.00	1.426	-	-	0.1	0.297	0.423
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	Receiver on	18900	1880	1	17.46	19.00	1.426	-	-	0.02	0.280	0.399
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	Receiver on	18900	1880	1	17.46	19.00	1.426	-	-	-0.1	0.292	0.416
	LTE Band 2	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	Receiver on	18900	1880	1	17.37	19.00	1.455	-	-	-0.17	0.447	0.651
	FR1 n2	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	Receiver on	376000	1880	1	22.56	24.00	1.393	-	-	-0.18	0.109	0.152
	FR1 n2	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	Receiver on	376000	1880	1	22.56	24.00	1.393	-	-	-0.14	0.056	0.078
	FR1 n2	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	Receiver on	376000	1880	1	22.56	24.00	1.393	-	-	0	0.096	0.134
	FR1 n2	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	Receiver on	376000	1880	1	22.56	24.00	1.393	-	-	0.09	0.055	0.077
15	FR1 n2	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	Receiver on	376000	1880	1	22.53	24.00	1.403	-	-	-0.03	0.114	0.160
	FR1 n2 Other PA	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 1	Receiver on	376000	1880	1	22.21	24.00	1.510	-	-	-0.13	0.066	0.100
	FR1 n2	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 1	Receiver on	376000	1880	1	22.53	24.00	1.403	-	-	-0.05	0.061	0.086
	FR1 n2	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 1	Receiver on	376000	1880	1	22.53	24.00	1.403	-	-	0.09	0.111	0.156
	FR1 n2	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 1	Receiver on	376000	1880	1	22.53	24.00	1.403	-	-	0.05	0.057	0.080
2600MHz																					
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	21100	2535	1	22.47	24.00	1.422	-	-	-0.1	0.273	0.388
	LTE Band 7	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	Receiver on	21100	2535	1	22.47	24.00	1.422	-	-	0.07	0.087	0.124
	LTE Band 7	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	Receiver on	21100	2535	1	22.47	24.00	1.422	-	-	0.12	0.143	0.203
	LTE Band 7	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	Receiver on	21100	2535	1	22.47	24.00	1.422	-	-	-0.15	0.112	0.159
16	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	20850	2510	1	22.38	24.00	1.452	-	-	-0.18	0.301	0.437
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	21350	2560	1	22.43	24.00	1.435	-	-	-0.13	0.255	0.366
	LTE Band 7 Other PA	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	20850	2510	1	22.98	24.00	1.265	-	-	-0.16	0.201	0.254
	LTE Band 7C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 1	Receiver on	20850+21048	2510+2529.8	1	22.05	24.00	1.567	-	-	0.03	0.202	0.316
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	21100	2535	1	21.46	23.00	1.426	-	-	-0.04	0.223	0.318
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	21100	2535	1	21.46	23.00	1.426	-	-	-0.11	0.073	0.104
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	21100	2535	1	21.46	23.00	1.426	-	-	-0.14	0.113	0.161



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	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	21100	2535	1	21.46	23.00	1.426	-	-	-0.11	0.079	0.113
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	40620	2593	1	22.74	24.00	1.337	62.9	1.006	0.01	0.157	0.211
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 1	Receiver on	40620	2593	1	22.74	24.00	1.337	62.9	1.006	0.06	0.064	0.086
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 1	Receiver on	40620	2593	1	22.74	24.00	1.337	62.9	1.006	-0.19	0.083	0.112
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 1	Receiver on	40620	2593	1	22.74	24.00	1.337	62.9	1.006	0.02	0.069	0.093
17	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	39750	2506	1	22.45	24.00	1.429	62.9	1.006	0.12	0.184	0.264
	LTE Band 41 Other PA	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	39750	2506	1	22.99	24.00	1.262	62.9	1.006	-0.07	0.118	0.150
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	40185	2549.5	1	22.61	24.00	1.377	62.9	1.006	-0.17	0.162	0.224
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	41055	2636.5	1	22.64	24.00	1.368	62.9	1.006	-0.17	0.151	0.208
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 1	Receiver on	41490	2680	1	22.70	24.00	1.349	62.9	1.006	-0.14	0.138	0.187
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	40620	2593	1	21.88	23.00	1.294	62.9	1.006	0.02	0.127	0.165
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	40620	2593	1	21.88	23.00	1.294	62.9	1.006	0.17	0.044	0.057
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	40620	2593	1	21.88	23.00	1.294	62.9	1.006	-0.07	0.065	0.085
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	40620	2593	1	21.88	23.00	1.294	62.9	1.006	0.17	0.047	0.061
	FR1 n7	50M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 1	Receiver on	507000	2535	1	22.25	24.00	1.496	-	-	-0.11	0.214	0.320
	FR1 n7	50M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 1	Receiver on	507000	2535	1	22.25	24.00	1.496	-	-	0.13	0.088	0.132
	FR1 n7	50M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 1	Receiver on	507000	2535	1	22.25	24.00	1.496	-	-	-0.13	0.105	0.157
	FR1 n7	50M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 1	Receiver on	507000	2535	1	22.25	24.00	1.496	-	-	-0.17	0.072	0.108
	FR1 n7	50M	QPSK	135	68	DFT-15	Right Cheek	0mm	Ant 1	Receiver on	507000	2535	1	22.06	24.00	1.563	-	-	-0.18	0.231	0.361
	FR1 n7 Other PA	50M	QPSK	135	68	DFT-15	Right Cheek	0mm	Ant 1	Receiver on	507000	2535	1	22.99	24.00	1.262	-	-	0.07	0.180	0.227
	FR1 n7	50M	QPSK	135	68	DFT-15	Right Tilted	0mm	Ant 1	Receiver on	507000	2535	1	22.06	24.00	1.563	-	-	-0.04	0.097	0.152
	FR1 n7	50M	QPSK	135	68	DFT-15	Left Cheek	0mm	Ant 1	Receiver on	507000	2535	1	22.06	24.00	1.563	-	-	0.05	0.117	0.183
	FR1 n7	50M	QPSK	135	68	DFT-15	Left Tilted	0mm	Ant 1	Receiver on	507000	2535	1	22.06	24.00	1.563	-	-	0.1	0.084	0.131
	FR1 n7	50M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 4	Receiver on	507000	2535	1	18.29	19.50	1.321	-	-	0.17	0.575	0.760
18	FR1 n7	50M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 4	Receiver on	507000	2535	1	18.29	19.50	1.321	-	-	0.14	0.624	0.824
	FR1 n7	50M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 4	Receiver on	507000	2535	1	18.29	19.50	1.321	-	-	0.15	0.515	0.680
	FR1 n7	50M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 4	Receiver on	507000	2535	1	18.29	19.50	1.321	-	-	-0.17	0.531	0.702
	FR1 n7	50M	QPSK	135	68	DFT-15	Right Cheek	0mm	Ant 4	Receiver on	507000	2535	1	18.19	19.50	1.352	-	-	-0.16	0.542	0.733
	FR1 n7	50M	QPSK	135	68	DFT-15	Right Tilted	0mm	Ant 4	Receiver on	507000	2535	1	18.19	19.50	1.352	-	-	0.02	0.605	0.818
	FR1 n7	50M	QPSK	135	68	DFT-15	Left Cheek	0mm	Ant 4	Receiver on	507000	2535	1	18.19	19.50	1.352	-	-	0.03	0.500	0.676
	FR1 n7	50M	QPSK	135	68	DFT-15	Left Tilted	0mm	Ant 4	Receiver on	507000	2535	1	18.19	19.50	1.352	-	-	-0.07	0.515	0.696
	FR1 n7	50M	QPSK	270	0	DFT-15	Right Cheek	0mm	Ant 4	Receiver on	507000	2535	1	18.13	19.50	1.371	-	-	-0.04	0.531	0.728
	FR1 n7	50M	QPSK	270	0	DFT-15	Right Tilted	0mm	Ant 4	Receiver on	507000	2535	1	18.13	19.50	1.371	-	-	0.19	0.593	0.813
	FR1 n41	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 1	Receiver on	518598	2592.99	1	22.67	24.00	1.358	-	-	0.11	0.177	0.240
	FR1 n41	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 1	Receiver on	518598	2592.99	1	22.67	24.00	1.358	-	-	-0.08	0.085	0.115
	FR1 n41	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 1	Receiver on	518598	2592.99	1	22.67	24.00	1.358	-	-	0	0.095	0.129
	FR1 n41	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 1	Receiver on	518598	2592.99	1	22.67	24.00	1.358	-	-	-0.19	0.074	0.101
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 1	Receiver on	518598	2592.99	1	22.59	24.00	1.384	-	-	-0.12	0.175	0.242
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 1	Receiver on	518598	2592.99	1	22.59	24.00	1.384	-	-	-0.17	0.086	0.119
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 1	Receiver on	518598	2592.99	1	22.59	24.00	1.384	-	-	0.12	0.085	0.118
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 1	Receiver on	518598	2592.99	1	22.59	24.00	1.384	-	-	-0.05	0.076	0.105
	FR1 n41	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 4	Receiver on	518598	2592.99	1	21.34	23.00	1.466	-	-	-0.06	0.413	0.605
	FR1 n41	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 4	Receiver on	518598	2592.99	1	21.34	23.00	1.466	-	-	-0.17	0.512	0.750
	FR1 n41	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 4	Receiver on	518598	2592.99	1	21.34	23.00	1.466	-	-	-0.17	0.419	0.614
	FR1 n41	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 4	Receiver on	518598	2592.99	1	21.34	23.00	1.466	-	-	-0.19	0.448	0.657
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 4	Receiver on	518598	2592.99	1	21.29	23.00	1.483	-	-	-0.08	0.435	0.645
19	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 4	Receiver on	518598	2592.99	1	21.29	23.00	1.483	-	-	-0.02	0.507	0.752
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 4	Receiver on	518598	2592.99	1	21.29	23.00	1.483	-	-	-0.12	0.416	0.617
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 4	Receiver on	518598	2592.99	1	21.29	23.00	1.483	-	-	-0.16	0.456	0.676
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 4	Receiver on	518598	2592.99	1	21.01	22.00	1.256	-	-	0.08	0.325	0.408
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Tilted	0mm	Ant 4	Receiver on	518598	2592.99	1	21.01	22.00	1.256	-	-	0.07	0.382	0.480
	FR1 n41	100M	QPSK	270	0	DFT-30	Left Cheek	0mm	Ant 4	Receiver on	518598	2592.99	1	21.01	22.00	1.256	-	-	0.09	0.311	0.391
	FR1 n41	100M	QPSK	270	0	DFT-30	Left Tilted	0mm	Ant 4	Receiver on	518598	2592.99	1	21.01	22.00	1.256	-	-	-0.13	0.341	0.428
3500MHz																					
	LTE Band 42	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 5	Receiver on	42190	3460	1	15.15	16.00	1.216	62.9	1.006	0.17	0.343	0.420
	LTE Band 42	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 5	Receiver on	42190	3460	1	15.15	16.00	1.216	62.9	1.006	-0.15	0.369	0.451



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	LTE Band 42	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 5	Receiver on	42190	3460	1	15.15	16.00	1.216	62.9	1.006	0.18	0.485	0.593
	LTE Band 42	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 5	Receiver on	42190	3460	1	15.15	16.00	1.216	62.9	1.006	0.18	0.530	0.648
	LTE Band 42	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 5	Receiver on	42590	3500	1	15.11	16.00	1.227	62.9	1.006	0.15	0.596	0.736
20	LTE Band 42	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 5	Receiver on	42990	3540	1	14.99	16.00	1.262	62.9	1.006	0.16	0.606	0.769
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	Receiver on	42190	3460	1	14.23	15.00	1.194	62.9	1.006	0.1	0.251	0.301
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	Receiver on	42190	3460	1	14.23	15.00	1.194	62.9	1.006	0.09	0.270	0.324
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	Receiver on	42190	3460	1	14.23	15.00	1.194	62.9	1.006	0.04	0.370	0.444
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	Receiver on	42190	3460	1	14.23	15.00	1.194	62.9	1.006	0.11	0.387	0.465
	LTE Band 42	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 5	Receiver on	42190	3460	1	14.16	15.00	1.213	62.9	1.006	-0.19	0.400	0.488
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 5	Receiver on	633332	3499.98	1	13.89	15.00	1.291	-	-	0.05	0.387	0.500
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 5	Receiver on	633332	3499.98	1	13.89	15.00	1.291	-	-	0.15	0.412	0.532
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 5	Receiver on	633332	3499.98	1	13.89	15.00	1.291	-	-	-0.12	0.585	0.755
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 5	Receiver on	633332	3499.98	1	13.89	15.00	1.291	-	-	-0.19	0.570	0.736
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 5	Receiver on	633332	3499.98	1	13.87	15.00	1.297	-	-	0	0.380	0.493
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 5	Receiver on	633332	3499.98	1	13.87	15.00	1.297	-	-	-0.12	0.411	0.533
21	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	Receiver on	633332	3499.98	1	13.87	15.00	1.297	-	-	0.06	0.595	0.772
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	Receiver on	633332	3499.98	2	13.87	15.00	1.297	-	-	0.14	0.424	0.550
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	Receiver on	633332	3499.98	3	13.87	15.00	1.297	-	-	0.03	0.377	0.489
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 5	Receiver on	633332	3499.98	1	13.87	15.00	1.297	-	-	0.09	0.585	0.759
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Left Cheek	0mm	Ant 5	Receiver on	633332	3499.98	1	13.78	15.00	1.324	-	-	-0.07	0.559	0.740
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Left Tilted	0mm	Ant 5	Receiver on	633332	3499.98	1	13.78	15.00	1.324	-	-	0.19	0.550	0.728
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 5	Receiver on	656000	3840	1	13.67	15.00	1.358	-	-	-0.13	0.304	0.413
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 5	Receiver on	656000	3840	1	13.67	15.00	1.358	-	-	-0.06	0.338	0.459
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 5	Receiver on	656000	3840	1	13.67	15.00	1.358	-	-	0.15	0.484	0.657
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 5	Receiver on	656000	3840	1	13.67	15.00	1.358	-	-	0	0.473	0.642
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 5	Receiver on	656000	3840	1	13.62	15.00	1.374	-	-	-0.12	0.311	0.427
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 5	Receiver on	656000	3840	1	13.62	15.00	1.374	-	-	0.11	0.337	0.463
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 5	Receiver on	656000	3840	1	13.62	15.00	1.374	-	-	-0.03	0.486	0.668
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 5	Receiver on	656000	3840	1	13.62	15.00	1.374	-	-	-0.12	0.468	0.643
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Left Cheek	0mm	Ant 5	Receiver on	656000	3840	1	13.60	15.00	1.380	-	-	-0.11	0.462	0.638
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Left Tilted	0mm	Ant 5	Receiver on	656000	3840	1	13.60	15.00	1.380	-	-	-0.03	0.444	0.613
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 3	Receiver on	633332	3499.98	1	18.36	19.50	1.300	-	-	-0.15	0.106	0.138
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 3	Receiver on	633332	3499.98	1	18.36	19.50	1.300	-	-	0.01	0.079	0.103
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 3	Receiver on	633332	3499.98	1	18.36	19.50	1.300	-	-	-0.11	0.044	0.057
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 3	Receiver on	633332	3499.98	1	18.36	19.50	1.300	-	-	-0.12	0.063	0.082
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 3	Receiver on	633332	3499.98	1	18.21	19.50	1.346	-	-	-0.16	0.093	0.125
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 3	Receiver on	633332	3499.98	1	18.21	19.50	1.346	-	-	0.19	0.075	0.101
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 3	Receiver on	633332	3499.98	1	18.21	19.50	1.346	-	-	-0.13	0.043	0.058
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 3	Receiver on	633332	3499.98	1	18.21	19.50	1.346	-	-	0.13	0.058	0.078
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 3	Receiver on	656000	3840	1	18.10	19.50	1.380	-	-	0.01	0.249	0.344
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 3	Receiver on	656000	3840	1	18.10	19.50	1.380	-	-	0.07	0.228	0.315
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 3	Receiver on	656000	3840	1	18.10	19.50	1.380	-	-	-0.05	0.144	0.199
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 3	Receiver on	656000	3840	1	18.10	19.50	1.380	-	-	-0.16	0.175	0.242
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 3	Receiver on	656000	3840	1	18.02	19.50	1.406	-	-	0.08	0.256	0.360
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 3	Receiver on	656000	3840	1	18.02	19.50	1.406	-	-	-0.08	0.249	0.350
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 3	Receiver on	656000	3840	1	18.02	19.50	1.406	-	-	0.18	0.151	0.212
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 3	Receiver on	656000	3840	1	18.02	19.50	1.406	-	-	0.18	0.183	0.257
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 7	Receiver on	633332	3499.98	1	17.54	18.50	1.247	-	-	0.02	0.191	0.238
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 7	Receiver on	633332	3499.98	1	17.54	18.50	1.247	-	-	0.02	0.189	0.236
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 7	Receiver on	633332	3499.98	1	17.54	18.50	1.247	-	-	-0.07	0.529	0.660
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 7	Receiver on	633332	3499.98	1	17.54	18.50	1.247	-	-	0.17	0.295	0.368
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	Receiver on	633332	3499.98	1	17.53	18.50	1.250	-	-	-0.05	0.174	0.218
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	Receiver on	633332	3499.98	1	17.53	18.50	1.250	-	-	-0.01	0.192	0.240
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	Receiver on	633332	3499.98	1	17.53	18.50	1.250	-	-	0.08	0.523	0.654
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	Receiver on	633332	3499.98	1	17.53	18.50	1.250	-	-	-0.17	0.296	0.370
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Left Cheek	0mm	Ant 7	Receiver on	633332	3499.98	1	17.44	18.50	1.276	-	-	0.12	0.503	0.642



FCC SAR Test Report

Report No. : FA520602

FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 7	Receiver on	656000	3840	1	18.05	18.50	1.109	-	-	-0.18	0.207	0.230
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 7	Receiver on	656000	3840	1	18.05	18.50	1.109	-	-	0.17	0.238	0.264
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 7	Receiver on	656000	3840	1	18.05	18.50	1.109	-	-	0.08	0.683	0.758
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 7	Receiver on	656000	3840	1	18.05	18.50	1.109	-	-	-0.12	0.366	0.406
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 7	Receiver on	656000	3840	1	17.97	18.50	1.130	-	-	-0.09	0.223	0.252
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 7	Receiver on	656000	3840	1	17.97	18.50	1.130	-	-	-0.08	0.241	0.272
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 7	Receiver on	656000	3840	1	17.97	18.50	1.130	-	-	-0.16	0.670	0.757
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 7	Receiver on	656000	3840	1	17.97	18.50	1.130	-	-	0.15	0.367	0.415
FR1 n77 Part270	100M	QPSK	270	0	DFT-30	Left Cheek	0mm	Ant 7	Receiver on	656000	3840	1	17.96	18.50	1.132	-	-	0.04	0.674	0.763
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 9	Receiver on	633332	3499.98	1	18.57	19.50	1.239	-	-	-0.15	0.175	0.217
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 9	Receiver on	633332	3499.98	1	18.57	19.50	1.239	-	-	0.07	0.057	0.071
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 9	Receiver on	633332	3499.98	1	18.57	19.50	1.239	-	-	-0.08	0.080	0.099
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 9	Receiver on	633332	3499.98	1	18.57	19.50	1.239	-	-	0.04	0.079	0.098
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 9	Receiver on	633332	3499.98	1	18.41	19.50	1.285	-	-	0.17	0.177	0.227
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 9	Receiver on	633332	3499.98	1	18.41	19.50	1.285	-	-	-0.05	0.066	0.085
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 9	Receiver on	633332	3499.98	1	18.41	19.50	1.285	-	-	-0.18	0.082	0.105
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 9	Receiver on	633332	3499.98	1	18.41	19.50	1.285	-	-	-0.18	0.081	0.104
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Right Cheek	0mm	Ant 9	Receiver on	656000	3840	1	18.39	19.50	1.291	-	-	-0.05	0.234	0.302
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Right Tilted	0mm	Ant 9	Receiver on	656000	3840	1	18.39	19.50	1.291	-	-	-0.13	0.083	0.107
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Left Cheek	0mm	Ant 9	Receiver on	656000	3840	1	18.39	19.50	1.291	-	-	0.04	0.143	0.185
FR1 n77 Part270	100M	QPSK	1	137	DFT-30	Left Tilted	0mm	Ant 9	Receiver on	656000	3840	1	18.39	19.50	1.291	-	-	-0.15	0.125	0.161
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 9	Receiver on	656000	3840	1	18.18	19.50	1.355	-	-	0.19	0.233	0.316
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 9	Receiver on	656000	3840	1	18.18	19.50	1.355	-	-	-0.13	0.089	0.121
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 9	Receiver on	656000	3840	1	18.18	19.50	1.355	-	-	-0.16	0.148	0.201
FR1 n77 Part270	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 9	Receiver on	656000	3840	1	18.18	19.50	1.355	-	-	0.03	0.124	0.168

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN&BT																	
	Bluetooth	DH5 1Mbps	Right Cheek	0mm	Ant 6	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	0.12	0.053	0.074
	Bluetooth	DH5 1Mbps	Right Tilted	0mm	Ant 6	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	-0.03	0.050	0.070
	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 6	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	-0.01	0.092	0.128
	Bluetooth	DH5 1Mbps	Left Tilted	0mm	Ant 6	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	-0.09	0.080	0.111
22	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 6	Full Power	0	2402	1	10.20	12.00	1.514	77.06	1.081	-0.06	0.093	0.152
	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 6	Full Power	78	2480	1	10.80	12.00	1.318	77.06	1.081	0.09	0.090	0.128
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6	Receiver on	6	2437	1	19.40	20.00	1.148	99.64	1.004	0.13	0.382	0.440
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6	Receiver on	6	2437	1	19.40	20.00	1.148	99.64	1.004	0.01	0.363	0.418
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Receiver on	6	2437	1	19.40	20.00	1.148	99.64	1.004	0.19	0.866	0.998
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6	Receiver on	6	2437	1	19.40	20.00	1.148	99.64	1.004	0.16	0.611	0.704
23	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Receiver on	1	2412	1	18.90	20.00	1.288	99.64	1.004	-0.03	1.010	1.306
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 6	Receiver on	1	2412	1	18.60	20.00	1.380	99.64	1.004	0.04	0.850	1.178
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Receiver on	1	2412	2	18.90	20.00	1.288	99.64	1.004	-0.1	0.822	1.063
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Receiver on	1	2412	3	18.90	20.00	1.288	99.64	1.004	0.05	0.939	1.215
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Receiver on	11	2462	1	18.80	20.00	1.318	99.64	1.004	-0.06	0.952	1.260
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6	Simultaneous	1	2412	1	15.80	17.00	1.318	99.64	1.004	0.14	0.400	0.529
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6	Simultaneous	6	2437	1	16.30	17.00	1.175	99.64	1.004	0.16	0.307	0.362
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5	Receiver on	60	5300	1	18.49	20.00	1.416	96.55	1.036	0.17	0.651	0.955
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5	Receiver on	60	5300	1	18.49	20.00	1.416	96.55	1.036	0.15	0.787	1.154
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5	Receiver on	60	5300	1	18.49	20.00	1.416	96.55	1.036	0.05	0.608	0.892
24	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Receiver on	60	5300	1	18.49	20.00	1.416	96.55	1.036	-0.18	0.798	1.170
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Receiver on	60	5300	2	18.49	20.00	1.416	96.55	1.036	0.04	0.587	0.861
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Receiver on	60	5300	3	18.49	20.00	1.416	96.55	1.036	-0.07	0.521	0.764
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5	Receiver on	52	5260	1	18.38	20.00	1.452	96.55	1.036	-0.01	0.487	0.733
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5	Receiver on	56	5280	1	18.35	20.00	1.462	96.55	1.036	-0.06	0.589	0.892



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	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 5	Receiver on	64	5320	1	18.39	20.00	1.449	96.55	1.036	-0.19	0.455	0.683
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5	Receiver on	52	5260	1	18.38	20.00	1.452	96.55	1.036	0.09	0.757	1.139
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5	Receiver on	56	5280	1	18.35	20.00	1.462	96.55	1.036	-0.08	0.753	1.141
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 5	Receiver on	64	5320	1	18.39	20.00	1.449	96.55	1.036	-0.1	0.748	1.123
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5	Receiver on	52	5260	1	18.38	20.00	1.452	96.55	1.036	0.03	0.455	0.684
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5	Receiver on	56	5280	1	18.35	20.00	1.462	96.55	1.036	-0.12	0.550	0.833
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 5	Receiver on	64	5320	1	18.39	20.00	1.449	96.55	1.036	0.12	0.425	0.638
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Receiver on	52	5260	1	18.38	20.00	1.452	96.55	1.036	0.14	0.767	1.154
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Receiver on	56	5280	1	18.35	20.00	1.462	96.55	1.036	-0.07	0.764	1.157
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 5	Receiver on	64	5320	1	18.39	20.00	1.449	96.55	1.036	0.14	0.758	1.138
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 5	Simultaneous	62	5310	1	15.55	17.00	1.396	100	1.000	0.07	0.315	0.440
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 5	Simultaneous	62	5310	1	15.55	17.00	1.396	100	1.000	-0.02	0.393	0.549
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5	Simultaneous	62	5310	1	15.55	17.00	1.396	100	1.000	0.14	0.280	0.391
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 5	Simultaneous	62	5310	1	15.55	17.00	1.396	100	1.000	0.08	0.399	0.557
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5	Receiver on	138	5690	1	15.30	17.00	1.479	100	1.000	-0.06	0.479	0.708
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5	Receiver on	138	5690	1	15.30	17.00	1.479	100	1.000	-0.17	0.609	0.901
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5	Receiver on	138	5690	1	15.30	17.00	1.479	100	1.000	0.08	0.483	0.714
25	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5	Receiver on	138	5690	1	15.30	17.00	1.479	100	1.000	-0.05	0.752	1.112
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5	Receiver on	106	5530	1	15.26	17.00	1.493	100	1.000	0.18	0.701	1.046
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5	Receiver on	122	5610	1	15.18	17.00	1.521	100	1.000	0.18	0.725	1.102
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5	Receiver on	106	5530	1	15.26	17.00	1.493	100	1.000	-0.04	0.567	0.846
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5	Receiver on	122	5610	1	15.18	17.00	1.521	100	1.000	0.17	0.597	0.908
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5	Simultaneous	138	5690	1	13.12	14.50	1.374	100	1.000	-0.04	0.260	0.357
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5	Simultaneous	138	5690	1	13.12	14.50	1.374	100	1.000	0.14	0.329	0.452
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5	Simultaneous	138	5690	1	13.12	14.50	1.374	100	1.000	0.09	0.269	0.370
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5	Simultaneous	138	5690	1	13.12	14.50	1.374	100	1.000	-0.11	0.411	0.565
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5	Receiver on	155	5775	1	15.10	17.00	1.549	100	1.000	0.17	0.589	0.912
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5	Receiver on	155	5775	1	15.10	17.00	1.549	100	1.000	-0.19	0.676	1.047
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5	Receiver on	155	5775	1	15.10	17.00	1.549	100	1.000	-0.17	0.638	0.988
26	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5	Receiver on	155	5775	1	15.10	17.00	1.549	100	1.000	0.11	0.715	1.107
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5	Simultaneous	155	5775	1	12.51	14.00	1.409	100	1.000	0.08	0.287	0.404
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5	Simultaneous	155	5775	1	12.51	14.00	1.409	100	1.000	-0.09	0.324	0.457
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5	Simultaneous	155	5775	1	12.51	14.00	1.409	100	1.000	0.05	0.285	0.402
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5	Simultaneous	155	5775	1	12.51	14.00	1.409	100	1.000	0.01	0.345	0.486



15.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																					
	LTE Band 12	10M	QPSK	1	25	-	Front	5mm	Ant 0	Hotspot on	23095	707.5	1	22.30	24.00	1.479	-	-	0.11	0.510	0.754
27	LTE Band 12	10M	QPSK	1	25	-	Back	5mm	Ant 0	Hotspot on	23095	707.5	1	22.30	24.00	1.479	-	-	0.16	0.739	1.093
	LTE Band 12	10M	QPSK	1	25	-	Left Side	5mm	Ant 0	Hotspot on	23095	707.5	1	22.30	24.00	1.479	-	-	0.08	0.621	0.919
	LTE Band 12	10M	QPSK	1	25	-	Bottom Side	5mm	Ant 0	Hotspot on	23095	707.5	1	22.30	24.00	1.479	-	-	0.16	0.609	0.901
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	Hotspot on	23095	707.5	1	21.27	23.00	1.489	-	-	-0.15	0.420	0.626
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	Hotspot on	23095	707.5	1	21.27	23.00	1.489	-	-	-0.16	0.591	0.880
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	Hotspot on	23095	707.5	1	21.27	23.00	1.489	-	-	-0.08	0.523	0.779
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	Hotspot on	23095	707.5	1	21.27	23.00	1.489	-	-	-0.03	0.494	0.736
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	Hotspot on	23095	707.5	1	21.24	23.00	1.500	-	-	-0.1	0.579	0.868
	LTE Band 12	10M	QPSK	50	0	-	Left Side	5mm	Ant 0	Hotspot on	23095	707.5	1	21.24	23.00	1.500	-	-	0	0.487	0.730
	LTE Band 12	10M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	Hotspot on	23095	707.5	1	21.24	23.00	1.500	-	-	0	0.452	0.678
	LTE Band 13	10M	QPSK	1	25	-	Front	5mm	Ant 0	Hotspot on	23230	782	1	22.63	24.00	1.371	-	-	0.19	0.519	0.711
28	LTE Band 13	10M	QPSK	1	25	-	Back	5mm	Ant 0	Hotspot on	23230	782	1	22.63	24.00	1.371	-	-	-0.01	0.706	0.968
	LTE Band 13	10M	QPSK	1	25	-	Left Side	5mm	Ant 0	Hotspot on	23230	782	1	22.63	24.00	1.371	-	-	0.17	0.575	0.788
	LTE Band 13	10M	QPSK	1	25	-	Bottom Side	5mm	Ant 0	Hotspot on	23230	782	1	22.63	24.00	1.371	-	-	0.1	0.528	0.724
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	Hotspot on	23230	782	1	21.55	23.00	1.396	-	-	-0.15	0.421	0.588
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	Hotspot on	23230	782	1	21.55	23.00	1.396	-	-	-0.19	0.654	0.913
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	Hotspot on	23230	782	1	21.55	23.00	1.396	-	-	0.09	0.452	0.631
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	Hotspot on	23230	782	1	21.55	23.00	1.396	-	-	0.17	0.415	0.579
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	Hotspot on	23230	782	1	21.54	23.00	1.400	-	-	-0.04	0.629	0.880
835MHz																					
	GSM850	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 0	Hotspot on	189	836.4	1	27.63	29.50	1.538	-	-	0.06	0.559	0.860
	GSM850	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 0	Hotspot on	128	824.2	1	27.61	29.50	1.545	-	-	0.17	0.519	0.802
	GSM850	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 0	Hotspot on	251	848.8	1	27.58	29.50	1.556	-	-	0.06	0.535	0.832
29	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 0	Hotspot on	189	836.4	1	27.63	29.50	1.538	-	-	0.16	0.856	1.317
	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 0	Hotspot on	128	824.2	1	27.61	29.50	1.545	-	-	-0.1	0.795	1.228
	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 0	Hotspot on	251	848.8	1	27.58	29.50	1.556	-	-	-0.14	0.820	1.276
	GSM850	-	-	-	-	GPRS 4 TX Slot	Left Side	5mm	Ant 0	Hotspot on	189	836.4	1	27.63	29.50	1.538	-	-	-0.15	0.710	1.092
	GSM850	-	-	-	-	GPRS 4 TX Slot	Left Side	5mm	Ant 0	Hotspot on	128	824.2	1	27.61	29.50	1.545	-	-	-0.12	0.659	1.018
	GSM850	-	-	-	-	GPRS 4 TX Slot	Left Side	5mm	Ant 0	Hotspot on	251	848.8	1	27.58	29.50	1.556	-	-	0.04	0.680	1.058
	GSM850	-	-	-	-	GPRS 4 TX Slot	Bottom Side	5mm	Ant 0	Hotspot on	189	836.4	1	27.63	29.50	1.538	-	-	0.15	0.631	0.971
	GSM850	-	-	-	-	GPRS 4 TX Slot	Bottom Side	5mm	Ant 0	Hotspot on	128	824.2	1	27.61	29.50	1.545	-	-	0.07	0.586	0.906
	GSM850	-	-	-	-	GPRS 4 TX Slot	Bottom Side	5mm	Ant 0	Hotspot on	251	848.8	1	27.58	29.50	1.556	-	-	-0.08	0.604	0.940
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	Hotspot on	4182	836.4	1	22.61	24.00	1.377	-	-	-0.07	0.642	0.884
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	Hotspot on	4132	826.4	1	22.56	24.00	1.393	-	-	0.1	0.699	0.974
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	Hotspot on	4233	846.6	1	22.50	24.00	1.413	-	-	-0.11	0.661	0.934
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Hotspot on	4182	836.4	1	22.61	24.00	1.377	-	-	-0.05	0.919	1.266
30	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Hotspot on	4132	826.4	1	22.56	24.00	1.393	-	-	0.07	1.000	1.393
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Hotspot on	4233	846.6	1	22.50	24.00	1.413	-	-	0.12	0.945	1.335
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	Hotspot on	4182	836.4	1	22.61	24.00	1.377	-	-	-0.07	0.669	0.921
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	Hotspot on	4132	826.4	1	22.56	24.00	1.393	-	-	0.04	0.728	1.014
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	Hotspot on	4233	846.6	1	22.50	24.00	1.413	-	-	0.06	0.689	0.973
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	Hotspot on	4182	836.4	1	22.61	24.00	1.377	-	-	0	0.675	0.930
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	Hotspot on	4132	826.4	1	22.56	24.00	1.393	-	-	0	0.734	1.023
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	Hotspot on	4233	846.6	1	22.50	24.00	1.413	-	-	-0.02	0.695	0.982
	LTE Band 26	15M	QPSK	1	37	-	Front	5mm	Ant 0	Hotspot on	26865	831.5	1	22.74	24.00	1.337	-	-	0.05	0.677	0.905
	LTE Band 26	15M	QPSK	1	37	-	Front	5mm	Ant 0	Hotspot on	26765	821.5	1	22.51	24.00	1.409	-	-	-0.08	0.602	0.848
	LTE Band 26	15M	QPSK	1	37	-	Front	5mm	Ant 0	Hotspot on	26965	841.5	1	22.45	24.00	1.429	-	-	0.15	0.606	0.866



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31	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	Hotspot on	26865	831.5	1	22.74	24.00	1.337	-	-	0.05	1.070	1.430
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	Hotspot on	26865	831.5	2	22.74	24.00	1.337	-	-	-0.01	0.903	1.207
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	Hotspot on	26865	831.5	3	22.74	24.00	1.337	-	-	0.16	0.921	1.231
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	Hotspot on	26765	821.5	1	22.51	24.00	1.409	-	-	0.13	0.952	1.342
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	Hotspot on	26965	841.5	1	22.45	24.00	1.429	-	-	0.11	0.958	1.369
	LTE Band 26	15M	QPSK	1	37	-	Left Side	5mm	Ant 0	Hotspot on	26865	831.5	1	22.74	24.00	1.337	-	-	0.15	0.593	0.793
	LTE Band 26	15M	QPSK	1	37	-	Bottom Side	5mm	Ant 0	Hotspot on	26865	831.5	1	22.74	24.00	1.337	-	-	-0.01	0.687	0.918
	LTE Band 26	15M	QPSK	1	37	-	Bottom Side	5mm	Ant 0	Hotspot on	26765	821.5	1	22.51	24.00	1.409	-	-	0.01	0.611	0.861
	LTE Band 26	15M	QPSK	1	37	-	Bottom Side	5mm	Ant 0	Hotspot on	26965	841.5	1	22.45	24.00	1.429	-	-	-0.08	0.615	0.879
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	Hotspot on	26865	831.5	1	21.64	23.00	1.368	-	-	-0.03	0.544	0.744
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	Hotspot on	26865	831.5	1	21.64	23.00	1.368	-	-	0.03	0.739	1.011
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	Hotspot on	26765	821.5	1	21.54	23.00	1.400	-	-	-0.15	0.765	1.071
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	Hotspot on	26965	841.5	1	21.49	23.00	1.416	-	-	-0.15	0.762	1.079
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 0	Hotspot on	26865	831.5	1	21.64	23.00	1.368	-	-	0.16	0.440	0.602
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	Hotspot on	26865	831.5	1	21.64	23.00	1.368	-	-	0.16	0.542	0.741
	LTE Band 26	15M	QPSK	75	0	-	Front	5mm	Ant 0	Hotspot on	26865	831.5	1	21.62	23.00	1.374	-	-	-0.18	0.355	0.488
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	Hotspot on	26865	831.5	1	21.62	23.00	1.374	-	-	-0.19	0.608	0.835
	LTE Band 26	15M	QPSK	75	0	-	Bottom Side	5mm	Ant 0	Hotspot on	26865	831.5	1	21.62	23.00	1.374	-	-	0.01	0.481	0.661
	LTE Band 5	10M	QPSK	1	25	-	Front	5mm	Ant 4	Hotspot on	20525	836.5	1	22.35	24.00	1.462	-	-	-0.07	0.130	0.190
32	LTE Band 5	10M	QPSK	1	25	-	Back	5mm	Ant 4	Hotspot on	20525	836.5	1	22.35	24.00	1.462	-	-	-0.14	0.270	0.395
	LTE Band 5	10M	QPSK	1	25	-	Left Side	5mm	Ant 4	Hotspot on	20525	836.5	1	22.35	24.00	1.462	-	-	-0.08	0.134	0.196
	LTE Band 5	10M	QPSK	1	25	-	Top Side	5mm	Ant 4	Hotspot on	20525	836.5	1	22.35	24.00	1.462	-	-	0.14	0.263	0.385
	LTE Band 5	10M	QPSK	25	0	-	Front	5mm	Ant 4	Hotspot on	20525	836.5	1	21.32	23.00	1.472	-	-	0.04	0.099	0.146
	LTE Band 5	10M	QPSK	25	0	-	Back	5mm	Ant 4	Hotspot on	20525	836.5	1	21.32	23.00	1.472	-	-	-0.01	0.230	0.339
	LTE Band 5	10M	QPSK	25	0	-	Left Side	5mm	Ant 4	Hotspot on	20525	836.5	1	21.32	23.00	1.472	-	-	-0.12	0.126	0.186
	LTE Band 5	10M	QPSK	25	0	-	Top Side	5mm	Ant 4	Hotspot on	20525	836.5	1	21.32	23.00	1.472	-	-	-0.16	0.206	0.303
	FR1 n26	20M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	Hotspot on	166300	831.5	1	22.76	24.00	1.330	-	-	-0.06	0.374	0.498
	FR1 n26	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	Hotspot on	166300	831.5	1	22.76	24.00	1.330	-	-	-0.16	0.526	0.700
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 0	Hotspot on	166300	831.5	1	22.76	24.00	1.330	-	-	0.12	0.321	0.427
	FR1 n26	20M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 0	Hotspot on	166300	831.5	1	22.76	24.00	1.330	-	-	-0.03	0.367	0.488
	FR1 n26	20M	QPSK	50	28	DFT-15	Front	5mm	Ant 0	Hotspot on	166300	831.5	1	22.46	24.00	1.426	-	-	0.09	0.392	0.559
33	FR1 n26	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	Hotspot on	166300	831.5	1	22.46	24.00	1.426	-	-	-0.05	0.528	0.753
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Side	5mm	Ant 0	Hotspot on	166300	831.5	1	22.46	24.00	1.426	-	-	0.09	0.353	0.503
	FR1 n26	20M	QPSK	50	28	DFT-15	Bottom Side	5mm	Ant 0	Hotspot on	166300	831.5	1	22.46	24.00	1.426	-	-	-0.05	0.431	0.614
1750MHz																					
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	Hotspot on	1413	1732.6	1	18.52	20.00	1.406	-	-	0.19	0.497	0.699
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Hotspot on	1413	1732.6	1	18.52	20.00	1.406	-	-	0.02	0.654	0.920
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	Hotspot on	1413	1732.6	1	18.52	20.00	1.406	-	-	-0.13	0.174	0.245
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	Hotspot on	1413	1732.6	1	18.52	20.00	1.406	-	-	-0.03	0.875	1.230
34	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	Hotspot on	1312	1712.4	1	18.45	20.00	1.429	-	-	0.06	0.882	1.260
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	Hotspot on	1513	1752.6	1	18.47	20.00	1.422	-	-	0.04	0.879	1.250
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Hotspot on	1312	1712.4	1	18.45	20.00	1.429	-	-	-0.04	0.657	0.939
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Hotspot on	1513	1752.6	1	18.47	20.00	1.422	-	-	-0.05	0.657	0.934
	LTE Band 66	20M	QPSK	1	49	-	Front	5mm	Ant 1	Hotspot on	132322	1745	1	18.60	20.00	1.380	-	-	-0.1	0.488	0.674
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	132322	1745	1	18.60	20.00	1.380	-	-	-0.05	0.616	0.850
	LTE Band 66	20M	QPSK	1	49	-	Right Side	5mm	Ant 1	Hotspot on	132322	1745	1	18.60	20.00	1.380	-	-	-0.04	0.201	0.277
	LTE Band 66	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	132322	1745	1	18.60	20.00	1.380	-	-	-0.12	0.858	1.184
	LTE Band 66	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	132072	1720	1	18.52	20.00	1.406	-	-	-0.17	0.868	1.220
35	LTE Band 66	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	132572	1770	1	18.57	20.00	1.390	-	-	-0.14	0.888	1.234
	LTE Band 66 Other PA	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	132572	1770	1	19.14	20.00	1.219	-	-	0.13	0.750	0.914
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	132072	1720	1	18.52	20.00	1.406	-	-	0.1	0.616	0.866
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	132572	1770	1	18.57	20.00	1.390	-	-	0.1	0.622	0.865
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	Hotspot on	132322	1745	1	17.59	19.00	1.384	-	-	-0.17	0.372	0.515
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	132322	1745	1	17.59	19.00	1.384	-	-	0.17	0.470	0.650
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Hotspot on	132322	1745	1	17.59	19.00	1.384	-	-	0.01	0.153	0.212
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	132322	1745	1	17.59	19.00	1.384	-	-	0.09	0.654	0.905



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	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	132072	1720	1	17.55	19.00	1.396	-	-	0.13	0.668	0.933
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	132572	1770	1	17.48	19.00	1.419	-	-	0.01	0.694	0.985
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 1	Hotspot on	132322	1745	1	17.51	19.00	1.409	-	-	-0.13	0.474	0.668
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	Hotspot on	132322	1745	1	17.51	19.00	1.409	-	-	0.06	0.659	0.929
	LTE Band 66	20M	QPSK	1	49	-	Front	5mm	Ant 4	Hotspot on	132322	1745	1	14.94	16.50	1.432	-	-	0.02	0.074	0.106
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 4	Hotspot on	132322	1745	1	14.94	16.50	1.432	-	-	0.14	0.248	0.355
	LTE Band 66	20M	QPSK	1	49	-	Left Side	5mm	Ant 4	Hotspot on	132322	1745	1	14.94	16.50	1.432	-	-	-0.08	0.049	0.070
	LTE Band 66	20M	QPSK	1	49	-	Top Side	5mm	Ant 4	Hotspot on	132322	1745	1	14.94	16.50	1.432	-	-	-0.19	0.191	0.274
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 4	Hotspot on	132072	1720	1	14.81	16.50	1.476	-	-	0	0.193	0.285
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 4	Hotspot on	132572	1770	1	14.92	16.50	1.439	-	-	-0.13	0.469	0.675
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 4	Hotspot on	132322	1745	1	13.98	15.50	1.419	-	-	0.09	0.060	0.085
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 4	Hotspot on	132322	1745	1	13.98	15.50	1.419	-	-	0.06	0.202	0.287
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	Hotspot on	132322	1745	1	13.98	15.50	1.419	-	-	-0.05	0.039	0.055
	LTE Band 66	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	Hotspot on	132322	1745	1	13.98	15.50	1.419	-	-	-0.09	0.150	0.213
	FR1 n66	45M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	Hotspot on	349000	1745	1	19.54	21.00	1.400	-	-	-0.01	0.525	0.735
	FR1 n66	45M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	Hotspot on	349000	1745	1	19.54	21.00	1.400	-	-	0.06	0.675	0.945
	FR1 n66	45M	QPSK	1	1	DFT-15	Right Side	5mm	Ant 1	Hotspot on	349000	1745	1	19.54	21.00	1.400	-	-	-0.13	0.186	0.260
	FR1 n66	45M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	349000	1745	1	19.54	21.00	1.400	-	-	0.18	0.955	1.337
	FR1 n66	45M	QPSK	120	60	DFT-15	Front	5mm	Ant 1	Hotspot on	349000	1745	1	19.52	21.00	1.406	-	-	-0.11	0.604	0.849
	FR1 n66	45M	QPSK	120	60	DFT-15	Back	5mm	Ant 1	Hotspot on	349000	1745	1	19.52	21.00	1.406	-	-	-0.12	0.785	1.104
	FR1 n66	45M	QPSK	120	60	DFT-15	Right Side	5mm	Ant 1	Hotspot on	349000	1745	1	19.52	21.00	1.406	-	-	0.05	0.240	0.337
36	FR1 n66	45M	QPSK	120	60	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	349000	1745	1	19.52	21.00	1.406	-	-	-0.02	0.981	1.379
	FR1 n66 Other PA	45M	QPSK	120	60	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	349000	1745	1	19.60	21.00	1.380	-	-	-0.14	0.581	0.802
	FR1 n66	45M	QPSK	243	0	DFT-15	Back	5mm	Ant 1	Hotspot on	349000	1745	1	19.40	21.00	1.445	-	-	-0.06	0.648	0.937
	FR1 n66	45M	QPSK	243	0	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	349000	1745	1	19.40	21.00	1.445	-	-	0.08	0.917	1.325
	FR1 n66	45M	QPSK	1	1	DFT-15	Front	5mm	Ant 4	Hotspot on	349000	1745	1	15.89	17.50	1.449	-	-	-0.05	0.161	0.233
	FR1 n66	45M	QPSK	1	1	DFT-15	Back	5mm	Ant 4	Hotspot on	349000	1745	1	15.89	17.50	1.449	-	-	-0.03	0.459	0.665
	FR1 n66	45M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 4	Hotspot on	349000	1745	1	15.89	17.50	1.449	-	-	-0.08	0.108	0.156
	FR1 n66	45M	QPSK	1	1	DFT-15	Top Side	5mm	Ant 4	Hotspot on	349000	1745	1	15.89	17.50	1.449	-	-	-0.08	0.391	0.566
	FR1 n66	45M	QPSK	120	60	DFT-15	Front	5mm	Ant 4	Hotspot on	349000	1745	1	15.88	17.50	1.452	-	-	-0.07	0.146	0.212
	FR1 n66	45M	QPSK	120	60	DFT-15	Back	5mm	Ant 4	Hotspot on	349000	1745	1	15.88	17.50	1.452	-	-	0.08	0.475	0.690
	FR1 n66	45M	QPSK	120	60	DFT-15	Left Side	5mm	Ant 4	Hotspot on	349000	1745	1	15.88	17.50	1.452	-	-	-0.13	0.097	0.141
	FR1 n66	45M	QPSK	120	60	DFT-15	Top Side	5mm	Ant 4	Hotspot on	349000	1745	1	15.88	17.50	1.452	-	-	-0.04	0.385	0.559
	FR1 n66	45M	QPSK	243	0	DFT-15	Back	5mm	Ant 4	Hotspot on	349000	1745	1	15.72	17.50	1.507	-	-	0.01	0.415	0.625
1900MHz																					
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 1	Hotspot on	661	1880	1	22.12	24.00	1.542	-	-	-0.01	0.462	0.712
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	Hotspot on	661	1880	1	22.12	24.00	1.542	-	-	-0.1	0.672	1.036
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Right Side	5mm	Ant 1	Hotspot on	661	1880	1	22.12	24.00	1.542	-	-	0.15	0.124	0.191
37	GSM1900	-	-	-	-	GPRS 4 TX Slot	Bottom Side	5mm	Ant 1	Hotspot on	661	1880	1	22.12	24.00	1.542	-	-	0.05	0.905	1.395
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Bottom Side	5mm	Ant 1	Hotspot on	661	1880	2	22.12	24.00	1.542	-	-	0.04	0.706	1.088
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Bottom Side	5mm	Ant 1	Hotspot on	661	1880	3	22.12	24.00	1.542	-	-	-0.14	0.845	1.303
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Bottom Side	5mm	Ant 1	Hotspot on	512	1850.2	1	22.10	24.00	1.549	-	-	0.17	0.873	1.352
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Bottom Side	5mm	Ant 1	Hotspot on	810	1909.8	1	22.09	24.00	1.552	-	-	0.02	0.750	1.164
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	Hotspot on	512	1850.2	1	22.10	24.00	1.549	-	-	0.14	0.649	1.005
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	Hotspot on	810	1909.8	1	22.09	24.00	1.552	-	-	0.17	0.558	0.866
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	Hotspot on	9400	1880	1	18.13	19.50	1.371	-	-	-0.15	0.567	0.777
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Hotspot on	9400	1880	1	18.13	19.50	1.371	-	-	-0.12	0.764	1.047
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	Hotspot on	9400	1880	1	18.13	19.50	1.371	-	-	0.08	0.223	0.306
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	Hotspot on	9400	1880	1	18.13	19.50	1.371	-	-	0.15	0.885	1.213
38	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	Hotspot on	9262	1852.4	1	18.11	19.50	1.377	-	-	0.11	0.891	1.227
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	Hotspot on	9538	1907.6	1	18.10	19.50	1.380	-	-	-0.01	0.872	1.204
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Hotspot on	9262	1852.4	1	18.11	19.50	1.377	-	-	0.01	0.750	1.033
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Hotspot on	9538	1907.6	1	18.10	19.50	1.380	-	-	-0.09	0.754	1.041
	LTE Band 25	20M	QPSK	1	49	-	Front	5mm	Ant 1	Hotspot on	26340	1880	1	18.72	20.00	1.343	-	-	0.01	0.519	0.697



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	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	26340	1880	1	18.72	20.00	1.343	-	-	-0.07	0.813	1.092
	LTE Band 25	20M	QPSK	1	49	-	Right Side	5mm	Ant 1	Hotspot on	26340	1880	1	18.72	20.00	1.343	-	-	-0.07	0.230	0.309
39	LTE Band 25	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	26340	1880	1	18.72	20.00	1.343	-	-	-0.08	0.954	1.281
	LTE Band 2 Other PA	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	18900	1880	1	18.92	20.00	1.282	-	-	-0.1	0.475	0.609
	LTE Band 25	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	26140	1860	1	18.70	20.00	1.349	-	-	-0.13	0.869	1.172
	LTE Band 25	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	26590	1905	1	18.67	20.00	1.358	-	-	-0.07	0.902	1.225
	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	26140	1860	1	18.70	20.00	1.349	-	-	-0.04	0.696	0.939
	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	26590	1905	1	18.67	20.00	1.358	-	-	0.05	0.722	0.981
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 1	Hotspot on	26340	1880	1	17.66	19.00	1.361	-	-	0.12	0.385	0.524
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	26340	1880	1	17.66	19.00	1.361	-	-	0.18	0.595	0.810
	LTE Band 25	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Hotspot on	26340	1880	1	17.66	19.00	1.361	-	-	0.03	0.171	0.233
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	26340	1880	1	17.66	19.00	1.361	-	-	0.13	0.708	0.964
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	26140	1860	1	17.65	19.00	1.365	-	-	0.01	0.647	0.883
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	26590	1905	1	17.61	19.00	1.377	-	-	0.14	0.678	0.934
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	26140	1860	1	17.65	19.00	1.365	-	-	0.16	0.518	0.707
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	26590	1905	1	17.61	19.00	1.377	-	-	-0.16	0.542	0.746
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 1	Hotspot on	26340	1880	1	17.63	19.00	1.371	-	-	-0.03	0.558	0.765
	LTE Band 25	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	Hotspot on	26340	1880	1	17.63	19.00	1.371	-	-	0.16	0.698	0.957
	LTE Band 2	20M	QPSK	1	49	-	Front	5mm	Ant 4	Hotspot on	18900	1880	1	19.55	21.00	1.396	-	-	-0.12	0.225	0.314
40	LTE Band 2	20M	QPSK	1	49	-	Back	5mm	Ant 4	Hotspot on	18900	1880	1	19.55	21.00	1.396	-	-	-0.02	0.495	0.691
	LTE Band 2	20M	QPSK	1	49	-	Left Side	5mm	Ant 4	Hotspot on	18900	1880	1	19.55	21.00	1.396	-	-	-0.13	0.188	0.263
	LTE Band 2	20M	QPSK	1	49	-	Top Side	5mm	Ant 4	Hotspot on	18900	1880	1	19.55	21.00	1.396	-	-	-0.15	0.447	0.624
	LTE Band 2	20M	QPSK	1	49	-	Back	5mm	Ant 4	Hotspot on	18700	1860	1	19.33	21.00	1.469	-	-	-0.08	0.457	0.671
	LTE Band 2	20M	QPSK	1	49	-	Back	5mm	Ant 4	Hotspot on	19100	1900	1	19.28	21.00	1.486	-	-	0.15	0.314	0.467
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant 4	Hotspot on	18900	1880	1	18.47	20.00	1.422	-	-	-0.11	0.221	0.314
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant 4	Hotspot on	18900	1880	1	18.47	20.00	1.422	-	-	-0.18	0.485	0.690
	LTE Band 2	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	Hotspot on	18900	1880	1	18.47	20.00	1.422	-	-	0.07	0.184	0.262
	LTE Band 2	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	Hotspot on	18900	1880	1	18.47	20.00	1.422	-	-	-0.02	0.438	0.623
	FR1 n2	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	Hotspot on	376000	1880	1	19.17	20.50	1.358	-	-	0.05	0.541	0.735
	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	Hotspot on	376000	1880	1	19.17	20.50	1.358	-	-	0	0.749	1.017
	FR1 n2	40M	QPSK	1	1	DFT-15	Right Side	5mm	Ant 1	Hotspot on	376000	1880	1	19.17	20.50	1.358	-	-	0.04	0.228	0.310
	FR1 n2	40M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	376000	1880	1	19.17	20.50	1.358	-	-	0.1	0.890	1.209
	FR1 n2	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 1	Hotspot on	376000	1880	1	19.16	20.50	1.361	-	-	0	0.581	0.791
	FR1 n2	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	Hotspot on	376000	1880	1	19.16	20.50	1.361	-	-	0	0.829	1.129
	FR1 n2	40M	QPSK	108	54	DFT-15	Right Side	5mm	Ant 1	Hotspot on	376000	1880	1	19.16	20.50	1.361	-	-	-0.1	0.262	0.357
41	FR1 n2	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	376000	1880	1	19.16	20.50	1.361	-	-	0.05	0.943	1.284
	FR1 n2 Other PA	40M	QPSK	108	54	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	376000	1880	1	18.77	20.50	1.489	-	-	0.1	0.478	0.712
	FR1 n2	40M	QPSK	216	0	DFT-15	Back	5mm	Ant 1	Hotspot on	376000	1880	1	19.12	20.50	1.374	-	-	0.02	0.733	1.007
	FR1 n2	40M	QPSK	216	0	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	376000	1880	1	19.12	20.50	1.374	-	-	0	0.871	1.197
2600MHz																					
	LTE Band 7	20M	QPSK	1	49	-	Front	5mm	Ant 1	Hotspot on	21100	2535	1	19.06	20.50	1.393	-	-	-0.04	0.518	0.722
	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	21100	2535	1	19.06	20.50	1.393	-	-	-0.07	0.870	1.212
	LTE Band 7	20M	QPSK	1	49	-	Right Side	5mm	Ant 1	Hotspot on	21100	2535	1	19.06	20.50	1.393	-	-	-0.11	0.204	0.284
	LTE Band 7	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	21100	2535	1	19.06	20.50	1.393	-	-	0.14	0.759	1.057
	LTE Band 7	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	20850	2510	1	18.95	20.50	1.429	-	-	-0.04	0.759	1.085
	LTE Band 7	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	21350	2560	1	19.05	20.50	1.396	-	-	0.11	0.717	1.001
42	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	20850	2510	1	18.95	20.50	1.429	-	-	0.14	0.874	1.249
	LTE Band 7 Other PA	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	20850	2510	1	19.35	20.50	1.303	-	-	-0.19	0.568	0.740
	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	21350	2560	1	19.05	20.50	1.396	-	-	0.11	0.827	1.155
	LTE Band 7C	20M	QPSK	1	99	-	Back	5mm	Ant 1	Hotspot on	20850+ 21048	2510+ 2529.8	1	18.73	20.50	1.503	-	-	0.05	0.780	1.172
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	Hotspot on	21100	2535	1	18.07	19.50	1.390	-	-	-0.04	0.388	0.539
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	21100	2535	1	18.07	19.50	1.390	-	-	0.06	0.656	0.912
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Hotspot on	21100	2535	1	18.07	19.50	1.390	-	-	0.04	0.153	0.213
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	21100	2535	1	18.07	19.50	1.390	-	-	-0.1	0.582	0.809
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	20850	2510	1	17.95	19.50	1.429	-	-	0.04	0.586	0.837



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	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	21350	2560	1	18.05	19.50	1.396	-	-	0.06	0.540	0.754
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	20850	2510	1	17.95	19.50	1.429	-	-	-0.13	0.674	0.963
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	21350	2560	1	18.05	19.50	1.396	-	-	-0.17	0.623	0.870
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant 1	Hotspot on	21100	2535	1	18.04	19.50	1.400	-	-	-0.15	0.645	0.903
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	Hotspot on	21100	2535	1	18.04	19.50	1.400	-	-	0.12	0.567	0.794
	LTE Band 41	20M	QPSK	1	49	-	Front	5mm	Ant 1	Hotspot on	40620	2593	1	21.37	22.50	1.297	62.9	1.006	-0.05	0.430	0.561
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	40620	2593	1	21.37	22.50	1.297	62.9	1.006	-0.01	0.813	1.061
	LTE Band 41	20M	QPSK	1	49	-	Right Side	5mm	Ant 1	Hotspot on	40620	2593	1	21.37	22.50	1.297	62.9	1.006	0.06	0.176	0.230
	LTE Band 41	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	40620	2593	1	21.37	22.50	1.297	62.9	1.006	-0.09	0.768	1.002
	LTE Band 41	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	39790	2510	1	20.96	22.50	1.426	62.9	1.006	-0.13	0.813	1.166
	LTE Band 41	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	39750	2506	1	21.03	22.50	1.403	62.9	1.006	0.04	0.807	1.139
	LTE Band 41	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	40185	2549.5	1	21.18	22.50	1.355	62.9	1.006	0.04	0.768	1.047
	LTE Band 41	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	41055	2636.5	1	21.19	22.50	1.352	62.9	1.006	0.06	0.657	0.894
	LTE Band 41	20M	QPSK	1	49	-	Bottom Side	5mm	Ant 1	Hotspot on	41490	2680	1	21.26	22.50	1.330	62.9	1.006	0.16	0.587	0.786
43	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	39750	2506	1	21.03	22.50	1.403	62.9	1.006	-0.19	0.852	1.202
	LTE Band 41 Other PA	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	39750	2506	1	21.30	22.50	1.318	62.9	1.006	0.08	0.452	0.599
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	40185	2549.5	1	21.18	22.50	1.355	62.9	1.006	-0.02	0.813	1.108
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	41055	2636.5	1	21.19	22.50	1.352	62.9	1.006	-0.19	0.696	0.947
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	Hotspot on	41490	2680	1	21.26	22.50	1.330	62.9	1.006	-0.19	0.622	0.833
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	Hotspot on	40620	2593	1	20.49	21.50	1.262	62.9	1.006	-0.19	0.332	0.421
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	40620	2593	1	20.49	21.50	1.262	62.9	1.006	0.1	0.628	0.797
	LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Hotspot on	40620	2593	1	20.49	21.50	1.262	62.9	1.006	0.02	0.136	0.173
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	40620	2593	1	20.49	21.50	1.262	62.9	1.006	0.15	0.593	0.753
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	39750	2506	1	20.05	21.50	1.396	62.9	1.006	-0.08	0.690	0.969
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	40185	2549.5	1	20.20	21.50	1.349	62.9	1.006	-0.04	0.634	0.860
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	41055	2636.5	1	20.45	21.50	1.274	62.9	1.006	-0.02	0.512	0.656
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Hotspot on	41490	2680	1	20.43	21.50	1.279	62.9	1.006	0.03	0.459	0.591
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	39750	2506	1	20.05	21.50	1.396	62.9	1.006	-0.03	0.728	1.023
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	40185	2549.5	1	20.20	21.50	1.349	62.9	1.006	0.14	0.672	0.912
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	41055	2636.5	1	20.45	21.50	1.274	62.9	1.006	0.04	0.542	0.694
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	Hotspot on	41490	2680	1	20.43	21.50	1.279	62.9	1.006	0.11	0.487	0.627
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 1	Hotspot on	40620	2593	1	20.48	21.50	1.265	62.9	1.006	0.19	0.636	0.809
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	Hotspot on	40620	2593	1	20.48	21.50	1.265	62.9	1.006	-0.18	0.601	0.765
	FR1 n7	50M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	Hotspot on	507000	2535	1	18.34	20.00	1.466	-	-	-0.09	0.482	0.706
	FR1 n7	50M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	Hotspot on	507000	2535	1	18.34	20.00	1.466	-	-	-0.12	0.739	1.083
	FR1 n7	50M	QPSK	1	1	DFT-15	Right Side	5mm	Ant 1	Hotspot on	507000	2535	1	18.34	20.00	1.466	-	-	-0.06	0.194	0.284
	FR1 n7	50M	QPSK	1	1	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	507000	2535	1	18.34	20.00	1.466	-	-	-0.14	0.728	1.067
	FR1 n7	50M	QPSK	135	68	DFT-15	Front	5mm	Ant 1	Hotspot on	507000	2535	1	18.33	20.00	1.469	-	-	-0.14	0.538	0.790
44	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	Hotspot on	507000	2535	1	18.33	20.00	1.469	-	-	-0.08	0.851	1.250
	FR1 n7 Other PA	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	Hotspot on	507000	2535	1	19.10	20.00	1.230	-	-	-0.07	0.652	0.802
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	Hotspot on	507000	2535	2	18.33	20.00	1.469	-	-	0.04	0.745	1.094
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	Hotspot on	507000	2535	3	18.33	20.00	1.469	-	-	-0.12	0.639	0.939
	FR1 n7	50M	QPSK	135	68	DFT-15	Right Side	5mm	Ant 1	Hotspot on	507000	2535	1	18.33	20.00	1.469	-	-	0.05	0.211	0.310
	FR1 n7	50M	QPSK	135	68	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	507000	2535	1	18.33	20.00	1.469	-	-	-0.18	0.756	1.111
	FR1 n7	50M	QPSK	270	0	DFT-15	Back	5mm	Ant 1	Hotspot on	507000	2535	1	18.22	20.00	1.507	-	-	0.05	0.724	1.091
	FR1 n7	50M	QPSK	270	0	DFT-15	Bottom Side	5mm	Ant 1	Hotspot on	507000	2535	1	18.22	20.00	1.507	-	-	0	0.713	1.074
	FR1 n7	50M	QPSK	1	1	DFT-15	Front	5mm	Ant 4	Hotspot on	507000	2535	1	13.02	14.50	1.406	-	-	0.08	0.074	0.104
	FR1 n7	50M	QPSK	1	1	DFT-15	Back	5mm	Ant 4	Hotspot on	507000	2535	1	13.02	14.50	1.406	-	-	0.01	0.453	0.637
	FR1 n7	50M	QPSK	1	1	DFT-15	Left Side	5mm	Ant 4	Hotspot on	507000	2535	1	13.02	14.50	1.406	-	-	-0.08	0.042	0.059
	FR1 n7	50M	QPSK	1	1	DFT-15	Top Side	5mm	Ant 4	Hotspot on	507000	2535	1	13.02	14.50	1.406	-	-	-0.19	0.213	0.299
	FR1 n7	50M	QPSK	135	68	DFT-15	Front	5mm	Ant 4	Hotspot on	507000	2535	1	12.93	14.50	1.435	-	-	0.14	0.076	0.109
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 4	Hotspot on	507000	2535	1	12.93	14.50	1.435	-	-	-0.08	0.467	0.670
	FR1 n7	50M	QPSK	135	68	DFT-15	Left Side	5mm	Ant 4	Hotspot on	507000	2535	1	12.93	14.50	1.435	-	-	-0.13	0.043	0.062
	FR1 n7	50M	QPSK	135	68	DFT-15	Top Side	5mm	Ant 4	Hotspot on	507000	2535	1	12.93	14.50	1.435	-	-	-0.04	0.220	0.316
	FR1 n41	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.82	22.00	1.312	-	-	0.07	0.564	0.740
45	FR1 n41	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.82	22.00	1.312	-	-	-0.07	0.952	1.249



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	FR1 n41	100M	QPSK	1	137	DFT-30	Right Side	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.82	22.00	1.312	-	-	0.12	0.209	0.274
	FR1 n41	100M	QPSK	1	137	DFT-30	Bottom Side	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.82	22.00	1.312	-	-	0.19	0.906	1.189
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.70	22.00	1.349	-	-	0.16	0.547	0.738
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.70	22.00	1.349	-	-	0.09	0.923	1.245
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.70	22.00	1.349	-	-	0.14	0.203	0.274
	FR1 n41	100M	QPSK	135	69	DFT-30	Bottom Side	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.70	22.00	1.349	-	-	0.16	0.879	1.186
	FR1 n41	100M	QPSK	270	0	DFT-30	Front	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.58	22.00	1.387	-	-	0.13	0.553	0.767
	FR1 n41	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.58	22.00	1.387	-	-	0.09	0.893	1.238
	FR1 n41	100M	QPSK	270	0	DFT-30	Bottom Side	5mm	Ant 1	Hotspot on	518598	2592.99	1	20.58	22.00	1.387	-	-	-0.07	0.888	1.231
	FR1 n41	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.95	13.50	1.429	-	-	-0.06	0.102	0.146
	FR1 n41	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.95	13.50	1.429	-	-	0.19	0.439	0.627
	FR1 n41	100M	QPSK	1	137	DFT-30	Left Side	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.95	13.50	1.429	-	-	0.04	0.041	0.059
	FR1 n41	100M	QPSK	1	137	DFT-30	Top Side	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.95	13.50	1.429	-	-	-0.18	0.213	0.304
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.84	13.50	1.466	-	-	-0.08	0.112	0.164
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.84	13.50	1.466	-	-	-0.03	0.457	0.670
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.84	13.50	1.466	-	-	-0.1	0.043	0.063
	FR1 n41	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.84	13.50	1.466	-	-	-0.08	0.222	0.325
	FR1 n41	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 4	Hotspot on	518598	2592.99	1	11.72	13.50	1.507	-	-	0.13	0.425	0.640
3500MHz																					
	LTE Band 42	20M	QPSK	1	49	-	Front	5mm	Ant 5	Hotspot on	42190	3460	1	12.58	13.50	1.236	62.9	1.006	0.11	0.145	0.180
	LTE Band 42	20M	QPSK	1	49	-	Back	5mm	Ant 5	Hotspot on	42190	3460	1	12.58	13.50	1.236	62.9	1.006	0.11	0.495	0.615
	LTE Band 42	20M	QPSK	1	49	-	Right Side	5mm	Ant 5	Hotspot on	42190	3460	1	12.58	13.50	1.236	62.9	1.006	-0.19	0.047	0.058
	LTE Band 42	20M	QPSK	1	49	-	Top Side	5mm	Ant 5	Hotspot on	42190	3460	1	12.58	13.50	1.236	62.9	1.006	-0.06	0.357	0.444
	LTE Band 42	20M	QPSK	1	49	-	Back	5mm	Ant 5	Hotspot on	42590	3500	1	12.57	13.50	1.239	62.9	1.006	0.04	0.507	0.632
46	LTE Band 42	20M	QPSK	1	49	-	Back	5mm	Ant 5	Hotspot on	42990	3540	1	12.44	13.50	1.276	62.9	1.006	0.16	0.511	0.656
	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 5	Hotspot on	42190	3460	1	11.66	12.50	1.213	62.9	1.006	-0.06	0.108	0.132
	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 5	Hotspot on	42190	3460	1	11.66	12.50	1.213	62.9	1.006	0.14	0.389	0.475
	LTE Band 42	20M	QPSK	50	0	-	Right Side	5mm	Ant 5	Hotspot on	42190	3460	1	11.66	12.50	1.213	62.9	1.006	0.18	0.035	0.043
	LTE Band 42	20M	QPSK	50	0	-	Top Side	5mm	Ant 5	Hotspot on	42190	3460	1	11.66	12.50	1.213	62.9	1.006	0.04	0.265	0.323
	LTE Band 42	20M	QPSK	100	0	-	Back	5mm	Ant 5	Hotspot on	42190	3460	1	11.56	12.50	1.242	62.9	1.006	-0.13	0.357	0.446
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.44	13.00	1.432	-	-	-0.05	0.153	0.219
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.44	13.00	1.432	-	-	0.05	0.426	0.610
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Side	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.44	13.00	1.432	-	-	0.05	0.048	0.069
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Top Side	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.44	13.00	1.432	-	-	0.13	0.289	0.414
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.38	13.00	1.452	-	-	-0.15	0.150	0.218
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.38	13.00	1.452	-	-	0.06	0.417	0.606
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.38	13.00	1.452	-	-	0.06	0.047	0.068
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.38	13.00	1.452	-	-	0.05	0.283	0.411
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 5	Hotspot on	633332	3499.98	1	11.28	13.00	1.486	-	-	-0.11	0.413	0.614
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 5	Hotspot on	656000	3840	1	11.60	13.00	1.380	-	-	-0.03	0.134	0.185
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 5	Hotspot on	656000	3840	1	11.60	13.00	1.380	-	-	0.05	0.328	0.453
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Side	5mm	Ant 5	Hotspot on	656000	3840	1	11.60	13.00	1.380	-	-	0.11	0.059	0.081
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Top Side	5mm	Ant 5	Hotspot on	656000	3840	1	11.60	13.00	1.380	-	-	0.08	0.218	0.301
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 5	Hotspot on	656000	3840	1	11.51	13.00	1.409	-	-	-0.01	0.140	0.197
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 5	Hotspot on	656000	3840	1	11.51	13.00	1.409	-	-	-0.13	0.338	0.476
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 5	Hotspot on	656000	3840	1	11.51	13.00	1.409	-	-	-0.02	0.059	0.083
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 5	Hotspot on	656000	3840	1	11.51	13.00	1.409	-	-	0.16	0.227	0.320
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 3	Hotspot on	633332	3499.98	1	11.39	12.50	1.291	-	-	0.16	0.000	0.000
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 3	Hotspot on	633332	3499.98	1	11.39	12.50	1.291	-	-	-0.08	0.381	0.492
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Left Side	5mm	Ant 3	Hotspot on	633332	3499.98	1	11.39	12.50	1.291	-	-	0.07	0.081	0.105
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Top Side	5mm	Ant 3	Hotspot on	633332	3499.98	1	11.39	12.50	1.291	-	-	-0.17	0.028	0.036
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 3	Hotspot on	633332	3499.98	1	11.30	12.50	1.318	-	-	0.19	0.000	0.000
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 3	Hotspot on	633332	3499.98	1	11.30	12.50	1.318	-	-	-0.13	0.349	0.460
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Left Side	5mm	Ant 3	Hotspot on	633332	3499.98	1	11.30	12.50	1.318	-	-	-0.08	0.087	0.115
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 3	Hotspot on	633332	3499.98	1	11.30	12.50	1.318	-	-	0.07	0.033	0.044
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 3	Hotspot on	656000	3840	1	11.24	12.50	1.337	-	-	0.07	0.018	0.024



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	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 3	Hotspot on	656000	3840	1	11.24	12.50	1.337	-	-	-0.12	0.461	0.616
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Left Side	5mm	Ant 3	Hotspot on	656000	3840	1	11.24	12.50	1.337	-	-	0.11	0.098	0.131
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Top Side	5mm	Ant 3	Hotspot on	656000	3840	1	11.24	12.50	1.337	-	-	-0.16	0.069	0.092
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 3	Hotspot on	656000	3840	1	11.22	12.50	1.343	-	-	0.13	0.020	0.027
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 3	Hotspot on	656000	3840	1	11.22	12.50	1.343	-	-	-0.17	0.473	0.635
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Left Side	5mm	Ant 3	Hotspot on	656000	3840	1	11.22	12.50	1.343	-	-	-0.04	0.094	0.126
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 3	Hotspot on	656000	3840	1	11.22	12.50	1.343	-	-	-0.12	0.068	0.091
	FR1 n77 Part27O	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 3	Hotspot on	656000	3840	1	11.11	12.50	1.377	-	-	0.16	0.447	0.616
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.98	14.00	1.265	-	-	-0.13	0.068	0.086
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.98	14.00	1.265	-	-	-0.06	0.533	0.674
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Side	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.98	14.00	1.265	-	-	0.18	0.163	0.206
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Top Side	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.98	14.00	1.265	-	-	0.06	0.118	0.149
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.89	14.00	1.291	-	-	-0.12	0.067	0.087
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.89	14.00	1.291	-	-	-0.19	0.545	0.704
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.89	14.00	1.291	-	-	-0.07	0.163	0.210
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.89	14.00	1.291	-	-	-0.01	0.126	0.163
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 7	Hotspot on	633332	3499.98	1	12.75	14.00	1.334	-	-	0.17	0.534	0.712
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 7	Hotspot on	656000	3840	1	13.62	14.00	1.091	-	-	0.01	0.113	0.123
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 7	Hotspot on	656000	3840	1	13.62	14.00	1.091	-	-	0.12	0.457	0.499
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Right Side	5mm	Ant 7	Hotspot on	656000	3840	1	13.62	14.00	1.091	-	-	-0.06	0.250	0.273
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Top Side	5mm	Ant 7	Hotspot on	656000	3840	1	13.62	14.00	1.091	-	-	-0.16	0.111	0.121
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 7	Hotspot on	656000	3840	1	13.53	14.00	1.114	-	-	-0.12	0.105	0.117
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 7	Hotspot on	656000	3840	1	13.53	14.00	1.114	-	-	-0.18	0.443	0.494
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 7	Hotspot on	656000	3840	1	13.53	14.00	1.114	-	-	0.15	0.243	0.271
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Top Side	5mm	Ant 7	Hotspot on	656000	3840	1	13.53	14.00	1.114	-	-	-0.03	0.108	0.120
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 9	Hotspot on	633332	3499.98	1	16.70	17.50	1.202	-	-	-0.05	0.214	0.257
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 9	Hotspot on	633332	3499.98	1	16.70	17.50	1.202	-	-	0.14	0.260	0.313
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Right Side	5mm	Ant 9	Hotspot on	633332	3499.98	1	16.70	17.50	1.202	-	-	0.15	0.427	0.513
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Bottom Side	5mm	Ant 9	Hotspot on	633332	3499.98	1	16.70	17.50	1.202	-	-	-0.09	0.172	0.207
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 9	Hotspot on	633332	3499.98	1	16.64	17.50	1.219	-	-	-0.02	0.228	0.278
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 9	Hotspot on	633332	3499.98	1	16.64	17.50	1.219	-	-	-0.13	0.280	0.341
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 9	Hotspot on	633332	3499.98	1	16.64	17.50	1.219	-	-	-0.06	0.439	0.535
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Bottom Side	5mm	Ant 9	Hotspot on	633332	3499.98	1	16.64	17.50	1.219	-	-	-0.05	0.186	0.227
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 9	Hotspot on	656000	3840	1	16.44	17.50	1.276	-	-	-0.13	0.395	0.504
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 9	Hotspot on	656000	3840	1	16.44	17.50	1.276	-	-	-0.12	0.522	0.666
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Right Side	5mm	Ant 9	Hotspot on	656000	3840	1	16.44	17.50	1.276	-	-	-0.15	0.946	1.208
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Bottom Side	5mm	Ant 9	Hotspot on	656000	3840	1	16.44	17.50	1.276	-	-	-0.08	0.155	0.198
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 9	Hotspot on	656000	3840	1	16.41	17.50	1.285	-	-	0.02	0.381	0.490
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 9	Hotspot on	656000	3840	1	16.41	17.50	1.285	-	-	0.17	0.527	0.677
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 9	Hotspot on	656000	3840	1	16.41	17.50	1.285	-	-	-0.06	0.982	1.262
47	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 9	Hotspot on	656000	3840	2	16.41	17.50	1.285	-	-	0.06	1.040	1.337
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Right Side	5mm	Ant 9	Hotspot on	656000	3840	3	16.41	17.50	1.285	-	-	-0.14	0.776	0.997
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Bottom Side	5mm	Ant 9	Hotspot on	656000	3840	1	16.41	17.50	1.285	-	-	-0.14	0.176	0.226
	FR1 n77 Part27O	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 9	Hotspot on	656000	3840	1	16.32	17.50	1.312	-	-	0.15	0.498	0.653
	FR1 n77 Part27O	100M	QPSK	270	0	DFT-30	Right Side	5mm	Ant 9	Hotspot on	656000	3840	1	16.32	17.50	1.312	-	-	-0.19	0.165	0.217



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN&BT																	
	Bluetooth	DH5 1Mbps	Front	5mm	Ant 6	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	0.07	0.058	0.081
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 6	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	-0.03	0.115	0.160
	Bluetooth	DH5 1Mbps	Right Side	5mm	Ant 6	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	0.09	0.063	0.088
	Bluetooth	DH5 1Mbps	Top Side	5mm	Ant 6	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	0.02	0.110	0.153
48	Bluetooth	DH5 1Mbps	Back	5mm	Ant 6	Full Power	0	2402	1	10.20	12.00	1.514	77.06	1.081	-0.06	0.115	0.188
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 6	Full Power	78	2480	1	10.80	12.00	1.318	77.06	1.081	0.19	0.118	0.168
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6	Hotspot on	6	2437	1	18.80	19.50	1.175	99.64	1.004	-0.07	0.358	0.422
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Hotspot on	6	2437	1	18.80	19.50	1.175	99.64	1.004	-0.06	0.571	0.674
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 6	Hotspot on	6	2437	1	18.80	19.50	1.175	99.64	1.004	-0.13	0.311	0.367
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 6	Hotspot on	6	2437	1	18.80	19.50	1.175	99.64	1.004	-0.19	0.567	0.669
49	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Hotspot on	1	2412	1	18.30	19.50	1.318	99.64	1.004	-0.19	0.641	0.848
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	Hotspot on	11	2462	1	18.40	19.50	1.288	99.64	1.004	0.13	0.597	0.772
	WLAN5.2GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5	Hotspot on	46	5230	1	14.23	16.00	1.503	100	1.000	0.15	0.058	0.087
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5	Hotspot on	46	5230	1	14.23	16.00	1.503	100	1.000	-0.04	0.176	0.265
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	5mm	Ant 5	Hotspot on	46	5230	1	14.23	16.00	1.503	100	1.000	-0.14	0.022	0.033
50	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	5mm	Ant 5	Hotspot on	46	5230	1	14.23	16.00	1.503	100	1.000	0.07	0.349	0.525
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	Hotspot on	157	5785	1	11.55	13.50	1.567	100	1.000	-0.18	0.083	0.130
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	Hotspot on	157	5785	1	11.55	13.50	1.567	100	1.000	-0.19	0.301	0.472
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 5	Hotspot on	157	5785	1	11.55	13.50	1.567	100	1.000	0.13	0.046	0.072
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5	Hotspot on	155	5775	1	11.55	13.50	1.567	100	1.000	0.02	0.402	0.630
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5	Hotspot on	155	5775	2	11.55	13.50	1.567	100	1.000	0.04	0.388	0.608
51	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5	Hotspot on	155	5775	3	11.55	13.50	1.567	100	1.000	-0.07	0.443	0.694



15.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Headset	Power Reduction	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																						
52	LTE Band 12	10M	QPSK	1	25	-	Front	5mm	Ant 0	-	Sensor on	23095	707.5	1	22.30	24.00	1.479	-	-	0.11	0.510	0.754
	LTE Band 12	10M	QPSK	1	25	-	Back	5mm	Ant 0	-	Sensor on	23095	707.5	1	22.30	24.00	1.479	-	-	0.16	0.739	1.093
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	Sensor on	23095	707.5	1	21.27	23.00	1.489	-	-	-0.15	0.420	0.626
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	Sensor on	23095	707.5	1	21.27	23.00	1.489	-	-	-0.16	0.591	0.880
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	Sensor on	23095	707.5	1	21.24	23.00	1.500	-	-	-0.1	0.579	0.868
53	LTE Band 13	10M	QPSK	1	25	-	Front	5mm	Ant 0	-	Sensor on	23230	782	1	22.63	24.00	1.371	-	-	0.19	0.519	0.711
	LTE Band 13	10M	QPSK	1	25	-	Back	5mm	Ant 0	-	Sensor on	23230	782	1	22.63	24.00	1.371	-	-	-0.01	0.706	0.968
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	Sensor on	23230	782	1	21.55	23.00	1.396	-	-	-0.15	0.421	0.588
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	Sensor on	23230	782	1	21.55	23.00	1.396	-	-	-0.19	0.654	0.913
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	Sensor on	23230	782	1	21.54	23.00	1.400	-	-	-0.04	0.629	0.880
835MHz																						
54	GSM850	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 0	-	Sensor on	189	836.4	1	27.63	29.50	1.538	-	-	0.06	0.559	0.860
	GSM850	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 0	-	Sensor on	128	824.2	1	27.61	29.50	1.545	-	-	0.17	0.519	0.802
	GSM850	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 0	-	Sensor on	251	848.8	1	27.58	29.50	1.556	-	-	0.06	0.535	0.832
	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 0	-	Sensor on	189	836.4	1	27.63	29.50	1.538	-	-	0.16	0.856	1.317
	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 0	-	Sensor on	128	824.2	1	27.61	29.50	1.545	-	-	-0.1	0.795	1.228
	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 0	-	Sensor on	251	848.8	1	27.58	29.50	1.556	-	-	-0.14	0.820	1.276
	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 0	Headset	Sensor on	189	836.4	1	27.63	29.50	1.538	-	-	-0.1	0.808	1.243
	GSM850	-	-	-	-	GPRS 4 TX Slot	Front	16mm	Ant 0	-	Sensor Off	189	836.4	1	28.59	30.50	1.552	-	-	-0.1	0.260	0.404
	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	23mm	Ant 0	-	Sensor Off	189	836.4	1	28.59	30.50	1.552	-	-	-0.1	0.221	0.343
	GSM850	-	-	-	-	GPRS 4 TX Slot	Back	23mm	Ant 0	-	Sensor Off	189	836.4	1	28.59	30.50	1.552	-	-	-0.1	0.221	0.343
55	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	Sensor on	4182	836.4	1	22.61	24.00	1.377	-	-	-0.07	0.642	0.884
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	Sensor on	4132	826.4	1	22.56	24.00	1.393	-	-	0.1	0.699	0.974
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	Sensor on	4233	846.6	1	22.50	24.00	1.413	-	-	-0.11	0.661	0.934
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	Sensor on	4182	836.4	1	22.61	24.00	1.377	-	-	-0.05	0.919	1.266
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	Sensor on	4132	826.4	1	22.56	24.00	1.393	-	-	0.07	1.000	1.393
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	Sensor on	4233	846.6	1	22.50	24.00	1.413	-	-	0.12	0.945	1.335
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Headset	Sensor on	4132	826.4	1	22.56	24.00	1.393	-	-	0.06	0.945	1.317
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Headset	Sensor on	4132	826.4	1	22.56	24.00	1.393	-	-	0.06	0.945	1.317
56	LTE Band 26	15M	QPSK	1	37	-	Front	5mm	Ant 0	-	Sensor on	26865	831.5	1	22.74	24.00	1.337	-	-	0.05	0.677	0.905
	LTE Band 26	15M	QPSK	1	37	-	Front	5mm	Ant 0	-	Sensor on	26765	821.5	1	22.51	24.00	1.409	-	-	-0.08	0.602	0.848
	LTE Band 26	15M	QPSK	1	37	-	Front	5mm	Ant 0	-	Sensor on	26965	841.5	1	22.45	24.00	1.429	-	-	0.15	0.606	0.866
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	-	Sensor on	26865	831.5	1	22.74	24.00	1.337	-	-	0.05	1.070	1.430
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	-	Sensor on	26865	831.5	2	22.74	24.00	1.337	-	-	0.04	0.903	1.207
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	-	Sensor on	26865	831.5	3	22.74	24.00	1.337	-	-	-0.12	0.921	1.231
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	-	Sensor on	26765	821.5	1	22.51	24.00	1.409	-	-	0.13	0.952	1.342
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	-	Sensor on	26965	841.5	1	22.45	24.00	1.429	-	-	0.11	0.958	1.369
	LTE Band 26	15M	QPSK	1	37	-	Back	5mm	Ant 0	Headset	Sensor on	26865	831.5	1	22.74	24.00	1.337	-	-	0.07	0.971	1.298
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	-	Sensor on	26865	831.5	1	21.64	23.00	1.368	-	-	-0.03	0.544	0.744
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	Sensor on	26865	831.5	1	21.64	23.00	1.368	-	-	0.03	0.739	1.011
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	Sensor on	26765	821.5	1	21.54	23.00	1.400	-	-	-0.15	0.765	1.071
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	Sensor on	26965	841.5	1	21.49	23.00	1.416	-	-	-0.15	0.762	1.079
	LTE Band 26	15M	QPSK	75	0	-	Front	5mm	Ant 0	-	Sensor on	26865	831.5	1	21.62	23.00	1.374	-	-	-0.18	0.355	0.488
57	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	-	Sensor on	26865	831.5	1	21.62	23.00	1.374	-	-	-0.19	0.608	0.835
	LTE Band 5	10M	QPSK	1	25	-	Front	5mm	Ant 4	-	Sensor on	20525	836.5	1	22.35	24.00	1.462	-	-	-0.07	0.130	0.190
	LTE Band 5	10M	QPSK	1	25	-	Back	5mm	Ant 4	-	Sensor on	20525	836.5	1	22.35	24.00	1.462	-	-	-0.14	0.270	0.395
	LTE Band 5	10M	QPSK	25	0	-	Front	5mm	Ant 4	-	Sensor on	20525	836.5	1	21.32	23.00	1.472	-	-	0.04	0.099	0.146
	LTE Band 5	10M	QPSK	25	0	-	Back	5mm	Ant 4	-	Sensor on	20525	836.5	1	21.32	23.00	1.472	-	-	-0.01	0.230	0.339
	FR1 n26	20M	QPSK	1	1	DFT-15	Front	5mm	Ant 0	-	Sensor on	166300	831.5	1	22.76	24.00	1.330	-	-	-0.06	0.374	0.498
	FR1 n26	20M	QPSK	1	1	DFT-15	Back	5mm	Ant 0	-	Sensor on	166300	831.5	1	22.76	24.00	1.330	-	-	-0.16	0.526	0.700
	FR1 n26	20M	QPSK	50	28	DFT-15	Front	5mm	Ant 0	-	Sensor on	166300	831.5	1	22.46	24.00	1.426	-	-	0.09	0.392	0.559
58	FR1 n26	20M	QPSK	50	28	DFT-15	Back	5mm	Ant 0	-	Sensor on	166300	831.5	1	22.46	24.00	1.426	-	-	-0.05	0.528	0.753



1750MHz																						
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	Sensor on	1413	1732.6	1	19.33	21.00	1.469	-	-	-0.14	0.695	1.021
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	Sensor on	1312	1712.4	1	19.24	21.00	1.500	-	-	-0.1	0.700	1.050
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	Sensor on	1513	1752.6	1	19.20	21.00	1.514	-	-	0.15	0.709	1.073
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	Sensor on	1413	1732.6	1	19.33	21.00	1.469	-	-	0.17	0.900	1.322
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	Sensor on	1312	1712.4	1	19.24	21.00	1.500	-	-	0.08	0.905	1.357
59	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	Sensor on	1513	1752.6	1	19.20	21.00	1.514	-	-	-0.09	0.919	1.391
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Headset	Sensor on	1513	1752.6	1	19.20	21.00	1.514	-	-	0.14	0.902	1.365
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	16mm	Ant 1	-	Sensor Off	1513	1752.6	1	22.32	24.00	1.472	-	-	-0.08	0.331	0.487
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	23mm	Ant 1	-	Sensor Off	1513	1752.6	1	22.32	24.00	1.472	-	-	-0.06	0.292	0.430
	LTE Band 66	20M	QPSK	1	49	-	Front	5mm	Ant 1	-	Sensor on	132322	1745	1	19.72	21.00	1.343	-	-	-0.14	0.707	0.949
	LTE Band 66	20M	QPSK	1	49	-	Front	5mm	Ant 1	-	Sensor on	132072	1720	1	19.56	21.00	1.393	-	-	0.09	0.697	0.971
	LTE Band 66	20M	QPSK	1	49	-	Front	5mm	Ant 1	-	Sensor on	132572	1770	1	19.62	21.00	1.374	-	-	0.08	0.717	0.985
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	132322	1745	1	19.72	21.00	1.343	-	-	0.12	0.892	1.198
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	132072	1720	1	19.56	21.00	1.393	-	-	0.05	0.878	1.223
60	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	132572	1770	1	19.62	21.00	1.374	-	-	0.08	0.902	1.239
	LTE Band 66 Other PA	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	132572	1770	1	20.09	21.00	1.233	-	-	-0.19	0.623	0.768
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 1	Headset	Sensor on	132572	1770	1	19.62	21.00	1.374	-	-	0.08	0.886	1.217
	LTE Band 66	20M	QPSK	1	49	-	Front	16mm	Ant 1	-	Sensor Off	132572	1770	1	22.49	24.00	1.416	-	-	0.04	0.340	0.481
	LTE Band 66	20M	QPSK	1	49	-	Back	23mm	Ant 1	-	Sensor Off	132572	1770	1	22.49	24.00	1.416	-	-	0.05	0.284	0.402
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	Sensor on	132322	1745	1	18.62	20.00	1.374	-	-	0.11	0.595	0.818
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	Sensor on	132072	1720	1	18.52	20.00	1.406	-	-	0.08	0.600	0.844
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	Sensor on	132572	1770	1	18.51	20.00	1.409	-	-	0.08	0.618	0.871
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	132322	1745	1	18.62	20.00	1.374	-	-	0.08	0.750	1.031
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	132072	1720	1	18.52	20.00	1.406	-	-	0.02	0.756	1.063
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	132572	1770	1	18.51	20.00	1.409	-	-	-0.12	0.778	1.096
	LTE Band 66	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	Sensor on	132322	1745	1	18.46	20.00	1.426	-	-	0.04	0.611	0.871
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	Sensor on	132322	1745	1	18.46	20.00	1.426	-	-	-0.06	0.770	1.098
	LTE Band 66	20M	QPSK	1	49	-	Front	5mm	Ant 4	-	Sensor on	132322	1745	1	16.08	17.50	1.387	-	-	-0.09	0.096	0.133
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 4	-	Sensor on	132322	1745	1	16.08	17.50	1.387	-	-	0.05	0.322	0.447
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 4	-	Sensor on	132072	1720	1	15.92	17.50	1.439	-	-	-0.07	0.250	0.360
	LTE Band 66	20M	QPSK	1	49	-	Back	5mm	Ant 4	-	Sensor on	132572	1770	1	15.99	17.50	1.416	-	-	0.09	0.610	0.864
	LTE Band 66	20M	QPSK	1	49	-	Front	16mm	Ant 4	-	Sensor Off	132572	1770	1	21.29	23.00	1.483	-	-	-0.15	0.109	0.162
	LTE Band 66	20M	QPSK	1	49	-	Back	23mm	Ant 4	-	Sensor Off	132572	1770	1	21.29	23.00	1.483	-	-	-0.13	0.118	0.175
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	Sensor on	132322	1745	1	15.06	16.50	1.393	-	-	-0.03	0.076	0.106
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	Sensor on	132322	1745	1	15.06	16.50	1.393	-	-	-0.11	0.253	0.352
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 4	-	Sensor on	132572	1770	1	14.94	16.50	1.432	-	-	0.06	0.452	0.647
	FR1 n66	45M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	-	Sensor on	349000	1745	1	21.46	23.00	1.426	-	-	-0.07	0.722	1.029
	FR1 n66	45M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	Sensor on	349000	1745	1	21.46	23.00	1.426	-	-	-0.03	0.928	1.323
	FR1 n66	45M	QPSK	120	60	DFT-15	Front	5mm	Ant 1	-	Sensor on	349000	1745	1	21.40	23.00	1.445	-	-	0.12	0.747	1.080
61	FR1 n66	45M	QPSK	120	60	DFT-15	Back	5mm	Ant 1	-	Sensor on	349000	1745	1	21.40	23.00	1.445	-	-	0.19	0.972	1.405
	FR1 n66 Other PA	45M	QPSK	120	60	DFT-15	Back	5mm	Ant 1	-	Sensor on	349000	1745	1	21.73	23.00	1.340	-	-	-0.04	0.626	0.839
	FR1 n66	45M	QPSK	120	60	DFT-15	Back	5mm	Ant 1	Headset	Sensor on	349000	1745	1	21.40	23.00	1.445	-	-	0.15	0.963	1.392
	FR1 n66	45M	QPSK	120	60	DFT-15	Front	16mm	Ant 1	-	Sensor Off	349000	1745	1	22.32	24.00	1.472	-	-	-0.11	0.277	0.408
	FR1 n66	45M	QPSK	120	60	DFT-15	Back	23mm	Ant 1	-	Sensor Off	349000	1745	1	22.32	24.00	1.472	-	-	-0.12	0.217	0.319
	FR1 n66	45M	QPSK	243	0	DFT-15	Front	5mm	Ant 1	-	Sensor on	349000	1745	1	21.39	23.00	1.449	-	-	-0.03	0.725	1.050
	FR1 n66	45M	QPSK	243	0	DFT-15	Back	5mm	Ant 1	-	Sensor on	349000	1745	1	21.39	23.00	1.449	-	-	0.1	0.943	1.366
	FR1 n66	45M	QPSK	1	1	DFT-15	Front	5mm	Ant 4	-	Sensor on	349000	1745	1	16.87	18.50	1.455	-	-	-0.19	0.166	0.242
	FR1 n66	45M	QPSK	1	1	DFT-15	Back	5mm	Ant 4	-	Sensor on	349000	1745	1	16.87	18.50	1.455	-	-	0.07	0.574	0.835
	FR1 n66	45M	QPSK	120	60	DFT-15	Front	5mm	Ant 4	-	Sensor on	349000	1745	1	16.82	18.50	1.472	-	-	0.03	0.151	0.222
	FR1 n66	45M	QPSK	120	60	DFT-15	Back	5mm	Ant 4	-	Sensor on	349000	1745	1	16.82	18.50	1.472	-	-	0.15	0.595	0.876
	FR1 n66	45M	QPSK	120	60	DFT-15	Front	16mm	Ant 4	-	Sensor Off	349000	1745	1	21.30	23.00	1.479	-	-	0.17	0.107	0.158
	FR1 n66	45M	QPSK	120	60	DFT-15	Back	23mm	Ant 4	-	Sensor Off	349000	1745	1	21.30	23.00	1.479	-	-	-0.12	0.116	0.172
	FR1 n66	45M	QPSK	243	0	DFT-15	Back	5mm	Ant 4	-	Sensor on	349000	1745	1	16.80	18.50	1.479	-	-	-0.03	0.583	0.862
1900MHz																						
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 1	-	Sensor on	661	1880	1	23.61	25.50	1.545	-	-	-0.16	0.637	0.984



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	GSM1900	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 1	-	Sensor on	512	1850.2	1	23.54	25.50	1.570	-	-	0.1	0.615	0.966
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Front	5mm	Ant 1	-	Sensor on	810	1909.8	1	23.58	25.50	1.556	-	-	0.15	0.528	0.822
62	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	-	Sensor on	661	1880	1	23.61	25.50	1.545	-	-	-0.12	0.927	1.432
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	-	Sensor on	661	1880	2	23.61	25.50	1.545	-	-	0.05	0.922	1.425
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	-	Sensor on	661	1880	3	23.61	25.50	1.545	-	-	-0.14	0.880	1.360
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	Headset	Sensor on	661	1880	1	23.61	25.50	1.545	-	-	-0.04	0.891	1.377
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	-	Sensor on	512	1850.2	1	23.54	25.50	1.570	-	-	0.19	0.895	1.405
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	5mm	Ant 1	-	Sensor on	810	1909.8	1	23.58	25.50	1.556	-	-	-0.06	0.769	1.197
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Front	16mm	Ant 1	-	Sensor Off	661	1880	1	25.61	27.50	1.545	-	-	0.11	0.262	0.405
	GSM1900	-	-	-	-	GPRS 4 TX Slot	Back	23mm	Ant 1	-	Sensor Off	661	1880	1	25.61	27.50	1.545	-	-	0.03	0.249	0.385
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	Sensor on	9400	1880	1	19.15	20.50	1.365	-	-	0.17	0.713	0.973
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	Sensor on	9262	1852.4	1	19.10	20.50	1.380	-	-	0.18	0.700	0.966
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	Sensor on	9538	1907.6	1	19.11	20.50	1.377	-	-	-0.02	0.694	0.956
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	Sensor on	9400	1880	1	19.15	20.50	1.365	-	-	0	0.931	1.270
63	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	Sensor on	9262	1852.4	1	19.10	20.50	1.380	-	-	-0.15	0.943	1.302
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Headset	Sensor on	9262	1852.4	1	19.10	20.50	1.380	-	-	-0.03	0.915	1.263
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	Sensor on	9538	1907.6	1	19.11	20.50	1.377	-	-	-0.16	0.927	1.277
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	16mm	Ant 1	-	Sensor Off	9262	1852.4	1	22.54	24.00	1.400	-	-	-0.14	0.391	0.547
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	23mm	Ant 1	-	Sensor Off	9262	1852.4	1	22.54	24.00	1.400	-	-	0.14	0.350	0.490
	LTE Band 25	20M	QPSK	1	49	-	Front	5mm	Ant 1	-	Sensor on	26340	1880	1	19.20	20.50	1.349	-	-	0.03	0.637	0.859
	LTE Band 25	20M	QPSK	1	49	-	Front	5mm	Ant 1	-	Sensor on	26140	1860	1	19.17	20.50	1.358	-	-	-0.19	0.583	0.792
	LTE Band 25	20M	QPSK	1	49	-	Front	5mm	Ant 1	-	Sensor on	26590	1905	1	19.16	20.50	1.361	-	-	-0.01	0.605	0.824
64	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	26340	1880	1	19.20	20.50	1.349	-	-	0.05	0.935	1.261
	LTE Band 2 Other PA	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	18900	1880	1	19.66	20.50	1.213	-	-	-0.06	0.541	0.656
	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 1	Headset	Sensor on	26340	1880	1	19.20	20.50	1.349	-	-	-0.14	0.903	1.218
	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	26140	1860	1	19.17	20.50	1.358	-	-	-0.12	0.854	1.160
	LTE Band 25	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	26590	1905	1	19.16	20.50	1.361	-	-	-0.02	0.885	1.205
	LTE Band 25	20M	QPSK	1	49	-	Front	16mm	Ant 1	-	Sensor Off	26340	1880	1	22.65	24.00	1.365	-	-	-0.19	0.407	0.555
	LTE Band 25	20M	QPSK	1	49	-	Back	23mm	Ant 1	-	Sensor Off	26340	1880	1	22.65	24.00	1.365	-	-	-0.16	0.386	0.527
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	Sensor on	26340	1880	1	18.17	19.50	1.358	-	-	-0.04	0.513	0.697
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	26340	1880	1	18.17	19.50	1.358	-	-	0.05	0.748	1.016
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	26140	1860	1	18.16	19.50	1.361	-	-	0	0.689	0.938
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	26590	1905	1	18.14	19.50	1.368	-	-	-0.1	0.718	0.982
	LTE Band 25	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	Sensor on	26340	1880	1	18.07	19.50	1.390	-	-	0.04	0.498	0.692
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	Sensor on	26340	1880	1	18.07	19.50	1.390	-	-	-0.01	0.733	1.019
	LTE Band 2	20M	QPSK	1	49	-	Front	5mm	Ant 4	-	Sensor on	18900	1880	1	20.51	22.00	1.409	-	-	-0.09	0.270	0.381
65	LTE Band 2	20M	QPSK	1	49	-	Back	5mm	Ant 4	-	Sensor on	18900	1880	1	20.51	22.00	1.409	-	-	0.1	0.595	0.839
	LTE Band 2	20M	QPSK	1	49	-	Back	5mm	Ant 4	-	Sensor on	18700	1860	1	20.41	22.00	1.442	-	-	-0.08	0.574	0.828
	LTE Band 2	20M	QPSK	1	49	-	Back	5mm	Ant 4	-	Sensor on	19100	1900	1	20.42	22.00	1.439	-	-	0.12	0.377	0.542
	LTE Band 2	20M	QPSK	1	49	-	Front	16mm	Ant 4	-	Sensor Off	18900	1880	1	22.38	24.00	1.452	-	-	0.1	0.126	0.183
	LTE Band 2	20M	QPSK	1	49	-	Back	23mm	Ant 4	-	Sensor Off	18900	1880	1	22.38	24.00	1.452	-	-	-0.07	0.131	0.190
	LTE Band 2	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	Sensor on	18900	1880	1	19.38	21.00	1.452	-	-	0.02	0.223	0.324
	LTE Band 2	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	Sensor on	18900	1880	1	19.38	21.00	1.452	-	-	-0.04	0.493	0.716
	LTE Band 2	20M	QPSK	100	0	-	Back	5mm	Ant 4	-	Sensor on	18900	1880	1	19.28	21.00	1.486	-	-	0.12	0.479	0.712
	FR1 n2	40M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	-	Sensor on	376000	1880	1	20.20	21.50	1.349	-	-	0.18	0.663	0.894
	FR1 n2	40M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	Sensor on	376000	1880	1	20.20	21.50	1.349	-	-	0.04	0.919	1.240
	FR1 n2	40M	QPSK	108	54	DFT-15	Front	5mm	Ant 1	-	Sensor on	376000	1880	1	20.05	21.50	1.396	-	-	0.06	0.689	0.962
66	FR1 n2	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	Sensor on	376000	1880	1	20.05	21.50	1.396	-	-	0.06	0.976	1.363
	FR1 n2 Other PA	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	-	Sensor on	376000	1880	1	19.75	21.50	1.496	-	-	-0.08	0.461	0.690
	FR1 n2	40M	QPSK	108	54	DFT-15	Back	5mm	Ant 1	Headset	Sensor on	376000	1880	1	20.05	21.50	1.396	-	-	0.14	0.930	1.299
	FR1 n2	40M	QPSK	108	54	DFT-15	Front	16mm	Ant 1	-	Sensor Off	376000	1880	1	22.53	24.00	1.403	-	-	0.05	0.314	0.440
	FR1 n2	40M	QPSK	108	54	DFT-15	Back	23mm	Ant 1	-	Sensor Off	376000	1880	1	22.53	24.00	1.403	-	-	-0.08	0.273	0.383
	FR1 n2	40M	QPSK	216	0	DFT-15	Front	5mm	Ant 1	-	Sensor on	376000	1880	1	19.99	21.50	1.416	-	-	0.18	0.661	0.936
	FR1 n2	40M	QPSK	216	0	DFT-15	Back	5mm	Ant 1	-	Sensor on	379000	1895	1	19.99	21.50	1.416	-	-	0.07	0.937	1.327
2600MHz																						
	LTE Band 7	20M	QPSK	1	49	-	Front	5mm	Ant 1	-	Sensor on	21100	2535	1	19.07	20.50	1.390	-	-	-0.04	0.518	0.720



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	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	21100	2535	1	19.07	20.50	1.390	-	-	-0.07	0.870	1.209
67	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	20850	2510	1	18.95	20.50	1.429	-	-	0.14	0.874	1.249
	LTE Band 7 Other PA	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	20850	2510	1	19.35	20.50	1.303	-	-	0.12	0.596	0.777
	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	21350	2560	1	19.06	20.50	1.393	-	-	0.11	0.827	1.152
	LTE Band 7	20M	QPSK	1	49	-	Front	16mm	Ant 1	-	Sensor Off	21100	2535	1	22.47	24.00	1.422	-	-	0.04	0.247	0.351
	LTE Band 7	20M	QPSK	1	49	-	Back	23mm	Ant 1	-	Sensor Off	20850	2510	1	22.38	24.00	1.452	-	-	-0.17	0.254	0.369
	LTE Band 7C	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	20850+21048	2510+2529.8	1	18.73	20.50	1.503	-	-	0.05	0.780	1.172
	LTE Band 7	20M	QPSK	1	49	-	Back	5mm	Ant 1	Headset	Sensor on	20850	2510	1	18.95	20.50	1.429	-	-	0.14	0.844	1.206
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	Sensor on	21100	2535	1	18.11	19.50	1.377	-	-	-0.04	0.388	0.534
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	21100	2535	1	18.11	19.50	1.377	-	-	0.06	0.656	0.903
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	20850	2510	1	18.04	19.50	1.400	-	-	-0.13	0.674	0.943
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	21350	2560	1	18.02	19.50	1.406	-	-	-0.17	0.623	0.876
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	Sensor on	21350	2560	1	17.93	19.50	1.435	-	-	-0.15	0.645	0.926
	LTE Band 41	20M	QPSK	1	49	-	Front	5mm	Ant 1	-	Sensor on	40620	2593	1	21.37	22.50	1.297	62.9	1.006	-0.05	0.430	0.561
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	40620	2593	1	21.37	22.50	1.297	62.9	1.006	-0.01	0.813	1.061
68	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	39750	2506	1	21.03	22.50	1.403	62.9	1.006	-0.19	0.852	1.202
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	39750	2506	1	21.42	22.50	1.282	62.9	1.006	0.08	0.452	0.583
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	40185	2549.5	1	21.18	22.50	1.355	62.9	1.006	-0.02	0.813	1.108
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	41055	2636.5	1	21.19	22.50	1.352	62.9	1.006	-0.19	0.696	0.947
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	-	Sensor on	41490	2680	1	21.26	22.50	1.330	62.9	1.006	-0.19	0.622	0.833
	LTE Band 41	20M	QPSK	1	49	-	Back	5mm	Ant 1	Headset	Sensor on	39790	2510	1	20.96	22.50	1.426	62.9	1.006	0.16	0.815	1.169
	LTE Band 41	20M	QPSK	1	49	-	Front	16mm	Ant 1	-	Sensor Off	40620	2593	1	22.74	24.00	1.337	62.9	1.006	0.1	0.166	0.223
	LTE Band 41	20M	QPSK	1	49	-	Back	23mm	Ant 1	-	Sensor Off	39750	2506	1	22.45	24.00	1.429	62.9	1.006	0.05	0.182	0.262
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	Sensor on	40620	2593	1	20.49	21.50	1.262	62.9	1.006	-0.19	0.332	0.421
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	40620	2593	1	20.49	21.50	1.262	62.9	1.006	0.1	0.628	0.797
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	39750	2506	1	20.05	21.50	1.396	62.9	1.006	-0.03	0.728	1.023
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	40185	2549.5	1	20.20	21.50	1.349	62.9	1.006	0.14	0.672	0.912
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	41055	2636.5	1	20.45	21.50	1.274	62.9	1.006	0.04	0.542	0.694
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	Sensor on	41490	2680	1	20.43	21.50	1.279	62.9	1.006	0.11	0.487	0.627
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	Sensor on	41490	2680	1	20.48	21.50	1.265	62.9	1.006	0.19	0.636	0.809
	FR1 n7	50M	QPSK	1	1	DFT-15	Front	5mm	Ant 1	-	Sensor on	507000	2535	1	18.34	20.00	1.466	-	-	0.03	0.482	0.706
	FR1 n7	50M	QPSK	1	1	DFT-15	Back	5mm	Ant 1	-	Sensor on	507000	2535	1	18.34	20.00	1.466	-	-	-0.14	0.739	1.083
	FR1 n7	50M	QPSK	135	68	DFT-15	Front	5mm	Ant 1	-	Sensor on	507000	2535	1	18.33	20.00	1.469	-	-	-0.19	0.544	0.799
69	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	-	Sensor on	507000	2535	1	18.33	20.00	1.469	-	-	0.14	0.851	1.250
	FR1 n7 Other PA	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	-	Sensor on	507000	2535	1	19.10	20.00	1.230	-	-	0.08	0.646	0.795
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	-	Sensor on	507000	2535	2	18.33	20.00	1.469	-	-	0.04	0.788	1.158
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	-	Sensor on	507000	2535	3	18.33	20.00	1.469	-	-	-0.07	0.812	1.193
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 1	Headset	Sensor on	507000	2535	1	18.33	20.00	1.469	-	-	0.05	0.828	1.216
	FR1 n7	50M	QPSK	135	68	DFT-15	Front	16mm	Ant 1	-	Sensor Off	507000	2535	1	22.06	24.00	1.563	-	-	-0.19	0.280	0.438
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	23mm	Ant 1	-	Sensor Off	507000	2535	1	22.06	24.00	1.563	-	-	-0.12	0.283	0.442
	FR1 n7	50M	QPSK	270	0	DFT-15	Back	5mm	Ant 1	-	Sensor on	507000	2535	1	18.22	20.00	1.507	-	-	0.17	0.724	1.091
	FR1 n7	50M	QPSK	1	1	DFT-15	Front	5mm	Ant 4	-	Sensor on	507000	2535	1	13.98	15.50	1.419	-	-	0.18	0.131	0.186
	FR1 n7	50M	QPSK	1	1	DFT-15	Back	5mm	Ant 4	-	Sensor on	507000	2535	1	13.98	15.50	1.419	-	-	-0.09	0.562	0.798
	FR1 n7	50M	QPSK	135	68	DFT-15	Front	5mm	Ant 4	-	Sensor on	507000	2535	1	13.96	15.50	1.426	-	-	-0.08	0.135	0.192
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	5mm	Ant 4	-	Sensor on	507000	2535	1	13.96	15.50	1.426	-	-	-0.13	0.579	0.825
	FR1 n7	50M	QPSK	135	68	DFT-15	Front	16mm	Ant 4	-	Sensor Off	507000	2535	1	21.25	23.00	1.496	-	-	0.01	0.149	0.223
	FR1 n7	50M	QPSK	135	68	DFT-15	Back	23mm	Ant 4	-	Sensor Off	507000	2535	1	21.25	23.00	1.496	-	-	-0.18	0.238	0.356
	FR1 n7	50M	QPSK	270	0	DFT-15	Back	5mm	Ant 4	-	Sensor on	507000	2535	1	13.95	15.50	1.429	-	-	0.15	0.550	0.786
	FR1 n41	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 1	-	Sensor on	518598	2592.99	1	20.82	22.00	1.312	-	-	0.07	0.564	0.740
70	FR1 n41	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 1	-	Sensor on	518598	2592.99	1	20.82	22.00	1.312	-	-	-0.07	0.952	1.249
	FR1 n41	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 1	Headset	Sensor on	518598	2592.99	1	20.82	22.00	1.312	-	-	0.13	0.901	1.182
	FR1 n41	100M	QPSK	1	137	DFT-30	Front	16mm	Ant 1	-	Sensor Off	518598	2592.99	1	22.67	24.00	1.358	-	-	0.07	0.292	0.397
	FR1 n41	100M	QPSK	1	137	DFT-30	Back	23mm	Ant 1	-	Sensor Off	518598	2592.99	1	22.67	24.00	1.358	-	-	0	0.312	0.424
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 1	-	Sensor on	518598	2592.99	1	20.70	22.00	1.349	-	-	0.16	0.547	0.738
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 1	-	Sensor on	518598	2592.99	1	20.70	22.00	1.349	-	-	0.09	0.923	1.245



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	FR1 n41	100M	QPSK	270	0	DFT-30	Front	5mm	Ant 1	-	Sensor on	518598	2592.99	1	20.58	22.00	1.387	-	-	0.13	0.553	0.767
	FR1 n41	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 1	-	Sensor on	518598	2592.99	1	20.58	22.00	1.387	-	-	0.09	0.893	1.238
	FR1 n41	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 4	-	Sensor on	518598	2592.99	1	12.95	14.50	1.429	-	-	-0.08	0.108	0.154
	FR1 n41	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 4	-	Sensor on	518598	2592.99	1	12.95	14.50	1.429	-	-	0.03	0.563	0.804
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 4	-	Sensor on	518598	2592.99	1	12.92	14.50	1.439	-	-	0.1	0.110	0.158
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 4	-	Sensor on	518598	2592.99	1	12.92	14.50	1.439	-	-	0.08	0.574	0.826
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	16mm	Ant 4	-	Sensor Off	518598	2592.99	1	21.29	23.00	1.483	-	-	-0.14	0.131	0.194
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	23mm	Ant 4	-	Sensor Off	518598	2592.99	1	21.29	23.00	1.483	-	-	0.02	0.226	0.335
	FR1 n41	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 4	-	Sensor on	518598	2592.99	1	12.78	14.50	1.486	-	-	-0.11	0.551	0.819
3500MHz																						
	LTE Band 42	20M	QPSK	1	49	-	Front	5mm	Ant 5	-	Sensor on	42190	3460	1	13.71	14.50	1.199	62.9	1.006	-0.06	0.184	0.222
	LTE Band 42	20M	QPSK	1	49	-	Back	5mm	Ant 5	-	Sensor on	42190	3460	1	13.71	14.50	1.199	62.9	1.006	0.13	0.588	0.710
	LTE Band 42	20M	QPSK	1	49	-	Back	5mm	Ant 5	-	Sensor on	42590	3500	1	13.58	14.50	1.236	62.9	1.006	-0.18	0.642	0.798
71	LTE Band 42	20M	QPSK	1	49	-	Back	5mm	Ant 5	-	Sensor on	42990	3540	1	13.51	14.50	1.256	62.9	1.006	-0.04	0.669	0.845
	LTE Band 42	20M	QPSK	1	49	-	Front	16mm	Ant 5	-	Sensor Off	42190	3460	1	23.08	24.00	1.236	62.9	1.006	0.11	0.399	0.496
	LTE Band 42	20M	QPSK	1	49	-	Back	23mm	Ant 5	-	Sensor Off	42990	3540	1	22.94	24.00	1.276	62.9	1.006	0.05	0.357	0.458
	LTE Band 42	20M	QPSK	50	0	-	Front	5mm	Ant 5	-	Sensor on	42190	3460	1	12.70	13.50	1.202	62.9	1.006	-0.19	0.136	0.164
	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 5	-	Sensor on	42190	3460	1	12.70	13.50	1.202	62.9	1.006	-0.13	0.499	0.604
	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 5	-	Sensor on	42590	3500	1	12.69	13.50	1.205	62.9	1.006	-0.16	0.477	0.578
	LTE Band 42	20M	QPSK	50	0	-	Back	5mm	Ant 5	-	Sensor on	42990	3540	1	12.53	13.50	1.250	62.9	1.006	0.07	0.515	0.648
	LTE Band 42	20M	QPSK	100	0	-	Back	5mm	Ant 5	-	Sensor on	42190	3460	1	12.63	13.50	1.222	62.9	1.006	-0.12	0.434	0.533
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 5	-	Sensor on	633332	3499.98	1	12.42	14.00	1.439	-	-	-0.06	0.195	0.281
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 5	-	Sensor on	633332	3499.98	1	12.42	14.00	1.439	-	-	-0.01	0.544	0.783
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	16mm	Ant 5	-	Sensor Off	633332	3499.98	1	22.33	24.00	1.469	-	-	-0.17	0.409	0.601
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	23mm	Ant 5	-	Sensor Off	633332	3499.98	1	22.33	24.00	1.469	-	-	0	0.422	0.620
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 5	-	Sensor on	633332	3499.98	1	12.31	14.00	1.476	-	-	0.11	0.193	0.285
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 5	-	Sensor on	633332	3499.98	1	12.31	14.00	1.476	-	-	0.08	0.527	0.778
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 5	-	Sensor on	633332	3499.98	1	12.29	14.00	1.483	-	-	0.15	0.528	0.783
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 5	-	Sensor on	656000	3840	1	12.62	14.00	1.374	-	-	-0.19	0.158	0.217
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 5	-	Sensor on	656000	3840	1	12.62	14.00	1.374	-	-	-0.11	0.385	0.529
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Front	16mm	Ant 5	-	Sensor Off	656000	3840	1	22.50	24.00	1.413	-	-	0.02	0.418	0.590
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Back	23mm	Ant 5	-	Sensor Off	656000	3840	1	22.50	24.00	1.413	-	-	0.03	0.430	0.607
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 5	-	Sensor on	656000	3840	1	12.47	14.00	1.422	-	-	0.12	0.166	0.236
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 5	-	Sensor on	656000	3840	1	12.47	14.00	1.422	-	-	-0.01	0.393	0.559
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 3	-	Sensor on	633332	3499.98	1	12.40	13.50	1.288	-	-	0.18	0.011	0.014
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 3	-	Sensor on	633332	3499.98	1	12.40	13.50	1.288	-	-	0.19	0.303	0.390
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	16mm	Ant 3	-	Sensor Off	633332	3499.98	1	18.36	19.50	1.300	-	-	-	n/a	n/a
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	23mm	Ant 3	-	Sensor Off	633332	3499.98	1	18.36	19.50	1.300	-	-	-0.06	0.124	0.161
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 3	-	Sensor on	633332	3499.98	1	12.35	13.50	1.303	-	-	-0.02	0.012	0.016
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 3	-	Sensor on	633332	3499.98	1	12.35	13.50	1.303	-	-	0.17	0.245	0.319
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 3	-	Sensor on	656000	3840	1	12.14	13.50	1.368	-	-	0.08	0.025	0.034
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 3	-	Sensor on	656000	3840	1	12.14	13.50	1.368	-	-	-0.05	0.613	0.838
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 3	-	Sensor on	656000	3840	1	12.06	13.50	1.393	-	-	-0.17	0.026	0.036
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 3	-	Sensor on	656000	3840	1	12.06	13.50	1.393	-	-	-0.09	0.629	0.876
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	16mm	Ant 3	-	Sensor Off	656000	3840	1	18.02	19.50	1.406	-	-	-	n/a	n/a
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	23mm	Ant 3	-	Sensor Off	656000	3840	1	18.02	19.50	1.406	-	-	-0.07	0.162	0.228
	FR1 n77 Part27O	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 3	-	Sensor on	656000	3840	1	12.04	13.50	1.400	-	-	-0.04	0.610	0.854
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 7	-	Sensor on	633332	3499.98	1	14.00	15.00	1.259	-	-	-0.16	0.085	0.107
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 7	-	Sensor on	633332	3499.98	1	14.00	15.00	1.259	-	-	-0.19	0.663	0.835
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 7	-	Sensor on	633332	3499.98	1	13.88	15.00	1.294	-	-	-0.15	0.083	0.107
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 7	-	Sensor on	633332	3499.98	1	13.88	15.00	1.294	-	-	0.16	0.677	0.876
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	16mm	Ant 7	-	Sensor Off	633332	3499.98	1	22.76	24.00	1.330	-	-	-0.1	0.210	0.279
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	23mm	Ant 7	-	Sensor Off	633332	3499.98	1	22.76	24.00	1.330	-	-	-0.14	0.614	0.817
	FR1 n77 Part27Q	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 7	-	Sensor on	633332	3499.98	1	13.83	15.00	1.309	-	-	0.07	0.657	0.860
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 7	-	Sensor on	656000	3840	1	14.69	15.00	1.074	-	-	0.11	0.134	0.144
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 7	-	Sensor on	656000	3840	1	14.69	15.00	1.074	-	-	-0.19	0.567	0.609



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	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 7	-	Sensor on	656000	3840	1	14.57	15.00	1.104	-	-	0.05	0.131	0.145
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 7	-	Sensor on	656000	3840	1	14.57	15.00	1.104	-	-	0.1	0.540	0.596
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	16mm	Ant 7	-	Sensor Off	656000	3840	1	23.18	24.00	1.208	-	-	0.16	0.237	0.286
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	23mm	Ant 7	-	Sensor Off	656000	3840	1	23.18	24.00	1.208	-	-	0.03	0.553	0.668
	FR1 n77 Part27O	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 7	-	Sensor on	656000	3840	1	14.53	15.00	1.114	-	-	0.07	0.550	0.613
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 9	-	Sensor off	633332	3499.98	1	18.57	19.50	1.239	-	-	0	0.315	0.390
	FR1 n77 Part27Q	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 9	-	Sensor off	633332	3499.98	1	18.57	19.50	1.239	-	-	0.05	0.381	0.472
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 9	-	Sensor off	633332	3499.98	1	18.41	19.50	1.285	-	-	0.14	0.335	0.431
	FR1 n77 Part27Q	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 9	-	Sensor off	633332	3499.98	1	18.41	19.50	1.285	-	-	0.11	0.410	0.527
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Front	5mm	Ant 9	-	Sensor off	656000	3840	1	18.39	19.50	1.291	-	-	0.05	0.580	0.749
	FR1 n77 Part27O	100M	QPSK	1	137	DFT-30	Back	5mm	Ant 9	-	Sensor off	656000	3840	1	18.39	19.50	1.291	-	-	0.08	0.765	0.988
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Front	5mm	Ant 9	-	Sensor off	656000	3840	1	18.18	19.50	1.355	-	-	-0.11	0.559	0.758
72	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 9	-	Sensor off	656000	3840	1	18.18	19.50	1.355	-	-	-0.05	0.773	1.048
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 9	-	Sensor off	656000	3840	2	18.18	19.50	1.355	-	-	0.04	0.702	0.951
	FR1 n77 Part27O	100M	QPSK	135	69	DFT-30	Back	5mm	Ant 9	-	Sensor off	656000	3840	3	18.18	19.50	1.355	-	-	-0.14	0.608	0.824
	FR1 n77 Part27O	100M	QPSK	270	0	DFT-30	Front	5mm	Ant 9	-	Sensor off	656000	3840	1	16.93	18.50	1.435	-	-	-0.18	0.409	0.587
	FR1 n77 Part27O	100M	QPSK	270	0	DFT-30	Back	5mm	Ant 9	-	Sensor off	656000	3840	1	16.93	18.50	1.435	-	-	-0.16	0.605	0.868

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	Power Reduction	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN&BT																		
	Bluetooth	DH5 1Mbps	Front	5mm	Ant 6	-	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	0.18	0.058	0.081
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 6	-	Full Power	39	2441	1	10.90	12.00	1.288	77.06	1.081	0.17	0.115	0.160
73	Bluetooth	DH5 1Mbps	Back	5mm	Ant 6	-	Full Power	0	2402	1	10.20	12.00	1.514	77.06	1.081	-0.18	0.115	0.188
	Bluetooth	DH5 1Mbps	Back	5mm	Ant 6	-	Full Power	78	2480	1	10.80	12.00	1.318	77.06	1.081	0.13	0.118	0.168
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6	-	Full Power	6	2437	1	19.80	20.50	1.175	99.64	1.004	-0.09	0.489	0.577
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	-	Full Power	6	2437	1	19.80	20.50	1.175	99.64	1.004	0.17	0.780	0.920
74	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	-	Full Power	1	2412	1	19.30	20.50	1.318	99.64	1.004	0.05	0.876	1.159
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	-	Full Power	11	2462	1	19.30	20.50	1.318	99.64	1.004	0.13	0.815	1.079
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6	-	Simultaneous	6	2437	1	17.30	18.00	1.175	99.64	1.004	0.14	0.272	0.321
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6	-	Simultaneous	1	2412	1	16.70	18.00	1.349	99.64	1.004	0.04	0.481	0.651
	WLAN5.3GHz	802.11a 6Mbps	Front	5mm	Ant 5	-	Full Power	60	5300	1	18.91	20.50	1.441	96.55	1.036	-0.16	0.238	0.355
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 5	-	Full Power	60	5300	1	18.91	20.50	1.441	96.55	1.036	-0.08	0.662	0.989
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 5	-	Full Power	52	5260	1	18.85	20.50	1.461	96.55	1.036	-0.08	0.710	1.075
75	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 5	-	Full Power	56	5280	1	18.89	20.50	1.449	96.55	1.036	-0.13	0.743	1.115
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 5	-	Full Power	64	5320	1	18.39	20.00	1.449	96.55	1.036	-0.16	0.741	1.112
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5	-	Simultaneous	62	5310	1	15.25	17.00	1.496	100	1.000	0.08	0.324	0.485
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	-	Sensor on	138	5690	1	16.26	18.00	1.493	100	1.000	0.09	0.139	0.207
76	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	-	Sensor on	138	5690	1	16.26	18.00	1.493	100	1.000	0.02	0.737	1.100
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	-	Sensor on	106	5530	1	15.75	17.50	1.496	100	1.000	-0.01	0.601	0.899
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	-	Sensor on	122	5610	1	16.14	18.00	1.535	100	1.000	0.09	0.671	1.030
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	-	Simultaneous	138	5690	1	12.79	14.50	1.483	100	1.000	0.07	0.326	0.483
	WLAN5.5GHz	802.11a 6Mbps	Front	16mm	Ant 5	-	Full Power	100	5500	1	18.98	20.50	1.418	96.55	1.036	0.05	0.101	0.148
	WLAN5.5GHz	802.11a 6Mbps	Back	23mm	Ant 5	-	Full Power	100	5500	1	18.98	20.50	1.418	96.55	1.036	0.02	0.117	0.172
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5	-	Sensor on	155	5775	1	16.01	18.00	1.581	100	1.000	0.11	0.189	0.299
77	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	-	Sensor on	155	5775	1	16.01	18.00	1.581	100	1.000	0.13	0.726	1.148
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	-	Sensor on	155	5775	2	16.01	18.00	1.581	100	1.000	0.04	0.595	0.941
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	-	Sensor on	155	5775	3	16.01	18.00	1.581	100	1.000	-0.14	0.597	0.944
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5	-	Simultaneous	155	5775	1	12.61	14.50	1.545	100	1.000	0.03	0.330	0.510
	WLAN5.8GHz	802.11a 6Mbps	Front	16mm	Ant 5	-	Full Power	157	5785	1	18.69	20.00	1.351	96.55	1.036	-0.01	0.132	0.185
	WLAN5.8GHz	802.11a 6Mbps	Back	23mm	Ant 5	-	Full Power	149	5745	1	18.61	20.00	1.376	96.55	1.036	0.03	0.183	0.261