

FCC SAR Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2437-1, XT2437-2
FCC ID : IHDT56AS8
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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



Approved by: Si Zhang



Sporton International Inc. (Kunshan)

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People's Republic of China



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1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2437-1, XT2437-2**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.25	1.07	1.07	1.59
		GSM1900	<0.10	1.04	1.04	
	WCDMA	WCDMA II	0.16	1.20	1.27	
		WCDMA IV	0.19	1.29	1.26	
		WCDMA V	0.27	1.30	1.30	
	LTE	LTE Band 7	0.89	1.27	1.26	
		LTE Band 12/17	0.18	0.92	0.92	
		LTE Band 13	0.26	1.11	1.11	
		LTE Band 25/2	0.88	1.27	1.29	
		LTE Band 26/5	0.88	1.21	1.21	
		LTE Band 66/4	0.89	1.29	1.28	
		LTE Band 41/38	0.89	1.31	1.20	
		LTE Band 42	0.89	0.65	0.88	
	5G NR	FR1 n2	0.88	1.28	1.30	
		FR1 n7	0.88	1.24	1.27	
		FR1 n26/n5	0.88	0.88	0.89	
FR1 n66		0.87	1.29	1.29		
FR1 n78		0.89	1.27	0.89		
DTS	WLAN	2.4GHz WLAN	1.40	0.67	1.38	1.59
NII		5GHz WLAN	1.15	0.64	1.16	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.25	0.29	0.26	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	WCDMA	WCDMA II	3.15	3.72
		WCDMA IV	2.87	
		WCDMA V	2.51	
	LTE	LTE Band 7	2.83	
		LTE Band 25/2	3.07	
		LTE Band 26/5	2.21	
		LTE Band 66/4	3.21	
		LTE Band 41/38	2.83	
		LTE Band 42	2.55	
		FR1 n2	3.38	
	5G NR	FR1 n7	3.15	
FR1 n66		2.47		
FR1 n78		2.47		
DTS	WLAN	2.4GHz WLAN	2.32	3.72
NII		5GHz WLAN	2.71	3.72



Date of Testing:	2024/7/22 ~ 2024/8/12
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Remark:

1. This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.
2. This device supports 5GNR n5 and n26. Since the supported frequency span for 5GNR n5 falls completely within the supports frequency span for n26, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n26.

Declaration of Conformity:

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

Comments and Explanations:

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

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



2. Administration Data

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR06-KS	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	XT2437-1, XT2437-2
FCC ID	IHDT56AS8
IMEI Code	IMEI1: 355709740016453 IMEI2: 355709740016461
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n78: 3450 MHz ~ 3550 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6GHz U-NII-5: 5925 MHz ~ 6425 MHz WLAN 6GHz U-NII-6: 6425 MHz ~ 6525 MHz WLAN 6GHz U-NII-7: 6525 MHz ~ 6875 MHz WLAN 6GHz U-NII-8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA/HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac/ax VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 WLAN 6GHz 802.11ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK
HW Version	DVT2



SW Version	U4UQ34.39
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 5G NR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only). WLAN 6GHz has no hotspot function.
4. This device does not support DTM operation and supports GPRS/EGPRS mode up to multi-slot class 12.
5. This device 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 the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
7. For WLAN when transmit simultaneous with WWAN/BT, power reduction will be activated to head exposure condition. For WLAN when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions.
8. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the LTE and 5G NR modes. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner and supplemental data for additional information can be referred to section 18 and appendix G.
9. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
10. There are two samples, the differences could be referred to the XT2437-1, XT2437-2 _Operational Description of Product Equality Declaration which is exhibit separately. According to the differences, sample 1 was chosen to perform full SAR testing.
11. This device has NFC function and the NFC SAR report will be separately submitted.
12. SAR and Power density test report for WLAN 6GHz U-NII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth always chose higher SAR of WLAN5GHz U-NII-1/2A/2C/3 and WLAN 6GHz U-NII-5/6/7/8.
13. This device supports 5G NR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.

<5G NR>

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



4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	IHDT56AS8																																																														
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 / 256QAM																																																														
LTE Voice / Data requirements	Voice and Data																																																														
LTE Release Version	R16																																																														
CA Support	Supported, Uplink and Downlink																																																														
LTE MPR permanently built-in by design	<p>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</p> <table border="1"> <thead> <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> </thead> <tbody> <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> </tbody> </table>	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
Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)																																																								
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256 QAM	≥ 1						≤ 5																																																								
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																														
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																														
Power reduction applied to satisfy SAR compliance	Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body-worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 14.																																																														
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.																																																														
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 4 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	20450	829	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782	
M	23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782	
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23755		706.5		23780		709		23780		709	
M	23790		710		23790		710		23790		710	
H	23825		713.5		23800		711		23800		711	
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26990	844	26965	841.5
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580	37850	2580	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610	38150	2610	38150	2610



LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	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)	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 12	Yes	Yes	Yes	Yes		
LTE Band 17			Yes	Yes		
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes



2) LTE Bands tune up:

Band	Antenna	Head	Body-worn	Hotspot	Extremity	Sensor Off	Default
		DSI 2	DSI 3	DSI 7	DSI 6	DSI4	
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 12	Ant 0	24	24	24	24	24	24
LTE Band 17	Ant 0	24	24	24	24	24	24
LTE Band 5	Ant 0	24	24	24	24	24	24
LTE Band 5 Other Path	Ant 0	24	24	24	24	24	24
LTE Band 26	Ant 0	24	24	24	24	24	24
LTE Band 26 Other Path	Ant 0	24	24	24	24	24	24
LTE Band 5	Ant 4	23.4	22.7	21.5	24	24	24
LTE Band 5 Other Path	Ant 4	23.4	22.7	21.5	24	24	24
LTE Band 26	Ant 4	23.4	22.7	21.5	24	24	24
LTE Band 2	Ant 1	24	23.5	21.5	23.5	24	24
LTE Band 2 Other Path (PA)	Ant 1	24	23.5	21.5	23.5	24	24
LTE Band 25	Ant 1	24	23.5	21.5	23.5	24	24
LTE Band 2	Ant 4	19.4	19	17.6	21.9	23	23
LTE Band 25	Ant 4	19.4	19	17.6	21.9	23	23
LTE Band 4	Ant 1	24	22.4	21.3	24	24	24
LTE Band 4 Other Path (PA)	Ant 1	24	22.4	21.3	24	24	24
LTE Band 66	Ant 1	24	22.4	21.3	24	24	24
LTE Band 66 Other Path	Ant 1	24	22.4	21.3	24	24	24
LTE Band 4	Ant 4	19.1	17.4	16.3	22.6	23	23
LTE Band 4 Other PA	Ant 4	19.1	17.4	16.3	22.6	24	24
LTE Band 66	Ant 4	19.1	17.4	16.3	22.6	23	23
LTE Band 66 Other PA	Ant 4	19.1	17.4	16.3	22.6	24	24
LTE Band 38	Ant 1	24	24	24	24	24	24
LTE Band 38 Other Path	Ant 1	24	24	24	24	24	24
LTE Band 41	Ant 1	24	24	24	24	24	24
LTE Band 41 Other Path	Ant 1	24	24	24	24	24	24
LTE Band 38	Ant 4	19.5	19.1	17.5	22	24	24
LTE Band 41	Ant 4	19.5	19.1	17.5	22	24	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 n66: 1710 MHz ~ 1780 MHz 5G NR n78: 3450 MHz ~ 3550 MHz
Channel Bandwidth	The detail please refers to section 4.1 5GNR FR1 bands table.
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B4/5/66
LTE Anchor Bands for n7	LTE B2/4/5/66
LTE Anchor Bands for n66	LTE B2/5/7
LTE Anchor Bands for n78	LTE B2/4/5/7/26/38/41/66

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band								
NR Band 2								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860
M	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900

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

NR Band 7														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550

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

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

NR Band 78																								
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	630334	3455.01	630500	3457.5	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495				
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636334	3545.01	636168	3542.52	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02				



<For NR Overlap Bands Description>

1) NR Bands BW

Band	5 MHz	10 MHz	15 MHz	20 MHz	25 MHz	30 MHz	40 MHz	50 MHz	60 MHz	70 MHz	80 MHz	90 MHz	100 MHz
FR1 n5	Yes	Yes	Yes	Yes									
FR1 n26	Yes	Yes	Yes	Yes									

2) NR Bands Tune up:

Band	Antenna	Head	Body-worn	Hotspot	Extremity	Sensor Off	Default
		DSI 2	DSI 3	DSI 7	DSI 6	DSI4	
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
5G NR n5	Ant 1	24	24	24	24	24	24
5G NR n26	Ant 1	24	24	24	24	24	24
5G NR n5	Ant 4	23	23	21.4	24	24	24
5G NR n26	Ant 4	23	23	21.4	24	24	24

5. Smart Transmit feature for RF Exposure compliance

Qualcomm® Smart Transmit™ 3.0 of Smart Transmit (GEN2) Feature operates based on pre-defined sub6 antenna groups (AG). This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature. The RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

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

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) version 20 to enable the Smart Transmit Gen2 Feature.

<Terminologies in this report>

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

<SAR Characterization>

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

Antenna Group:

Antenna Group 0 (AG0)	ANT0 & ANT1& ANT9
Antenna Group 1 (AG1)	ANT3 & ANT4 & ANT5 & ANT7

<SAR design target and uncertainty>

Item	Uncertainty dB (k=2)
Total uncertainty	1.5

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

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

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

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



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

Band	Antenna	Head DSI 2	Body-Worn DSI 3	Hotspot DSI 7	Extremity DSI 6	Sensor off DSI 4	P _{max} *
GSM850	Ant 0	30.60	24.30	24.30	23.50	23.50	23.50
GSM1900	Ant 1	33.50	21.40	21.40	20.50	20.50	20.50
WCDMA II	Ant 1	32.20	22.30	20.60	22.30	23.00	23.00
WCDMA IV	Ant 1	31.40	21.60	20.70	23.40	23.00	23.00
WCDMA V	Ant 0	29.80	23.00	23.00	24.00	23.00	23.00
LTE Band 12(17)	Ant 0	31.60	24.40	24.40	23.00	23.00	23.00
LTE Band 13	Ant 0	29.90	23.60	23.60	23.00	23.00	23.00
LTE Band 7	Ant 1	29.90	22.50	20.80	20.80	23.00	23.00
LTE Band 7 Other Path	Ant 1	29.90	22.50	20.80	20.80	23.00	23.00
LTE Band 7	Ant 4	16.40	15.00	14.00	19.00	23.00	23.00
LTE Band 7 Other PA	Ant 4	16.40	15.00	14.00	19.00	23.00	23.00
LTE Band 25(2)	Ant 1	33.10	22.50	20.50	22.50	23.00	23.00
LTE Band 2 Other Path (PA)	Ant 1	33.10	22.50	20.50	22.50	23.00	23.00
LTE Band 25(2)	Ant 4	18.40	18.00	16.60	20.90	22.00	22.00
LTE Band 26(5)	Ant 0	31.30	23.30	23.30	24.60	23.00	23.00
LTE Band 26(5) Other Path	Ant 0	31.30	23.30	23.30	24.60	23.00	23.00
LTE Band 26(5)	Ant 4	22.40	21.70	20.50	23.00	23.00	23.00
LTE Band 5 Other Path	Ant 4	22.40	21.70	20.50	23.00	23.00	23.00
LTE Band 66(4)	Ant 1	31.60	21.40	20.30	23.00	23.00	23.00
LTE Band 66(4) Other Path (PA)	Ant 1	31.60	21.40	20.30	23.00	23.00	23.00
LTE Band 66(4)	Ant 4	18.10	16.40	15.30	21.60	22.00	22.00
LTE Band 66(4) Other PA	Ant 4	18.10	16.40	15.30	21.60	23.00	23.00
LTE Band 41(38)	Ant 1	30.50	21.00	21.00	21.60	21.00	21.00
LTE Band 41(38) Other Path	Ant 1	30.50	21.00	21.00	21.60	21.00	21.00
LTE Band 41(38)	Ant 4	16.50	16.10	14.50	19.00	21.00	21.00
LTE Band 42	Ant 5	15.60	15.10	13.70	18.60	21.00	21.00
FR1 n26(5)	Ant 0	32.60	24.80	24.60	23.00	23.00	23.00
FR1 n26(5)	Ant 4	22.00	22.00	20.40	23.00	23.00	23.00
FR1 n2	Ant 1	33.80	22.50	20.90	22.40	23.00	23.00
FR1 n2 Other PA	Ant 1	33.80	22.50	20.90	22.40	23.00	23.00
FR1 n2	Ant 4	19.20	18.40	17.40	21.30	23.00	23.00
FR1 n2 Other PA	Ant 4	19.20	18.40	17.40	21.30	23.00	23.00
FR1 n7	Ant 1	31.10	22.50	21.50	21.50	23.00	23.00
FR1 n7 Other Path	Ant 1	31.10	22.50	21.50	21.50	23.00	23.00
FR1 n7	Ant 4	17.80	15.80	14.40	18.80	23.00	23.00
FR1 n7 Other Path	Ant 4	17.80	15.80	14.40	18.80	23.00	23.00
FR1 n66	Ant 1	33.00	22.00	21.10	24.10	23.00	23.00
FR1 n66 Other PA	Ant 1	33.00	22.00	21.10	24.10	23.00	23.00
FR1 n66	Ant 4	18.40	16.80	15.40	21.00	23.00	23.00
FR1 n66 Other PA	Ant 4	18.40	16.80	15.40	21.00	23.00	23.00
FR1 n78 Part27Q	Ant 5	15.50	15.50	13.30	18.80	23.00	23.00
FR1 n78 Part27Q Other Path	Ant 5	15.50	15.50	13.30	18.80	23.00	23.00
FR1 n78 Part27Q	Ant 3	29.00	13.00	11.80	16.80	16.80	21.00
FR1 n78 Part27Q	Ant 7	16.30	19.30	13.00	16.80	22.00	22.00
FR1 n78 Part27Q	Ant 9	29.30	21.00	19.70	22.80	21.00	21.00

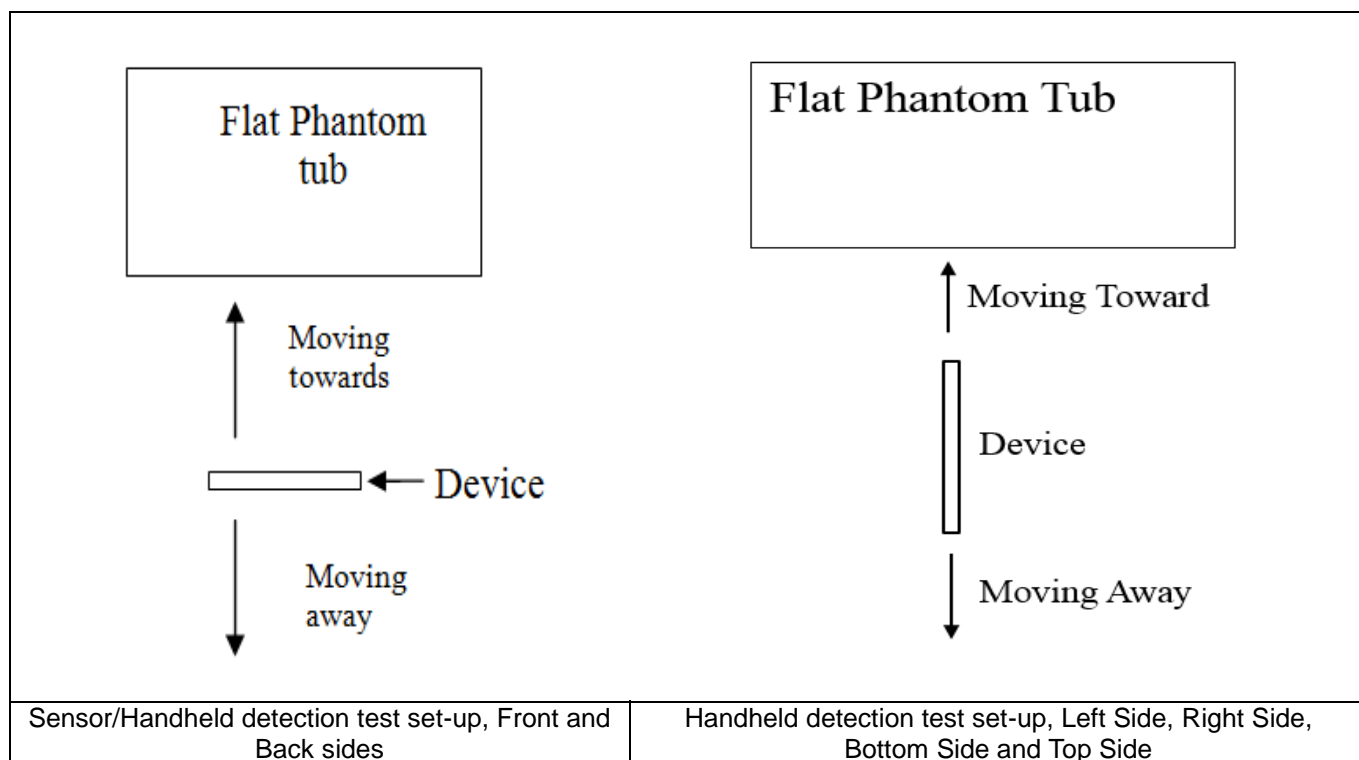
Note:

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

6. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (7125MHz) and lowest (850MHz) 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	18	23	19	24

<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	7	12	7	13	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	16	21	18	23	16	21	17	22

<Handheld for ANT5>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	11	16	16	21	9	14	15	20

<Handheld for ANT7>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Right Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	6	11	6	15	12	18

<Handheld for ANT6+8&ANT5+8>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	6	11	6	15	9	14	15	20

7. RF Exposure Limits

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

8. Specific Absorption Rate (SAR)

8.1 Introduction

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

8.2 SAR Definition

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

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

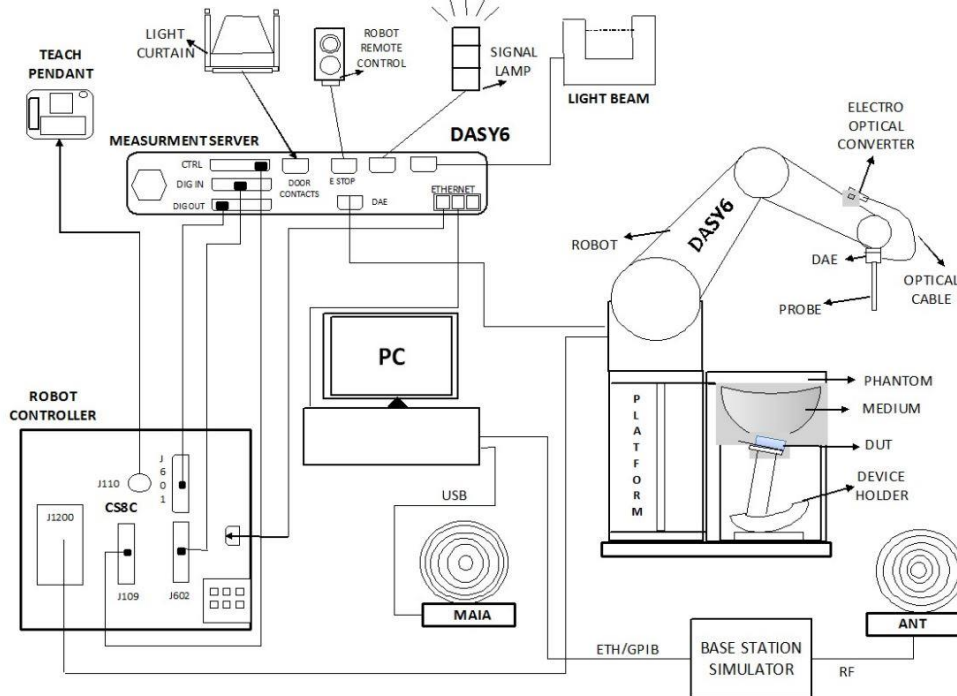
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

9. System Description and Setup

The 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 Win7 or Win10 and the DASY5 or DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

9.1 E-Field Probe

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

<EX3DV4 Probe>

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

9.2 Data Acquisition Electronics (DAE)

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


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



Photo of DAE

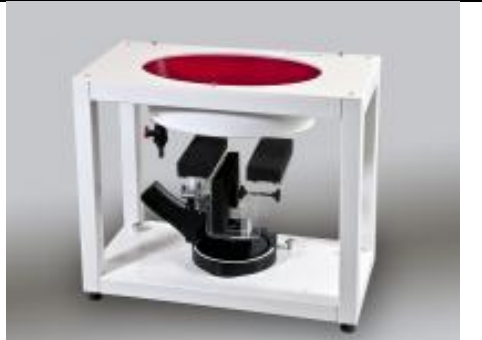
9.3 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

9.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

10. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

10.1 Spatial Peak SAR Evaluation

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

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

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

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

10.2 Power Reference Measurement

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

10.3 Area Scan

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

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

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

10.4 Zoom Scan

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

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

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

10.5 Volume Scan Procedures

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

10.6 Power Drift Monitoring

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



11. Test Equipment List

Table with 6 columns: Manufacturer, Name of Equipment, Type/Model, Serial Number, Last Cal., Due Date. Rows include various test equipment like System Validation Kits, Dosimetric E-Field Probe, Thermo-Hygrometer, etc.

Note:

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

12. System Verification

12.1 Tissue Simulating Liquids

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

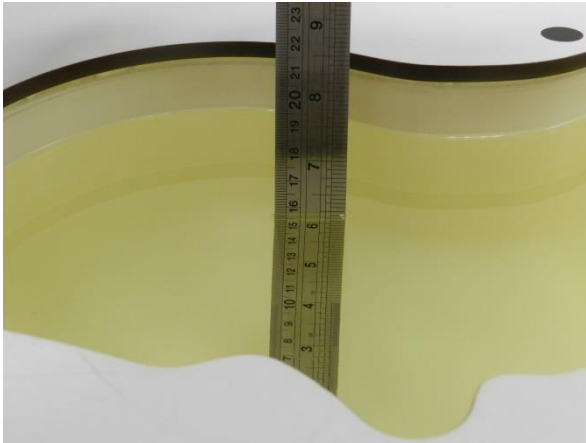


Fig 11.1 Photo of Liquid Height for Head SAR

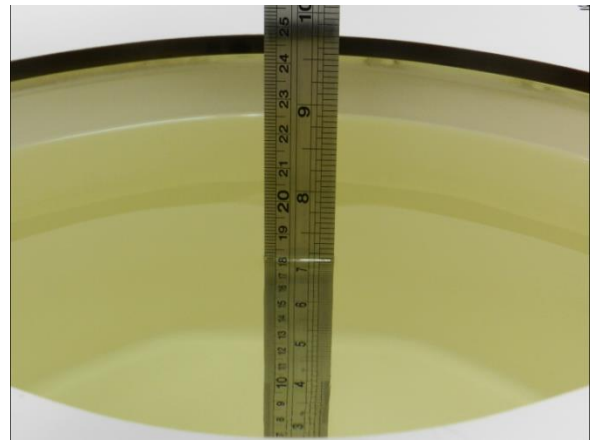


Fig 11.2 Photo of Liquid Height for Body SAR

12.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (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	22.8	0.925	42.400	0.89	41.90	3.93	1.19	±5	2024/7/22
835	Head	22.6	0.911	42.700	0.90	41.50	1.22	2.89	±5	2024/7/24
1750	Head	22.9	1.380	40.000	1.37	40.10	0.73	-0.25	±5	2024/7/26
1900	Head	22.8	1.400	41.400	1.40	40.00	0.00	3.50	±5	2024/7/27
2600	Head	22.7	1.930	37.500	1.96	39.00	-1.53	-3.85	±5	2024/7/28
3500	Head	22.7	2.850	38.600	2.91	37.90	-2.06	1.85	±5	2024/7/30
750	Head	22.6	0.872	41.200	0.89	41.90	-2.02	-1.67	±5	2024/8/1
835	Head	22.7	0.920	40.600	0.90	41.50	2.22	-2.17	±5	2024/8/3
1750	Head	22.9	1.390	38.500	1.37	40.10	1.46	-3.99	±5	2024/8/5
1900	Head	22.8	1.450	39.900	1.40	40.00	3.57	-0.25	±5	2024/8/6
2600	Head	22.6	1.960	37.400	1.96	39.00	0.00	-4.10	±5	2024/8/8
3500	Head	22.8	2.790	39.600	2.91	37.90	-4.12	4.49	±5	2024/8/9
2450	Head	22.7	1.790	40.800	1.80	39.20	-0.56	4.08	±5	2024/8/11
5250	Head	22.5	4.570	35.500	4.71	35.90	-2.97	-1.11	±5	2024/8/12
5600	Head	22.6	4.950	34.800	5.07	35.50	-2.37	-1.97	±5	2024/8/12
5750	Head	22.8	5.130	34.600	5.22	35.40	-1.72	-2.26	±5	2024/8/12

12.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2024/7/22	750	Head	50	1087	7764	1303	0.452	8.58	9.04	5.36
2024/7/24	835	Head	50	4d091	7764	1303	0.508	9.45	10.16	7.51
2024/7/26	1750	Head	50	1090	7764	1303	1.840	37.00	36.8	-0.54
2024/7/27	1900	Head	50	5d118	7764	1303	2.030	39.30	40.6	3.31
2024/7/28	2600	Head	50	1112	7764	1303	2.860	55.10	57.2	3.81
2024/7/30	3500	Head	50	1037	7764	1303	3.480	65.40	69.6	6.42
2024/8/1	750	Head	50	1087	7764	1303	0.424	8.58	8.48	-1.17
2024/8/3	835	Head	50	4d091	7764	1303	0.503	9.45	10.06	6.46
2024/8/5	1750	Head	50	1090	7764	1303	1.860	37.00	37.2	0.54
2024/8/6	1900	Head	50	5d118	7764	1303	2.010	39.30	40.2	2.29
2024/8/8	2600	Head	50	1112	7764	1303	2.830	55.10	56.6	2.72
2024/8/9	3500	Head	50	1037	7764	1303	3.450	65.40	69	5.50
2024/8/11	2450	Head	50	1095	7764	1303	2.800	52.60	56	6.46
2024/8/12	5250	Head	50	1113	7764	1303	4.170	81.50	83.4	2.33
2024/8/12	5600	Head	50	1113	7764	1303	4.340	82.60	86.8	5.08
2024/8/12	5750	Head	50	1113	7764	1303	3.900	80.80	78	-3.47

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2024/7/22	750	Head	50	1087	7764	1303	0.305	5.65	6.1	7.96
2024/7/24	835	Head	50	4d091	7764	1303	0.328	6.22	6.56	5.47
2024/7/26	1750	Head	50	1090	7764	1303	1.030	19.50	20.6	5.64
2024/7/27	1900	Head	50	5d118	7764	1303	1.060	20.40	21.2	3.92
2024/7/28	2600	Head	50	1112	7764	1303	1.310	24.80	26.2	5.65
2024/7/30	3500	Head	50	1037	7764	1303	1.270	24.70	25.4	2.83
2024/8/1	750	Head	50	1087	7764	1303	0.287	5.65	5.74	1.59
2024/8/3	835	Head	50	4d091	7764	1303	0.323	6.22	6.46	3.86
2024/8/5	1750	Head	50	1090	7764	1303	1.020	19.50	20.4	4.62
2024/8/6	1900	Head	50	5d118	7764	1303	1.020	20.40	20.4	0.00
2024/8/8	2600	Head	50	1112	7764	1303	1.270	24.80	25.4	2.42
2024/8/9	3500	Head	50	1037	7764	1303	1.250	24.70	25	1.21
2024/8/11	2450	Head	50	1095	7764	1303	1.310	24.70	26.2	6.07
2024/8/12	5250	Head	50	1113	7764	1303	1.230	23.30	24.6	5.58
2024/8/12	5600	Head	50	1113	7764	1303	1.260	23.70	25.2	6.33
2024/8/12	5750	Head	50	1113	7764	1303	1.140	23.00	22.8	-0.87

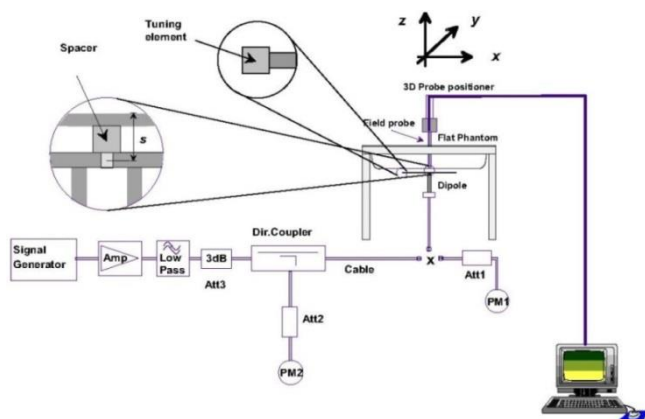


Fig 11.3.1 System Performance Check Setup



Fig 11.3.2 Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

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

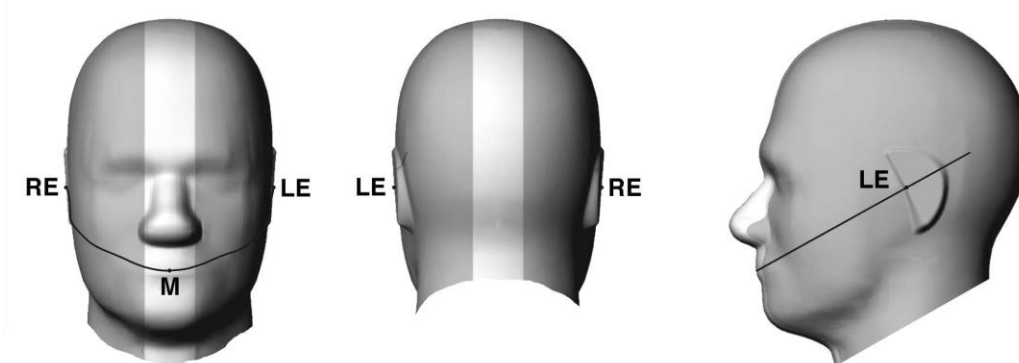


Fig 12.1.1 Front, back, and side views of SAM twin phantom

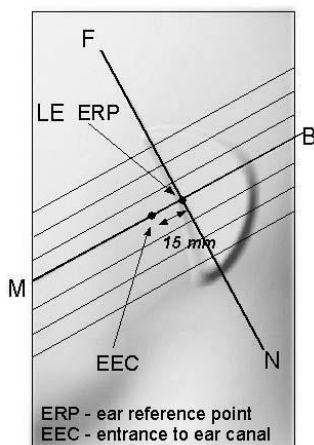


Fig 12.1.2 Close-up side view of phantom showing the ear region.

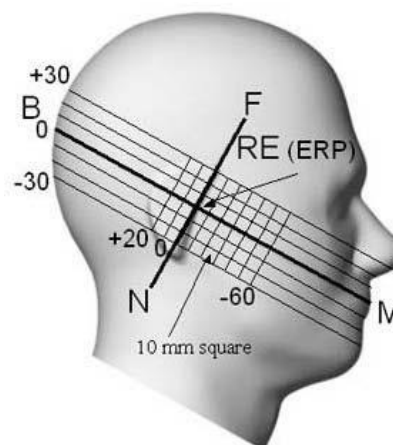


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

13.2 Definition of the cheek position

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

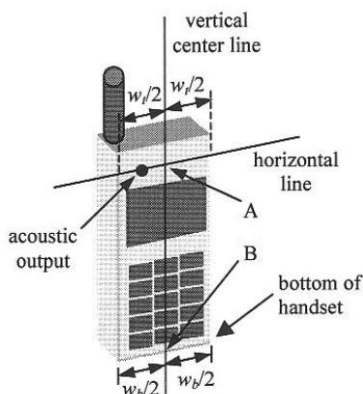


Fig 12.2.1 Handset vertical and horizontal reference lines—“fixed case”

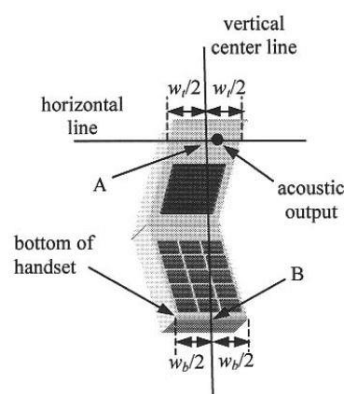


Fig 12.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

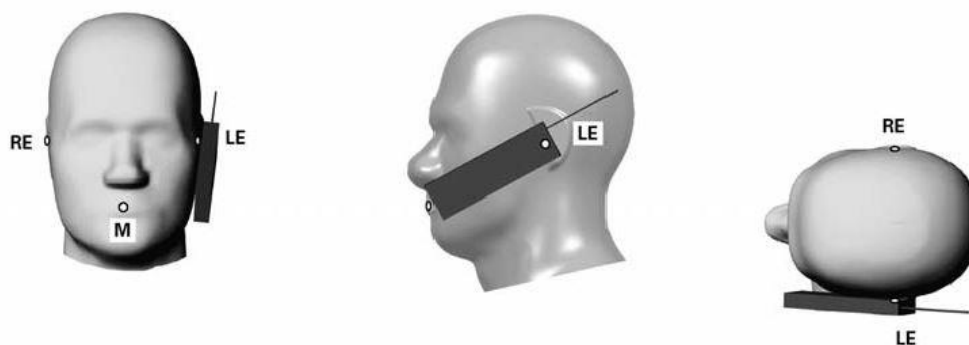


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

13.3 Definition of the tilt position

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

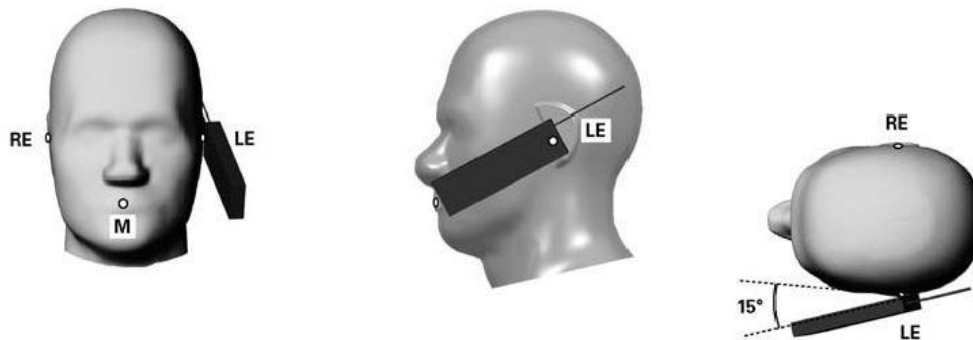


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

13.4 Body Worn Accessory

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

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

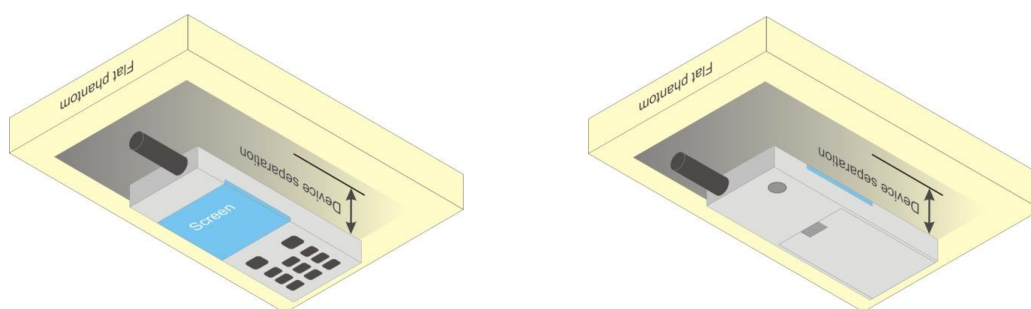


Fig 12.4 Body Worn Position

13.5 Product Specific 10g SAR Exposure

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

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

13.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets ($L \times W \geq 9$ 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.



14. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
 - i. Set Gain Factors (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:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	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 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, TF0) to $\beta_c = 10/15$ and $\beta_d = 15/15$.

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

Note 5: 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.		

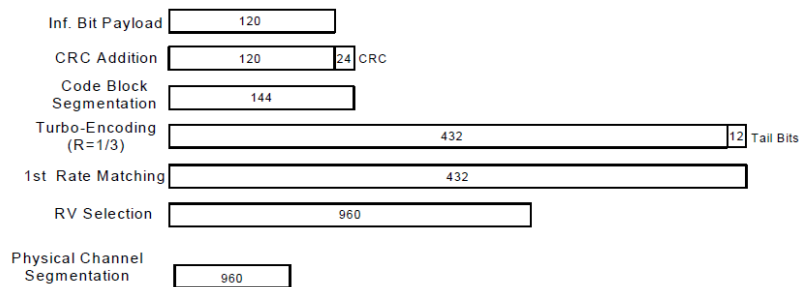


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration



<WCDMA Conducted Power>

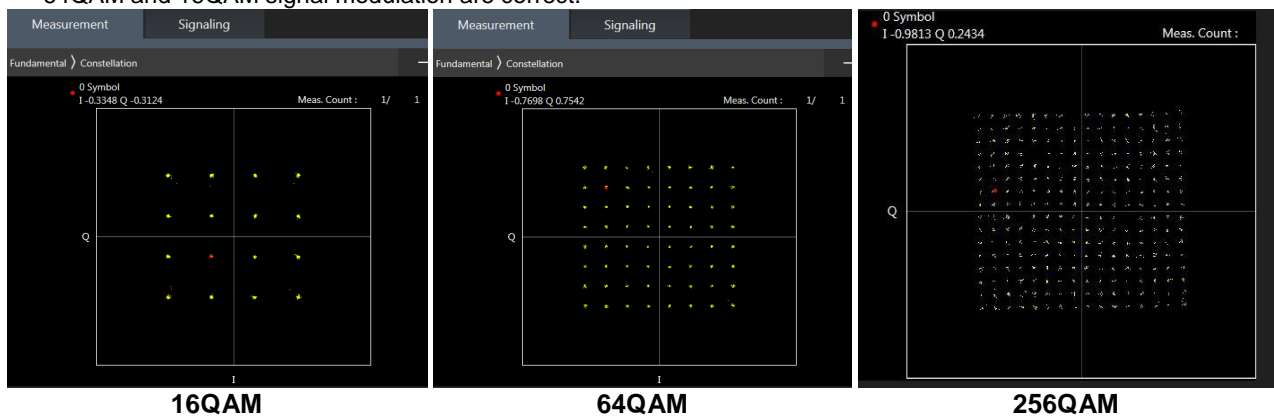
General Note:

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

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B2 / B4 / B5 / B17 / B38 SAR test was covered by B25 / B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is \leq the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to May 2017 TCB workshop, for 16QAM and 64QAM, 256QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 256QAM, 64QAM and 16QAM signal modulation are correct.



<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

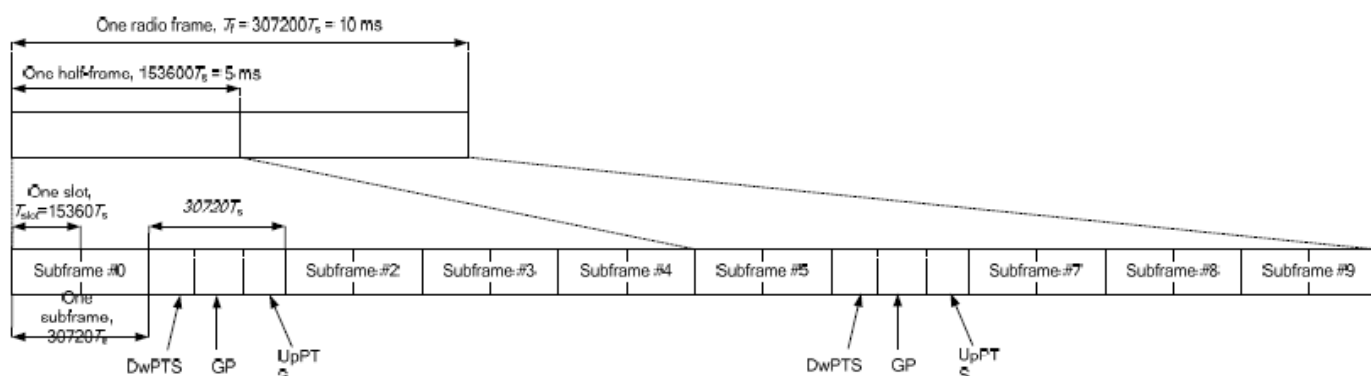


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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



<LTE Carrier Aggregation>

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

General Note:

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

2CC Downlink Carrier Aggregation				3CC Downlink Carrier Aggregation				4CC Downlink Carrier Aggregation			
Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset
1	CA_26A-41A			1	CA_2A-2A-4A	4A, 2A	4CC-1	1	CA_2A-2A-4A-5A	4A, 2A	
2	CA_2A-26A	2A		2	CA_2A-2A-5A	2A	4CC-1	2	CA_5A-7A-66A-66A	7A, 66A	
3	CA_2A-2A	2A	3CC-4	3	CA_2A-2A-66A	66A, 2A		3	CA_5A-7C-66A	7A, 66A	
4	CA_2A-38A	2A	3CC-11	4	CA_2A-2A-7A	7A, 2A		4	CA_7C-66A-66A	7C, 7A, 66A	
5	CA_2A-4A	4A, 2A	3CC-7	5	CA_2A-4A-4A	4A, 2A		5			
6	CA_2A-5A	2A	3CC-6	6	CA_2A-4A-5A	4A, 2A	4CC-1	6			
7	CA_2A-66A	66A, 2A	3CC-3	7	CA_2A-4A-7A	7A, 4A, 2A		7			
8	CA_2A-7A	7A, 2A	3CC-4	8	CA_2A-5A-66A	66A, 2A		8			
9	CA_2C	2C, 2A	3CC-16	9	CA_2A-5A-7A	7A, 2A		9			
10	CA_38C			10	CA_2A-66A-66A	66A, 2A		10			
11	CA_41A-42A	42A		11	CA_2A-7A-38A	2A		11			
12	CA_41C			12	CA_2A-7A-66A	7A, 66A, 2A		12			
14	CA_42A-42A	42A		14	CA_2A-7A-7A	7A, 2A		14			
15	CA_42C	42C, 42A	3CC-17	15	CA_2A-7C	7C, 2A		15			
16	CA_4A-4A	4A	3CC-5	16	CA_2C-66A	2C, 66A		16			
17	CA_4A-5A	4A	3CC-6	17	CA_42A-42C	42C, 42A		17			
18	CA_4A-7A	7A, 4A	3CC-7	18	CA_4A-4A-5A	4A		18			
19	CA_5A-5A		3CC-21	19	CA_4A-4A-7A	7A, 4A		19			
20	CA_5A-66A	66A	3CC-21	20	CA_4A-7C	7C, 4A		20			
21	CA_5A-7A	7A	3CC-25	21	CA_5A-5A-66A	66A		21			
22	CA_66A-66A	66A	3CC-27	22	CA_5A-66A-66A	66A	4CC-2	22			
23	CA_66B	66B		23	CA_5A-66C	66C		23			
24	CA_66C	66C	3CC-23	24	CA_5A-7A-66A	7A, 66A	4CC-2	24			
25	CA_7A-26A	7A	3CC-27	25	CA_5A-7A-7A	7A		25			
26	CA_7A-42A	7A, 42A		26	CA_5A-7C	7A	4CC-3	26			
27	CA_7A-66A	7A, 66A	3CC-27	27	CA_7A-26A-66A	7A, 66A		27			
28	CA_7A-7A	7A	3CC-29	28	CA_7A-66A-66A	7A, 66A	4CC-2	28			
29	CA_7C	7C, 7A	3CC-26	29	CA_7A-7A-66A	7A, 66A		29			
				30	CA_7C-66A	7C, 66A	4CC-4				

LTE Carrier Aggregation Conducted Power (Downlink)

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

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

LTE 4x4 MIMO (Downlink)

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

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

4X4 MIMO	Band
	LTE Band 2/4/7/66/42

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Uplink CA	2CC Uplink Carrier Aggregation
Intra-band	
CA_7C	Ant1
CA_38C	Ant1
CA_41C	Ant1
CA_42C	Ant5

<Intra-band>

General Note:

- i. The device supports intra-band uplink carrier aggregation for LTE B7/38/41/42 with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- ii. The device supports uplink carrier aggregation with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- iii. According Nov. 2017 TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- iv. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<Inter-band uplink carrier aggregation consideration>

LTE Uplink CA	2CC Uplink Carrier Aggregation
Inter-band	
CA_5A-7A	Ant0+Ant 4
CA_2A-4A	Ant1+Ant 4
CA_2A-5A	Ant1+Ant 4
CA_2A-7A	Ant1+Ant 4
CA_2A-66A	Ant1+Ant 4
CA_5A-66A	Ant0+Ant 4
CA_4A-5A	Ant1+Ant 4
CA_4A-7A	Ant1+Ant 4

General Note:

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

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n2/n5/n7/n26/n66/n78 is SA mode.
2. 5G NR n2/n7/n66/n78 is NSA 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.

<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	$\leq 3.5^1$ $\leq 0.5^2$	$\leq 1.2^1$ $\leq 0.5^2$	$\leq 0.2^1$ 0 ²
	QPSK		≤ 1	0
	16 QAM		≤ 2	≤ 1
	64 QAM		≤ 2.5	
	256 QAM		≤ 4.5	
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM		≤ 3.5	
	256 QAM		≤ 6.5	

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

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

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

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

<EN-DC combination>

ENDC	LTE TX	NR TX
DC_2A_n7A	ANT1	ANT4
DC_4A_n7A	ANT1	ANT4
DC_5A_n7A	ANT4	ANT1
DC_66A_n7A	ANT1	ANT4
DC_2A_n66A	ANT1	ANT4
DC_5A_n66A	ANT4	ANT1
DC_7A_n66A	ANT1	ANT4
DC_2A_n78A	ANT1	ANT5
DC_4A_n78A	ANT1	ANT5
DC_5A_n78A	ANT0	ANT5
DC_7A_n78A	ANT1	ANT5
DC_38A_n78A	ANT1	ANT5
DC_41A_n78A	ANT1	ANT5
DC_66A_n78A	ANT1	ANT5
DC_5A_n2A	ANT4	ANT1
DC_66A_n2A	ANT1	ANT4
DC_26A_n78A	ANT0	ANT5
DC_4A_n2A	ANT1	ANT4

<WLAN Conducted Power>

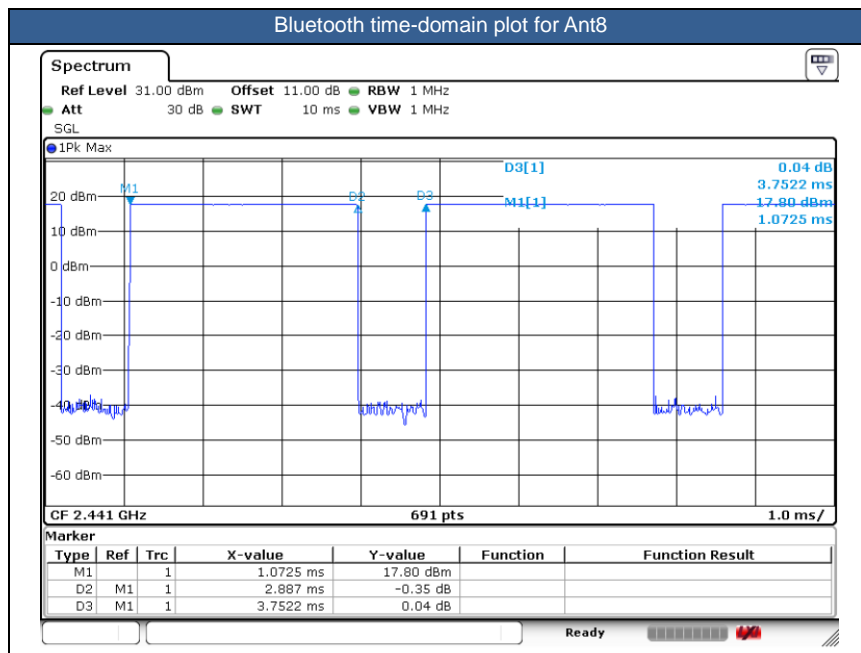
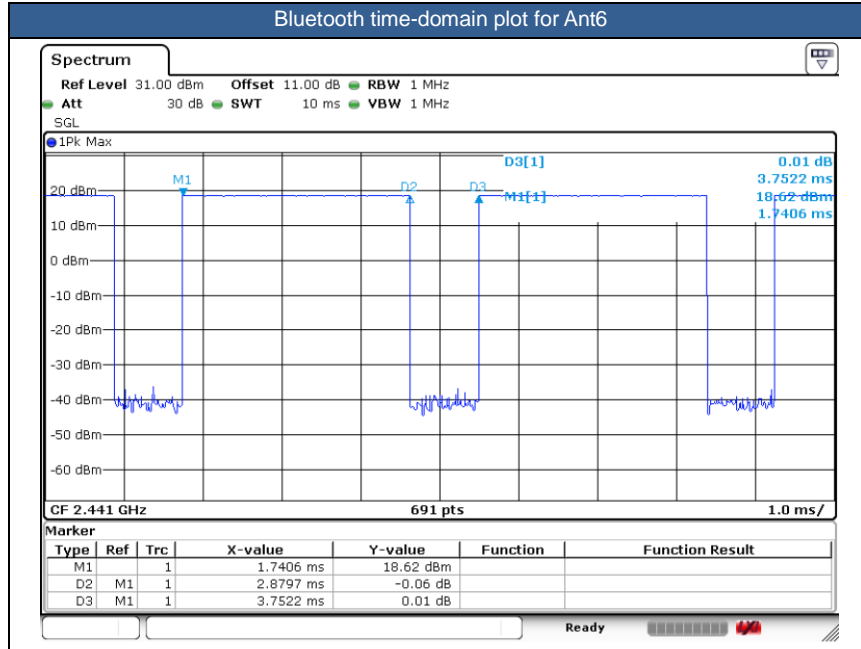
General Note:

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration. Additional output power measurements were not necessary.
2. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
3. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
4. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
5. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
6. The 2.4GHz/5GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode.
7. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of two antennas respectively to calculate sum of the power for MIMO mode.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 76.75% for Ant6, 76.94% for Ant8 as following figure, for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to 83.3% for Bluetooth reported SAR calculation





15. Antenna Location

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

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
 - d. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - e. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - f. For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. For WLAN when transmit simultaneous with WWAN/BT, power reduction will be activated to head exposure condition. For WLAN when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions.
6. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
 - a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of WCDMA Band II/IV/V, LTE Band 2/4/5/7/25/26/66/38/41/42, 5GNR n2/n7/n66/n78, WLAN2.4GHz/5.2GHz/5.8GHz, therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
7. Although the headset SAR is greater than 0.8 W/kg, the headset SAR verified the worst of the non-headset SAR and less than non-headset SAR, so there is no need to be tested other channels.
8. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
9. LTE Band 2/4/7/66/38/41 at ant1, LTE Band 5/26 at ant0, LTE Band 5 at ant4 and 5GNR n7 at ant1/4 and 5GNR n78 at ant5 support different Paths for some antennas, and LTE B2/4 ant1, LTE B4/7/66 ant4 and 5GNR n2/66 at ant1/4 support different PAs for some antennas, and LTE/NR bands support Other PA only under ENDC & UL CA. Some LTE/NR bands support different Pas (or Paths) for some antennas, whether it is the maximum power of Main PA (or Path) is higher than and very close to the other PA (or Path), for RF exposure, after verification all PAs (or Paths) in a same position, so the



worst-case PA (or Path) was chosen to perform full SAR testing to ensure the RF exposure is compliance and other PAs (or Paths) verified the worst case.

10. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot SAR.
11. 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.
12. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. Further simplification chose the worse SAR value and the worst scaling factor from each transmit chain perform reported SAR calculation conservatively. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain.
13. For GSM850 at ant 1 and FR1 n78 at Ant 9 distance SAR test at front 17mm/back 18mm is only for simultaneous transmission analysis.

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is > not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE 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 n5/n7/n26/n66 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN/Bluetooth Note:

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

DSI status description:

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

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

Exposure Condition	DSI	Trigger Conditions
Head SAR	DSI 2	Receiver on
Body worn SAR	DSI 3	Sensor On
Hotspot SAR	DSI 7	Hotspot On
Extremity (Handheld) SAR	DSI 6	Sensor On
Sensor Off SAR	DSI 4	Sensor Off



16.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																				
	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	23.02	24.00	1.253	-	-	0.08	0.097	0.122
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	22.07	23.00	1.239	-	-	0.01	0.000	0.000
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	23.02	24.00	1.253	-	-	0.03	0.000	0.000
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	22.07	23.00	1.239	-	-	-0.08	0.000	0.000
01	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	23.02	24.00	1.253	-	-	0.04	0.142	0.178
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	22.07	23.00	1.239	-	-	-0.08	0.075	0.093
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	23.02	24.00	1.253	-	-	0.1	0.083	0.104
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	22.07	23.00	1.239	-	-	-0.18	0.000	0.000
	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	22.94	24.00	1.276	-	-	0.1	0.154	0.197
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	22.03	23.00	1.250	-	-	0.12	0.081	0.101
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	22.94	24.00	1.276	-	-	0.08	0.087	0.111
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	22.03	23.00	1.250	-	-	-0.17	0.000	0.000
02	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	22.94	24.00	1.276	-	-	0.03	0.205	0.262
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	22.03	23.00	1.250	-	-	-0.03	0.112	0.140
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	22.94	24.00	1.276	-	-	0.14	0.127	0.162
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	22.03	23.00	1.250	-	-	0.11	0.072	0.090
835MHz																				
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	189	836.4	26.38	27.50	1.294	-	-	0.18	0.144	0.186
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	189	836.4	26.38	27.50	1.294	-	-	0.14	0.065	0.084
03	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	26.38	27.50	1.294	-	-	-0.17	0.194	0.251
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	DSI 2	189	836.4	26.38	27.50	1.294	-	-	0.17	0.107	0.138
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4182	836.4	23.03	24.00	1.250	-	-	0.08	0.151	0.189
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4182	836.4	23.03	24.00	1.250	-	-	0.01	0.080	0.100
04	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4182	836.4	23.03	24.00	1.250	-	-	0.03	0.216	0.270
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	4182	836.4	23.03	24.00	1.250	-	-	0.03	0.121	0.151
	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	23.06	24.00	1.242	-	-	-0.15	0.102	0.127
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	21.95	23.00	1.274	-	-	0.11	0.062	0.079
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	23.06	24.00	1.242	-	-	-0.08	0.055	0.068
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	21.95	23.00	1.274	-	-	-0.17	0.000	0.000
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	23.06	24.00	1.242	-	-	-0.08	0.153	0.190
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	21.95	23.00	1.274	-	-	-0.04	0.089	0.113
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	23.06	24.00	1.242	-	-	-0.08	0.084	0.104
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	21.95	23.00	1.274	-	-	0.17	0.052	0.066
	LTE Band 26 Other Path	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	23.01	24.00	1.256	-	-	0.02	0.119	0.149
	LTE Band 5 Other Path	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	20525	836.5	22.90	24.00	1.288	-	-	0.03	0.105	0.135
05	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	26865	831.5	22.10	23.40	1.349	-	-	0.04	0.651	0.878
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 4	DSI 2	26865	831.5	21.82	23.00	1.312	-	-	0.08	0.366	0.480
	LTE Band 26	15M	QPSK	75	0	-	Right Cheek	0mm	Ant 4	DSI 2	26865	831.5	21.69	23.00	1.352	-	-	0.01	0.349	0.472
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	26865	831.5	22.10	23.40	1.349	-	-	0.03	0.629	0.848
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 4	DSI 2	26865	831.5	21.82	23.00	1.312	-	-	-0.08	0.350	0.459
	LTE Band 26	15M	QPSK	75	0	-	Right Tilted	0mm	Ant 4	DSI 2	26865	831.5	21.69	23.00	1.352	-	-	-0.08	0.335	0.453
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	26865	831.5	22.10	23.40	1.349	-	-	0.1	0.405	0.546
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 4	DSI 2	26865	831.5	21.82	23.00	1.312	-	-	-0.18	0.224	0.294
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 2	26865	831.5	22.10	23.40	1.349	-	-	0.12	0.390	0.526
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 4	DSI 2	26865	831.5	21.82	23.00	1.312	-	-	0.08	0.217	0.285
	LTE Band 5 Other Path	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	20525	836.5	22.28	23.40	1.294	-	-	-0.05	0.644	0.833
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	23.65	24.00	1.084	-	-	0.08	0.087	0.094
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	23.52	24.00	1.117	-	-	-0.17	0.074	0.083



	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	23.65	24.00	1.084	-	-	-0.03	0.047	0.051
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	23.52	24.00	1.117	-	-	0.14	0.000	0.000
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	23.65	24.00	1.084	-	-	0.11	0.130	0.141
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	23.52	24.00	1.117	-	-	-0.05	0.106	0.118
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	23.65	24.00	1.084	-	-	0.18	0.074	0.080
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	23.52	24.00	1.117	-	-	0.14	0.059	0.066
06	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	166300	831.5	21.98	23.00	1.265	-	-	-0.05	0.695	0.879
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	166300	831.5	21.87	23.00	1.297	-	-	0.08	0.672	0.872
	FR1 n26	20M	QPSK	100	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	166300	831.5	21.95	23.00	1.274	-	-	0.01	0.685	0.872
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	166300	831.5	21.98	23.00	1.265	-	-	0.03	0.629	0.796
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	166300	831.5	21.87	23.00	1.297	-	-	-0.08	0.610	0.791
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DSI 2	166300	831.5	21.98	23.00	1.265	-	-	0.1	0.414	0.524
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DSI 2	166300	831.5	21.87	23.00	1.297	-	-	-0.18	0.411	0.533
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DSI 2	166300	831.5	21.98	23.00	1.265	-	-	0.1	0.403	0.510
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DSI 2	166300	831.5	21.87	23.00	1.297	-	-	0.12	0.384	0.498
1750MHz																				
07	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	1413	1732.6	22.92	24.00	1.282	-	-	-0.08	0.146	0.187
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	1413	1732.6	22.92	24.00	1.282	-	-	-0.08	0.065	0.083
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	1413	1732.6	22.92	24.00	1.282	-	-	0.1	0.143	0.183
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	1413	1732.6	22.92	24.00	1.282	-	-	-0.18	0.060	0.077
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	132322	1745	22.97	24.00	1.268	-	-	-0.1	0.141	0.179
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	132322	1745	21.89	23.00	1.291	-	-	0.01	0.078	0.101
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	132322	1745	22.97	24.00	1.268	-	-	-0.15	0.065	0.082
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	132322	1745	21.89	23.00	1.291	-	-	0.19	0.000	0.000
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	132322	1745	22.97	24.00	1.268	-	-	0.07	0.135	0.171
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	132322	1745	21.89	23.00	1.291	-	-	-0.18	0.080	0.103
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	132322	1745	22.97	24.00	1.268	-	-	0.03	0.064	0.081
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	132322	1745	21.89	23.00	1.291	-	-	-0.15	0.000	0.000
	LTE Band 66 Other Path	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	132322	1745	22.91	24.00	1.285	-	-	0.05	0.055	0.071
	LTE Band 4 Other Path	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	20175	1732.5	22.87	24.00	1.297	-	-	0.02	0.054	0.070
	LTE Band 4 Other PA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	20175	1732.5	22.91	24.00	1.285	-	-	-0.13	0.043	0.055
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	132322	1745	18.14	19.10	1.247	-	-	-0.03	0.647	0.807
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	132072	1720	18.12	19.10	1.253	-	-	0.14	0.694	0.870
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	132572	1770	18.09	19.10	1.262	-	-	0.11	0.620	0.782
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	132322	1745	18.11	19.10	1.256	-	-	-0.05	0.358	0.450
	LTE Band 66	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DSI 2	132322	1745	18.10	19.10	1.259	-	-	-0.17	0.355	0.447
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	132322	1745	18.14	19.10	1.247	-	-	0.17	0.652	0.813
08	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	132072	1720	18.12	19.10	1.253	-	-	0.01	0.710	0.890
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	132572	1770	18.09	19.10	1.262	-	-	-0.05	0.623	0.786
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 2	132322	1745	18.11	19.10	1.256	-	-	0.01	0.352	0.442
	LTE Band 66	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	DSI 2	132322	1745	18.10	19.10	1.259	-	-	0.04	0.352	0.443
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	132322	1745	18.14	19.10	1.247	-	-	-0.01	0.377	0.470
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	132322	1745	18.11	19.10	1.256	-	-	0.06	0.215	0.270
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 2	132322	1745	18.14	19.10	1.247	-	-	0.12	0.430	0.536
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 2	132322	1745	18.11	19.10	1.256	-	-	0.16	0.246	0.309
	LTE Band 66 Other PA	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	132072	1720	18.45	19.10	1.161	-	-	0.17	0.684	0.794
	LTE Band 4 Other PA	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	20050	1720	18.40	19.10	1.175	-	-	-0.08	0.667	0.784
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	23.25	24.00	1.189	-	-	-0.17	0.108	0.128
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	22.87	24.00	1.297	-	-	0.17	0.095	0.123
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	23.25	24.00	1.189	-	-	-0.05	0.059	0.070
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	349000	1745	22.87	24.00	1.297	-	-	0.01	0.048	0.062
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	349000	1745	23.25	24.00	1.189	-	-	0.1	0.096	0.114
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	349000	1745	22.87	24.00	1.297	-	-	-0.17	0.091	0.118
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	349000	1745	23.25	24.00	1.189	-	-	0.04	0.043	0.051
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	349000	1745	22.87	24.00	1.297	-	-	-0.01	0.048	0.062



	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	349000	1745	23.08	24.00	1.236	-	-	0.06	0.012	0.015
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	349000	1745	18.51	19.40	1.227	-	-	0.19	0.702	0.862
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	349000	1745	18.38	19.40	1.265	-	-	0.07	0.664	0.840
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	349000	1745	18.36	19.40	1.271	-	-	-0.18	0.562	0.714
09	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	349000	1745	18.51	19.40	1.227	-	-	-0.09	0.707	0.868
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	349000	1745	18.38	19.40	1.265	-	-	0.03	0.675	0.854
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	349000	1745	18.36	19.40	1.271	-	-	-0.15	0.568	0.722
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DSI 2	349000	1745	18.51	19.40	1.227	-	-	-0.15	0.348	0.427
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DSI 2	349000	1745	18.38	19.40	1.265	-	-	0.11	0.353	0.446
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DSI 2	349000	1745	18.51	19.40	1.227	-	-	-0.17	0.410	0.503
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DSI 2	349000	1745	18.38	19.40	1.265	-	-	-0.08	0.420	0.531
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	349000	1745	18.78	19.40	1.153	-	-	-0.09	0.689	0.795
1900MHz																				
10	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Right Cheek	0mm	Ant 1	DSI 2	661	1880	29.14	30.50	1.368	-	-	-0.03	0.047	0.064
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Right Tilted	0mm	Ant 1	DSI 2	661	1880	29.14	30.50	1.368	-	-	0.14	0.000	0.000
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Left Cheek	0mm	Ant 1	DSI 2	661	1880	29.14	30.50	1.368	-	-	0.11	0.000	0.000
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Left Tilted	0mm	Ant 1	DSI 2	661	1880	29.14	30.50	1.368	-	-	-0.05	0.000	0.000
11	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	9400	1880	22.81	24.00	1.315	-	-	0.1	0.118	0.155
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	9400	1880	22.81	24.00	1.315	-	-	0.12	0.078	0.103
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	9400	1880	22.81	24.00	1.315	-	-	0.08	0.113	0.149
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	9400	1880	22.81	24.00	1.315	-	-	-0.17	0.067	0.088
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	26340	1880	22.98	24.00	1.265	-	-	0.13	0.099	0.125
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	26340	1880	21.87	23.00	1.297	-	-	0.12	0.080	0.104
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	26340	1880	22.98	24.00	1.265	-	-	0.03	0.059	0.075
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	26340	1880	21.87	23.00	1.297	-	-	0.18	0.000	0.000
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	26340	1880	22.98	24.00	1.265	-	-	0.16	0.095	0.120
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	26340	1880	21.87	23.00	1.297	-	-	-0.1	0.057	0.074
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	26340	1880	22.98	24.00	1.265	-	-	0.07	0.079	0.100
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	26340	1880	21.87	23.00	1.297	-	-	0.18	0.041	0.053
	LTE Band 2 Other Path	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	18900	1880	22.88	24.00	1.294	-	-	0.03	0.008	0.010
	LTE Band 2 Other PA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	18900	1880	22.90	24.00	1.288	-	-	-0.04	0.004	0.005
12	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	26340	1880	18.76	19.40	1.159	-	-	0.01	0.761	0.882
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	26140	1860	18.68	19.40	1.180	-	-	0.11	0.655	0.773
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	26590	1905	18.71	19.40	1.172	-	-	-0.05	0.749	0.878
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	26340	1880	18.60	19.40	1.202	-	-	-0.08	0.606	0.729
	LTE Band 25	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DSI 2	26340	1880	18.70	19.40	1.175	-	-	0.05	0.610	0.717
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	26340	1880	18.76	19.40	1.159	-	-	-0.03	0.610	0.707
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 2	26340	1880	18.60	19.40	1.202	-	-	0.07	0.483	0.581
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	26340	1880	18.76	19.40	1.159	-	-	0.02	0.466	0.540
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	26340	1880	18.60	19.40	1.202	-	-	0.07	0.391	0.470
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 2	26340	1880	18.76	19.40	1.159	-	-	-0.06	0.565	0.655
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 2	26340	1880	18.60	19.40	1.202	-	-	-0.17	0.450	0.541
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	376000	1880	23.48	24.00	1.127	-	-	-0.08	0.084	0.095
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	376000	1880	23.43	24.00	1.140	-	-	0.05	0.094	0.107
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	376000	1880	23.48	24.00	1.127	-	-	0.06	0.053	0.060
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	376000	1880	23.43	24.00	1.140	-	-	-0.09	0.048	0.055
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	376000	1880	23.48	24.00	1.127	-	-	-0.08	0.080	0.090
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	376000	1880	23.43	24.00	1.140	-	-	0.13	0.086	0.098
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	376000	1880	23.48	24.00	1.127	-	-	0.12	0.047	0.053
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	376000	1880	23.43	24.00	1.140	-	-	0.03	0.052	0.059
	FR1 n2 Other PA	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	376000	1880	23.35	24.00	1.161	-	-	0.05	0.002	0.002
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	376000	1880	19.31	20.20	1.227	-	-	-0.07	0.686	0.842
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	372000	1860	19.22	20.20	1.253	-	-	0.05	0.435	0.545
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	380000	1900	19.16	20.20	1.271	-	-	-0.11	0.406	0.516
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	376000	1880	19.27	20.20	1.239	-	-	-0.12	0.657	0.814



	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	372000	1860	19.18	20.20	1.265	-	-	0.03	0.546	0.691
13	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	380000	1900	19.21	20.20	1.256	-	-	0.03	0.701	0.880
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	376000	1880	19.14	20.20	1.276	-	-	-0.16	0.521	0.665
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	376000	1880	19.31	20.20	1.227	-	-	-0.02	0.572	0.702
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	376000	1880	19.27	20.20	1.239	-	-	0.11	0.477	0.591
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DSI 2	376000	1880	19.31	20.20	1.227	-	-	0.05	0.459	0.563
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DSI 2	376000	1880	19.27	20.20	1.239	-	-	-0.15	0.381	0.472
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DSI 2	376000	1880	19.31	20.20	1.227	-	-	0.13	0.511	0.627
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DSI 2	376000	1880	19.27	20.20	1.239	-	-	0.16	0.444	0.550
	FR1 n2 Other PA	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	380000	1900	19.55	20.20	1.161	-	-	-0.16	0.578	0.671
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	23.03	24.00	1.250	-	-	-0.17	0.211	0.264
	LTE Band 7C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 1	DSI 2	21100+ 21298	2535+ 2554.8	23.01	24.00	1.256	-	-	0.02	0.195	0.245
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	22.00	23.00	1.259	-	-	0.04	0.140	0.176
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	23.03	24.00	1.250	-	-	-0.01	0.061	0.076
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	21100	2535	22.00	23.00	1.259	-	-	-0.08	0.000	0.000
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	23.03	24.00	1.250	-	-	0.05	0.117	0.146
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	21100	2535	22.00	23.00	1.259	-	-	0.06	0.075	0.094
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	23.03	24.00	1.250	-	-	-0.09	0.096	0.120
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	21100	2535	22.00	23.00	1.259	-	-	-0.08	0.061	0.077
	LTE Band 7 Other Path	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	21100	2535	23.01	24.00	1.256	-	-	0.08	0.176	0.221
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	21100	2535	16.57	17.40	1.211	-	-	0.08	0.577	0.699
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	21100	2535	16.44	17.40	1.247	-	-	-0.08	0.386	0.481
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	21100	2535	16.57	17.40	1.211	-	-	0.1	0.666	0.806
14	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	20850	2510	16.51	17.40	1.227	-	-	0.03	0.723	0.887
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	21350	2560	16.40	17.40	1.259	-	-	0.12	0.629	0.792
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 2	21100	2535	16.44	17.40	1.247	-	-	0.08	0.438	0.546
	LTE Band 7	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	DSI 2	21100	2535	16.50	17.40	1.230	-	-	0.14	0.436	0.536
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	21100	2535	16.57	17.40	1.211	-	-	0.11	0.323	0.391
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	21100	2535	16.44	17.40	1.247	-	-	0.14	0.205	0.256
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 2	21100	2535	16.57	17.40	1.211	-	-	0.01	0.398	0.482
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 2	21100	2535	16.44	17.40	1.247	-	-	0.04	0.261	0.326
	LTE Band 7 Other PA	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	20850	2510	16.67	17.40	1.183	-	-	-0.08	0.615	0.728
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	23.17	24.00	1.211	62.9	1.006	-0.05	0.119	0.145
	LTE Band 41C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 1	DSI 2	40620+ 40818	2593+ 2612.8	23.13	24.00	1.222	62.9	1.006	0.03	0.102	0.125
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	22.08	23.00	1.236	62.9	1.006	0.18	0.078	0.097
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	23.17	24.00	1.211	62.9	1.006	0.14	0.034	0.041
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	22.08	23.00	1.236	62.9	1.006	-0.17	0.031	0.039
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	23.17	24.00	1.211	62.9	1.006	0.17	0.067	0.082
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	22.08	23.00	1.236	62.9	1.006	-0.05	0.041	0.051
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	23.17	24.00	1.211	62.9	1.006	0.01	0.053	0.065
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	22.08	23.00	1.236	62.9	1.006	0.1	0.039	0.048
	LTE Band 41 Other Path	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	23.11	24.00	1.227	62.9	1.006	0.03	0.038	0.047
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	40620	2593	18.56	19.50	1.242	62.9	1.006	0.06	0.549	0.686
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	39750	2506	18.51	19.50	1.256	62.9	1.006	-0.08	0.602	0.761
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	40185	2549.5	18.47	19.50	1.268	62.9	1.006	0.13	0.565	0.721
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	41055	2636.5	18.49	19.50	1.262	62.9	1.006	0.12	0.478	0.607
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	41490	2680	18.44	19.50	1.276	62.9	1.006	0.03	0.568	0.729
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	40620	2593	18.51	19.50	1.256	62.9	1.006	0.18	0.366	0.462
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 4	DSI 2	40620	2593	18.49	19.50	1.262	62.9	1.006	0.01	0.371	0.471
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	40620	2593	18.56	19.50	1.242	62.9	1.006	-0.15	0.654	0.817
15	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	39750	2506	18.51	19.50	1.256	62.9	1.006	0.01	0.702	0.887
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	40185	2549.5	18.47	19.50	1.268	62.9	1.006	0.07	0.628	0.801
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	41055	2636.5	18.49	19.50	1.262	62.9	1.006	-0.18	0.587	0.745
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	41490	2680	18.44	19.50	1.276	62.9	1.006	0.03	0.677	0.869



	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 2	40620	2593	18.51	19.50	1.256	62.9	1.006	-0.15	0.411	0.519
	LTE Band 41	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 4	DSI 2	40620	2593	18.49	19.50	1.262	62.9	1.006	-0.04	0.415	0.527
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	40620	2593	18.56	19.50	1.242	62.9	1.006	-0.08	0.321	0.401
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	40620	2593	18.51	19.50	1.256	62.9	1.006	-0.13	0.204	0.258
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 2	40620	2593	18.56	19.50	1.242	62.9	1.006	-0.03	0.441	0.551
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 2	40620	2593	18.51	19.50	1.256	62.9	1.006	-0.12	0.271	0.342
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	23.47	24.00	1.130	-	-	0.18	0.176	0.199
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	23.25	24.00	1.189	-	-	0.16	0.175	0.208
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	23.47	24.00	1.130	-	-	-0.1	0.059	0.067
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	DSI 2	507000	2535	23.25	24.00	1.189	-	-	0.07	0.055	0.065
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	507000	2535	23.47	24.00	1.130	-	-	0.18	0.092	0.104
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	DSI 2	507000	2535	23.25	24.00	1.189	-	-	-0.1	0.092	0.109
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	507000	2535	23.47	24.00	1.130	-	-	0.01	0.072	0.081
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	DSI 2	507000	2535	23.25	24.00	1.189	-	-	-0.15	0.072	0.086
	FR1 n7 Other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	DSI 2	507000	2535	23.45	24.00	1.135	-	-	0.17	0.005	0.006
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	507000	2535	18.18	18.80	1.153	-	-	-0.08	0.662	0.764
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 4	DSI 2	507000	2535	18.15	18.80	1.161	-	-	0.17	0.651	0.756
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	507000	2535	18.18	18.80	1.153	-	-	-0.04	0.727	0.839
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	507000	2535	18.15	18.80	1.161	-	-	-0.08	0.705	0.819
16	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	507000	2535	18.01	18.80	1.199	-	-	0.01	0.731	0.877
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DSI 2	507000	2535	18.18	18.80	1.153	-	-	-0.13	0.362	0.418
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 4	DSI 2	507000	2535	18.15	18.80	1.161	-	-	-0.13	0.376	0.437
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DSI 2	507000	2535	18.18	18.80	1.153	-	-	-0.03	0.431	0.497
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 4	DSI 2	507000	2535	18.15	18.80	1.161	-	-	-0.03	0.461	0.535
	FR1 n7 Other Path	40M	QPSK	216	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 4	DSI 2	507000	2535	18.16	18.80	1.159	-	-	0.16	0.687	0.796
3500MHz																				
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 2	42590	3500	17.37	18.60	1.327	62.9	1.006	0.08	0.439	0.586
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 2	42590	3500	17.32	18.60	1.343	62.9	1.006	-0.08	0.367	0.496
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DSI 2	42590	3500	17.37	18.60	1.327	62.9	1.006	0.1	0.582	0.777
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DSI 2	42190	3460	17.31	18.60	1.346	62.9	1.006	0.12	0.559	0.757
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DSI 2	42990	3540	17.28	18.60	1.355	62.9	1.006	0.08	0.544	0.742
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DSI 2	42590	3500	17.32	18.60	1.343	62.9	1.006	-0.17	0.465	0.628
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DSI 2	42190	3460	17.28	18.60	1.355	62.9	1.006	-0.03	0.428	0.584
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DSI 2	42990	3540	17.29	18.60	1.352	62.9	1.006	0.14	0.398	0.541
	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 5	DSI 2	42590	3500	17.24	18.60	1.368	62.9	1.006	0.11	0.462	0.636
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DSI 2	42590	3500	17.37	18.60	1.327	62.9	1.006	-0.05	0.540	0.721
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DSI 2	42190	3460	17.31	18.60	1.346	62.9	1.006	0.18	0.522	0.707
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DSI 2	42990	3540	17.28	18.60	1.355	62.9	1.006	0.14	0.533	0.727
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	DSI 2	42590	3500	17.32	18.60	1.343	62.9	1.006	-0.17	0.439	0.593
	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 5	DSI 2	42590	3500	17.24	18.60	1.368	62.9	1.006	0.01	0.443	0.610
17	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DSI 2	42590	3500	17.37	18.60	1.327	62.9	1.006	0.01	0.668	0.892
	LTE Band 42C Part 27Q	20M	QPSK	1	99	-	Left Tilted	0mm	Ant 5	DSI 2	42590+42788	3500+3519.8	17.34	18.60	1.337	62.9	1.006	0.06	0.634	0.852
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DSI 2	42190	3460	17.31	18.60	1.346	62.9	1.006	0.1	0.634	0.858
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DSI 2	42990	3540	17.28	18.60	1.355	62.9	1.006	-0.17	0.642	0.875
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DSI 2	42590	3500	17.32	18.60	1.343	62.9	1.006	0.04	0.537	0.725
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DSI 2	42190	3460	17.28	18.60	1.355	62.9	1.006	-0.01	0.495	0.675
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DSI 2	42990	3540	17.29	18.60	1.352	62.9	1.006	-0.08	0.484	0.658
	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Left Tilted	0mm	Ant 5	DSI 2	42590	3500	17.24	18.60	1.368	62.9	1.006	0.05	0.537	0.739
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 2	633334	3500.01	15.67	16.50	1.211	-	-	-0.01	0.394	0.477



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	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 2	633334	3500.01	15.66	16.50	1.213	-	-	-0.08	0.501	0.608
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 2	633334	3500.01	15.67	16.50	1.211	-	-	0.06	0.505	0.611
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 2	633334	3500.01	15.66	16.50	1.213	-	-	-0.09	0.652	0.791
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 2	633334	3500.01	15.67	16.50	1.211	-	-	0.13	0.494	0.598
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 2	633334	3500.01	15.66	16.50	1.213	-	-	0.12	0.624	0.757
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 2	633334	3500.01	15.67	16.50	1.211	-	-	0.18	0.609	0.737
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 2	633334	3500.01	15.66	16.50	1.213	-	-	0.04	0.727	0.882
	FR1 n78 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 2	633334	3500.01	15.63	16.50	1.222	-	-	0.16	0.586	0.716
	FR1 n78 Part 27Q Other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 2	633334	3500.01	15.33	16.50	1.309	-	-	0.07	0.274	0.359
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	633334	3500.01	20.64	22.00	1.368	-	-	0.14	0.079	0.108
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	633334	3500.01	20.44	22.00	1.432	-	-	-0.17	0.103	0.148
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 2	633334	3500.01	20.64	22.00	1.368	-	-	0.17	0.052	0.071
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 2	633334	3500.01	20.44	22.00	1.432	-	-	-0.05	0.067	0.096
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 2	633334	3500.01	20.64	22.00	1.368	-	-	0.01	0.000	0.000
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 2	633334	3500.01	20.44	22.00	1.432	-	-	0.1	0.044	0.063
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 2	633334	3500.01	20.64	22.00	1.368	-	-	-0.17	0.000	0.000
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 2	633334	3500.01	20.44	22.00	1.432	-	-	0.04	0.042	0.060
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	633334	3500.01	16.27	17.30	1.268	-	-	0.08	0.169	0.214
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 7	DSI 2	633334	3500.01	16.24	17.30	1.276	-	-	0.01	0.199	0.254
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	633334	3500.01	16.27	17.30	1.268	-	-	0.03	0.140	0.177
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 7	DSI 2	633334	3500.01	16.24	17.30	1.276	-	-	-0.08	0.165	0.211
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	633334	3500.01	16.27	17.30	1.268	-	-	-0.08	0.554	0.702
18	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	633334	3500.01	16.24	17.30	1.276	-	-	0.04	0.697	0.890
	FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 7	DSI 2	633334	3500.01	16.23	17.30	1.279	-	-	0.1	0.538	0.688
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	DSI 2	633334	3500.01	16.27	17.30	1.268	-	-	-0.18	0.255	0.323
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 7	DSI 2	633334	3500.01	16.24	17.30	1.276	-	-	0.1	0.372	0.475
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DSI 2	633334	3500.01	20.79	22.00	1.321	-	-	0.12	0.109	0.144
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	DSI 2	633334	3500.01	20.75	22.00	1.334	-	-	0.08	0.082	0.109
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DSI 2	633334	3500.01	20.79	22.00	1.321	-	-	-0.17	0.076	0.100
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	DSI 2	633334	3500.01	20.75	22.00	1.334	-	-	-0.03	0.087	0.116
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DSI 2	633334	3500.01	20.79	22.00	1.321	-	-	0.14	0.099	0.131
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	DSI 2	633334	3500.01	20.75	22.00	1.334	-	-	0.11	0.091	0.121
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DSI 2	633334	3500.01	20.79	22.00	1.321	-	-	-0.05	0.142	0.188
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	DSI 2	633334	3500.01	20.75	22.00	1.334	-	-	0.18	0.132	0.176

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6+8(6)	Receiver on	11	2462	17.02	19.00	1.578	87.19	1.147	0.08	0.320	0.579
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6+8(6)	Receiver on	11	2462	17.02	19.00	1.578	87.19	1.147	-0.08	0.300	0.543
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Receiver on	11	2462	17.02	19.00	1.578	87.19	1.147	-0.08	0.751	1.359
19	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Receiver on	6	2437	17.17	19.00	1.524	87.19	1.147	-0.01	0.803	1.404
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Receiver on	1	2412	17.12	19.00	1.542	87.19	1.147	0.1	0.787	1.392
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6+8(6)	Receiver on	11	2462	17.02	19.00	1.578	87.19	1.147	-0.18	0.620	1.122
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6+8(6)	Receiver on	6	2437	17.17	19.00	1.524	87.19	1.147	0.1	0.641	1.121
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 6+8(6)	Receiver on	6	2437	17.15	19.00	1.531	86.38	1.158	0.03	0.611	1.083
	WLAN2.4GHz	802.11g 6Mbps	Left Cheek	0mm	Ant 6+8(6)	Receiver on	1	2412	16.55	18.00	1.396	86.38	1.158	0.06	0.604	0.977



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	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 6+8(6)	Simultaneous	6	2437	11.84	13.50	1.466	87.19	1.147	0.18	0.092	0.155
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 6+8(6)	Simultaneous	6	2437	11.84	13.50	1.466	87.19	1.147	0.14	0.086	0.145
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Simultaneous	6	2437	11.84	13.50	1.466	87.19	1.147	-0.17	0.225	0.378
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 6+8(6)	Simultaneous	6	2437	11.84	13.50	1.466	87.19	1.147	0.17	0.179	0.301
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	0.08	0.087	0.120
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	-0.17	0.092	0.127
20	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	-0.04	0.184	0.253
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	-0.03	0.168	0.231
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	0.14	0.043	0.065
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	0.11	0.045	0.068
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	0.04	0.099	0.149
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	-0.05	0.083	0.125
5000MHz																
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 5+8(8)	Receiver on	54	5270	16.17	18.00	1.522	86.11	1.161	-0.05	0.322	0.569
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 5+8(8)	Receiver on	54	5270	16.17	18.00	1.522	86.11	1.161	0.01	0.443	0.783
21	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5+8(8)	Receiver on	54	5270	16.17	18.00	1.522	86.11	1.161	-0.07	0.592	1.046
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 5+8(8)	Receiver on	62	5310	15.07	17.00	1.558	86.11	1.161	0.06	0.445	0.805
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 5+8(8)	Receiver on	54	5270	16.17	18.00	1.522	86.11	1.161	-0.09	0.437	0.772
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 5+8(5)	Simultaneous	50	5250	12.18	14.00	1.521	85.06	1.176	0.12	0.116	0.207
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Ant 5+8(5)	Simultaneous	50	5250	12.18	14.00	1.521	85.06	1.176	0.03	0.147	0.263
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 5+8(5)	Simultaneous	50	5250	12.18	14.00	1.521	85.06	1.176	0.18	0.220	0.393
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Tilted	0mm	Ant 5+8(5)	Simultaneous	50	5250	12.18	14.00	1.521	85.06	1.176	0.16	0.161	0.288
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+8(8)	Receiver on	138	5690	12.33	14.00	1.467	85.49	1.170	-0.1	0.506	0.869
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+8(5)	Receiver on	122	5610	12.87	14.50	1.455	85.49	1.170	0.04	0.433	0.737
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+8(8)	Receiver on	138	5690	12.33	14.00	1.467	85.49	1.170	-0.01	0.597	1.025
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+8(5)	Receiver on	122	5610	12.87	14.50	1.455	85.49	1.170	-0.11	0.501	0.853
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+8(8)	Receiver on	138	5690	12.33	14.00	1.467	85.49	1.170	0.18	0.479	0.822
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+8(5)	Receiver on	122	5610	12.87	14.50	1.455	85.49	1.170	0.07	0.429	0.730
22	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+8(8)	Receiver on	138	5690	12.33	14.00	1.467	85.49	1.170	-0.01	0.670	1.150
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+8(5)	Receiver on	122	5610	12.87	14.50	1.455	85.49	1.170	0.09	0.611	1.040
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 5+8(8)	Simultaneous	114	5570	6.78	8.50	1.486	85.06	1.176	-0.1	0.153	0.267
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Ant 5+8(8)	Simultaneous	114	5570	6.78	8.50	1.486	85.06	1.176	0.01	0.195	0.341
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 5+8(8)	Simultaneous	114	5570	6.78	8.50	1.486	85.06	1.176	-0.15	0.158	0.276
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Tilted	0mm	Ant 5+8(8)	Simultaneous	114	5570	6.78	8.50	1.486	85.06	1.176	0.19	0.218	0.381
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+8(8)	Receiver on	155	5775	14.89	16.50	1.449	85.49	1.170	0.07	0.542	0.919
23	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+8(8)	Receiver on	155	5775	14.89	16.50	1.449	85.49	1.170	-0.17	0.668	1.132
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+8(8)	Receiver on	155	5775	14.89	16.50	1.449	85.49	1.170	-0.18	0.530	0.898
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+8(8)	Receiver on	155	5775	14.89	16.50	1.449	85.49	1.170	0.03	0.639	1.083
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+8(8)	Simultaneous	155	5775	9.85	11.50	1.462	85.49	1.170	-0.15	0.167	0.286
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+8(8)	Simultaneous	155	5775	9.85	11.50	1.462	85.49	1.170	-0.15	0.223	0.381
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+8(8)	Simultaneous	155	5775	9.85	11.50	1.462	85.49	1.170	0.11	0.171	0.293
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+8(8)	Simultaneous	155	5775	9.85	11.50	1.462	85.49	1.170	-0.08	0.214	0.366



16.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																				
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	23095	707.5	23.02	24.00	1.253	-	-	0.08	0.370	0.464
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23095	707.5	22.07	23.00	1.239	-	-	0.01	0.238	0.295
24	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	23.02	24.00	1.253	-	-	-0.13	0.736	0.922
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	22.07	23.00	1.239	-	-	0.03	0.440	0.545
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23095	707.5	22.03	23.00	1.250	-	-	-0.08	0.441	0.551
	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	23095	707.5	23.02	24.00	1.253	-	-	-0.08	0.522	0.654
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	DSI 7	23095	707.5	22.07	23.00	1.239	-	-	0.1	0.316	0.391
	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	23095	707.5	23.02	24.00	1.253	-	-	-0.18	0.132	0.165
	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	DSI 7	23095	707.5	22.07	23.00	1.239	-	-	0.1	0.089	0.110
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	23.02	24.00	1.253	-	-	0.12	0.459	0.575
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	22.07	23.00	1.239	-	-	0.08	0.320	0.396
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	23230	782	22.94	24.00	1.276	-	-	-0.17	0.514	0.656
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	DSI 7	23230	782	22.03	23.00	1.250	-	-	-0.03	0.259	0.324
25	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23230	782	22.94	24.00	1.276	-	-	0.14	0.871	1.112
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	DSI 7	23230	782	22.03	23.00	1.250	-	-	0.14	0.517	0.646
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	DSI 7	23230	782	21.89	23.00	1.291	-	-	0.11	0.539	0.696
	LTE Band 13	10M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	23230	782	22.94	24.00	1.276	-	-	-0.05	0.720	0.919
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 0	DSI 7	23230	782	22.03	23.00	1.250	-	-	0.18	0.376	0.470
	LTE Band 13	10M	QPSK	50	0	-	Left Side	5mm	Ant 0	DSI 7	23230	782	21.89	23.00	1.291	-	-	0.14	0.390	0.504
	LTE Band 13	10M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	23230	782	22.94	24.00	1.276	-	-	-0.17	0.181	0.231
	LTE Band 13	10M	QPSK	25	0	-	Right Side	5mm	Ant 0	DSI 7	23230	782	22.03	23.00	1.250	-	-	0.17	0.094	0.118
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	23230	782	22.94	24.00	1.276	-	-	-0.05	0.634	0.809
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 0	DSI 7	23230	782	22.03	23.00	1.250	-	-	0.01	0.396	0.495
	LTE Band 13	10M	QPSK	50	0	-	Bottom Side	5mm	Ant 0	DSI 7	23230	782	21.89	23.00	1.291	-	-	0.1	0.375	0.484
835MHz																				
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	DSI 7	189	836.4	26.38	27.50	1.294	-	-	0.05	0.451	0.584
26	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	189	836.4	26.38	27.50	1.294	-	-	-0.08	0.824	1.066
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	128	824.2	26.41	27.50	1.285	-	-	0.06	0.692	0.889
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	DSI 7	251	848.8	26.30	27.50	1.318	-	-	-0.09	0.715	0.943
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Side	5mm	Ant 0	DSI 7	189	836.4	26.38	27.50	1.294	-	-	-0.08	0.609	0.788
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Side	5mm	Ant 0	DSI 7	189	836.4	26.38	27.50	1.294	-	-	0.13	0.083	0.107
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Bottom Side	5mm	Ant 0	DSI 7	189	836.4	26.38	27.50	1.294	-	-	0.12	0.434	0.562
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	4182	836.4	23.03	24.00	1.250	-	-	0.17	0.548	0.685
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4182	836.4	23.03	24.00	1.250	-	-	0.06	1.010	1.263
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4132	826.4	22.95	24.00	1.274	-	-	0	0.796	1.014
27	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4233	846.6	22.96	24.00	1.271	-	-	0.09	1.020	1.296
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	4182	836.4	23.03	24.00	1.250	-	-	-0.04	0.483	0.604
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 0	DSI 7	4182	836.4	23.03	24.00	1.250	-	-	-0.15	0.101	0.126
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	4182	836.4	23.03	24.00	1.250	-	-	0.11	0.545	0.681
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	DSI 7	26865	831.5	23.06	24.00	1.242	-	-	0.16	0.455	0.565
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	DSI 7	26865	831.5	21.95	23.00	1.274	-	-	-0.1	0.289	0.368
28	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	23.06	24.00	1.242	-	-	-0.06	0.971	1.206
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	21.95	23.00	1.274	-	-	0.07	0.573	0.730
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	21.81	23.00	1.315	-	-	0.18	0.572	0.752
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 0	DSI 7	26865	831.5	23.06	24.00	1.242	-	-	-0.1	0.533	0.662
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 0	DSI 7	26865	831.5	21.95	23.00	1.274	-	-	0.01	0.317	0.404
	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 0	DSI 7	26865	831.5	23.06	24.00	1.242	-	-	-0.15	0.092	0.114
	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 0	DSI 7	26865	831.5	21.95	23.00	1.274	-	-	0.19	0.056	0.071



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	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	23.06	24.00	1.242	-	-	0.07	0.407	0.505
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	21.95	23.00	1.274	-	-	-0.18	0.260	0.331
	LTE Band 26 Other Path	15M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	26865	831.5	23.01	24.00	1.256	-	-	0.03	0.614	0.771
	LTE Band 5 Other Path	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	20525	836.5	22.90	24.00	1.288	-	-	0.08	0.593	0.764
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 4	DSI 7	26865	831.5	20.13	21.50	1.371	-	-	-0.02	0.182	0.250
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 4	DSI 7	26865	831.5	20.12	21.50	1.374	-	-	0.15	0.102	0.140
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	26865	831.5	20.13	21.50	1.371	-	-	-0.06	0.451	0.618
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 4	DSI 7	26865	831.5	20.12	21.50	1.374	-	-	-0.08	0.245	0.337
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	26865	831.5	20.13	21.50	1.371	-	-	0.15	0.141	0.193
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 4	DSI 7	26865	831.5	20.12	21.50	1.374	-	-	-0.08	0.081	0.111
	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 4	DSI 7	26865	831.5	20.13	21.50	1.371	-	-	-0.05	0.054	0.074
	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 4	DSI 7	26865	831.5	20.12	21.50	1.374	-	-	-0.18	0.032	0.044
	LTE Band 26	15M	QPSK	1	0	-	Top Side	5mm	Ant 4	DSI 7	26865	831.5	20.13	21.50	1.371	-	-	-0.08	0.411	0.563
	LTE Band 26	15M	QPSK	36	0	-	Top Side	5mm	Ant 4	DSI 7	26865	831.5	20.12	21.50	1.374	-	-	0.18	0.294	0.404
	LTE Band 5 Other Path	10M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	20525	836.5	20.20	21.50	1.349	-	-	-0.15	0.409	0.552
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 0	DSI 7	166300	831.5	23.65	24.00	1.084	-	-	0.01	0.365	0.396
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 0	DSI 7	166300	831.5	23.52	24.00	1.117	-	-	-0.01	0.404	0.451
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 0	DSI 7	166300	831.5	23.65	24.00	1.084	-	-	-0.06	0.745	0.808
29	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	DSI 7	166300	831.5	23.52	24.00	1.117	-	-	-0.19	0.790	0.882
	FR1 n26	20M	QPSK	100	0	DFT-SCS-15KHz	Back	5mm	Ant 0	DSI 7	166300	831.5	22.58	23.00	1.102	-	-	0.04	0.710	0.782
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 0	DSI 7	166300	831.5	23.65	24.00	1.084	-	-	-0.09	0.405	0.439
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 0	DSI 7	166300	831.5	23.52	24.00	1.117	-	-	-0.17	0.469	0.524
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 0	DSI 7	166300	831.5	23.65	24.00	1.084	-	-	-0.1	0.070	0.076
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 0	DSI 7	166300	831.5	23.52	24.00	1.117	-	-	0.18	0.077	0.086
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 0	DSI 7	166300	831.5	23.65	24.00	1.084	-	-	-0.17	0.350	0.379
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 0	DSI 7	166300	831.5	23.52	24.00	1.117	-	-	-0.04	0.408	0.456
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	DSI 7	166300	831.5	20.18	21.40	1.324	-	-	0.1	0.151	0.200
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 4	DSI 7	166300	831.5	20.17	21.40	1.327	-	-	-0.18	0.162	0.215
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	166300	831.5	20.18	21.40	1.324	-	-	0.1	0.387	0.513
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	166300	831.5	20.17	21.40	1.327	-	-	-0.05	0.471	0.625
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 4	DSI 7	166300	831.5	20.18	21.40	1.324	-	-	0.08	0.183	0.242
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 4	DSI 7	166300	831.5	20.17	21.40	1.327	-	-	-0.17	0.205	0.272
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 4	DSI 7	166300	831.5	20.18	21.40	1.324	-	-	-0.03	0.053	0.070
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 4	DSI 7	166300	831.5	20.17	21.40	1.327	-	-	0.14	0.057	0.076
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 4	DSI 7	166300	831.5	20.18	21.40	1.324	-	-	0.11	0.324	0.429
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	5mm	Ant 4	DSI 7	166300	831.5	20.17	21.40	1.327	-	-	-0.05	0.309	0.410
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	1413	1732.6	20.87	21.70	1.211	-	-	-0.12	0.648	0.784
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	1312	1712.4	20.81	21.70	1.227	-	-	-0.16	0.635	0.779
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	1513	1752.6	20.82	21.70	1.225	-	-	-0.03	0.586	0.718
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	1413	1732.6	20.87	21.70	1.211	-	-	0.17	0.792	0.959
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	1312	1712.4	20.81	21.70	1.227	-	-	0.02	0.805	0.988
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	1513	1752.6	20.82	21.70	1.225	-	-	0	0.718	0.879
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 7	1413	1732.6	20.87	21.70	1.211	-	-	0.18	0.128	0.155
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	DSI 7	1413	1732.6	20.87	21.70	1.211	-	-	-0.11	0.177	0.214
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 7	1413	1732.6	20.87	21.70	1.211	-	-	-0.05	1.010	1.223
30	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 7	1312	1712.4	20.81	21.70	1.227	-	-	-0.15	1.050	1.289
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 7	1513	1752.6	20.82	21.70	1.225	-	-	-0.04	0.904	1.107
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	132322	1745	20.31	21.30	1.256	-	-	-0.08	0.526	0.661
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	132322	1745	20.28	21.30	1.265	-	-	0.01	0.322	0.407
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	132322	1745	20.31	21.30	1.256	-	-	0.06	0.757	0.951
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	132072	1720	20.27	21.30	1.268	-	-	-0.02	0.773	0.980
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	132572	1770	20.28	21.30	1.265	-	-	0.07	0.707	0.894
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	132322	1745	20.28	21.30	1.265	-	-	-0.17	0.420	0.531
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 1	DSI 7	132322	1745	20.25	21.30	1.274	-	-	0	0.406	0.517



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	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	132322	1745	20.31	21.30	1.256	-	-	-0.13	0.121	0.152
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	DSI 7	132322	1745	20.28	21.30	1.265	-	-	-0.1	0.071	0.090
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	132322	1745	20.31	21.30	1.256	-	-	-0.07	0.173	0.217
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	132322	1745	20.28	21.30	1.265	-	-	0.11	0.091	0.115
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	132322	1745	20.31	21.30	1.256	-	-	-0.17	0.979	1.230
31	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	132072	1720	20.27	21.30	1.268	-	-	-0.02	1.020	1.293
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	132572	1770	20.28	21.30	1.265	-	-	0.01	0.934	1.181
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	132322	1745	20.28	21.30	1.265	-	-	-0.07	0.502	0.635
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	DSI 7	132322	1745	20.25	21.30	1.274	-	-	0.18	0.563	0.717
	LTE Band 66 Other Path	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	132322	1745	20.38	21.30	1.236	-	-	0.11	0.496	0.613
	LTE Band 4 Other Path	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	20175	1732.5	20.36	21.30	1.242	-	-	-0.08	0.527	0.654
	LTE Band 4 Other PA	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	20175	1732.5	20.35	21.30	1.245	-	-	0.03	0.508	0.632
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 4	DSI 7	132322	1745	15.09	16.30	1.321	-	-	-0.06	0.162	0.214
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 7	132322	1745	15.08	16.30	1.324	-	-	-0.15	0.094	0.124
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	132322	1745	15.09	16.30	1.321	-	-	-0.05	0.475	0.628
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 4	DSI 7	132322	1745	15.08	16.30	1.324	-	-	0.12	0.249	0.330
	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	132322	1745	15.09	16.30	1.321	-	-	0.13	0.084	0.111
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 7	132322	1745	15.08	16.30	1.324	-	-	-0.03	0.055	0.073
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant 4	DSI 7	132322	1745	15.09	16.30	1.321	-	-	0.09	0.026	0.034
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 4	DSI 7	132322	1745	15.08	16.30	1.324	-	-	0.06	0.016	0.021
	LTE Band 66	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	DSI 7	132322	1745	15.09	16.30	1.321	-	-	-0.04	0.318	0.420
	LTE Band 66	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	DSI 7	132322	1745	15.08	16.30	1.324	-	-	0.01	0.190	0.252
	LTE Band 66 Other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	132322	1745	15.08	16.30	1.324	-	-	0.06	0.461	0.611
	LTE Band 4 Other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	20175	1732.5	15.05	16.30	1.334	-	-	0.06	0.428	0.571
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	349000	1745	21.28	22.10	1.208	-	-	0.14	0.694	0.838
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	349000	1745	21.26	22.10	1.213	-	-	-0.17	0.645	0.783
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	349000	1745	21.21	22.10	1.227	-	-	0.17	0.635	0.779
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	349000	1745	21.28	22.10	1.208	-	-	-0.05	0.819	0.989
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	349000	1745	21.26	22.10	1.213	-	-	0.01	0.859	1.042
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	349000	1745	21.21	22.10	1.227	-	-	0.1	0.786	0.965
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	349000	1745	21.28	22.10	1.208	-	-	-0.17	0.206	0.249
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	349000	1745	21.26	22.10	1.213	-	-	0.04	0.215	0.261
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	349000	1745	21.28	22.10	1.208	-	-	-0.01	0.223	0.269
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	349000	1745	21.26	22.10	1.213	-	-	-0.08	0.217	0.263
32	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	349000	1745	21.28	22.10	1.208	-	-	0.06	1.070	1.292
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	349000	1745	21.26	22.10	1.213	-	-	0.05	0.984	1.194
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	349000	1745	21.21	22.10	1.227	-	-	0.06	1.010	1.240
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	349000	1745	21.06	22.10	1.271	-	-	-0.13	0.368	0.468
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	DSI 7	349000	1745	15.47	16.40	1.239	-	-	-0.09	0.165	0.204
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 4	DSI 7	349000	1745	15.46	16.40	1.242	-	-	-0.08	0.173	0.215
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	349000	1745	15.47	16.40	1.239	-	-	-0.08	0.502	0.622
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	349000	1745	15.46	16.40	1.242	-	-	0.12	0.481	0.597
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 4	DSI 7	349000	1745	15.47	16.40	1.239	-	-	0.18	0.115	0.142
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 4	DSI 7	349000	1745	15.46	16.40	1.242	-	-	0.16	0.105	0.130
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 4	DSI 7	349000	1745	15.47	16.40	1.239	-	-	-0.1	0.022	0.027
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 4	DSI 7	349000	1745	15.46	16.40	1.242	-	-	0.07	0.023	0.029
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 4	DSI 7	349000	1745	15.47	16.40	1.239	-	-	0.18	0.290	0.359
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	5mm	Ant 4	DSI 7	349000	1745	15.46	16.40	1.242	-	-	-0.1	0.339	0.421
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	349000	1745	15.45	16.40	1.245	-	-	0.06	0.490	0.610
1900MHz																				
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Front	5mm	Ant 1	DSI 7	661	1880	29.14	30.50	1.368	-	-	-0.08	0.589	0.806
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Front	5mm	Ant 1	DSI 7	512	1850.2	29.12	30.50	1.374	-	-	-0.04	0.669	0.919
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Front	5mm	Ant 1	DSI 7	810	1909.8	29.05	30.50	1.396	-	-	-0.08	0.697	0.973
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Back	5mm	Ant 1	DSI 7	661	1880	29.14	30.50	1.368	-	-	0.17	0.720	0.985
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Back	5mm	Ant 1	DSI 7	512	1850.2	29.12	30.50	1.374	-	-	0.18	0.728	1.000



33	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Back	5mm	Ant 1	DSI 7	810	1909.8	29.05	30.50	1.396	-	-	-0.16	0.748	1.044
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Left Side	5mm	Ant 1	DSI 7	661	1880	29.14	30.50	1.368	-	-	0.08	0.206	0.282
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Right Side	5mm	Ant 1	DSI 7	661	1880	29.14	30.50	1.368	-	-	0.01	0.195	0.267
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Bottom Side	5mm	Ant 1	DSI 7	661	1880	29.14	30.50	1.368	-	-	0.03	0.626	0.856
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Bottom Side	5mm	Ant 1	DSI 7	512	1850.2	29.12	30.50	1.374	-	-	-0.08	0.569	0.782
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Bottom Side	5mm	Ant 1	DSI 7	810	1909.8	29.05	30.50	1.396	-	-	-0.08	0.711	0.993
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	9400	1880	20.76	21.60	1.213	-	-	0.08	0.541	0.656
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	9400	1880	20.76	21.60	1.213	-	-	-0.13	0.661	0.802
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	9262	1852.4	20.71	21.60	1.227	-	-	0.04	0.580	0.712
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	9538	1907.6	20.69	21.60	1.233	-	-	0.17	0.722	0.890
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 7	9400	1880	20.76	21.60	1.213	-	-	-0.1	0.181	0.220
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	5mm	Ant 1	DSI 7	9400	1880	20.76	21.60	1.213	-	-	0.17	0.135	0.164
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 7	9400	1880	20.76	21.60	1.213	-	-	-0.15	0.723	0.877
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 7	9262	1852.4	20.71	21.60	1.227	-	-	0.18	0.679	0.833
34	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	5mm	Ant 1	DSI 7	9538	1907.6	20.69	21.60	1.233	-	-	0.08	0.975	1.202
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	26340	1880	20.26	21.50	1.330	-	-	0.05	0.530	0.705
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	26340	1880	20.25	21.50	1.334	-	-	0.03	0.443	0.591
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	26340	1880	20.26	21.50	1.330	-	-	-0.02	0.721	0.959
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	26140	1860	20.21	21.50	1.346	-	-	0.1	0.668	0.899
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	26590	1905	20.16	21.50	1.361	-	-	-0.1	0.695	0.946
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	26340	1880	20.25	21.50	1.334	-	-	-0.05	0.573	0.764
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 1	DSI 7	26340	1880	20.23	21.50	1.340	-	-	-0.09	0.569	0.762
	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	26340	1880	20.26	21.50	1.330	-	-	0.03	0.105	0.140
	LTE Band 25	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	DSI 7	26340	1880	20.25	21.50	1.334	-	-	-0.11	0.075	0.100
	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	26340	1880	20.26	21.50	1.330	-	-	-0.16	0.171	0.228
	LTE Band 25	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	26340	1880	20.25	21.50	1.334	-	-	0.15	0.137	0.183
35	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	26340	1880	20.26	21.50	1.330	-	-	0.08	0.955	1.271
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	26140	1860	20.21	21.50	1.346	-	-	-0.15	0.929	1.250
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	26590	1905	20.16	21.50	1.361	-	-	0.06	0.838	1.141
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	26340	1880	20.25	21.50	1.334	-	-	0.15	0.738	0.984
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	26140	1860	20.21	21.50	1.346	-	-	-0.1	0.760	1.023
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	26590	1905	20.14	21.50	1.368	-	-	0.17	0.651	0.890
	LTE Band 25	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	DSI 7	26340	1880	20.23	21.50	1.340	-	-	0.13	0.747	1.001
	LTE Band 2 Other Path	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	18900	1880	20.35	21.50	1.303	-	-	-0.11	0.403	0.525
	LTE Band 2 Other PA	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	18900	1880	20.36	21.50	1.300	-	-	-0.12	0.397	0.516
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 4	DSI 7	26340	1880	16.65	17.60	1.245	-	-	-0.1	0.195	0.243
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 7	26340	1880	16.61	17.60	1.256	-	-	-0.05	0.160	0.201
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	26340	1880	16.65	17.60	1.245	-	-	-0.02	0.499	0.621
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 4	DSI 7	26340	1880	16.61	17.60	1.256	-	-	-0.06	0.443	0.556
	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	26340	1880	16.65	17.60	1.245	-	-	-0.12	0.150	0.187
	LTE Band 25	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 7	26340	1880	16.61	17.60	1.256	-	-	0.09	0.116	0.146
	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 4	DSI 7	26340	1880	16.65	17.60	1.245	-	-	-0.08	0.049	0.061
	LTE Band 25	20M	QPSK	50	0	-	Right Side	5mm	Ant 4	DSI 7	26340	1880	16.61	17.60	1.256	-	-	0.08	0.042	0.053
	LTE Band 25	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	DSI 7	26340	1880	16.65	17.60	1.245	-	-	-0.04	0.476	0.592
	LTE Band 25	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	DSI 7	26340	1880	16.61	17.60	1.256	-	-	-0.02	0.379	0.476
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	376000	1880	20.49	21.90	1.384	-	-	-0.15	0.484	0.670
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	376000	1880	20.47	21.90	1.390	-	-	-0.18	0.468	0.650
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	376000	1880	20.49	21.90	1.384	-	-	0.11	0.704	0.974
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	372000	1860	20.45	21.90	1.396	-	-	-0.08	0.569	0.795
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	380000	1900	20.46	21.90	1.393	-	-	-0.17	0.683	0.952
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	376000	1880	20.47	21.90	1.390	-	-	-0.08	0.636	0.884
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	372000	1860	20.45	21.90	1.396	-	-	-0.04	0.621	0.867
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	380000	1900	20.43	21.90	1.403	-	-	-0.08	0.678	0.951
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	376000	1880	20.45	21.90	1.396	-	-	0.17	0.652	0.910
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	376000	1880	20.49	21.90	1.384	-	-	0.18	0.086	0.119



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	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	376000	1880	20.47	21.90	1.390	-	-	-0.04	0.083	0.115
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	376000	1880	20.49	21.90	1.384	-	-	-0.08	0.159	0.220
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	376000	1880	20.47	21.90	1.390	-	-	-0.13	0.173	0.240
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	376000	1880	20.49	21.90	1.384	-	-	-0.13	0.880	1.218
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	372000	1860	20.45	21.90	1.396	-	-	0.06	0.724	1.011
36	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	380000	1900	20.46	21.90	1.393	-	-	-0.06	0.921	1.283
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	376000	1880	20.47	21.90	1.390	-	-	-0.03	0.890	1.237
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	372000	1860	20.45	21.90	1.396	-	-	-0.03	0.880	1.229
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	380000	1900	20.43	21.90	1.403	-	-	0.08	0.905	1.270
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	376000	1880	20.45	21.90	1.396	-	-	-0.07	0.849	1.186
	FR1 n2 Other PA	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	380000	1900	20.35	21.90	1.429	-	-	-0.05	0.333	0.476
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	DSI 7	376000	1880	17.08	18.40	1.355	-	-	-0.18	0.134	0.182
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 4	DSI 7	376000	1880	17.04	18.40	1.368	-	-	-0.03	0.129	0.176
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	376000	1880	17.08	18.40	1.355	-	-	-0.13	0.454	0.615
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	376000	1880	17.04	18.40	1.368	-	-	-0.04	0.418	0.572
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 4	DSI 7	376000	1880	17.08	18.40	1.355	-	-	0.18	0.091	0.123
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 4	DSI 7	376000	1880	17.04	18.40	1.368	-	-	-0.17	0.092	0.126
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 4	DSI 7	376000	1880	17.08	18.40	1.355	-	-	-0.04	0.037	0.050
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 4	DSI 7	376000	1880	17.04	18.40	1.368	-	-	-0.05	0.032	0.044
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 4	DSI 7	376000	1880	17.08	18.40	1.355	-	-	0	0.360	0.488
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	5mm	Ant 4	DSI 7	376000	1880	17.04	18.40	1.368	-	-	-0.09	0.345	0.472
	FR1 n2 Other PA	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	376000	1880	17.27	18.40	1.297	-	-	0.05	0.441	0.572
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	21100	2535	21.06	21.80	1.186	-	-	0.12	0.870	1.032
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	20850	2510	20.97	21.80	1.211	-	-	-0.12	0.842	1.019
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	21350	2560	21.02	21.80	1.197	-	-	-0.15	0.870	1.041
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	21100	2535	21.04	21.80	1.191	-	-	-0.19	0.526	0.627
	LTE Band 7	20M	QPSK	100	0	-	Front	5mm	Ant 1	DSI 7	21100	2535	21.03	21.80	1.194	-	-	-0.12	0.495	0.591
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	21100	2535	21.06	21.80	1.186	-	-	0.18	1.020	1.209
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	20850	2510	20.97	21.80	1.211	-	-	0.14	1.030	1.247
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	21350	2560	21.02	21.80	1.197	-	-	0.03	1.020	1.221
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	21100	2535	21.04	21.80	1.191	-	-	0.09	0.628	0.748
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant 1	DSI 7	21100	2535	21.03	21.80	1.194	-	-	-0.18	0.616	0.735
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	21100	2535	21.06	21.80	1.186	-	-	0.12	0.148	0.175
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	DSI 7	21100	2535	21.04	21.80	1.191	-	-	0.11	0.078	0.093
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	21100	2535	21.06	21.80	1.186	-	-	0.11	0.200	0.237
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	21100	2535	21.04	21.80	1.191	-	-	-0.06	0.104	0.124
37	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	21100	2535	21.06	21.80	1.186	-	-	0.03	1.070	1.269
	LTE Band 7C	20M	QPSK	1	99	-	Bottom Side	5mm	Ant 1	DSI 7	21100+ 21298	2535+ 2554.8	20.85	21.80	1.245	-	-	0.08	0.954	1.187
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	20850	2510	20.97	21.80	1.211	-	-	-0.02	0.963	1.166
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	21350	2560	21.02	21.80	1.197	-	-	0.02	0.999	1.196
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	21100	2535	21.04	21.80	1.191	-	-	0.12	0.842	1.003
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	20850	2510	21.01	21.80	1.199	-	-	0.02	0.799	0.958
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	21350	2560	21.03	21.80	1.194	-	-	-0.11	0.863	1.030
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	DSI 7	21100	2535	21.03	21.80	1.194	-	-	-0.11	0.777	0.928
	LTE Band 7 Other Path	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	21100	2535	21.03	21.80	1.194	-	-	-0.15	1.010	1.206
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 4	DSI 7	21100	2535	13.63	15.00	1.371	-	-	0.12	0.142	0.195
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 7	21100	2535	13.61	15.00	1.377	-	-	0.14	0.092	0.127
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	21100	2535	13.63	15.00	1.371	-	-	0.06	0.450	0.617
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 4	DSI 7	21100	2535	13.61	15.00	1.377	-	-	-0.04	0.305	0.420
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	21100	2535	13.63	15.00	1.371	-	-	0	0.070	0.096
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 7	21100	2535	13.61	15.00	1.377	-	-	-0.09	0.046	0.063
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 4	DSI 7	21100	2535	13.63	15.00	1.371	-	-	0.13	0.019	0.026
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 4	DSI 7	21100	2535	13.61	15.00	1.377	-	-	0	0.013	0.018
	LTE Band 7	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	DSI 7	21100	2535	13.63	15.00	1.371	-	-	-0.12	0.302	0.414



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	LTE Band 7	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	DSI 7	21100	2535	13.61	15.00	1.377	-	-	-0.07	0.206	0.284
	LTE Band 7 Other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	21100	2535	13.63	15.00	1.371	-	-	-0.18	0.418	0.573
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	40620	2593	23.17	24.00	1.211	62.9	1.006	-0.1	0.605	0.737
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	39750	2506	23.11	24.00	1.227	62.9	1.006	-0.15	0.585	0.722
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	40185	2549.5	23.12	24.00	1.225	62.9	1.006	0.19	0.617	0.760
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	41055	2636.5	23.07	24.00	1.239	62.9	1.006	0.07	0.526	0.656
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	DSI 7	41490	2680	23.16	24.00	1.213	62.9	1.006	-0.18	0.497	0.607
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	DSI 7	40620	2593	22.08	23.00	1.236	62.9	1.006	0.03	0.366	0.455
	LTE Band 41	20M	QPSK	100	0	-	Front	5mm	Ant 1	DSI 7	40620	2593	21.97	23.00	1.268	62.9	1.006	-0.15	0.361	0.460
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	40620	2593	23.17	24.00	1.211	62.9	1.006	-0.19	0.800	0.974
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	39750	2506	23.11	24.00	1.227	62.9	1.006	0.11	0.707	0.873
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	40185	2549.5	23.12	24.00	1.225	62.9	1.006	-0.08	0.757	0.933
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	41055	2636.5	23.07	24.00	1.239	62.9	1.006	-0.17	0.777	0.968
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	DSI 7	41490	2680	23.16	24.00	1.213	62.9	1.006	-0.08	0.746	0.911
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	40620	2593	22.08	23.00	1.236	62.9	1.006	-0.04	0.486	0.604
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	39750	2506	21.80	23.00	1.318	62.9	1.006	0.17	0.432	0.573
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	40185	2549.5	21.94	23.00	1.276	62.9	1.006	0.18	0.458	0.588
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	41055	2636.5	21.82	23.00	1.312	62.9	1.006	-0.04	0.497	0.656
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	DSI 7	41490	2680	21.92	23.00	1.282	62.9	1.006	-0.08	0.492	0.635
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 1	DSI 7	40620	2593	21.97	23.00	1.268	62.9	1.006	-0.13	0.504	0.643
	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	DSI 7	40620	2593	23.17	24.00	1.211	62.9	1.006	-0.13	0.096	0.117
	LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	DSI 7	40620	2593	22.08	23.00	1.236	62.9	1.006	0.06	0.059	0.073
	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	DSI 7	40620	2593	23.17	24.00	1.211	62.9	1.006	-0.03	0.142	0.173
	LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	DSI 7	40620	2593	22.08	23.00	1.236	62.9	1.006	-0.03	0.082	0.102
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	40620	2593	23.17	24.00	1.211	62.9	1.006	0.08	0.730	0.889
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	39750	2506	23.11	24.00	1.227	62.9	1.006	0.05	0.729	0.900
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	40185	2549.5	23.12	24.00	1.225	62.9	1.006	-0.11	0.803	0.989
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	41055	2636.5	23.07	24.00	1.239	62.9	1.006	-0.12	0.854	1.064
38	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	41490	2680	23.16	24.00	1.213	62.9	1.006	0.01	1.070	1.306
	LTE Band 41C	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	41490+ 41292	2680+ 2660.2	23.11	24.00	1.227	62.9	1.006	0.03	0.965	1.192
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	40620	2593	22.08	23.00	1.236	62.9	1.006	-0.16	0.602	0.749
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	39750	2506	21.80	23.00	1.318	62.9	1.006	0.15	0.600	0.796
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	40185	2549.5	21.94	23.00	1.276	62.9	1.006	-0.09	0.577	0.741
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	41055	2636.5	21.82	23.00	1.312	62.9	1.006	0.11	0.737	0.973
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	DSI 7	41490	2680	21.92	23.00	1.282	62.9	1.006	-0.05	0.919	1.186
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	DSI 7	40620	2593	21.97	23.00	1.268	62.9	1.006	-0.08	0.589	0.751
	LTE Band 41 Other Path	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	40620	2593	23.11	24.00	1.227	62.9	1.006	0.07	0.803	0.992
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 4	DSI 7	40620	2593	16.83	17.50	1.167	62.9	1.006	-0.05	0.158	0.185
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 4	DSI 7	40620	2593	16.81	17.50	1.172	62.9	1.006	0.03	0.099	0.117
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	40620	2593	16.83	17.50	1.167	62.9	1.006	0.06	0.534	0.627
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	39750	2506	16.75	17.50	1.189	62.9	1.006	0.01	0.511	0.611
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	40185	2549.5	16.78	17.50	1.180	62.9	1.006	-0.03	0.510	0.606
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	41055	2636.5	16.74	17.50	1.191	62.9	1.006	0.03	0.397	0.476
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	DSI 7	41490	2680	16.81	17.50	1.172	62.9	1.006	-0.17	0.491	0.579
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 4	DSI 7	40620	2593	16.81	17.50	1.172	62.9	1.006	0.02	0.342	0.403
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 4	DSI 7	40620	2593	16.79	17.50	1.178	62.9	1.006	-0.03	0.319	0.378
	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 4	DSI 7	40620	2593	16.83	17.50	1.167	62.9	1.006	0.12	0.079	0.093
	LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 4	DSI 7	40620	2593	16.81	17.50	1.172	62.9	1.006	0.19	0.048	0.057
	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 4	DSI 7	40620	2593	16.83	17.50	1.167	62.9	1.006	-0.09	0.032	0.038
	LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 4	DSI 7	40620	2593	16.81	17.50	1.172	62.9	1.006	-0.12	0.020	0.024
	LTE Band 41	20M	QPSK	1	0	-	Top Side	5mm	Ant 4	DSI 7	40620	2593	16.83	17.50	1.167	62.9	1.006	0.07	0.387	0.454
	LTE Band 41	20M	QPSK	50	0	-	Top Side	5mm	Ant 4	DSI 7	40620	2593	16.81	17.50	1.172	62.9	1.006	-0.18	0.229	0.270
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	507000	2535	21.49	22.50	1.262	-	-	-0.15	0.578	0.729
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	DSI 7	507000	2535	21.48	22.50	1.265	-	-	-0.06	0.533	0.674
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	507000	2535	21.49	22.50	1.262	-	-	-0.19	0.791	0.998



FCC SAR Test Report

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	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	507000	2535	21.48	22.50	1.265	-	-	0.01	0.759	0.960
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 7	507000	2535	21.47	22.50	1.268	-	-	0.06	0.746	0.946
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	507000	2535	21.49	22.50	1.262	-	-	0.02	0.067	0.085
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 1	DSI 7	507000	2535	21.48	22.50	1.265	-	-	0.12	0.054	0.068
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	507000	2535	21.49	22.50	1.262	-	-	-0.16	0.161	0.203
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	DSI 7	507000	2535	21.48	22.50	1.265	-	-	-0.12	0.148	0.187
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	507000	2535	21.49	22.50	1.262	-	-	0.07	0.895	1.129
39	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	507000	2535	21.48	22.50	1.265	-	-	-0.01	0.979	1.238
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	507000	2535	21.47	22.50	1.268	-	-	-0.02	0.908	1.151
	FR1 n7 Other Path	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	507000	2535	21.41	22.50	1.285	-	-	-0.06	0.241	0.310
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	DSI 7	507000	2535	14.30	15.40	1.288	-	-	-0.01	0.141	0.182
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 4	DSI 7	507000	2535	14.28	15.40	1.294	-	-	0	0.132	0.171
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	507000	2535	14.30	15.40	1.288	-	-	-0.06	0.404	0.520
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	507000	2535	14.28	15.40	1.294	-	-	-0.15	0.487	0.630
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 4	DSI 7	507000	2535	14.30	15.40	1.288	-	-	0.03	0.071	0.091
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 4	DSI 7	507000	2535	14.28	15.40	1.294	-	-	-0.13	0.068	0.088
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 4	DSI 7	507000	2535	14.30	15.40	1.288	-	-	-0.15	0.019	0.024
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 4	DSI 7	507000	2535	14.28	15.40	1.294	-	-	-0.02	0.021	0.027
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 4	DSI 7	507000	2535	14.30	15.40	1.288	-	-	-0.09	0.347	0.447
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	5mm	Ant 4	DSI 7	507000	2535	14.28	15.40	1.294	-	-	0.14	0.336	0.435
	FR1 n7 Other Path	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 4	DSI 7	507000	2535	14.19	15.40	1.321	-	-	-0.17	0.453	0.599
3500MHz																				
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 5	DSI 7	42590	3500	15.92	16.70	1.197	62.9	1.006	0.1	0.142	0.171
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 5	DSI 7	42590	3500	15.90	16.70	1.202	62.9	1.006	0.09	0.112	0.135
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 5	DSI 7	42590	3500	15.92	16.70	1.197	62.9	1.006	-0.18	0.507	0.610
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 5	DSI 7	42190	3460	15.86	16.70	1.213	62.9	1.006	-0.03	0.428	0.522
40	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 5	DSI 7	42990	3540	15.84	16.70	1.219	62.9	1.006	0.11	0.527	0.646
	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 5	DSI 7	42990+42792	3540+3520.2	15.71	16.70	1.256	62.9	1.006	-0.12	0.505	0.638
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 5	DSI 7	42590	3500	15.90	16.70	1.202	62.9	1.006	-0.04	0.416	0.503
	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Back	5mm	Ant 5	DSI 7	42590	3500	15.89	16.70	1.205	62.9	1.006	0.11	0.350	0.424
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Left Side	5mm	Ant 5	DSI 7	42590	3500	15.92	16.70	1.197	62.9	1.006	0.07	0.026	0.031
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Left Side	5mm	Ant 5	DSI 7	42590	3500	15.90	16.70	1.202	62.9	1.006	-0.03	0.018	0.022
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Right Side	5mm	Ant 5	DSI 7	42590	3500	15.92	16.70	1.197	62.9	1.006	0.09	0.004	0.005
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Right Side	5mm	Ant 5	DSI 7	42590	3500	15.90	16.70	1.202	62.9	1.006	-0.08	0.030	0.036
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	5mm	Ant 5	DSI 7	42590	3500	15.92	16.70	1.197	62.9	1.006	-0.05	0.403	0.485
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	5mm	Ant 5	DSI 7	42590	3500	15.90	16.70	1.202	62.9	1.006	-0.14	0.304	0.368
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 5	DSI 7	633334	3500.01	13.69	14.30	1.151	-	-	0.03	0.130	0.150
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 5	DSI 7	633334	3500.01	13.67	14.30	1.156	-	-	-0.15	0.163	0.188
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 5	DSI 7	633334	3500.01	13.69	14.30	1.151	-	-	0.11	0.275	0.316
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 5	DSI 7	633334	3500.01	13.67	14.30	1.156	-	-	-0.08	0.389	0.450
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 5	DSI 7	633334	3500.01	13.69	14.30	1.151	-	-	-0.08	0.025	0.029
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 5	DSI 7	633334	3500.01	13.67	14.30	1.156	-	-	-0.04	0.024	0.028
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 5	DSI 7	633334	3500.01	13.69	14.30	1.151	-	-	-0.08	0.058	0.067
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 5	DSI 7	633334	3500.01	13.67	14.30	1.156	-	-	0.17	0.073	0.084
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 5	DSI 7	633334	3500.01	13.69	14.30	1.151	-	-	0.18	0.402	0.463
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 5	DSI 7	633334	3500.01	13.67	14.30	1.156	-	-	0.06	0.535	0.619
	FR1 n78 Part 27Q Other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 5	DSI 7	633334	3500.01	13.38	14.30	1.236	-	-	0.02	0.466	0.576
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 3	DSI 7	633334	3500.01	11.67	12.80	1.297	-	-	0.08	0.006	0.008
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	DSI 7	633334	3500.01	11.65	12.80	1.303	-	-	-0.07	0.009	0.012
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 3	DSI 7	633334	3500.01	11.67	12.80	1.297	-	-	0.05	0.373	0.484



	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 3	DSI 7	633334	3500.01	11.65	12.80	1.303	-	-	0.05	0.481	0.627
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 3	DSI 7	633334	3500.01	11.67	12.80	1.297	-	-	-0.12	0.068	0.088
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 3	DSI 7	633334	3500.01	11.65	12.80	1.303	-	-	0.03	0.105	0.137
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 3	DSI 7	633334	3500.01	11.67	12.80	1.297	-	-	-0.02	0.000	0.000
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 3	DSI 7	633334	3500.01	11.65	12.80	1.303	-	-	0.15	0.000	0.000
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 3	DSI 7	633334	3500.01	11.67	12.80	1.297	-	-	-0.09	0.009	0.012
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 3	DSI 7	633334	3500.01	11.65	12.80	1.303	-	-	0.11	0.104	0.136
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 7	DSI 7	633334	3500.01	13.26	14.00	1.186	-	-	0.05	0.139	0.165
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 7	DSI 7	633334	3500.01	13.23	14.00	1.194	-	-	0.05	0.164	0.196
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 7	DSI 7	633334	3500.01	13.26	14.00	1.186	-	-	-0.15	0.357	0.423
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 7	DSI 7	633334	3500.01	13.23	14.00	1.194	-	-	0.02	0.374	0.447
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 7	DSI 7	633334	3500.01	13.26	14.00	1.186	-	-	0.16	0.011	0.013
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 7	DSI 7	633334	3500.01	13.23	14.00	1.194	-	-	0.13	0.014	0.017
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 7	DSI 7	633334	3500.01	13.26	14.00	1.186	-	-	-0.18	0.411	0.487
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 7	DSI 7	633334	3500.01	13.23	14.00	1.194	-	-	-0.06	0.525	0.627
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	5mm	Ant 7	DSI 7	633334	3500.01	13.26	14.00	1.186	-	-	0.16	0.067	0.079
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	5mm	Ant 7	DSI 7	633334	3500.01	13.23	14.00	1.194	-	-	-0.03	0.075	0.090
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 9	DSI 7	633334	3500.01	19.82	20.70	1.225	-	-	-0.04	0.433	0.530
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 9	DSI 7	633334	3500.01	19.65	20.70	1.274	-	-	-0.09	0.497	0.633
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 9	DSI 7	633334	3500.01	19.82	20.70	1.225	-	-	-0.17	0.885	1.084
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 9	DSI 7	633334	3500.01	19.65	20.70	1.274	-	-	-0.1	0.893	1.137
	FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 9	DSI 7	633334	3500.01	19.72	20.70	1.253	-	-	0.18	0.640	0.802
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 9	DSI 7	633334	3500.01	19.82	20.70	1.225	-	-	-0.17	0.000	0.000
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 9	DSI 7	633334	3500.01	19.65	20.70	1.274	-	-	-0.04	0.000	0.000
41	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 9	DSI 7	633334	3500.01	19.82	20.70	1.225	-	-	-0.05	1.040	1.274
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 9	DSI 7	633334	3500.01	19.82	20.70	1.225	-	-	0.09	0.933	1.143
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	5mm	Ant 9	DSI 7	633334	3500.01	19.65	20.70	1.274	-	-	0	0.879	1.119
	FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	5mm	Ant 9	DSI 7	633334	3500.01	19.72	20.70	1.253	-	-	-0.13	0.850	1.065
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	5mm	Ant 9	DSI 7	633334	3500.01	19.82	20.70	1.225	-	-	-0.01	0.373	0.457
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	5mm	Ant 9	DSI 7	633334	3500.01	19.65	20.70	1.274	-	-	-0.09	0.381	0.485



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6+8(6)	Hotspot on	11	2462	15.01	16.50	1.409	87.19	1.147	0.08	0.171	0.276
42	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(6)	Hotspot on	11	2462	15.01	16.50	1.409	87.19	1.147	-0.07	0.415	0.671
	WLAN2.4GHz	802.11b 1Mbps	Left Side	5mm	Ant 6+8(6)	Hotspot on	11	2462	15.01	16.50	1.409	87.19	1.147	0.03	0.018	0.029
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 6+8(6)	Hotspot on	11	2462	15.01	16.50	1.409	87.19	1.147	-0.08	0.301	0.487
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 6+8(6)	Hotspot on	11	2462	15.01	16.50	1.409	87.19	1.147	-0.08	0.161	0.260
	Bluetooth	1Mbps	Front	5mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	0.02	0.101	0.139
43	Bluetooth	1Mbps	Back	5mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	-0.03	0.208	0.286
	Bluetooth	1Mbps	Left Side	5mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	0.1	0.000	0.000
	Bluetooth	1Mbps	Right Side	5mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	0.12	0.039	0.054
	Bluetooth	1Mbps	Top Side	5mm	Ant 6	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	0.08	0.142	0.195
	Bluetooth	1Mbps	Front	5mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	0.06	0.087	0.131
	Bluetooth	1Mbps	Back	5mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	0.06	0.178	0.268
	Bluetooth	1Mbps	Left Side	5mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	-0.17	0.000	0.000
	Bluetooth	1Mbps	Right Side	5mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	0.08	0.172	0.259
	Bluetooth	1Mbps	Top Side	5mm	Ant 8	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	-0.03	0.135	0.203
5000MHz																
	WLAN5.2GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+8(5)	Hotspot on	46	5230	13.72	15.50	1.507	86.11	1.161	-0.09	0.171	0.299
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5+8(5)	Hotspot on	46	5230	13.72	15.50	1.507	86.11	1.161	-0.08	0.305	0.533
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	5mm	Ant 5+8(5)	Hotspot on	46	5230	13.72	15.50	1.507	86.11	1.161	0.12	0.323	0.565
44	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	5mm	Ant 5+8(5)	Hotspot on	46	5230	13.72	15.50	1.507	86.11	1.161	-0.04	0.340	0.595
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+8(8)	Hotspot on	155	5775	9.85	11.50	1.462	85.49	1.170	-0.1	0.084	0.144
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(8)	Hotspot on	155	5775	9.85	11.50	1.462	85.49	1.170	-0.15	0.217	0.371
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 5+8(8)	Hotspot on	155	5775	9.85	11.50	1.462	85.49	1.170	0.03	0.145	0.248
45	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 5+8(8)	Hotspot on	155	5775	9.85	11.50	1.462	85.49	1.170	-0.08	0.375	0.642



16.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																					
	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	23095	707.5	23.02	24.00	1.253	-	-	0.08	0.370	0.464
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	DSI 3	23095	707.5	22.07	23.00	1.239	-	-	0.01	0.238	0.295
46	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	23095	707.5	23.02	24.00	1.253	-	-	-0.13	0.736	0.922
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	DSI 3	23095	707.5	22.07	23.00	1.239	-	-	0.03	0.440	0.545
	LTE Band 12	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	23095	707.5	22.03	23.00	1.250	-	-	-0.08	0.441	0.551
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	23230	782	22.94	24.00	1.276	-	-	-0.17	0.514	0.656
	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 0	-	DSI 3	23230	782	22.03	23.00	1.250	-	-	-0.03	0.259	0.324
47	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	23230	782	22.94	24.00	1.276	-	-	0.14	0.871	1.112
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 0	-	DSI 3	23230	782	22.03	23.00	1.250	-	-	0.14	0.517	0.646
	LTE Band 13	10M	QPSK	50	0	-	Back	5mm	Ant 0	-	DSI 3	23230	782	21.89	23.00	1.291	-	-	0.11	0.539	0.696
835MHz																					
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Front	5mm	Ant 0	-	DSI 3	189	836.4	26.38	27.50	1.294	-	-	0.05	0.451	0.584
48	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	189	836.4	26.38	27.50	1.294	-	-	-0.08	0.824	1.066
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	128	824.2	26.41	27.50	1.285	-	-	0.06	0.692	0.889
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Back	5mm	Ant 0	-	DSI 3	251	848.8	26.30	27.50	1.318	-	-	-0.09	0.715	0.943
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 0	-	DSI 3	4182	836.4	23.03	24.00	1.250	-	-	0.17	0.548	0.685
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	4182	836.4	23.03	24.00	1.250	-	-	0.06	1.010	1.263
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	4132	826.4	22.95	24.00	1.274	-	-	0	0.796	1.014
49	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	-	DSI 3	4233	846.6	22.96	24.00	1.271	-	-	0.09	1.020	1.296
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	Headset	DSI 3	4233	846.6	22.96	24.00	1.271	-	-	0.03	0.968	1.230
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	17mm	Ant 0	-	DSI 3	4182	836.4	23.03	24.00	1.250	-	-	0.05	0.242	0.303
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	18mm	Ant 0	-	DSI 3	4233	846.6	22.96	24.00	1.271	-	-	-0.16	0.296	0.376
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 0	-	DSI 3	26865	831.5	23.06	24.00	1.242	-	-	0.16	0.455	0.565
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 0	-	DSI 3	26865	831.5	21.95	23.00	1.274	-	-	-0.1	0.289	0.368
50	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	26865	831.5	23.06	24.00	1.242	-	-	-0.06	0.971	1.206
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 0	Headset	DSI 3	26865	831.5	23.06	24.00	1.242	-	-	0.09	0.957	1.188
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 0	-	DSI 3	26865	831.5	21.95	23.00	1.274	-	-	0.07	0.573	0.730
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 0	-	DSI 3	26865	831.5	21.81	23.00	1.315	-	-	0.18	0.572	0.752
	LTE Band 26 Other Path	15M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	26865	831.5	23.01	24.00	1.256	-	-	0.04	0.614	0.771
	LTE Band 5 Other Path	10M	QPSK	1	0	-	Back	5mm	Ant 0	-	DSI 3	20525	836.5	22.90	24.00	1.288	-	-	0.03	0.597	0.769
	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	26865	831.5	21.76	22.70	1.242	-	-	-0.04	0.287	0.356
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 4	-	DSI 3	26865	831.5	21.71	22.70	1.256	-	-	-0.05	0.162	0.203
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	26865	831.5	21.76	22.70	1.242	-	-	0.07	0.712	0.884
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 4	-	DSI 3	26865	831.5	21.71	22.70	1.256	-	-	0	0.387	0.486
	LTE Band 26	15M	QPSK	75	0	-	Back	5mm	Ant 4	-	DSI 3	26865	831.5	21.70	22.70	1.259	-	-	-0.13	0.340	0.428
	LTE Band 26	15M	QPSK	1	0	-	Front	17mm	Ant 4	-	DSI 4	26865	831.5	22.97	24.00	1.268	-	-	0.08	0.099	0.125
	LTE Band 26	15M	QPSK	1	0	-	Back	18mm	Ant 4	-	DSI 4	26865	831.5	22.97	24.00	1.268	-	-	0.01	0.132	0.167
	LTE Band 5 Other Path	10M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	20525	836.5	21.87	22.70	1.211	-	-	0.04	0.688	0.833
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 0	-	DSI 3	166300	831.5	23.65	24.00	1.084	-	-	0.01	0.365	0.396
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 0	-	DSI 3	166300	831.5	23.52	24.00	1.117	-	-	-0.01	0.404	0.451
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 0	-	DSI 3	166300	831.5	23.65	24.00	1.084	-	-	-0.19	0.790	0.856
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 0	-	DSI 3	166300	831.5	23.52	24.00	1.117	-	-	-0.04	0.757	0.845
	FR1 n26	20M	QPSK	100	0	DFT-SCS-15KHz	Back	5mm	Ant 0	-	DSI 3	166300	831.5	22.58	23.00	1.102	-	-	-0.06	0.708	0.780
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	-	DSI 3	166300	831.5	21.98	23.00	1.265	-	-	0.08	0.220	0.278
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 4	-	DSI 3	166300	831.5	21.87	23.00	1.297	-	-	0.01	0.236	0.306
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	166300	831.5	21.98	23.00	1.265	-	-	0.03	0.562	0.711
51	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	166300	831.5	21.87	23.00	1.297	-	-	-0.16	0.685	0.889
	FR1 n26	20M	QPSK	100	0	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	166300	831.5	21.95	23.00	1.274	-	-	-0.08	0.638	0.812



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	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	17mm	Ant 4	-	DSI 4	166300	831.5	23.39	24.00	1.151	-	-	0.03	0.087	0.100
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	18mm	Ant 4	-	DSI 4	166300	831.5	23.39	24.00	1.151	-	-	-0.08	0.107	0.123
1750MHz																					
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI 3	1413	1732.6	21.90	22.60	1.175	-	-	-0.01	0.861	1.012
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI 3	1312	1712.4	21.89	22.60	1.178	-	-	-0.09	0.845	0.995
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI 3	1513	1752.6	21.81	22.60	1.199	-	-	0.05	0.779	0.934
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3	1413	1732.6	21.90	22.60	1.175	-	-	0.02	1.050	1.234
52	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3	1312	1712.4	21.89	22.60	1.178	-	-	0.03	1.070	1.260
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Headset	DSI 3	1312	1712.4	21.89	22.60	1.178	-	-	-0.06	1.010	1.189
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3	1513	1752.6	21.81	22.60	1.199	-	-	-0.13	0.955	1.146
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	17mm	Ant 1	-	DSI 4	1413	1732.6	22.92	24.00	1.282	-	-	-0.08	0.258	0.331
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	18mm	Ant 1	-	DSI 4	1413	1732.6	22.92	24.00	1.282	-	-	0.1	0.301	0.386
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	132322	1745	21.36	22.40	1.271	-	-	0.17	0.661	0.840
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	132072	1720	21.21	22.40	1.315	-	-	0.06	0.671	0.883
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	132572	1770	21.28	22.40	1.294	-	-	0	0.599	0.775
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	132322	1745	21.35	22.40	1.274	-	-	-0.04	0.404	0.514
	LTE Band 66	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	DSI 3	132322	1745	21.33	22.40	1.279	-	-	-0.02	0.394	0.504
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	132322	1745	21.36	22.40	1.271	-	-	0.1	0.950	1.207
53	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	132072	1720	21.21	22.40	1.315	-	-	0.06	0.971	1.277
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	Headset	DSI 3	132072	1720	21.21	22.40	1.315	-	-	0.08	0.949	1.248
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	132572	1770	21.28	22.40	1.294	-	-	0.04	0.888	1.149
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	132322	1745	21.35	22.40	1.274	-	-	0.13	0.527	0.671
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	DSI 3	132322	1745	21.33	22.40	1.279	-	-	-0.16	0.510	0.652
	LTE Band 66	20M	QPSK	1	0	-	Front	17mm	Ant 1	-	DSI 4	132322	1745	22.97	24.00	1.268	-	-	0.1	0.222	0.281
	LTE Band 66	20M	QPSK	1	0	-	Back	18mm	Ant 1	-	DSI 4	132322	1745	22.97	24.00	1.268	-	-	0.12	0.276	0.350
	LTE Band 66 Other Path	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	132322	1745	21.41	22.40	1.256	-	-	0.04	0.513	0.644
	LTE Band 4 Other Path	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	20175	1732.5	21.38	22.40	1.265	-	-	0.04	0.483	0.611
	LTE Band 4 Other PA	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	20175	1732.5	21.35	22.40	1.274	-	-	-0.01	0.423	0.539
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	132322	1745	16.52	17.40	1.225	-	-	-0.15	0.238	0.291
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 3	132322	1745	16.51	17.40	1.227	-	-	-0.19	0.139	0.171
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	132322	1745	16.52	17.40	1.225	-	-	0.12	0.654	0.801
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	132072	1720	16.48	17.40	1.236	-	-	-0.12	0.699	0.864
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	132572	1770	16.47	17.40	1.239	-	-	-0.16	0.653	0.809
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	DSI 3	132322	1745	16.51	17.40	1.227	-	-	-0.12	0.367	0.450
	LTE Band 66	20M	QPSK	100	0	-	Back	5mm	Ant 4	-	DSI 3	132322	1745	16.50	17.40	1.230	-	-	-0.05	0.363	0.447
	LTE Band 66	20M	QPSK	1	0	-	Front	17mm	Ant 4	-	DSI 4	132322	1745	22.15	23.00	1.216	-	-	0.08	0.235	0.286
	LTE Band 66	20M	QPSK	1	0	-	Back	18mm	Ant 4	-	DSI 4	132322	1745	22.15	23.00	1.216	-	-	-0.17	0.346	0.421
	LTE Band 66 Other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	132322	1745	16.65	17.40	1.189	-	-	-0.09	0.546	0.649
	LTE Band 4 Other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	20175	1732.5	16.53	17.40	1.222	-	-	0.02	0.518	0.633
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	349000	1745	22.14	23.00	1.219	-	-	0.08	0.848	1.034
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	349000	1745	22.11	23.00	1.227	-	-	-0.17	0.788	0.967
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	349000	1745	22.09	23.00	1.233	-	-	-0.03	0.777	0.958
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	349000	1745	22.14	23.00	1.219	-	-	0.14	1.000	1.219
54	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	349000	1745	22.11	23.00	1.227	-	-	-0.11	1.050	1.289
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	Headset	DSI 3	349000	1745	22.11	23.00	1.227	-	-	0.03	0.985	1.209
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	349000	1745	22.09	23.00	1.233	-	-	0.11	0.961	1.185
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	17mm	Ant 1	-	DSI 4	349000	1745	23.25	24.00	1.189	-	-	-0.03	0.158	0.188
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	18mm	Ant 1	-	DSI 4	349000	1745	23.25	24.00	1.189	-	-	0.14	0.191	0.227
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	349000	1745	22.03	23.00	1.250	-	-	-0.04	0.292	0.365
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	-	DSI 3	349000	1745	16.95	17.80	1.216	-	-	-0.08	0.241	0.293
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 4	-	DSI 3	349000	1745	16.72	17.80	1.282	-	-	0.1	0.253	0.324
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	349000	1745	16.95	17.80	1.216	-	-	-0.02	0.733	0.891
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	349000	1745	16.72	17.80	1.282	-	-	0.1	0.687	0.881
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	349000	1745	16.92	17.80	1.225	-	-	0.12	0.600	0.735



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	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	17mm	Ant 4	-	DSI 4	349000	1745	22.43	24.00	1.435	-	-	0.11	0.126	0.181
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	18mm	Ant 4	-	DSI 4	349000	1745	22.43	24.00	1.435	-	-	-0.05	0.213	0.306
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	349000	1745	17.04	17.80	1.191	-	-	0.11	0.700	0.834
1900MHz																					
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Front	5mm	Ant 1	-	DSI 3	661	1880	29.14	30.50	1.368	-	-	-0.08	0.599	0.819
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Front	5mm	Ant 1	-	DSI 3	512	1850.2	29.12	30.50	1.374	-	-	-0.04	0.669	0.919
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Front	5mm	Ant 1	-	DSI 3	810	1909.8	29.05	30.50	1.396	-	-	-0.08	0.697	0.973
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Back	5mm	Ant 1	-	DSI 3	661	1880	29.14	30.50	1.368	-	-	0.17	0.720	0.985
	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Back	5mm	Ant 1	-	DSI 3	512	1850.2	29.12	30.50	1.374	-	-	0.18	0.728	1.000
55	GSM1900	-	-	-	-	GPRS (1 Tx slot)	Back	5mm	Ant 1	-	DSI 3	810	1909.8	29.05	30.50	1.396	-	-	-0.16	0.748	1.044
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI 3	9400	1880	22.30	23.30	1.259	-	-	-0.13	0.746	0.939
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI 3	9262	1852.4	22.27	23.30	1.268	-	-	0.08	0.582	0.738
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	5mm	Ant 1	-	DSI 3	9538	1907.6	22.25	23.30	1.274	-	-	0.16	0.757	0.964
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3	9400	1880	22.30	23.30	1.259	-	-	0.01	0.911	1.147
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3	9262	1852.4	22.27	23.30	1.268	-	-	-0.16	0.799	1.013
56	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	-	DSI 3	9538	1907.6	22.25	23.30	1.274	-	-	0.13	0.994	1.266
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 1	Headset	DSI 3	9538	1907.6	22.25	23.30	1.274	-	-	0.07	0.961	1.224
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	17mm	Ant 1	-	DSI 4	9400	1880	22.81	24.00	1.315	-	-	0.18	0.181	0.238
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	18mm	Ant 1	-	DSI 4	9400	1880	22.81	24.00	1.315	-	-	0.14	0.258	0.339
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	26340	1880	22.34	23.50	1.306	-	-	0.1	0.723	0.944
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	26140	1860	22.31	23.50	1.315	-	-	-0.04	0.682	0.897
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	26590	1905	22.21	23.50	1.346	-	-	-0.01	0.741	0.997
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	26340	1880	21.87	23.00	1.297	-	-	0	0.605	0.785
	LTE Band 25	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	DSI 3	26340	1880	21.82	23.00	1.312	-	-	-0.15	0.584	0.766
57	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	26340	1880	22.34	23.50	1.306	-	-	0.11	0.984	1.285
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	Headset	DSI 3	26340	1880	22.34	23.50	1.306	-	-	0.08	0.928	1.212
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	26140	1860	22.31	23.50	1.315	-	-	0.03	0.913	1.201
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	26590	1905	22.21	23.50	1.346	-	-	-0.13	0.901	1.213
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	26340	1880	21.87	23.00	1.297	-	-	0.16	0.782	1.014
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	26140	1860	21.82	23.00	1.312	-	-	-0.15	0.747	0.980
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	26590	1905	21.78	23.00	1.324	-	-	-0.02	0.747	0.989
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	DSI 3	26340	1880	21.82	23.00	1.312	-	-	-0.09	0.777	1.020
	LTE Band 25	20M	QPSK	1	0	-	Front	17mm	Ant 1	-	DSI 4	26340	1880	22.98	24.00	1.265	-	-	-0.17	0.149	0.188
	LTE Band 25	20M	QPSK	1	0	-	Back	18mm	Ant 1	-	DSI 4	26340	1880	22.98	24.00	1.265	-	-	0.17	0.279	0.353
	LTE Band 2 Other Path	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	18900	1880	22.30	23.50	1.318	-	-	0.08	0.381	0.502
	LTE Band 2 Other PA	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	18900	1880	22.41	23.50	1.285	-	-	-0.05	0.353	0.454
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	26340	1880	18.06	19.00	1.242	-	-	0.14	0.279	0.346
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 3	26340	1880	18.05	19.00	1.245	-	-	0.07	0.230	0.286
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	26340	1880	18.06	19.00	1.242	-	-	0.06	0.715	0.888
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	26140	1860	17.92	19.00	1.282	-	-	-0.07	0.620	0.795
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	26590	1905	17.97	19.00	1.268	-	-	0.11	0.617	0.782
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	DSI 3	26340	1880	18.05	19.00	1.245	-	-	-0.08	0.635	0.790
	LTE Band 25	20M	QPSK	100	0	-	Back	5mm	Ant 4	-	DSI 3	26340	1880	17.98	19.00	1.265	-	-	-0.09	0.573	0.725
	LTE Band 25	20M	QPSK	1	0	-	Front	17mm	Ant 4	-	DSI 4	26340	1880	22.21	23.00	1.199	-	-	-0.05	0.249	0.299
	LTE Band 25	20M	QPSK	1	0	-	Back	18mm	Ant 4	-	DSI 4	26340	1880	22.21	23.00	1.199	-	-	0.01	0.344	0.413
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	376000	1880	22.46	23.50	1.271	-	-	-0.05	0.701	0.891
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	372000	1860	22.41	23.50	1.285	-	-	0.18	0.680	0.874
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	380000	1900	22.35	23.50	1.303	-	-	0.14	0.810	1.056
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	376000	1880	22.39	23.50	1.291	-	-	-0.17	0.679	0.877
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	372000	1860	22.23	23.50	1.340	-	-	0.17	0.692	0.927
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	380000	1900	22.13	23.50	1.371	-	-	-0.05	0.746	1.023
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	376000	1880	22.41	23.00	1.146	-	-	0.01	0.730	0.836
58	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	376000	1880	22.46	23.50	1.271	-	-	0.03	1.020	1.296
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Headset	DSI 3	376000	1880	22.46	23.50	1.271	-	-	-0.05	0.937	1.191
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	372000	1860	22.41	23.50	1.285	-	-	0.1	0.825	1.060
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	380000	1900	22.35	23.50	1.303	-	-	-0.17	0.990	1.290



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	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	376000	1880	22.39	23.50	1.291	-	-	0.04	0.922	1.191
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	372000	1860	22.23	23.50	1.340	-	-	-0.01	0.900	1.206
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	380000	1900	22.13	23.50	1.371	-	-	-0.08	0.902	1.237
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	376000	1880	22.41	23.00	1.146	-	-	0.05	0.945	1.083
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	17mm	Ant 1	-	DSI 4	376000	1880	23.48	24.00	1.127	-	-	0.1	0.182	0.205
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	18mm	Ant 1	-	DSI 4	376000	1880	23.48	24.00	1.127	-	-	-0.17	0.204	0.230
	FR1 n2 Other PA	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	376000	1880	22.31	23.50	1.315	-	-	0.04	0.309	0.406
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	-	DSI 3	376000	1880	18.44	19.40	1.247	-	-	0.06	0.210	0.262
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 4	-	DSI 3	376000	1880	18.39	19.40	1.262	-	-	0.13	0.203	0.256
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	376000	1880	18.44	19.40	1.247	-	-	0.02	0.712	0.888
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	372000	1860	18.33	19.40	1.279	-	-	0.16	0.500	0.640
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	380000	1900	18.35	19.40	1.274	-	-	-0.1	0.386	0.492
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	376000	1880	18.39	19.40	1.262	-	-	0.07	0.655	0.826
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	372000	1860	17.79	19.40	1.449	-	-	0.18	0.514	0.745
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	380000	1900	18.09	19.40	1.352	-	-	-0.1	0.477	0.645
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	376000	1880	18.38	19.40	1.265	-	-	0.01	0.591	0.747
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	17mm	Ant 4	-	DSI 4	376000	1880	22.83	24.00	1.309	-	-	0.04	0.149	0.195
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	18mm	Ant 4	-	DSI 4	376000	1880	22.83	24.00	1.309	-	-	-0.01	0.235	0.308
	FR1 n2 Other PA	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	376000	1880	18.21	19.40	1.315	-	-	0.04	0.648	0.852
2600MHz																					
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	21100	2535	22.74	23.50	1.191	-	-	-0.06	0.838	0.998
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	20850	2510	22.69	23.50	1.205	-	-	-0.17	0.810	0.976
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	21350	2560	22.61	23.50	1.227	-	-	-0.01	0.838	1.029
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	21100	2535	21.69	23.00	1.352	-	-	-0.11	0.507	0.686
	LTE Band 7	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	DSI 3	21100	2535	21.63	23.00	1.371	-	-	0.1	0.477	0.654
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	21100	2535	22.74	23.50	1.191	-	-	0.16	0.982	1.170
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	20850	2510	22.69	23.50	1.205	-	-	-0.06	0.996	1.200
59	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	21350	2560	22.61	23.50	1.227	-	-	-0.05	1.030	1.264
	LTE Band 7C	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	21350+ 21152	2560+ 2540.2	22.59	23.50	1.233	-	-	0.06	0.955	1.178
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	Headset	DSI 3	21350	2560	22.61	23.50	1.227	-	-	-0.12	0.986	1.210
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	21100	2535	21.69	23.00	1.352	-	-	0.02	0.604	0.817
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	20850	2510	21.66	23.00	1.361	-	-	-0.16	0.595	0.810
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	21350	2560	21.64	23.00	1.368	-	-	0.05	0.643	0.879
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	DSI 3	21100	2535	21.63	23.00	1.371	-	-	-0.03	0.593	0.813
	LTE Band 7	20M	QPSK	1	0	-	Front	17mm	Ant 1	-	DSI 4	21100	2535	23.03	24.00	1.250	-	-	-0.08	0.169	0.211
	LTE Band 7	20M	QPSK	1	0	-	Back	18mm	Ant 1	-	DSI 4	21100	2535	23.03	24.00	1.250	-	-	0.05	0.212	0.265
	LTE Band 7 Other Path	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	21100	2535	22.36	23.50	1.300	-	-	0.04	0.931	1.210
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	21100	2535	15.06	16.00	1.242	-	-	0.17	0.213	0.264
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 3	21100	2535	15.03	16.00	1.250	-	-	0.05	0.138	0.173
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	21100	2535	15.06	16.00	1.242	-	-	-0.11	0.668	0.829
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	20850	2510	14.93	16.00	1.279	-	-	0.06	0.677	0.866
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	21350	2560	14.92	16.00	1.282	-	-	0.19	0.574	0.736
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	DSI 3	21100	2535	15.03	16.00	1.250	-	-	-0.14	0.459	0.574
	LTE Band 7	20M	QPSK	100	0	-	Back	5mm	Ant 4	-	DSI 3	21100	2535	15.00	16.00	1.259	-	-	0.02	0.425	0.535
	LTE Band 7	20M	QPSK	1	0	-	Front	17mm	Ant 4	-	DSI 4	21100	2535	22.74	24.00	1.337	-	-	0.06	0.214	0.286
	LTE Band 7	20M	QPSK	1	0	-	Back	18mm	Ant 4	-	DSI 4	21100	2535	22.74	24.00	1.337	-	-	-0.09	0.489	0.654
	LTE Band 7 Other PA	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	20850	2510	14.85	16.00	1.303	-	-	0.04	0.588	0.766
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	40620	2593	23.17	24.00	1.211	62.9	1.006	0.16	0.747	0.910
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	39750	2506	23.11	24.00	1.227	62.9	1.006	-0.04	0.722	0.892
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	40185	2549.5	23.12	24.00	1.225	62.9	1.006	0.13	0.761	0.938
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	41055	2636.5	23.07	24.00	1.239	62.9	1.006	0.12	0.650	0.810
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	-	DSI 3	41490	2680	23.16	24.00	1.213	62.9	1.006	0.07	0.614	0.749
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	-	DSI 3	40620	2593	22.08	23.00	1.236	62.9	1.006	0.08	0.452	0.562
	LTE Band 41	20M	QPSK	100	0	-	Front	5mm	Ant 1	-	DSI 3	40620	2593	21.97	23.00	1.268	62.9	1.006	0.19	0.446	0.569
60	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	40620	2593	23.17	24.00	1.211	62.9	1.006	-0.19	0.988	1.203
	LTE Band 41C	20M	QPSK	1	99	-	Back	5mm	Ant 1	-	DSI 3	40620+	2593+	23.13	24.00	1.222	62.9	1.006	0.08	0.934	1.148



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										40818	2612.8										
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	Headset	DSI 3	40620	2593	23.17	24.00	1.211	62.9	1.006	0.09	0.971	1.183
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	39750	2506	23.11	24.00	1.227	62.9	1.006	0	0.873	1.078
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	40185	2549.5	23.12	24.00	1.225	62.9	1.006	-0.03	0.934	1.151
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	41055	2636.5	23.07	24.00	1.239	62.9	1.006	0.07	0.959	1.195
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	41490	2680	23.16	24.00	1.213	62.9	1.006	-0.12	0.921	1.124
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	40620	2593	22.08	23.00	1.236	62.9	1.006	-0.03	0.600	0.746
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	39750	2506	21.80	23.00	1.318	62.9	1.006	0.12	0.533	0.707
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	40185	2549.5	21.94	23.00	1.276	62.9	1.006	0.02	0.565	0.726
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	41055	2636.5	21.82	23.00	1.312	62.9	1.006	-0.03	0.614	0.811
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	-	DSI 3	41490	2680	21.92	23.00	1.282	62.9	1.006	0	0.608	0.784
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 1	-	DSI 3	40620	2593	21.97	23.00	1.268	62.9	1.006	-0.1	0.622	0.793
	LTE Band 41 Other Path	20M	QPSK	1	0	-	Back	5mm	Ant 1	-	DSI 3	40620	2593	23.11	24.00	1.227	62.9	1.006	0.04	0.306	0.378
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 4	-	DSI 3	40620	2593	18.32	19.10	1.197	62.9	1.006	0.05	0.218	0.262
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 4	-	DSI 3	40620	2593	18.28	19.10	1.208	62.9	1.006	-0.08	0.137	0.166
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	40620	2593	18.32	19.10	1.197	62.9	1.006	-0.17	0.736	0.886
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	39750	2506	18.23	19.10	1.222	62.9	1.006	-0.12	0.704	0.865
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	40185	2549.5	18.25	19.10	1.216	62.9	1.006	0.07	0.723	0.885
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	41055	2636.5	18.27	19.10	1.211	62.9	1.006	0.09	0.547	0.666
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 4	-	DSI 3	41490	2680	18.31	19.10	1.199	62.9	1.006	0.04	0.677	0.817
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 4	-	DSI 3	40620	2593	18.28	19.10	1.208	62.9	1.006	0.11	0.472	0.574
	LTE Band 41	20M	QPSK	100	0	-	Back	5mm	Ant 4	-	DSI 3	40620	2593	18.22	19.10	1.225	62.9	1.006	-0.17	0.439	0.541
	LTE Band 41	20M	QPSK	1	0	-	Front	17mm	Ant 4	-	DSI 4	40620	2593	22.58	24.00	1.387	62.9	1.006	-0.08	0.153	0.213
	LTE Band 41	20M	QPSK	1	0	-	Back	18mm	Ant 4	-	DSI 4	40620	2593	22.58	24.00	1.387	62.9	1.006	0.13	0.289	0.403
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	507000	2535	22.47	23.50	1.268	-	-	-0.15	0.731	0.927
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	507000	2535	22.44	23.50	1.276	-	-	0.19	0.674	0.860
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Front	5mm	Ant 1	-	DSI 3	507000	2535	22.41	23.00	1.146	-	-	0.07	0.714	0.818
61	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	507000	2535	22.47	23.50	1.268	-	-	-0.13	1.000	1.268
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Headset	DSI 3	507000	2535	22.47	23.50	1.268	-	-	0.18	0.921	1.168
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	507000	2535	22.44	23.50	1.276	-	-	-0.18	0.939	1.199
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	507000	2535	22.41	23.00	1.146	-	-	0.03	0.943	1.080
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	17mm	Ant 1	-	DSI 4	507000	2535	23.47	24.00	1.130	-	-	0.12	0.135	0.153
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	18mm	Ant 1	-	DSI 4	507000	2535	23.47	24.00	1.130	-	-	0.03	0.187	0.211
	FR1 n7 Other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	-	DSI 3	507000	2535	22.35	23.50	1.303	-	-	0.18	0.232	0.302
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 4	-	DSI 3	507000	2535	15.78	16.80	1.265	-	-	-0.15	0.198	0.250
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 4	-	DSI 3	507000	2535	15.40	16.80	1.380	-	-	-0.15	0.186	0.257
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	507000	2535	15.78	16.80	1.265	-	-	-0.08	0.569	0.720
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	507000	2535	15.40	16.80	1.380	-	-	-0.17	0.627	0.866
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	507000	2535	15.70	16.80	1.288	-	-	-0.14	0.685	0.882
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	17mm	Ant 4	-	DSI 4	507000	2535	23.25	24.00	1.189	-	-	0.16	0.144	0.171
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	18mm	Ant 4	-	DSI 4	507000	2535	23.25	24.00	1.189	-	-	-0.1	0.348	0.414
	FR1 n7 Other Path	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 4	-	DSI 3	507000	2535	15.75	16.80	1.274	-	-	-0.05	0.662	0.843
3500MHz																					
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	5mm	Ant 5	-	DSI 3	42590	3500	17.37	18.10	1.183	62.9	1.006	0.11	0.180	0.214
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Front	5mm	Ant 5	-	DSI 3	42590	3500	17.32	18.10	1.197	62.9	1.006	-0.14	0.143	0.172
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 5	-	DSI 3	42590	3500	17.37	18.10	1.183	62.9	1.006	0.08	0.644	0.766
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 5	-	DSI 3	42190	3460	17.31	18.10	1.199	62.9	1.006	0.01	0.544	0.656
62	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 5	-	DSI 3	42990	3540	17.28	18.10	1.208	62.9	1.006	-0.04	0.720	0.875
	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Back	5mm	Ant 5	-	DSI 3	42990+42792	3540+3520.2	17.27	18.10	1.211	62.9	1.006	0.15	0.701	0.854
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 5	-	DSI 3	42590	3500	17.32	18.10	1.197	62.9	1.006	0.02	0.529	0.637
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 5	-	DSI 3	42190	3460	17.28	18.10	1.208	62.9	1.006	-0.11	0.467	0.567
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	5mm	Ant 5	-	DSI 3	42990	3540	17.29	18.10	1.205	62.9	1.006	-0.01	0.518	0.628
	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Back	5mm	Ant 5	-	DSI 3	42590	3500	17.24	18.10	1.219	62.9	1.006	0.09	0.444	0.544



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	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Front	17mm	Ant 5	-	DSI 4	42590	3500	23.15	24.00	1.216	62.9	1.006	0.07	0.186	0.228
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	18mm	Ant 5	-	DSI 4	42590	3500	23.15	24.00	1.216	62.9	1.006	0.18	0.409	0.500
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	633334	3500.01	15.67	16.50	1.211	-	-	-0.1	0.237	0.287
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	633334	3500.01	15.66	16.50	1.213	-	-	0.07	0.296	0.359
	FR1 n78 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 5	-	DSI 3	633334	3500.01	15.63	16.50	1.222	-	-	0.18	0.252	0.308
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 5	-	DSI 3	633334	3500.01	15.67	16.50	1.211	-	-	-0.1	0.500	0.605
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 5	-	DSI 3	633334	3500.01	15.66	16.50	1.213	-	-	0.06	0.707	0.858
	FR1 n78 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 5	-	DSI 3	633334	3500.01	15.63	16.50	1.222	-	-	0.01	0.494	0.604
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	17mm	Ant 5	-	DSI 4	633334	3500.01	23.68	24.00	1.076	-	-	-0.1	0.175	0.188
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	18mm	Ant 5	-	DSI 4	633334	3500.01	23.68	24.00	1.076	-	-	0.01	0.390	0.420
	FR1 n78 SRS Part 27Q Other Path	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 5	-	DSI 3	633334	3500.01	15.48	16.50	1.265	-	-	0.09	0.430	0.544
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 3	-	DSI 3	633334	3500.01	12.67	14.00	1.358	-	-	-0.15	0.009	0.012
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 3	-	DSI 3	633334	3500.01	12.65	14.00	1.365	-	-	0.19	0.012	0.016
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 3	-	DSI 3	633334	3500.01	12.67	14.00	1.358	-	-	0.07	0.506	0.687
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 3	-	DSI 3	633334	3500.01	12.65	14.00	1.365	-	-	0.05	0.653	0.891
	FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 3	-	DSI 3	633334	3500.01	12.63	14.00	1.371	-	-	-0.18	0.530	0.727
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	17mm	Ant 3	-	DSI 4	633334	3500.01	20.64	22.00	1.368	-	-	-0.15	0.038	0.052
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	18mm	Ant 3	-	DSI 4	633334	3500.01	20.64	22.00	1.368	-	-	0.19	0.170	0.233
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	633334	3500.01	19.31	20.30	1.256	-	-	0.05	0.263	0.330
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	633334	3500.01	19.29	20.30	1.262	-	-	0.02	0.309	0.390
	FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Front	5mm	Ant 7	-	DSI 3	633334	3500.01	19.27	20.30	1.268	-	-	-0.13	0.231	0.293
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 7	-	DSI 3	633334	3500.01	19.31	20.30	1.256	-	-	0.17	0.675	0.848
63	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 7	-	DSI 3	633334	3500.01	19.29	20.30	1.262	-	-	0.06	0.707	0.892
	FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 7	-	DSI 3	633334	3500.01	19.27	20.30	1.268	-	-	0.02	0.643	0.815
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	17mm	Ant 7	-	DSI 4	633334	3500.01	22.28	23.00	1.180	-	-	0.07	0.069	0.081
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	18mm	Ant 7	-	DSI 4	633334	3500.01	22.28	23.00	1.180	-	-	-0.18	0.124	0.146
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 9	-	DSI 3	633334	3500.01	20.79	22.00	1.321	-	-	-0.04	0.305	0.403
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 9	-	DSI 3	633334	3500.01	20.75	22.00	1.334	-	-	-0.09	0.349	0.465
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 9	-	DSI 3	633334	3500.01	20.79	22.00	1.321	-	-	-0.17	0.622	0.822
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 9	-	DSI 3	633334	3500.01	20.75	22.00	1.334	-	-	-0.1	0.653	0.871
	FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Back	5mm	Ant 9	-	DSI 3	633334	3500.01	19.72	21.00	1.343	-	-	0.18	0.450	0.604
	FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	17mm	Ant 9	-	DSI 3	633334	3500.01	20.79	22.00	1.321	-	-	0	0.087	0.115
	FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	18mm	Ant 9	-	DSI 3	633334	3500.01	20.75	22.00	1.334	-	-	-0.14	0.108	0.144



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Headset	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	
2450MHz																		
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6+8(6)	-	Standalone	11	2462	18.11	20.00	1.545	87.19	1.147	-0.17	0.334	0.592	
64	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(6)	-	Standalone	11	2462	18.11	20.00	1.545	87.19	1.147	-0.01	0.776	1.375	
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(6)	Headset	Standalone	11	2462	18.11	20.00	1.545	87.19	1.147	0.02	0.754	1.336	
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(6)	-	Standalone	6	2437	18.22	20.00	1.507	87.19	1.147	0.17	0.749	1.294	
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(6)	-	Standalone	1	2412	18.05	20.00	1.567	87.19	1.147	-0.08	0.630	1.132	
	WLAN2.4GHz	802.11g 6Mbps	Back	5mm	Ant 6+8(6)	-	Standalone	6	2437	18.22	20.00	1.507	86.38	1.158	0.05	0.671	1.171	
	WLAN2.4GHz	802.11g 6Mbps	Back	5mm	Ant 6+8(6)	-	Standalone	1	2412	16.55	18.00	1.396	86.38	1.158	-0.14	0.536	0.867	
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 6+8(6)	-	Simultaneous	11	2462	13.04	14.50	1.400	87.19	1.147	0.18	0.112	0.180	
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(6)	-	Simultaneous	11	2462	13.04	14.50	1.400	87.19	1.147	-0.04	0.237	0.380	
	WLAN2.4GHz	802.11b 1Mbps	Front	17mm	Ant 6+8(6)	-	Full power	11	2462	19.08	21.00	1.556	87.19	1.147	0.09	0.106	0.189	
	WLAN2.4GHz	802.11b 1Mbps	Back	18mm	Ant 6+8(6)	-	Full power	11	2462	19.08	21.00	1.556	87.19	1.147	-0.01	0.151	0.269	
	Bluetooth	1Mbps	Front	5mm	Ant 6	-	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	0.02	0.101	0.139	
65	Bluetooth	1Mbps	Back	5mm	Ant 6	-	Full power	78	2480	13.97	15.00	1.268	76.75	1.085	-0.03	0.188	0.259	
	Bluetooth	1Mbps	Front	5mm	Ant 8	-	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	0.06	0.087	0.131	
	Bluetooth	1Mbps	Back	5mm	Ant 8	-	Full power	0	2402	13.57	15.00	1.390	76.94	1.083	0.06	0.168	0.253	
5000MHz																		
	WLAN5.3GHz	802.11a 6Mbps	Front	5mm	Ant 5+8(5)	-	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.11	0.323	0.590	
66	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 5+8(5)	-	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.04	0.628	1.148	
	WLAN5.3GHz	802.11a 6Mbps	Back	5mm	Ant 5+8(5)	-	Full power	60	5300	16.07	17.50	1.390	86.33	1.158	0.04	0.511	0.823	
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Front	5mm	Ant 5+8(5)	-	Simultaneous	50	5250	12.18	14.00	1.521	85.06	1.176	-0.03	0.137	0.245	
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Back	5mm	Ant 5+8(5)	-	Simultaneous	50	5250	12.18	14.00	1.521	85.06	1.176	-0.03	0.219	0.392	
	WLAN5.3GHz	802.11a 6Mbps	Front	17mm	Ant 5+8(5)	-	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.17	0.104	0.190	
	WLAN5.3GHz	802.11a 6Mbps	Back	18mm	Ant 5+8(5)	-	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	-0.14	0.158	0.289	
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+8(8)	-	Standalone	138	5690	13.27	15.00	1.488	85.49	1.170	0.09	0.260	0.453	
67	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(8)	-	Standalone	138	5690	13.27	15.00	1.488	85.49	1.170	0.04	0.629	1.095	
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(5)	-	Standalone	122	5610	13.90	15.50	1.445	85.49	1.170	0.11	0.603	1.020	
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Front	5mm	Ant 5+8(8)	-	Simultaneous	114	5570	7.92	9.50	1.439	85.06	1.176	0.03	0.127	0.215	
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Back	5mm	Ant 5+8(8)	-	Simultaneous	114	5570	7.92	9.50	1.439	85.06	1.176	-0.04	0.213	0.360	
	WLAN5.5GHz	802.11ax-HE40 MCS0	Front	17mm	Ant 5+8(5)	-	Full power	142	5710	17.82	19.50	1.472	85.59	1.168	0.04	0.190	0.327	
	WLAN5.5GHz	802.11ax-HE40 MCS0	Back	18mm	Ant 5+8(5)	-	Full power	142	5710	17.82	19.50	1.472	85.59	1.168	0.09	0.460	0.791	
	WLAN5.8GHz	802.11ax-HE40 MCS0	Front	5mm	Ant 5+8(8)	-	Standalone	159	5795	16.73	18.00	1.340	85.59	1.168	0.08	0.286	0.448	
68	WLAN5.8GHz	802.11ax-HE40 MCS0	Back	5mm	Ant 5+8(8)	-	Standalone	159	5795	16.73	18.00	1.340	85.59	1.168	0.02	0.742	1.161	
	WLAN5.8GHz	802.11ax-HE40 MCS0	Back	5mm	Ant 5+8(8)	-	Standalone	151	5755	16.54	18.00	1.400	85.59	1.168	-0.07	0.705	1.152	
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 5+8(8)	-	Simultaneous	155	5775	11.67	13.50	1.524	85.49	1.170	0.05	0.102	0.182	
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 5+8(8)	-	Simultaneous	155	5775	11.67	13.50	1.524	85.49	1.170	-0.11	0.210	0.374	
	WLAN5.8GHz	802.11a 6Mbps	Front	17mm	Ant 5+8(8)	-	Standalone	165	5825	17.69	19.00	1.352	86.33	1.158	0.04	0.163	0.255	
	WLAN5.8GHz	802.11a 6Mbps	Back	18mm	Ant 5+8(8)	-	Standalone	165	5825	17.69	19.00	1.352	86.33	1.158	-0.04	0.373	0.584	



16.4 Product specific 10g SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
835MHz																				
69	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4182	836.4	23.03	24.00	1.250	-	-	0.06	2.010	2.513
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4132	826.4	22.95	24.00	1.274	-	-	-0.02	1.230	1.566
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4233	846.6	22.96	24.00	1.271	-	-	0.1	1.790	2.274
70	LTE Band 26	15M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	26865	831.5	23.06	24.00	1.242	-	-	-0.1	1.780	2.210
	LTE Band 26	15M	QPSK	36	0	-	Back	0mm	Ant 0	DSI 6	26865	831.5	21.95	23.00	1.274	-	-	0.03	1.050	1.337
	LTE Band 26	15M	QPSK	75	0	-	Back	0mm	Ant 0	DSI 6	26865	831.5	21.81	23.00	1.315	-	-	-0.15	1.050	1.381
	LTE Band 26_Other Path	15M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	26865	831.5	23.01	24.00	1.256	-	-	-0.15	1.160	1.457
	LTE Band 5_Other Path	10M	QPSK	1	0	-	Back	0mm	Ant 0	DSI 6	20525	836.5	22.90	24.00	1.288	-	-	0.04	0.978	1.260
1750MHz																				
71	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	1413	1732.6	22.92	24.00	1.282	-	-	-0.12	2.240	2.872
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	1312	1712.4	22.87	24.00	1.297	-	-	-0.08	2.150	2.789
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	0mm	Ant 1	DSI 6	1513	1752.6	22.89	24.00	1.291	-	-	-0.18	2.080	2.686
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	1413	1732.6	22.92	24.00	1.282	-	-	-0.13	2.060	2.642
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	1312	1712.4	22.87	24.00	1.297	-	-	-0.03	2.040	2.646
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	1513	1752.6	22.89	24.00	1.291	-	-	0.02	2.150	2.776
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	1413	1732.6	22.92	24.00	1.282	-	-	0.02	1.830	2.347
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	1312	1712.4	22.87	24.00	1.297	-	-	0.11	1.750	2.270
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	1513	1752.6	22.89	24.00	1.291	-	-	-0.17	2.000	2.582
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	132322	1745	22.97	24.00	1.268	-	-	-0.1	2.200	2.789
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	132072	1720	22.70	24.00	1.349	-	-	0.01	2.300	3.103
	LTE Band 66	20M	QPSK	1	0	-	Front	0mm	Ant 1	DSI 6	132572	1770	22.68	24.00	1.355	-	-	-0.15	2.090	2.832
	LTE Band 66	20M	QPSK	50	0	-	Front	0mm	Ant 1	DSI 6	132322	1745	21.89	23.00	1.291	-	-	0.19	1.220	1.575
	LTE Band 66	20M	QPSK	100	0	-	Front	0mm	Ant 1	DSI 6	132322	1745	21.88	23.00	1.294	-	-	0.07	1.240	1.605
72	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	132322	1745	22.97	24.00	1.268	-	-	-0.01	2.530	3.207
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	132072	1720	22.70	24.00	1.349	-	-	-0.18	2.320	3.130
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	132572	1770	22.68	24.00	1.355	-	-	0.03	2.340	3.171
	LTE Band 66	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	132322	1745	21.89	23.00	1.291	-	-	-0.15	1.490	1.924
	LTE Band 66	20M	QPSK	100	0	-	Back	0mm	Ant 1	DSI 6	132322	1745	21.88	23.00	1.294	-	-	-0.08	1.540	1.993
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	132322	1745	22.97	24.00	1.268	-	-	-0.17	2.130	2.700
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	132072	1720	22.70	24.00	1.349	-	-	-0.08	2.320	3.130
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	132572	1770	22.68	24.00	1.355	-	-	-0.04	2.070	2.805
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	132322	1745	21.89	23.00	1.291	-	-	-0.08	1.140	1.472
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 1	DSI 6	132322	1745	21.88	23.00	1.294	-	-	0.17	1.160	1.501
	LTE Band 66 Other Path	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	132322	1745	22.91	24.00	1.285	-	-	-0.08	1.150	1.478
	LTE Band 4 Other Path	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	20175	1732.5	22.87	24.00	1.297	-	-	-0.04	1.120	1.453
	LTE Band 4 Other PA	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	20175	1732.5	22.91	24.00	1.285	-	-	0.03	1.060	1.362
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	132322	1745	21.51	22.60	1.285	-	-	0.07	1.930	2.481
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	132072	1720	21.49	22.60	1.291	-	-	0.06	1.840	2.376
	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	132572	1770	21.43	22.60	1.309	-	-	-0.03	1.860	2.435
	LTE Band 66	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI 6	132322	1745	20.99	22.00	1.262	-	-	-0.03	1.010	1.274
	LTE Band 66	20M	QPSK	100	0	-	Back	0mm	Ant 4	DSI 6	132322	1745	20.93	22.00	1.279	-	-	0.05	1.220	1.561
	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	132322	1745	21.51	22.60	1.285	-	-	-0.11	1.650	2.121
	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	132072	1720	21.49	22.60	1.291	-	-	-0.12	1.700	2.195
	LTE Band 66	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	132572	1770	21.43	22.60	1.309	-	-	0.03	1.860	2.435
	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant 4	DSI 6	132322	1745	20.99	22.00	1.262	-	-	-0.16	0.959	1.210
	LTE Band 66	20M	QPSK	100	0	-	Top Side	0mm	Ant 4	DSI 6	132322	1745	20.93	22.00	1.279	-	-	-0.09	0.946	1.210
	LTE Band 66	20M	QPSK	1	0	-	Back	17mm	Ant 4	DSI 4	132322	1745	22.15	23.00	1.216	-	-	-0.04	0.219	0.266
	LTE Band 66	20M	QPSK	1	0	-	Top Side	16mm	Ant 4	DSI 4	132322	1745	22.15	23.00	1.216	-	-	-0.08	0.320	0.389
	LTE Band 66 Other PA	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	132322	1745	21.41	22.60	1.315	-	-	-0.06	1.870	2.459
	LTE Band 4 Other PA	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	20175	1732.5	21.31	22.60	1.346	-	-	-0.05	1.720	2.315



FCC SAR Test Report

Report No. : FA471919

	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	0mm	Ant 1	DSI 6	349000	1745	23.25	24.00	1.189	-	-	-0.05	1.920	2.282
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	0mm	Ant 1	DSI 6	349000	1745	22.87	24.00	1.297	-	-	0	1.880	2.439
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Front	0mm	Ant 1	DSI 6	349000	1745	22.15	23.00	1.216	-	-	-0.13	1.970	2.396
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 1	DSI 6	349000	1745	23.25	24.00	1.189	-	-	0.06	2.060	2.448
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 1	DSI 6	349000	1745	22.87	24.00	1.297	-	-	-0.01	1.880	2.439
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Back	0mm	Ant 1	DSI 6	349000	1745	22.15	23.00	1.216	-	-	-0.09	1.940	2.359
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	349000	1745	23.25	24.00	1.189	-	-	0.05	1.730	2.056
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	349000	1745	22.87	24.00	1.297	-	-	0.02	1.750	2.270
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	349000	1745	22.15	23.00	1.216	-	-	-0.13	1.790	2.177
	FR1 n66 Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 1	DSI 6	349000	1745	23.08	24.00	1.236	-	-	-0.13	0.392	0.484
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	349000	1745	20.95	22.00	1.274	-	-	0.08	1.680	2.139
73	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	349000	1745	20.93	22.00	1.279	-	-	0.06	1.930	2.469
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	349000	1745	20.91	22.00	1.285	-	-	0.01	1.430	1.838
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	349000	1745	20.95	22.00	1.274	-	-	0.03	1.400	1.783
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	349000	1745	20.93	22.00	1.279	-	-	-0.08	1.570	2.009
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	349000	1745	20.91	22.00	1.285	-	-	-0.08	1.310	1.684
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 4	DSI 4	349000	1745	22.43	24.00	1.435	-	-	-0.03	0.135	0.194
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	16mm	Ant 4	DSI 4	349000	1745	22.43	24.00	1.435	-	-	-0.03	0.159	0.228
	FR1 n66 Other PA	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	349000	1745	20.98	22.00	1.265	-	-	0.08	1.850	2.340
1900MHz																				
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 1	DSI 6	9400	1880	21.86	23.30	1.393	-	-	0.04	1.140	1.588
74	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9400	1880	21.86	23.30	1.393	-	-	-0.06	2.260	3.149
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9262	1852.4	21.81	23.30	1.409	-	-	0.16	2.100	2.960
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	0mm	Ant 1	DSI 6	9538	1907.6	21.79	23.30	1.416	-	-	0.1	2.030	2.874
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	6mm	Ant 1	DSI 4	9400	1880	22.81	24.00	1.315	-	-	-0.07	0.670	0.881
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	9mm	Ant 1	DSI 4	9400	1880	22.81	24.00	1.315	-	-	0.05	0.345	0.454
75	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	26340	1880	22.34	23.50	1.306	-	-	-0.03	2.350	3.070
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	26140	1860	22.31	23.50	1.315	-	-	-0.17	2.150	2.828
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	26590	1905	22.21	23.50	1.346	-	-	-0.08	2.120	2.853
	LTE Band 25	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	26340	1880	21.87	23.00	1.297	-	-	-0.04	1.960	2.542
	LTE Band 25	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	26140	1860	21.82	23.00	1.312	-	-	-0.08	1.850	2.428
	LTE Band 25	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	26590	1905	21.78	23.00	1.324	-	-	0.17	1.630	2.159
	LTE Band 25	20M	QPSK	100	0	-	Back	0mm	Ant 1	DSI 6	26340	1880	21.82	23.00	1.312	-	-	0.18	2.020	2.651
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	26340	1880	22.34	23.50	1.306	-	-	-0.04	2.140	2.795
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	26140	1860	22.31	23.50	1.315	-	-	-0.08	2.170	2.854
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	26590	1905	22.21	23.50	1.346	-	-	-0.13	1.860	2.503
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	26340	1880	21.87	23.00	1.297	-	-	-0.13	1.730	2.244
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	26140	1860	21.82	23.00	1.312	-	-	0.06	1.800	2.362
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	26590	1905	21.78	23.00	1.324	-	-	-0.03	1.390	1.841
	LTE Band 25	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 1	DSI 6	26340	1880	21.82	23.00	1.312	-	-	-0.03	1.730	2.270
	LTE Band 25	20M	QPSK	1	0	-	Back	6mm	Ant 1	DSI 4	26340	1880	22.98	24.00	1.265	-	-	0.03	0.608	0.769
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	9mm	Ant 1	DSI 4	26340	1880	22.98	24.00	1.265	-	-	-0.16	0.591	0.747
	LTE Band 2 Other Path	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	18900	1880	22.46	23.50	1.271	-	-	-0.02	0.650	0.826
	LTE Band 2 Other PA	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	18900	1880	22.41	23.50	1.285	-	1.000	-0.14	0.632	0.812
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	26340	1880	20.63	21.90	1.340	-	-	0.1	1.600	2.143
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	26140	1860	20.51	21.90	1.377	-	-	-0.18	1.370	1.887
	LTE Band 25	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	26590	1905	20.51	21.90	1.377	-	-	0.1	1.560	2.148
	LTE Band 25	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI 6	26340	1880	20.54	21.90	1.368	-	-	0.12	1.440	1.970
	LTE Band 25	20M	QPSK	100	0	-	Back	0mm	Ant 4	DSI 6	26340	1880	20.57	21.90	1.358	-	-	-0.03	1.610	2.187
	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	26340	1880	20.63	21.90	1.340	-	-	-0.05	1.860	2.492
	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	26140	1860	20.51	21.90	1.377	-	-	0.14	1.630	2.245
	LTE Band 25	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	26590	1905	20.51	21.90	1.377	-	-	0.11	1.730	2.383
	LTE Band 25	20M	QPSK	50	0	-	Top Side	0mm	Ant 4	DSI 6	26340	1880	20.54	21.90	1.368	-	-	-0.05	1.460	1.997
	LTE Band 25	20M	QPSK	100	0	-	Top Side	0mm	Ant 4	DSI 6	26340	1880	20.57	21.90	1.358	-	-	-0.17	1.370	1.861
	LTE Band 25	20M	QPSK	1	0	-	Back	17mm	Ant 4	DSI 4	26340	1880	22.21	23.00	1.199	-	-	-0.09	0.219	0.263
	LTE Band 25	20M	QPSK	1	0	-	Top Side	16mm	Ant 4	DSI 4	26340	1880	22.21	23.00	1.199	-	-	0.11	0.314	0.377



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	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 1	DSI 6	376000	1880	22.46	23.40	1.242	-	-	-0.09	1.600	1.987
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	0mm	Ant 1	DSI 6	376000	1880	22.39	23.40	1.262	-	-	-0.08	1.550	1.956
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	376000	1880	22.46	23.40	1.242	-	-	-0.03	2.510	3.117
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	372000	1860	22.41	23.40	1.256	-	-	-0.15	2.380	2.989
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	380000	1900	22.35	23.40	1.274	-	-	0.02	2.320	2.955
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	376000	1880	22.39	23.40	1.262	-	-	0.07	2.470	3.117
76	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	372000	1860	22.23	23.40	1.309	-	-	0.11	2.580	3.378
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	380000	1900	22.13	23.40	1.340	-	-	0.16	2.140	2.867
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	376000	1880	22.41	23.00	1.146	-	-	0.13	2.350	2.692
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	6mm	Ant 1	DSI 4	376000	1880	23.48	24.00	1.127	-	-	0.04	0.491	0.553
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	9mm	Ant 1	DSI 4	376000	1880	23.48	24.00	1.127	-	-	-0.08	0.453	0.511
	FR1 n2 Other PA	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	372000	1860	22.31	23.40	1.285	-	-	0.16	0.973	1.251
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	376000	1880	21.35	22.30	1.245	-	-	0.07	1.970	2.452
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	372000	1860	21.29	22.30	1.262	-	-	0.17	1.110	1.401
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	380000	1900	21.32	22.30	1.253	-	-	0.06	1.220	1.529
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	376000	1880	21.34	22.30	1.247	-	-	0	1.870	2.333
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	372000	1860	21.30	22.30	1.259	-	-	-0.04	1.410	1.775
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	380000	1900	21.32	22.30	1.253	-	-	-0.15	1.490	1.867
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	376000	1880	21.31	22.30	1.256	-	-	0.11	1.690	2.123
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 4	DSI 4	376000	1880	22.83	24.00	1.309	-	-	0.05	0.164	0.215
	FR1 n2 Other PA	20M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	376000	1880	21.37	22.30	1.239	-	-	-0.03	1.910	2.366
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	21100	2535	21.06	21.80	1.186	-	-	0.02	1.430	1.696
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 1	DSI 6	21100	2535	21.04	21.80	1.191	-	-	-0.02	0.931	1.109
77	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	21100	2535	21.06	21.80	1.186	-	-	-0.07	2.390	2.834
	LTE Band 7C	20M	QPSK	1	99	-	Bottom Side	0mm	Ant 1	DSI 6	21100+ 21298	2535+ 2554.8	20.85	21.80	1.245	-	-	0.16	2.260	2.813
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	20850	2510	20.97	21.80	1.211	-	-	0.17	2.330	2.821
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	21350	2560	21.02	21.80	1.197	-	-	0.18	2.360	2.824
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	21100	2535	21.04	21.80	1.191	-	-	0.03	1.520	1.811
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	20850	2510	21.01	21.80	1.199	-	-	0.01	1.540	1.847
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	21350	2560	21.03	21.80	1.194	-	-	0.04	1.430	1.707
	LTE Band 7	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 1	DSI 6	21100	2535	21.03	21.80	1.194	-	-	-0.16	1.500	1.791
	LTE Band 7	20M	QPSK	1	0	-	Back	6mm	Ant 1	DSI 4	21100	2535	23.03	24.00	1.250	-	-	0.02	0.518	0.648
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	9mm	Ant 1	DSI 4	21100	2535	23.03	24.00	1.250	-	-	0.07	0.320	0.400
	LTE Band 7 Other Path	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	21100	2535	20.94	21.80	1.219	-	-	0.16	2.170	2.645
	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	21100	2535	18.70	20.00	1.349	-	-	-0.08	1.730	2.334
	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	20850	2510	18.66	20.00	1.361	-	-	0.05	1.700	2.314
	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	21350	2560	18.59	20.00	1.384	-	-	0.06	1.540	2.131
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI 6	21100	2535	18.52	20.00	1.406	-	-	-0.09	1.090	1.533
	LTE Band 7	20M	QPSK	100	0	-	Back	0mm	Ant 4	DSI 6	21100	2535	18.57	20.00	1.390	-	-	0.12	1.220	1.696
	LTE Band 7	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	21100	2535	18.70	20.00	1.349	-	-	-0.13	1.810	2.442
	LTE Band 7	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	20850	2510	18.66	20.00	1.361	-	-	0.03	1.710	2.328
	LTE Band 7	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	21350	2560	18.59	20.00	1.384	-	-	0.18	1.750	2.421
	LTE Band 7	20M	QPSK	50	0	-	Top Side	0mm	Ant 4	DSI 6	21100	2535	18.52	20.00	1.406	-	-	0.16	1.240	1.743
	LTE Band 7	20M	QPSK	100	0	-	Top Side	0mm	Ant 4	DSI 6	21100	2535	18.57	20.00	1.390	-	-	0.18	1.190	1.654
	LTE Band 7	20M	QPSK	1	0	-	Back	17mm	Ant 4	DSI 4	21100	2535	22.74	24.00	1.337	-	-	0.02	0.258	0.345
	LTE Band 7	20M	QPSK	1	0	-	Top Side	16mm	Ant 4	DSI 4	21100	2535	22.74	24.00	1.337	-	-	0.16	0.302	0.404
	LTE Band 7 Other PA	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	21100	2535	18.91	20.00	1.285	-	-	-0.02	1.750	2.249
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	40620	2593	23.17	24.00	1.211	62.9	1.006	0.13	2.140	2.606
78	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	39750	2506	23.11	24.00	1.227	62.9	1.006	-0.1	2.290	2.828
	LTE Band 41C	20M	QPSK	1	99	-	Bottom Side	0mm	Ant 1	DSI 6	39750+ 39948	2506+ 2525.8	23.04	24.00	1.247	62.9	1.006	0.17	2.180	2.736
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	40185	2549.5	23.12	24.00	1.225	62.9	1.006	0.02	2.150	2.649
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	41055	2636.5	23.07	24.00	1.239	62.9	1.006	0.16	2.080	2.592
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	41490	2680	23.16	24.00	1.213	62.9	1.006	-0.03	2.070	2.527
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	40620	2593	22.08	23.00	1.236	62.9	1.006	0.07	1.370	1.703



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	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	39750	2506	21.80	23.00	1.318	62.9	1.006	0.18	1.250	1.658
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	40185	2549.5	21.94	23.00	1.276	62.9	1.006	-0.04	1.210	1.554
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	41055	2636.5	21.82	23.00	1.312	62.9	1.006	-0.08	1.330	1.756
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	0mm	Ant 1	DSI 6	41490	2680	21.92	23.00	1.282	62.9	1.006	-0.13	1.190	1.535
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	0mm	Ant 1	DSI 6	40620	2593	21.97	23.00	1.268	62.9	1.006	-0.09	1.380	1.760
	LTE Band 41 Other Path	20M	QPSK	1	0	-	Bottom Side	0mm	Ant 1	DSI 6	40620	2593	23.11	24.00	1.227	62.9	1.006	0	1.550	1.914
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	40620	2593	20.79	22.00	1.321	62.9	1.006	-0.17	1.620	2.153
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	39750	2506	20.69	22.00	1.352	62.9	1.006	0.18	1.700	2.312
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	40185	2549.5	20.71	22.00	1.346	62.9	1.006	-0.17	1.690	2.288
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	41055	2636.5	20.76	22.00	1.330	62.9	1.006	-0.04	1.320	1.767
	LTE Band 41	20M	QPSK	1	0	-	Back	0mm	Ant 4	DSI 6	41490	2680	20.67	22.00	1.358	62.9	1.006	-0.05	1.570	2.145
	LTE Band 41	20M	QPSK	50	0	-	Back	0mm	Ant 4	DSI 6	40620	2593	20.78	22.00	1.324	62.9	1.006	0	1.020	1.359
	LTE Band 41	20M	QPSK	100	0	-	Back	0mm	Ant 4	DSI 6	40620	2593	20.77	22.00	1.328	62.9	1.006	-0.13	1.180	1.577
	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	40620	2593	20.79	22.00	1.321	62.9	1.006	0.17	1.870	2.486
	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	39750	2506	20.69	22.00	1.352	62.9	1.006	0	1.680	2.285
	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	40185	2549.5	20.71	22.00	1.346	62.9	1.006	0.08	1.890	2.559
	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	41055	2636.5	20.76	22.00	1.330	62.9	1.006	-0.15	1.450	1.941
	LTE Band 41	20M	QPSK	1	0	-	Top Side	0mm	Ant 4	DSI 6	41490	2680	20.67	22.00	1.358	62.9	1.006	0.11	1.610	2.200
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 4	DSI 6	40620	2593	20.78	22.00	1.324	62.9	1.006	-0.02	1.230	1.639
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 4	DSI 6	39750	2506	20.74	22.00	1.337	62.9	1.006	-0.08	1.160	1.560
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 4	DSI 6	40185	2549.5	20.75	22.00	1.334	62.9	1.006	-0.04	1.050	1.409
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 4	DSI 6	41055	2636.5	20.71	22.00	1.346	62.9	1.006	-0.08	1.110	1.503
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 4	DSI 6	41490	2680	20.63	22.00	1.371	62.9	1.006	0.17	1.090	1.503
	LTE Band 41	20M	QPSK	100	0	-	Top Side	0mm	Ant 4	DSI 6	40620	2593	20.77	22.00	1.328	62.9	1.006	-0.16	1.170	1.563
	LTE Band 41	20M	QPSK	1	0	-	Back	17mm	Ant 4	DSI 4	40620	2593	22.58	24.00	1.387	62.9	1.006	0.01	0.164	0.229
	LTE Band 41	20M	QPSK	1	0	-	Top Side	16mm	Ant 4	DSI 4	40620	2593	22.58	24.00	1.387	62.9	1.006	-0.01	0.201	0.280
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	21.49	22.50	1.262	-	-	0.1	2.350	2.965
79	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	21.48	22.50	1.265	-	-	-0.16	2.490	3.149
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	21.47	22.50	1.268	-	-	-0.04	2.390	3.030
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	9mm	Ant 1	DSI 4	507000	2535	23.47	24.00	1.130	-	-	-0.04	0.290	0.328
	FR1 n7 Other Path	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	21.43	22.50	1.279	-	-	-0.09	0.933	1.194
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	507000	2535	18.73	19.80	1.279	-	-	-0.16	1.540	1.970
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 4	DSI 6	507000	2535	18.71	19.80	1.285	-	-	-0.18	1.510	1.941
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	507000	2535	18.73	19.80	1.279	-	-	0.11	1.800	2.303
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	507000	2535	18.71	19.80	1.285	-	-	-0.18	1.920	2.468
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	507000	2535	18.69	19.80	1.291	-	-	-0.08	1.700	2.195
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 4	DSI 4	507000	2535	23.25	24.00	1.189	-	-	-0.1	0.213	0.253
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	16mm	Ant 4	DSI 4	507000	2535	23.25	24.00	1.189	-	-	0.18	0.250	0.297
	FR1 n7 Other Path	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	0mm	Ant 4	DSI 6	507000	2535	18.74	19.80	1.276	-	-	-0.17	1.740	2.221
3500MHz																				
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	0mm	Ant 5	DSI 6	42590	3500	20.23	21.60	1.371	62.9	1.006	-0.14	0.845	1.165
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Back	0mm	Ant 5	DSI 6	42590	3500	20.22	21.60	1.374	62.9	1.006	0.06	0.709	0.980
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 5	DSI 6	42590	3500	20.23	21.60	1.371	62.9	1.006	0.12	1.730	2.386
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 5	DSI 6	42190	3460	20.18	21.60	1.387	62.9	1.006	-0.16	1.690	2.358
80	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 5	DSI 6	42990	3540	20.16	21.60	1.393	62.9	1.006	0.07	1.820	2.551
	LTE Band 42C Part 27Q	20M	QPSK	1	0	-	Top Side	0mm	Ant 5	DSI 6	42990+42792	3540+3520.2	20.15	21.60	1.396	62.9	1.006	0.03	1.720	2.416
	LTE Band 42 Part 27Q	20M	QPSK	50	0	-	Top Side	0mm	Ant 5	DSI 6	42590	3500	20.22	21.60	1.374	62.9	1.006	-0.02	1.280	1.769
	LTE Band 42 Part 27Q	20M	QPSK	100	0	-	Top Side	0mm	Ant 5	DSI 6	42590	3500	20.18	21.60	1.387	62.9	1.006	0.08	1.270	1.772
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 4	42590	3500	23.15	24.00	1.216	62.9	1.006	-0.04	0.235	0.288
	LTE Band 42 Part 27Q	20M	QPSK	1	0	-	Top Side	14mm	Ant 5	DSI 4	42590	3500	23.15	24.00	1.216	62.9	1.006	-0.05	0.331	0.405
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 5	DSI 6	633334	3500.01	18.65	19.80	1.303	-	-	-0.13	0.734	0.957
	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 5	DSI 6	633334	3500.01	18.64	19.80	1.306	-	-	0.06	0.886	1.157
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	633334	3500.01	18.65	19.80	1.303	-	-	-0.03	1.650	2.150
81	FR1 n78 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	633334	3500.01	18.64	19.80	1.306	-	-	0.15	1.890	2.469
	FR1 n78 Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	633334	3500.01	18.61	19.80	1.315	-	-	-0.03	1.640	2.157
	FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 4	633334	3500.01	23.68	24.00	1.076	-	-	-0.13	0.258	0.278



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FR1 n78 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	14mm	Ant 5	DSI 4	633334	3500.01	23.68	24.00	1.076	-	-	-0.01	0.319	0.343
FR1 n78 Part 27Q Other Path	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	0mm	Ant 5	DSI 6	633334	3500.01	18.45	19.80	1.365	-	-	-0.09	1.700	2.320
FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 3	DSI 4	633334	3500.01	16.62	17.80	1.312	-	-	-0.05	1.640	2.152
FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 3	DSI 4	633334	3500.01	16.61	17.80	1.315	-	-	-0.08	1.860	2.446
FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Back	0mm	Ant 3	DSI 4	633334	3500.01	16.57	17.80	1.327	-	-	0.16	1.490	1.978
FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 7	DSI 6	633334	3500.01	16.79	17.80	1.262	-	-	0.01	1.780	2.246
FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	0mm	Ant 7	DSI 6	633334	3500.01	16.78	17.80	1.265	-	-	-0.01	1.950	2.466
FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	0mm	Ant 7	DSI 6	633334	3500.01	16.74	17.80	1.276	-	-	-0.06	1.320	1.685
FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	11mm	Ant 7	DSI 4	633334	3500.01	22.28	23.00	1.180	-	-	0.05	0.162	0.191
FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 9	DSI 4	633334	3500.01	20.79	22.00	1.321	-	-	0.02	1.350	1.784
FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 9	DSI 4	633334	3500.01	20.75	22.00	1.334	-	-	0.07	1.310	1.747
FR1 n78 SRS Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	0mm	Ant 9	DSI 4	633334	3500.01	20.79	22.00	1.321	-	-	-0.14	1.590	2.101
FR1 n78 SRS Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	0mm	Ant 9	DSI 4	633334	3500.01	20.75	22.00	1.334	-	-	0.08	1.510	2.014
FR1 n78 SRS Part 27Q	100M	QPSK	270	0	DFT-SCS-30KHz	Right Side	0mm	Ant 9	DSI 4	633334	3500.01	19.72	21.00	1.343	-	-	-0.13	1.320	1.772

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Ant 6+8(6)	Full power	11	2462	19.08	21.00	1.556	87.19	1.147	0.05	0.669	1.194
82	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 6+8(6)	Full power	11	2462	19.08	21.00	1.556	87.19	1.147	-0.08	1.300	2.320
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 6+8(6)	Full power	6	2437	19.11	21.00	1.545	87.19	1.147	-0.03	1.070	1.896
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Ant 6+8(6)	Simultaneous	11	2462	15.01	16.50	1.409	87.19	1.147	0.1	0.307	0.496
	WLAN2.4GHz	802.11b 1Mbps	Right Side	0mm	Ant 6+8(6)	Simultaneous	11	2462	15.01	16.50	1.409	87.19	1.147	-0.18	0.591	0.955
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 6+8(6)	Full power	11	2462	19.08	21.00	1.556	87.19	1.147	0.07	0.296	0.528
	WLAN2.4GHz	802.11b 1Mbps	Right Side	8mm	Ant 6+8(6)	Full power	11	2462	19.08	21.00	1.556	87.19	1.147	-0.07	0.343	0.612
5000MHz																
	WLAN5.2GHz	802.11ax-HE40 MCS0	Back	0mm	Ant 5+8(8)	Full power	46	5230	16.97	18.50	1.422	85.59	1.168	-0.03	0.136	0.226
	WLAN5.2GHz	802.11ax-HE40 MCS0	Right Side	0mm	Ant 5+8(8)	Full power	46	5230	16.97	18.50	1.422	85.59	1.168	0.12	0.518	0.861
86	WLAN5.2GHz	802.11ax-HE40 MCS0	Top Side	0mm	Ant 5+8(8)	Full power	46	5230	16.97	18.50	1.422	85.59	1.168	-0.07	0.775	1.287
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5+8(8)	Simultaneous	46	5230	16.43	18.00	1.435	86.11	1.161	0.06	0.119	0.198
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 5+8(8)	Simultaneous	46	5230	16.43	18.00	1.435	86.11	1.161	0.08	0.318	0.530
	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+8(8)	Simultaneous	46	5230	16.43	18.00	1.435	86.11	1.161	-0.09	0.553	0.922
	WLAN5.2GHz	802.11ax-HE40 MCS0	Back	5mm	Ant 5+8(8)	Full power	46	5230	16.97	18.50	1.422	85.59	1.168	0.04	0.105	0.174
	WLAN5.2GHz	802.11ax-HE40 MCS0	Right Side	8mm	Ant 5+8(8)	Full power	46	5230	16.97	18.50	1.422	85.59	1.168	0.09	0.217	0.360
	WLAN5.2GHz	802.11ax-HE40 MCS0	Top Side	14mm	Ant 5+8(8)	Full power	46	5230	16.97	18.50	1.422	85.59	1.168	-0.05	0.097	0.161
	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant 5+8(5)	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.18	0.296	0.541
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 5+8(5)	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.16	0.159	0.291
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 5+8(5)	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.07	0.417	0.762
83	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 5+8(5)	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.04	0.723	1.321
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	0mm	Ant 5+8(8)	Simultaneous	54	5270	16.17	18.00	1.522	86.11	1.161	-0.15	0.245	0.433
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 5+8(8)	Simultaneous	54	5270	16.17	18.00	1.522	86.11	1.161	0.19	0.136	0.240
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 5+8(8)	Simultaneous	54	5270	16.17	18.00	1.522	86.11	1.161	-0.18	0.341	0.603
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 5+8(8)	Simultaneous	54	5270	16.17	18.00	1.522	86.11	1.161	0.03	0.563	0.995
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 5+8(5)	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.05	0.140	0.256
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 5+8(5)	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	-0.03	0.111	0.203
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	8mm	Ant 5+8(5)	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	-0.03	0.229	0.419
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	14mm	Ant 5+8(5)	Full power	64	5320	17.02	19.00	1.578	86.33	1.158	0.12	0.100	0.183
	WLAN5.5GHz	802.11ax-HE80 MCS0	Front	0mm	Ant 5+8(8)	Standalone	138	5690	16.32	17.50	1.312	85.39	1.171	-0.15	0.443	0.681
	WLAN5.5GHz	802.11ax-HE80 MCS0	Back	0mm	Ant 5+8(8)	Standalone	138	5690	16.32	17.50	1.312	85.39	1.171	-0.15	0.459	0.705
	WLAN5.5GHz	802.11ax-HE80 MCS0	Right Side	0mm	Ant 5+8(8)	Standalone	138	5690	16.32	17.50	1.312	85.39	1.171	-0.08	0.558	0.857
84	WLAN5.5GHz	802.11ax-HE80 MCS0	Top Side	0mm	Ant 5+8(8)	Standalone	138	5690	16.32	17.50	1.312	85.39	1.171	-0.02	1.710	2.628
	WLAN5.5GHz	802.11ax-HE80 MCS0	Top Side	0mm	Ant 5+8(8)	Standalone	122	5610	15.32	17.00	1.474	85.39	1.171	-0.17	1.410	2.433
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Front	0mm	Ant 5+8(8)	Simultaneous	114	5570	11.46	13.00	1.425	85.06	1.176	-0.11	0.144	0.241
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Back	0mm	Ant 5+8(8)	Simultaneous	114	5570	11.46	13.00	1.425	85.06	1.176	-0.12	0.153	0.256
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Right Side	0mm	Ant 5+8(8)	Simultaneous	114	5570	11.46	13.00	1.425	85.06	1.176	-0.16	0.224	0.375



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	WLAN5.5GHz	802.11ac-VHT160 MCS0	Top Side	0mm	Ant 5+8(8)	Simultaneous	114	5570	11.46	13.00	1.425	85.06	1.176	-0.02	0.568	0.952
	WLAN5.5GHz	802.11ax-HE40 MCS0	Front	5mm	Ant 5+8(8)	Full power	142	5710	17.82	19.50	1.472	85.59	1.168	-0.17	0.226	0.388
	WLAN5.5GHz	802.11ax-HE40 MCS0	Back	5mm	Ant 5+8(8)	Full power	142	5710	17.82	19.50	1.472	85.59	1.168	0.09	0.403	0.693
	WLAN5.5GHz	802.11ax-HE40 MCS0	Right Side	8mm	Ant 5+8(8)	Full power	142	5710	17.82	19.50	1.472	85.59	1.168	-0.08	0.213	0.366
	WLAN5.5GHz	802.11ax-HE40 MCS0	Top Side	14mm	Ant 5+8(8)	Full power	142	5710	17.82	19.50	1.472	85.59	1.168	0.16	0.376	0.646
	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Ant 5+8(8)	Full power	165	5825	17.69	19.00	1.352	86.33	1.158	0.04	0.426	0.667
	WLAN5.8GHz	802.11a 6Mbps	Right Side	0mm	Ant 5+8(8)	Full power	165	5825	17.69	19.00	1.352	86.33	1.158	0.06	0.535	0.838
	WLAN5.8GHz	802.11a 6Mbps	Top Side	0mm	Ant 5+8(8)	Full power	165	5825	17.69	19.00	1.352	86.33	1.158	-0.03	1.310	2.051
85	WLAN5.8GHz	802.11a 6Mbps	Top Side	0mm	Ant 5+8(8)	Full power	157	5785	17.74	19.00	1.337	86.33	1.158	-0.02	1.750	2.709
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 5+8(8)	Simultaneous	155	5775	13.26	15.00	1.493	85.49	1.170	0.08	0.141	0.246
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 5+8(8)	Simultaneous	155	5775	13.26	15.00	1.493	85.49	1.170	-0.07	0.256	0.447
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 5+8(8)	Simultaneous	155	5775	13.26	15.00	1.493	85.49	1.170	0.05	0.534	0.933
	WLAN5.8GHz	802.11a 6Mbps	Back	5mm	Ant 5+8(8)	Full power	165	5825	17.69	19.00	1.352	86.33	1.158	-0.08	0.385	0.603
	WLAN5.8GHz	802.11a 6Mbps	Right Side	8mm	Ant 5+8(8)	Full power	165	5825	17.69	19.00	1.352	86.33	1.158	-0.17	0.236	0.370
	WLAN5.8GHz	802.11a 6Mbps	Top Side	14mm	Ant 5+8(8)	Full power	165	5825	17.69	19.00	1.352	86.33	1.158	-0.16	0.320	0.501



16.5 Repeated SAR Measurement

<1g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Receiver on	6	2437	17.17	19.00	1.524	87.19	1.147	-0.01	0.803	1	1.404
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Left Cheek	0mm	Ant 6+8(6)	Receiver on	6	2437	17.17	19.00	1.524	87.19	1.147	0.02	0.798	1.006	1.395
1st	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23230	782	22.94	24.00	1.276	-	-	0.14	0.871	1	1.112
2nd	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 0	DSI 7	23230	782	22.94	24.00	1.276	-	-	0.04	0.811	1.074	1.035
1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4233	846.6	22.96	24.00	1.271	-	-	0.09	1.020	1	1.296
2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4233	846.6	22.96	24.00	1.271	-	-	-0.04	0.941	1.084	1.196
1st	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	349000	1745	21.28	22.10	1.208	-	-	0.06	1.070	1	1.292
2nd	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	DSI 7	349000	1745	21.28	22.10	1.208	-	-	-0.04	0.931	1.149	1.124
1st	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	41490	2680	23.16	24.00	1.213	62.9	1.006	0.01	1.070	1	1.306
2nd	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	DSI 7	41490	2680	23.16	24.00	1.213	62.9	1.006	0.09	0.927	1.154	1.132
1st	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 3	376000	1880	22.46	23.50	1.271	-	-	0.03	1.020	1	1.296
2nd	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	DSI 3	376000	1880	22.46	23.50	1.271	-	-	0.09	0.933	1.093	1.185
1st	FR1 n78	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 9	DSI 7	633334	3500.01	19.82	20.70	1.225	-	-	-0.05	1.040	1	1.274
2nd	FR1 n78	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	5mm	Ant 9	DSI 7	633334	3500.01	19.82	20.70	1.225	-	-	0.09	0.933	1.115	1.143

<10g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4182	836.4	23.03	24.00	1.250	0.06	2.010	1	2.513
2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 0	DSI 6	4182	836.4	23.03	24.00	1.250	0.09	1.900	1.058	2.375
1st	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	132322	1745	22.97	24.00	1.268	-0.01	2.530	1	3.207
2nd	LTE Band 66	20M	QPSK	1	0	-	Back	0mm	Ant 1	DSI 6	132322	1745	22.97	24.00	1.268	0.04	2.410	1.050	3.055
1st	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	372000	1860	22.23	23.40	1.309	0.11	2.580	1	3.378
2nd	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	372000	1860	22.23	23.40	1.309	0.04	2.500	1.032	3.273
1st	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	21.48	22.50	1.265	-0.16	2.490	1	3.149
2nd	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	0mm	Ant 1	DSI 6	507000	2535	21.48	22.50	1.265	0.09	2.390	1.042	3.023

General Note:

- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8W/kg$.
- Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45W/kg$, only one repeated measurement is required.
- 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.
- The ratio is the difference in percentage between original and repeated *measured SAR*.
- All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

17. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
3.	WWAN + WLAN6GHz	Yes	Yes		Yes
4.	WWAN + Bluetooth	Yes	Yes	Yes	Yes
5.	WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
6.	WWAN + WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
7.	WWAN + WLAN2.4GHz+ NFC				Yes
8.	WWAN + WLAN5GHz+ NFC				Yes
9.	WWAN + WLAN6GHz+ NFC				Yes
10.	WWAN + Bluetooth+ NFC				Yes
11.	WLAN5GHz+ Bluetooth+ NFC				Yes
12.	WWAN + WLAN5GHz+ Bluetooth+ NFC				Yes

General Note:

- This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
- WWAN above includes 5G NR bands and EN-DC combination.
- EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
- Qualcomm Smart Transmit algorithm support to WWAN except WIFI/BT and NFC. And this device supports inter-band ULCA and EN-DC combination operations with component carriers from different antenna groups. Each antenna group has controlled the total RF exposure from all transmitter to not exceed FCC limit. Therefore, in this report, it is evaluated whether the sum of the groups of each antenna does not exceed FCC limit or spatial separation is applied. In addition, each antenna group need to satisfy simultaneous transmission analysis with External radios (WIFI/BT and NFC) in this report.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only). WLAN6GHz has no hotspot function.
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- According to the EUT characteristic, WLAN 5GHz and Bluetooth can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz/6GHz and WLAN 2.4GHz can't transmit simultaneously.
- According to the EUT characteristic, WLAN 2.4GHz/6GHz and Bluetooth can't transmit simultaneously.
- According to the EUT characteristic, Bluetooth antennas cannot transmit simultaneously.
- NFC can transmit simultaneously with other Radios in extremity exposure condition.
- For Headset SAR and non-Headset SAR always chose higher SAR to do co-located analysis.
- For simultaneously analysis, since the SAR summation of 3 transmitters can cover others combination of 2 transmitters, therefore in this section did not additional to evaluate 2TX combination of simultaneously transmission.
- For standalone WWAN, always choose the highest SAR among all WWAN bands within the selected antenna for each exposure position to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each band.
- The maximum SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
 - The SPLSR calculated results please refer to section 17.6.
- The WLAN6GHz Sim-Tx analysis guidance with other transmitters was based on SAR test results. The



simultaneous transmission and test exemption analysis were compliant with KDB 447498 D01. For the device does not support FR2 or other MPE field measurement, therefore section 17 in the SAR report has no TER analysis according to KDB 987594 requirement.

17.1 Sub6 Antenna Groups

Qualcomm® Smart Transmit™ 3.0 of Smart Transmit (GEN2) Feature operates based on pre-defined sub6 antenna groups (AG). Sub6 Tx antennas in the device are grouped based on spatial variation of RF exposure distributions, where the RF exposure of one AG is mutually exclusive from other AG. This is accomplished by demonstrating below conditions for all exposure positions under each DSI for a given exposure category.

- 1) Case 1: Demonstrate that Sum of maximum reported SAR from each of the sub6 AGs and the reported normalized SAR values from radios outside Smart Transmit should be less than regulatory limits for each supported DSI. This condition must be demonstrated for all antenna combinations of sub6 AGs.
i. For a given DSI, obtain the highest reported SAR for each antenna out of all supported technologies and frequency bands. Obtain the maximum reported SAR for each AG by taking the maximum out of reported SAR for all antennas belonging to each AG.
ii. Demonstrate that the sum of maximum reported SAR (normalized to regulatory limit) from each of the sub6 AGs and the sum of reported SAR (normalized to regulatory limit) from all supported radios outside of Smart Transmit should be less than 1.0
2) Case 2: If the Case 1 is NOT met, then for a given antenna grouping scheme plus external radios/antennas (ERs) (referred to as 'configuration'), demonstrate all AG pairs, all ER pairs and all (AG, ER) pairs in the configuration meet SPLSR criteria (Section 4.3.2 (c) in FCC KDB 447498 D01 v06) for each exposure position under each supported DSI. For a given exposure position under a given DSI, prove all AG pairs, all ER pairs and all (AG, ER) pairs (if there are external radios outside Smart Transmit) in the configuration meet SPLSR.

This device supports two sub6 AG: AG0 and AG1, the detailed please refer to the below table:

Table with 2 columns: Antenna Group and Antennas. Row 1: Antenna Group 1 (AG0) | ANT0 & ANT1 & ANT9. Row 2: Antenna Group 0 (AG1) | ANT3 & ANT4 & ANT5 & ANT7.

- 3) This model's multi_Tx_factor is 1.0.

The conditions are verified through the following criterias:

- i) (SAR1 + SAR2 criteria): If SPLSR criteria is not used, then the highest reported SAR at Plimit for each antenna should be obtained out of all supported technologies and frequency bands for each DSI. Demonstrate that the sum of reported SAR of one antenna from each of the sub6 AGs and the sum of RF exposure from all supported radios outside of Smart Transmit should be less than the regulatory limit as given below for each DSI.
1. Obtain the worst-case reported SAR for each antenna group (i.e., maximum reported SAR at Plimit out of all supported technologies, frequency bands and antennas in AG0 and AG1), denoted as max.SAR.AG0 and max.SAR.AG1, and obtain the worst-case RF exposure for each external radio, and demonstrate that the sum of these RF exposures meets: { [max.SAR.AG0+ max.SAR.AG1] + WIFI/BT worst-case reported SAR } ≤ 1.6 (for 1g, or 4.0 for 10g). (WIFI/BT worst-case reported SAR is the worst SAR in all combinations of WIFI and BT simultaneous transmission)
ii) (SPLSR criteria): For each antenna, obtain the highest reported SAR value at Plimit out of all supported technologies for each frequency band. Using these values, demonstrate for a given DSI that every antenna from one sub6 AG meets SPLSR criteria with every antenna in another sub6 AG for all frequency bands. This criteria must be demonstrated for all antenna pair combinations irrespective of supported simultaneous transmission scenarios as given below for each DSI:
a. SPLSR criteria should be met for all antenna pair combinations of AG0 and AG1. As it can be seen, these include all combinations of antenna groups, antennas, and frequency bands.
b. Obtain combined SAR per AG: Obtain the worst-case conservative combined SAR and its peak location for each AG.
c. Use the 'closest' peak location out of all antennas of AGj to evaluate SPLSR with other AGs in the configuration. Note, by 'closest', select the peak location out of all antennas (ε AGj) that is closest to the peak location of other AG where SPLSR is evaluated.
iii) (combination of SPLSR & SAR1+SAR2 criteria): If SPLSR criteria for all the combinations of sub6 antenna groups in (i) is demonstrated to show that each AG is mutually exclusive from other AGs, and if the WIFI/BT antennas supported outside of Smart Transmit do not meet SPLSR criteria, then the condition in (ii) reduces to: {max.SAR.AG0 + worst-case reported SAR} ≤ 1.6 and {max.SAR.AG1+ worst-case reported SAR } ≤ 1.6 for compliance demonstration (for 1g, or 4.0 for 10g).

For summed SAR results and SPLSR detailed analysis, please refer to section 17.2/17.3 / 17.4 / 17.5 / 17.6 of this report. All of the combinations of sub6 antenna groups are sufficient to show that AG0 is mutually exclusive from AG1 and that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric



simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06 and IEEE 1528- 2013 Section 6.3.4.1.

17.2 Head Exposure Conditions

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT:

<AG0 maximum reported SAR>:

Test Position	Ant0	Ant1	Ant9	MAX
Right Cheek	0.197	0.264	0.144	0.264
Right Tilted	0.111	0.103	0.116	0.116
Left Cheek	0.270	0.183	0.131	0.270
Left Tilted	0.162	0.120	0.188	0.188

<AG1 maximum reported SAR>:

Test Position	Ant3	Ant4	Ant5	Ant7	MAX
Right Cheek	0.148	0.882	0.608	0.254	0.882
Right Tilted	0.096	0.890	0.803	0.211	0.890
Left Cheek	0.063	0.563	0.757	0.890	0.890
Left Tilted	0.060	0.655	0.892	0.475	0.892

<WLAN2.4GHz/5GHz/6GHz+BT Worse-case SAR>:

NO	1	2	3	4	5	2+4 Summed 1g SAR (W/kg)	2+5 Summed 1g SAR (W/kg)	WLAN+BT worse case Summed 1g SAR (W/kg)
	WLAN2.4GHz Ant6+8	WLAN5GHz Ant5+8	WLAN6GHz Ant5+8	BT Ant6	BT Ant8			
Test Position	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
Right Cheek	0.155	0.286	0.175	0.120	0.065	0.406	0.351	0.406
Right Tilted	0.145	0.381	0.205	0.127	0.068	0.508	0.449	0.508
Left Cheek	0.378	0.393	0.181	0.253	0.149	0.646	0.542	0.646
Left Tilted	0.301	0.381	0.359	0.231	0.125	0.612	0.506	0.612

<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worse-case>:

Test Position	AG1	AG0	WLAN/BT worst case	AG0+AG1+WLAN +BT worse case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Right Cheek	0.882	0.264	0.406	1.55
Right Tilted	0.890	0.116	0.508	1.51
Left Cheek	0.890	0.270	0.646	1.81
Left Tilted	0.892	0.188	0.612	1.69

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.

Left Cheek					
Ant combination	AG0	AG1	Wlan/BT worst case	AG0+AG1+wlan +BT worst case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
Ant0-Ant3	0.270	0.063	0.646	0.98	-
Ant0-Ant4	0.270	0.563	0.646	1.48	-
Ant0-Ant5	0.270	0.757	0.646	1.67	Case 1
Ant0-Ant7	0.270	0.890	0.646	1.81	Case 2
Ant1-Ant3	0.183	0.063	0.646	0.89	-
Ant1-Ant4	0.183	0.563	0.646	1.39	-
Ant1-Ant5	0.183	0.757	0.646	1.59	-
Ant1-Ant7	0.183	0.890	0.646	1.72	Case 3
Ant9-Ant3	0.131	0.063	0.646	0.84	-
Ant9-Ant4	0.131	0.563	0.646	1.34	-
Ant9-Ant5	0.131	0.757	0.646	1.53	-
Ant9-Ant7	0.131	0.890	0.646	1.67	Case 4

Left Tilted					
Ant combination	AG0	AG1	WLAN/BT worst case	AG1+AG0+WLAN +BT worst case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
Ant0-Ant3	0.162	0.060	0.612	0.83	-
Ant0-Ant4	0.162	0.655	0.612	1.43	-
Ant0-Ant5	0.162	0.892	0.612	1.67	Case 5
Ant0-Ant7	0.162	0.475	0.612	1.25	-
Ant1-Ant3	0.120	0.060	0.612	0.79	-
Ant1-Ant4	0.120	0.655	0.612	1.39	-
Ant1-Ant5	0.120	0.892	0.612	1.62	Case 6
Ant1-Ant7	0.120	0.475	0.612	1.21	-
Ant9-Ant3	0.188	0.060	0.612	0.86	-
Ant9-Ant4	0.188	0.655	0.612	1.46	-
Ant9-Ant5	0.188	0.892	0.612	1.69	Case 7
Ant9-Ant7	0.188	0.475	0.612	1.28	-

17.3 Hotspot Exposure Conditions

General Note: The unit of SAR evaluation is W/kg.

Simultaneous Transmission Evaluation of WWAN+WLAN+BT:

<AG0 maximum reported SAR>:

Test Position	Ant0	Ant1	Ant9	MAX
Front	0.685	1.041	0.633	1.041
Back	1.296	1.247	1.137	1.296
Left Side	0.919	0.282		0.919
Right Side	0.231	0.269	1.274	1.274
Top Side				0.000
Bottom Side	0.809	1.306	0.485	1.306

<AG1 maximum reported SAR>:

Test Position	Ant3	Ant4	Ant5	Ant7	MAX
Front	0.012	0.250	0.188	0.196	0.250
Back	0.627	0.630	0.646	0.447	0.646
Left Side	0.137	0.272	0.031	0.017	0.272
Right Side		0.076	0.084	0.627	0.627
Top Side	0.136	0.592	0.619	0.090	0.619
Bottom Side					0.000

<WLAN2.4GHz/5GHz+BT Worst-case SAR>:

NO	1	2	4	5	2+4 Summed 1g SAR (W/kg)	2+5 Summed 1g SAR (W/kg)	WLAN+BT worst case Summed 1g SAR (W/kg)
	WLAN2.4GHz Ant6+8 1g SAR (W/kg)	WLAN5GHz Ant5+8 1g SAR (W/kg)	BT Ant6 1g SAR (W/kg)	BT Ant8 1g SAR (W/kg)			
Front	0.276	0.299	0.139	0.131	0.438	0.430	0.438
Back	0.671	0.533	0.286	0.268	0.819	0.801	0.819
Left Side	0.029		0.000	0.000	0.000	0.000	0.029
Right Side	0.487	0.565	0.054	0.259	0.619	0.824	0.824
Top Side	0.260	0.642	0.195	0.203	0.837	0.845	0.845
Bottom Side					0.000	0.000	0.000

<Simultaneous Transmission analysis of AG0 + AG1 + WLAN+BT Worst-case>:

Test Position	AG1	AG0	WLAN/BT worst case	AG0+AG1+WLAN +BT worst case
	1g SAR (W/kg)	1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
Front	0.250	1.041	0.438	1.73
Back	0.646	1.296	0.819	2.76
Left Side	0.272	0.919	0.029	1.22
Right Side	0.627	1.274	0.824	2.73
Top Side	0.619	0.000	0.845	1.46
Bottom Side	0.000	1.306	0.000	1.31

Note: The results marked yellow in above table refers to the detailed analysis corresponding to each position below tables.



Front					
Ant combination	AG0	AG1	WLAN/BT worst case	AG0+AG1+WLAN +BT worst case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
Ant0-Ant3	0.685	0.012	0.438	1.14	-
Ant0-Ant4	0.685	0.250	0.438	1.37	-
Ant0-Ant5	0.685	0.188	0.438	1.31	-
Ant0-Ant7	0.685	0.196	0.438	1.32	-
Ant1-Ant3	1.041	0.012	0.438	1.49	-
Ant1-Ant4	1.041	0.250	0.438	1.73	Case 1
Ant1-Ant5	1.041	0.188	0.438	1.67	Case 2
Ant1-Ant7	1.041	0.196	0.438	1.68	Case 3
Ant9-Ant3	0.633	0.012	0.438	1.08	-
Ant9-Ant4	0.633	0.250	0.438	1.32	-
Ant9-Ant5	0.633	0.188	0.438	1.26	-
Ant9-Ant7	0.633	0.196	0.438	1.27	-

Back					
Ant combination	AG0	AG1	WLAN/BT worst case	AG1+AG0+WLAN +BT worst case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
Ant0-Ant3	1.296	0.627	0.819	2.74	Case 4
Ant0-Ant4	1.296	0.630	0.819	2.75	Case 5
Ant0-Ant5	1.296	0.646	0.819	2.76	Case 6
Ant0-Ant7	1.296	0.447	0.819	2.56	Case 7
Ant1-Ant3	1.247	0.627	0.819	2.69	Case 8
Ant1-Ant4	1.247	0.630	0.819	2.70	Case 9
Ant1-Ant5	1.247	0.646	0.819	2.71	Case 10
Ant1-Ant7	1.247	0.447	0.819	2.51	Case 11
Ant9-Ant3	1.137	0.627	0.819	2.58	Case 12
Ant9-Ant4	1.137	0.630	0.819	2.59	Case 13
Ant9-Ant5	1.137	0.646	0.819	2.60	Case 14
Ant9-Ant7	1.137	0.447	0.819	2.40	Case 15

Right Side					
Ant combination	AG0	AG1	WLAN/BT worst case	AG1+AG0+WLAN +BT worst case	Note
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
Ant0-Ant3	0.231		0.824	1.06	-
Ant0-Ant4	0.231	0.076	0.824	1.13	-
Ant0-Ant5	0.231	0.084	0.824	1.14	-
Ant0-Ant7	0.231	0.627	0.824	1.68	Case 16
Ant1-Ant3	0.269		0.824	1.09	-
Ant1-Ant4	0.269	0.076	0.824	1.17	-
Ant1-Ant5	0.269	0.084	0.824	1.18	-
Ant1-Ant7	0.269	0.627	0.824	1.72	Case 17
Ant9-Ant3	1.274		0.824	2.10	Case 18
Ant9-Ant4	1.274	0.076	0.824	2.17	Case 19
Ant9-Ant5	1.274	0.084	0.824	2.18	Case 20
Ant9-Ant7	1.274	0.627	0.824	2.73	Case 21