

FCC SAR Test Report

APPLICANT : vivo Mobile Communication Co., Ltd.
EQUIPMENT : Mobile Phone
BRAND NAME : vivo
MODEL NAME : V2349
FCC ID : 2AUCY-V2349
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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



Approved by: Si Zhang

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People's Republic of China



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA3D0709	Rev. 01	Initial issue of report.	Feb. 05, 2024

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **vivo Mobile Communication Co., Ltd. , Mobile Phone, V2349**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 10mm)	Body-worn (Separation 15mm)	Highest Simultaneous Transmission
			1g SAR (W/kg)			1g SAR (W/kg)
Licensed	GSM	GSM850	0.58	0.28	0.26	1.37
		GSM1900	0.67	0.57	0.35	
	WCDMA	WCDMA II	0.76	0.51	0.52	
		WCDMA IV	0.67	0.64	0.48	
		WCDMA V	0.69	0.48	0.26	
	LTE	LTE Band 2	0.81	0.63	0.58	
		LTE Band 7	0.86	0.75	0.85	
		LTE Band 12/17	0.82	0.26	0.23	
		LTE Band 13	0.65	0.24	0.21	
		LTE Band 26/5	0.63	0.46	0.28	
		LTE Band 66/4	0.82	0.73	0.56	
		LTE Band 41/38	0.99	0.64	0.84	
	5G NR	FR1 n2	0.62	0.55	0.58	
		FR1 n7	0.75	0.72	0.84	
		FR1 n26/n5	0.81	0.47	0.29	
		FR1 n66	0.59	0.54	0.52	
		FR1 n41/n38	0.81	0.85	0.97	
FR1 n77		0.94	0.75	0.98		
FR1 n78	0.99	0.57	0.94			
DTS	WLAN	WLAN2.4GHz	0.66	0.32	0.25	1.29
NII		WLAN5GHz	0.81	0.69	0.75	1.37
DSS	Bluetooth	Bluetooth	0.55	0.10	<0.10	1.33
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	1.31			3.76
		WCDMA IV	2.25			
	LTE	LTE Band 2	1.72			
		LTE Band 7	2.68			
		LTE Band 66/4	2.97			
		LTE Band 41/38	2.51			
	5G NR	FR1 n7	2.48			
		FR1 n66	1.98			
		FR1 n41/n38	2.83			
		FR1 n77	2.90			
		FR1 n78	2.26			
NII	WLAN	WLAN5GHz	1.86			3.76
Date of Testing:			2024/1/5 ~ 2024/1/24			

Remark:

1. This device supports LTEB4 / B5 / B17/ B38 and B66 / B26 / B12/B41. Since the supported frequency span for LTE B4 / B5 / B17 /B38falls completely within the supports frequency span for LTE 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 B66 / B26 / B12/B41.
2. This device supports 5GNR n78/n5/n38 and n77/n26/n41. Since the supported frequency span for 5GNR n78 /n5/n38 falls completely within the supports frequency span for n77 /n26/n41, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n77 /n26/n41.

Declaration of Conformity:

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

Comments and Explanations:

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

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

2. Administration Data

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR05-SZ	CN1256	421272

Applicant	
Company Name	vivo Mobile Communication Co., Ltd.
Address	No.1, vivo Road, Chang'an, Dongguan, Guangdong, China

Manufacturer	
Company Name	vivo Mobile Communication Co., Ltd.
Address	No.1, vivo Road, Chang'an, Dongguan, Guangdong, China

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 Phone
Brand Name	vivo
Model Name	V2349
FCC ID	2AUCY-V2349
IMEI Code	Sample 1: IMEI 1: 865264079978363 IMEI 2: 865264079978371 Sample 2: IMEI 1: 866829079997479 IMEI 2: 866829079997461
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+(16QAM uplink is supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11 VHT20/VHT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	MP_0.1
SW Version	PD2341EF_EX_A_14.0.6.16.W30
GSM / (E)GPRS Dual Transfer mode	Class A – EUT can support Packet Switched and Circuit Switched Network simultaneously.
EUT Stage	Identical Prototype
Remark: 1. This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.	

2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation and support GRPS/EGRPS mode up to multi-slot class 33.
5. For dual SIM card mobile has two SIM slots and supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). After pre-scan two SIM cards power, we found test result of the SIM1 was the worse, so we chose SIM1 slot to perform all tests.
6. The device implements proximity sensor and 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. It uses the receiver to indicate whether the user is making a call in head scenario or not. The selection between head and body power levels is based on the receiver detection mechanism. It can determine proximity to head or body and set the relevant power level for 2G&3G&4G&5G and Wi-Fi/BT antennas accordingly. Details about the power management decision is 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/BT when transmit simultaneously together with WWAN, the device power will be reduced power at head, body-worn, hotspot and extremity conditions.
8. There are two samples, sample 1 is plastics back cover, sample 2 is PU back cover, according to the differences, so sample 1 was chosen to perform full testing and sample 2 verified the worst case of sample 1.
9. 5GNR n41/n77 supports HPUE, HPUE power and SAR testing performed separately.
10. 5GNR n41/n77 HUPE with higher power, 5G NR n41/n77 HUPE SAR can represent power class 3 level SAR.
11. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
12. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.

<5G NR>

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

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																													
FCC ID	2AUCY-V2349																																																																												
Equipment Name	Mobile Phone																																																																												
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz																																																																												
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 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	R15, Cat18																																																																												
CA Support	Supported, Uplink and Downlink																																																																												
LTE MPR permanently built-in by design	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table>							Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
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16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																																																						
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2																																																																						
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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							
	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							
	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							
	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									
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)							
L	23205		779.5		23230		782							
M	23230		782											
H	23255		784.5											
LTE Band 17														
	Bandwidth 5 MHz				Bandwidth 10 MHz									
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)							
L	23755		706.5		23780		709							
M	23790		710		23790		710							
H	23825		713.5		23800		711							
LTE Band 26														
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26765	821.5		
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5		
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5	26965	841.5		
LTE Band 38														
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	37775	2572.5	37800	2575	37825	2577.5	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)				
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

<For LTE Overlap Bands Description>

1. LTE Bands BW

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

2. LTE Bands tune up:

3. Band	Ant	Full	DSI 2	DSI 3	DSI 4	DSI 5	DSI 8	DSI 9	DSI 10
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 4	Ant.13	24.5	16.5	15.5	24.5	23	21	21	21
LTE Band 66	Ant.13	24.5	16	15.5	24.5	23.5	21	21	21
LTE Band 5	Ant.13	25	21	20	25	25	25	25	25
LTE Band 26	Ant.13	25	20.5	19.5	25	25	25	25	25
LTE Band 12	Ant.13	24.5	22	21	24.5	24.5	24.5	24.5	24.5
LTE Band 17	Ant.13	24.5	23	22.5	24.5	24.5	24.5	24.5	24.5
LTE Band 38	Ant.13	25	15.5	14.5	23	22	18	18	18
LTE Band 41	Ant.13	25	15.5	14.5	23	22	18	18	18

Band	Ant	Full	DSI 2	DSI 3	DSI 4	DSI 5	DSI 8	DSI 9	DSI 10
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 4	Ant.31	24.5	24.5	24.5	22.5	22.5	21.5	21.5	21.5
LTE Band 66	Ant.31	24.5	24.5	24.5	22.5	22.5	21.5	21.5	21.5
LTE Band 5	Ant.31	25	25	25	25	25	25	25	25
LTE Band 26	Ant.31	25	25	25	25	25	25	25	25
LTE Band 12	Ant.31	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
LTE Band 17	Ant.31	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
LTE Band 38	Ant.31	25	25	25	25	25	24.5	24.5	24.5
LTE Band 41	Ant.31	25	25	25	25	25	25	25	25

Band	Ant	Full	DSI 2	DSI 3	DSI 4	DSI 5	DSI 8	DSI 9	DSI 10
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 4	Ant.11	24	21	20	24	22	21	21	21
LTE Band 66	Ant.11	24.5	21.5	20.5	24.5	22.5	21.5	21.5	21.5
LTE Band 38	Ant.11	25	21.5	20.5	25	21.5	20	20	20
LTE Band 41	Ant.11	25	21.5	20.5	25	21.5	20	20	20

Note: For some bands/antennas at some exposure conditions which cannot be covered were fully tested for RF exposure compliance.

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n77: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3980 MHz 5G NR n78: 3450 MHz ~ 3550 MHz, 3700 MHz ~ 3800 MHz
Channel Bandwidth	The detail please refers to section 4.1 5G NR FR1 bands table.
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B7
LTE Anchor Bands for n5	LTE B7
LTE Anchor Bands for n7	LTE B2/4/5/66
LTE Anchor Bands for n38	LTE B2/4/5/66
LTE Anchor Bands for n41	LTE B2/4/26/66
LTE Anchor Bands for n66	LTE B2/5/7/26
LTE Anchor Bands for n77	LTE B7
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 66																
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760

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



NR Band 41																					
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)
L500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	500202	2501.01	507204	2536.02	508200	2541	509202	2546.01
M518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	537000	2685	529998	2649.99	528996	2644.98	528000	2640

NR Band 77																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H665000	3975	664832	3972.48	664666	3969.99	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M650000	3750	650000	3750	650000	3750	650000	3750.00	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H653000	3795	652834	3792.51	652668	3790.02	652334	3785.01	652000	3780	651668	3775.02	651334	3770.01	651000	3765	650668	3760.02	650334	3755.01		

For <3450 MHz ~ 3550 MHz >

NR Band 77 SCS30KHz																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L630334	3455.01	630550	3457.5	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H636332	3544.98	636166	3542.49	636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

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)
L630334	3455.01	630500	3457.51	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M633334	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
H636334	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**

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

2. NR Bands Tune up:

Band	Ant	Full	DSI 2	DSI 3	DSI 4	DSI 5	DSI 8	DSI 9	DSI 10
		Tune-up	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
FR1 n5	Ant 13	25	21	20.5	25	25	25	25	25
FR1 n26	Ant 13	25	21	20.5	25	25	25	25	25
FR1 n38	Ant 11	25	18.5	17.5	24.5	18.5	17	17	17
FR1 n41	Ant 11	26	18.5	17.5	24.5	18.5	17	17	17
FR1 n77	Ant 11	24.5	17	16	24	20	18.5	18.5	18.5
FR1 n78	Ant 11	26.5	17	16	23.5	20	18.5	18.5	18.5

Band	Ant	Full	DSI 2	DSI 3	DSI 4	DSI 5	DSI 8	DSI 9	DSI 10
		Tune-up	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
FR1 n5	Ant 31	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
FR1 n26	Ant 31	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.5
FR1 n38	Ant 13	25.5	14	13.5	21	19.5	16	16	16
FR1 n41	Ant 13	26.5	14.5	14	21.5	20.5	16.5	16.5	16.5
FR1 n77	Ant 12	23.5	17	16.5	23.5	19	17.5	17.5	17.5
FR1 n78	Ant 12	25.5	17.5	16.5	24	19.5	18	18	18

Band	Ant	Full	DSI 2	DSI 3	DSI 4	DSI 5	DSI 8	DSI 9	DSI 10
		Tune-up	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
FR1 n38	Ant 31	25.5	25.5	25.5	22.5	22.5	21.5	21.5	21.5
FR1 n41	Ant 31	26.5	26.5	26.5	24	24	23	23	23
FR1 n77	Ant 23	23	16	15	20.5	20.5	18.5	18.5	18.5
FR1 n78	Ant 23	24.5	16.5	15.5	21	21	19	19	19

Band	Ant	Full	DSI 2	DSI 3	DSI 4	DSI 5	DSI 8	DSI 9	DSI 10
		Tune-up	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
FR1 n77	Ant 21	23	14	13	19	19	17.5	17.5	17.5
FR1 n78	Ant 21	25	14.5	14	19.5	19.5	17.5	17.5	17.5

5. Smart Transmit feature for RF Exposure compliance

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 $\leq 6\text{GHz}$). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

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

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) to enable the Smart Transmit GEN2 Feature.

<Terminologies in this report>

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

<SAR Characterization>

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

<SAR design target >

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>

Band	Antenna	Head (Standalone)	Head (Simultaneous)	Body&Extremity (Standalone)	Body&Extremity (Standalone)	Body&Extremity (Simultaneous)	Body&Extremity (Simultaneous)	Hotspot	Pmax*	Total Uncertainty dB (k=2)
		(DSI2)	(DSI3)	(DSI4)	(DSI5)	(DSI8)	(DSI9)	(DSI10)		
GSM850	Ant 13	21.0	20.0	30.7	29.7	24.0	24.0	24.0	25.0	1.0
	Ant 31	30.7	29.4	32.1	31.1	28.8	28.8	28.8	24.5	1.0
GSM1900	Ant 13	16.5	15.0	27.1	26.1	20.0	20.0	20.0	22.0	1.0
	Ant 31	32.9	31.7	26.4	25.4	19.6	19.6	19.6	22.0	1.0
WCDMA II	Ant 13	15.5	14.5	25.8	19.5	18.0	18.0	18.0	23.0	1.0
	Ant 31	32.4	31.2	20.5	20.5	19.5	19.5	19.5	23.0	1.0
WCDMA IV	Ant 13	15.0	13.5	26.7	22.0	20.0	20.0	20.0	23.5	1.0
	Ant 31	33.9	32.7	21.0	21.0	20.0	20.0	20.0	23.5	1.0
WCDMA V	Ant 13	20.0	19.0	29.7	28.7	25.9	25.9	25.9	24.0	1.0
	Ant 31	32.4	31.2	32.7	31.7	30.3	30.3	30.3	24.0	1.0
LTE Band 2	Ant 13	15.5	14.0	25.1	20.0	18.5	18.5	18.5	23.0	1.0
	Ant 31	33.4	32.2	21.0	21.0	20.0	20.0	20.0	23.0	1.0
LTE Band 4	Ant 13	15.5	14.5	26.4	22.0	20.0	20.0	20.0	23.5	1.0
	Ant 31	34.8	33.6	21.5	21.5	20.5	20.5	20.5	23.5	1.0
	Ant 11	20.0	19.0	28.6	21.0	20.0	20.0	20.0	23.0	1.0
LTE Band 5	Ant 13	20.0	19.0	29.6	28.6	26.1	26.1	26.1	24.0	1.0
	Ant 31	33.8	32.6	32.9	31.9	30.9	30.9	30.9	24.0	1.0
LTE Band 7	Ant 13	12.5	12.0	19.5	19.0	15.0	15.0	15.0	23.0	1.0
	Ant 31	27.7	26.5	22.0	22.0	21.0	21.0	21.0	23.0	1.0
	Ant 11	19.0	18.0	25.9	19.0	17.5	17.5	17.5	22.5	1.0
LTE Band 12	Ant 13	21.0	20.0	29.8	28.8	28.1	28.1	28.1	23.5	1.0
	Ant 31	33.7	32.5	31.6	30.6	29.8	29.8	29.8	23.5	1.0
LTE Band 13	Ant 13	24.8	22.5	30.5	29.5	29.0	29.0	29.0	23.0	1.0
	Ant 31	31.5	30.3	29.8	28.8	27.9	27.9	27.9	23.0	1.0
LTE Band 17	Ant 13	22.0	21.5	29.8	28.8	28.1	28.1	28.1	23.5	1.0
	Ant 31	33.7	32.5	31.6	30.6	29.8	29.8	29.8	23.5	1.0
LTE Band 26	Ant 13	19.5	18.5	29.6	28.6	26.1	26.1	26.1	24.0	1.0
	Ant 31	33.8	32.6	32.9	31.9	30.9	30.9	30.9	24.0	1.0
LTE Band 66	Ant 13	15.0	14.5	26.4	22.5	20.0	20.0	20.0	23.5	1.0
	Ant 31	34.8	33.6	21.5	21.5	20.5	20.5	20.5	23.5	1.0
	Ant 11	20.5	19.5	28.6	21.5	20.5	20.5	20.5	23.5	1.0
LTE Band 38	Ant 13	12.5	11.5	20.0	19.0	15.0	15.0	15.0	22.0	1.0
	Ant 31	27.8	26.5	28.3	27.3	21.5	21.5	21.5	22.0	1.0
	Ant 11	18.5	17.5	25.6	18.5	17.0	17.0	17.0	22.0	1.0
LTE Band 41	Ant 13	12.5	11.5	19.0	19.0	15.0	15.0	15.0	22.0	1.0
	Ant 31	27.8	26.5	28.3	27.3	24.1	24.1	24.1	22.0	1.0
	Ant 11	18.5	17.5	25.6	18.5	17.0	17.0	17.0	22.0	1.0
FR1 n2	Ant 13	14.0	13.5	25.3	19.0	17.5	17.5	17.5	23.0	1.0
	Ant 31	31.9	30.7	20.5	20.5	19.5	19.5	19.5	23.0	1.5
FR1 n5	Ant 13	20.0	19.5	29.4	28.4	26.0	26.0	26.0	24.0	1.0
	Ant 31	33.6	32.4	32.2	31.2	31.3	31.3	31.3	24.0	1.5
FR1 n7	Ant 13	12.0	11.0	19.0	18.0	14.0	14.0	14.0	23.0	1.5
	Ant 31	27.2	26.0	21.5	21.5	20.5	20.5	20.5	23.0	1.5
	Ant 11	17.5	16.5	25.4	17.5	16.5	16.5	16.5	23.0	1.0
FR1 n26	Ant 13	20.0	19.5	29.4	29.4	26.0	26.0	26.0	24.0	1.0
	Ant 31	33.6	32.4	32.2	31.2	31.3	31.3	31.3	24.0	1.5

FR1 n66	Ant 13	13.5	13.0	23.0	20.5	18.5	18.5	18.5	23.5	1.5
	Ant 31	34.0	32.8	20.0	20.0	19.0	19.0	19.0	23.5	1.5
	Ant 11	18.5	17.5	27.3	20.0	19.0	19.0	19.0	23.5	1.0
FR1 n38	Ant 13	12.5	12.0	19.5	18.0	14.5	14.5	14.5	24.0	1.5
	Ant 31	27.2	26.0	21.0	21.0	20.0	20.0	20.0	24.0	1.5
	Ant 11	17.5	16.5	23.5	17.5	16.0	16.0	16.0	24.0	1.0
FR1 n41	Ant 13	13.0	12.5	20.0	19.0	15.0	15.0	15.0	25.0	1.5
	Ant 31	27.2	26.0	22.5	22.5	21.5	21.5	21.5	25.0	1.5
	Ant 11	17.5	16.5	23.5	17.5	16.0	16.0	16.0	25.0	1.0
FR1 n77	Ant 11	16.0	15.0	23.0	19.0	17.5	17.5	17.5	23.5	1.0
	Ant 12	15.5	15.0	22.0	17.5	16.0	16.0	16.0	22.0	1.5
	Ant 23	14.5	13.5	19.0	19.0	17.0	17.0	17.0	21.5	1.5
	Ant 21	12.5	11.5	17.5	17.5	16.0	16.0	16.0	21.5	1.5
FR1 n78	Ant 11	16.0	15.0	22.5	19.0	17.5	17.5	17.5	25.5	1.0
	Ant 12	16.0	15.0	22.5	18.0	16.5	16.5	16.5	24.0	1.5
	Ant 23	15.0	14.0	19.5	19.5	17.5	17.5	17.5	23.0	1.5
	Ant 21	13.0	12.5	18.0	18.0	16.0	16.0	16.0	23.5	1.5

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.

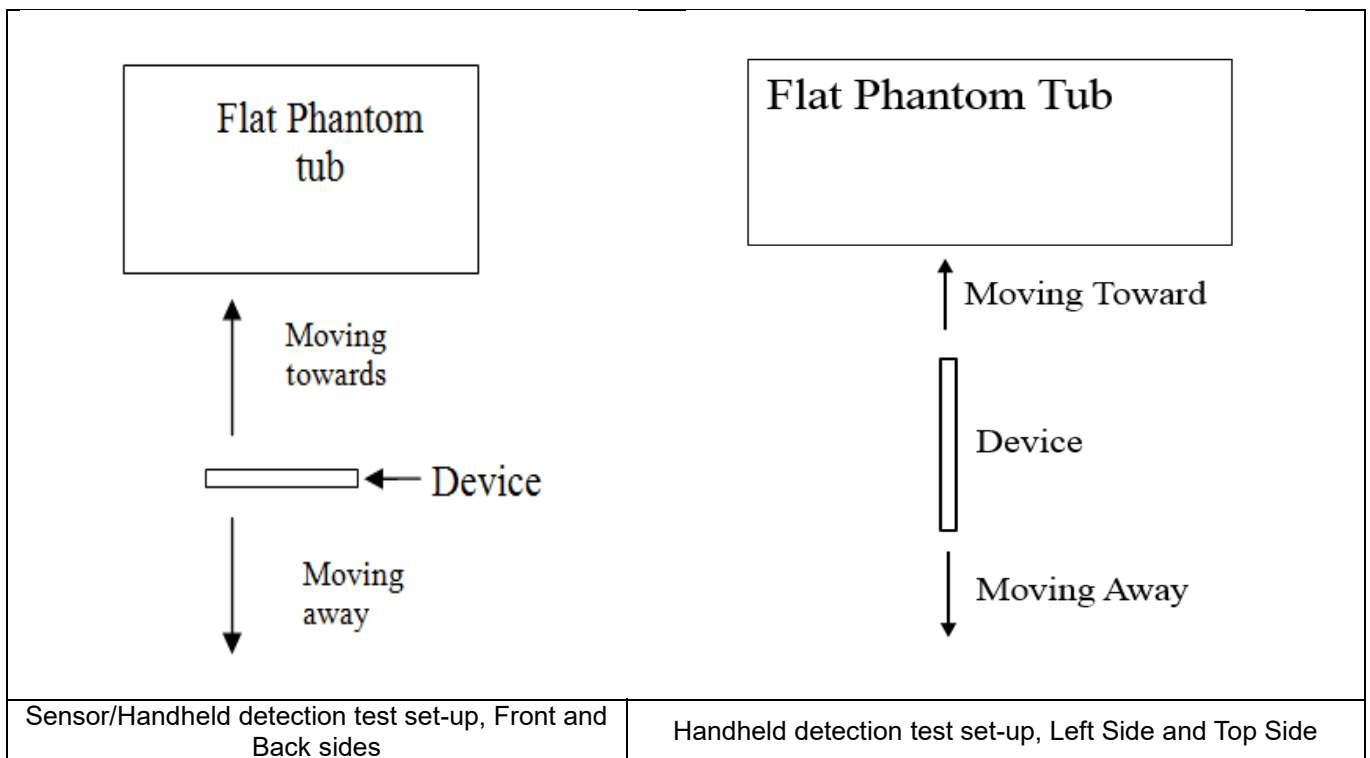
2) **All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).

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

6.1 Proximity sensor triggering distances(Per KDB616217§6.2)

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 (4100MHz) and lowest (835MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top end and the top left corners of the top end of the phone are utilized to determine when the device comes in proximity of the user's body or finger or hand at the front or back or top or left sides of the device.
3. The device employs proximity sensors that detect the presence of the user's body or handheld states at the front, back, top, left sides of the device. When front, back, top, left sides of body condition or handheld states are detected reduced power will be active. The data shown in the sections below shows the distance(s).
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



<Sensor B for ANT 11&12>

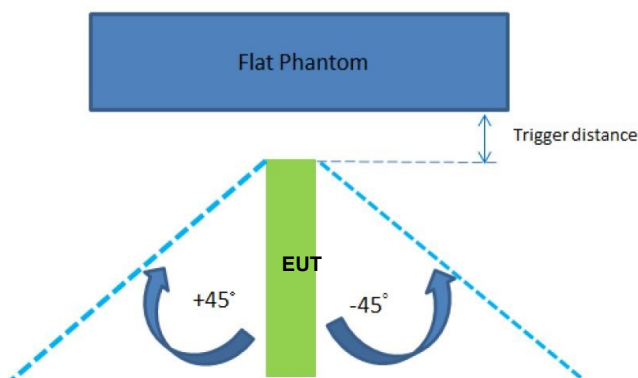
Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	8	16	16	18	18

<Sensor A for ANT13>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	9	9	16	16	15	15

6.2 proximity sensor triggering (KDB 616217 D04 section 6.4):

The influence of Phone tilt angles to proximity sensor triggering was determined by positioning each Phone edge that contains a transmitting antenna, perpendicular to the flat phantom, at above separation distance. Rotating the Phone around the edge next to the phantom in $\leq 10^\circ$ increments until the Phone is $\pm 45^\circ$ from the vertical position at 0° , and the maximum output power remains in the reduced mode.



The Sensor Trigger Distance (mm)		
Position	Left Side for Antenna 11/12	Top Side for Antenna 13
Minimum	18	15

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:

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

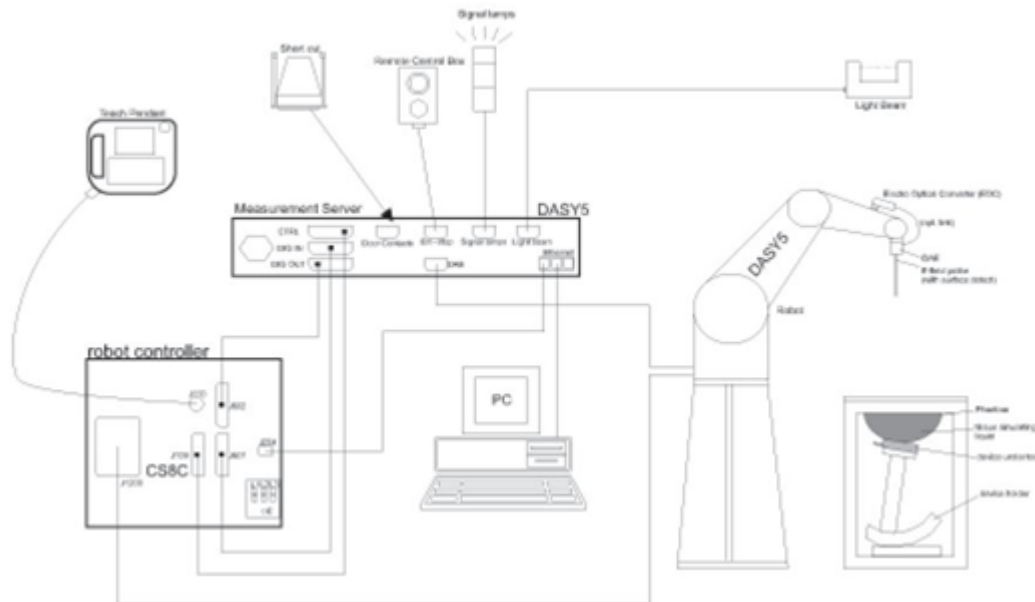
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

9. System Description and Setup

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



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

9.1 E-Field Probe

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

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

9.2 Data Acquisition Electronics (DAE)

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

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



Photo of DAE

9.3 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

9.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

10. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

10.1 Spatial Peak SAR Evaluation

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

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

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

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

10.2 Power Reference Measurement

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

10.3 Area Scan

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

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

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

10.4 Zoom Scan

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

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

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

10.5 Volume Scan Procedures

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

10.6 Power Drift Monitoring

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

11. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1099	Dec. 15, 2021	Dec. 13, 2024
SPEAG	835MHz System Validation Kit	D835V2	4d162	Dec. 17, 2021	Dec. 15, 2024
SPEAG	1750MHz System Validation Kit	D1750V2	1137	Oct. 19, 2021	Oct. 17, 2024
SPEAG	1900MHz System Validation Kit	D1900V2	5d182	Dec. 20, 2021	Dec. 18, 2024
SPEAG	2450MHz System Validation Kit	D2450V2	924	Nov. 03, 2023	Nov. 02, 2024
SPEAG	2600MHz System Validation Kit	D2600V2	1070	Dec. 20, 2021	Dec. 18, 2024
SPEAG	3500MHz System Validation Kit	D3500V2	1076	May. 09, 2022	May. 08, 2025
SPEAG	3700MHz System Validation Kit	D3700V2	1037	May. 09, 2022	May. 08, 2025
SPEAG	3900MHz System Validation Kit	D3900V2	1022	Aug. 18, 2022	Aug. 17, 2025
SPEAG	5000MHz System Validation Kit	D5GHzV2	1341	Dec. 13, 2021	Dec. 11, 2024
SPEAG	Data Acquisition Electronics	DAE4	1664	Jun. 06, 2023	Jun. 05, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7641	Apr. 24, 2023	Apr. 23, 2024
SPEAG	SAM Twin Phantom	QD 000 P41 AA	2033	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	Jul. 05, 2023	Jul. 04, 2024
Anritsu	Radio communication analyzer	MT8821C	6262314715	Jul. 05, 2023	Jul. 04, 2024
Agilent	Wireless Communication Test Set	E5515C	MY50267224	Jul. 05, 2023	Jul. 04, 2024
Keysight	Network Analyzer	E5071C	MY46523671	Oct. 16, 2023	Oct. 15, 2024
Speag	Dielectric Assessment KIT	DAK-3.5	1071	Feb. 20, 2023	Feb. 19, 2024
Agilent	Signal Generator	N5181A	MY50145381	Dec. 28, 2023	Dec. 27, 2024
Anritsu	Power Sensor	MA2411B	1306099	Oct. 16, 2023	Oct. 15, 2024
Anritsu	Power Meter	ML2495A	1349001	Oct. 16, 2023	Oct. 15, 2024
Anritsu	Power Sensor	MA2411B	1542004	Dec. 28, 2023	Dec. 27, 2024
Anritsu	Power Meter	ML2495A	1339473	Dec. 28, 2023	Dec. 27, 2024
R&S	CBT BLUETOOTH TESTER	CBT	100963	Dec. 28, 2023	Dec. 27, 2024
R&S	Spectrum Analyzer	FSP7	100818	Jul. 05, 2023	Jul. 04, 2024
TES	Hygrometer	1310	200505600	Jul. 08, 2023	Jul. 07, 2024
Anymetre	Thermo-Hygrometer	JR593	2020062101	Jul. 08, 2023	Jul. 07, 2024
SPEAG	Device Holder	N/A	N/A	N/A	N/A
AR	Amplifier	5S1G4	0333096	Note 1	
Mini-Circuits	Amplifier	ZVE-3W-83+	599201528	Note 1	
Mini-Circuits	Amplifier	ZVA-183W-S+	726202215	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
ET Industries	Dual Directional Coupler	C-058-10	N/A	Note 1	
Weinschel	Attenuator 1	3M-10	N/A	Note 1	
Weinschel	Attenuator 2	3M-20	N/A	Note 1	

Note:

- i. 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
- ii. 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.
- iii. 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.

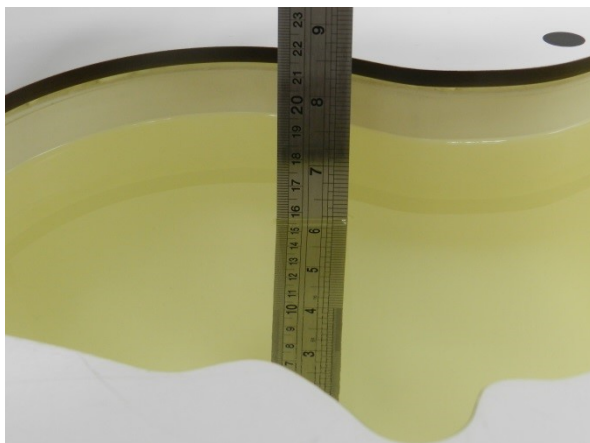


Fig 11.1 Photo of Liquid Height for Head SAR



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	22.2	0.912	42.538	0.89	41.90	2.47	1.52	±5	2024/1/5
750	Head	22.4	0.911	42.575	0.89	41.90	2.36	1.61	±5	2024/1/9
835	Head	22.3	0.931	40.830	0.90	41.50	3.44	-1.61	±5	2024/1/6
835	Head	22.5	0.921	41.087	0.90	41.50	2.33	-1.00	±5	2024/1/11
1750	Head	22.2	1.363	38.967	1.37	40.10	-0.51	-2.83	±5	2024/1/7
1750	Head	22.5	1.372	38.890	1.37	40.10	0.15	-3.02	±5	2024/1/12
1900	Head	22.4	1.451	40.249	1.40	40.00	3.64	0.62	±5	2024/1/8
1900	Head	22.4	1.437	40.992	1.40	40.00	2.64	2.48	±5	2024/1/15
2450	Head	22.2	1.807	38.579	1.80	39.20	0.39	-1.58	±5	2024/1/14
2600	Head	22.5	1.908	38.327	1.96	39.00	-2.65	-1.73	±5	2024/1/9
2600	Head	22.1	1.917	38.360	1.96	39.00	-2.19	-1.64	±5	2024/1/16
3500	Head	22.3	2.849	37.187	2.91	37.90	-2.10	-1.88	±5	2024/1/10
3500	Head	22.4	2.815	38.323	2.91	37.90	-3.26	1.12	±5	2024/1/18
3700	Head	22.3	3.000	36.906	3.12	37.70	-3.85	-2.11	±5	2024/1/12
3700	Head	22.2	2.997	37.979	3.12	37.70	-3.94	0.74	±5	2024/1/19
3900	Head	22.3	3.194	36.685	3.33	37.51	-4.08	-2.20	±5	2024/1/13
3900	Head	22.5	3.192	37.644	3.33	37.51	-4.14	0.36	±5	2024/1/21
5250	Head	22.5	4.510	34.764	4.71	35.95	-4.25	-3.30	±5	2024/1/15
5250	Head	22.6	4.594	36.166	4.71	35.95	-2.46	0.60	±5	2024/1/22
5600	Head	22.4	4.974	35.550	5.07	35.50	-1.89	0.14	±5	2024/1/23
5600	Head	22.3	4.855	34.483	5.07	35.50	-4.24	-2.86	±5	2024/1/16
5750	Head	22.5	5.009	34.533	5.22	35.35	-4.04	-2.31	±5	2024/1/17
5750	Head	22.2	5.083	35.257	5.22	35.35	-2.62	-0.26	±5	2024/1/24

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 (%)
2024/1/5	750	Head	250	1099	7641	1664	2.210	8.540	8.84	3.51
2024/1/9	750	Head	250	1099	7641	1664	2.250	8.540	9	5.39
2024/1/6	835	Head	250	4d162	7641	1664	2.420	9.640	9.68	0.41
2024/1/11	835	Head	250	4d162	7641	1664	2.390	9.640	9.56	-0.83
2024/1/7	1750	Head	250	1137	7641	1664	9.090	36.500	36.36	-0.38
2024/1/12	1750	Head	250	1137	7641	1664	8.580	36.500	34.32	-5.97
2024/1/8	1900	Head	250	5d182	7641	1664	10.100	39.600	40.4	2.02
2024/1/15	1900	Head	250	5d182	7641	1664	9.910	39.600	39.64	0.10
2024/1/14	2450	Head	250	924	7641	1664	13.300	52.300	53.2	1.72
2024/1/9	2600	Head	250	1070	7641	1664	14.200	56.200	56.8	1.07
2024/1/16	2600	Head	250	1070	7641	1664	13.900	56.200	55.6	-1.07
2024/1/10	3500	Head	100	1076	7641	1664	6.950	66.200	69.5	4.98
2024/1/18	3500	Head	100	1076	7641	1664	6.440	66.200	64.4	-2.72
2024/1/12	3700	Head	100	1037	7641	1664	7.080	66.700	70.8	6.15
2024/1/19	3700	Head	100	1037	7641	1664	6.900	66.700	69	3.45
2024/1/13	3900	Head	100	1022	7641	1664	6.800	66.400	68	2.41
2024/1/21	3900	Head	100	1022	7641	1664	6.880	66.400	68.8	3.61
2024/1/15	5250	Head	100	1341	7641	1664	8.520	80.700	85.2	5.58
2024/1/22	5250	Head	100	1341	7641	1664	8.180	80.700	81.8	1.36
2024/1/23	5600	Head	100	1341	7641	1664	9.100	84.500	91	7.69
2024/1/16	5600	Head	100	1341	7641	1664	9.020	84.500	90.2	6.75
2024/1/17	5750	Head	100	1341	7641	1664	8.620	80.600	86.2	6.95
2024/1/24	5750	Head	100	1341	7641	1664	8.270	80.600	82.7	2.61

<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 (%)
2024/1/5	750	Head	250	1099	7641	1664	1.470	5.650	5.88	4.07
2024/1/9	750	Head	250	1099	7641	1664	1.490	5.650	5.96	5.49
2024/1/6	835	Head	250	4d162	7641	1664	1.590	6.260	6.36	1.60
2024/1/11	835	Head	250	4d162	7641	1664	1.570	6.260	6.28	0.32
2024/1/7	1750	Head	250	1137	7641	1664	4.970	19.200	19.88	3.54
2024/1/12	1750	Head	250	1137	7641	1664	4.580	19.200	18.32	-4.58
2024/1/8	1900	Head	250	5d182	7641	1664	5.390	20.200	21.56	6.73
2024/1/15	1900	Head	250	5d182	7641	1664	5.130	20.200	20.52	1.58
2024/1/14	2450	Head	250	924	7641	1664	6.400	24.500	25.6	4.49
2024/1/9	2600	Head	250	1070	7641	1664	6.570	24.600	26.28	6.83
2024/1/16	2600	Head	250	1070	7641	1664	6.220	24.600	24.88	1.14
2024/1/10	3500	Head	100	1076	7641	1664	2.750	25.500	27.5	7.84
2024/1/18	3500	Head	100	1076	7641	1664	2.460	25.500	24.6	-3.53
2024/1/12	3700	Head	100	1037	7641	1664	2.590	24.600	25.9	5.28
2024/1/19	3700	Head	100	1037	7641	1664	2.560	24.600	25.6	4.07
2024/1/13	3900	Head	100	1022	7641	1664	2.360	23.700	23.6	-0.42
2024/1/21	3900	Head	100	1022	7641	1664	2.380	23.700	23.8	0.42
2024/1/15	5250	Head	100	1341	7641	1664	2.320	23.100	23.2	0.43
2024/1/22	5250	Head	100	1341	7641	1664	2.250	23.100	22.5	-2.60
2024/1/23	5600	Head	100	1341	7641	1664	2.540	24.000	25.4	5.83
2024/1/16	5600	Head	100	1341	7641	1664	2.450	24.000	24.5	2.08
2024/1/17	5750	Head	100	1341	7641	1664	2.250	22.700	22.5	-0.88
2024/1/24	5750	Head	100	1341	7641	1664	2.280	22.700	22.8	0.44

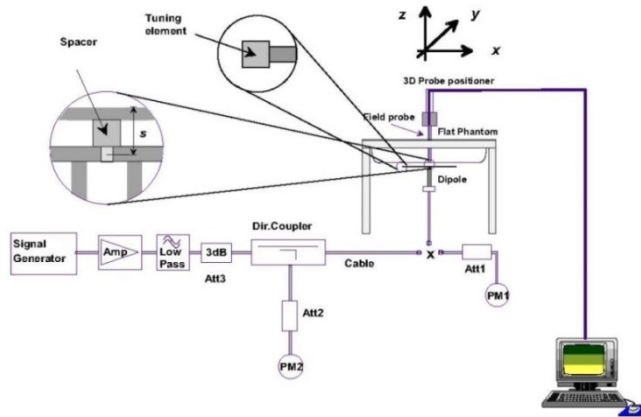


Fig 11.3.1 System Performance Check Setup



Fig 11.3.2 Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

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

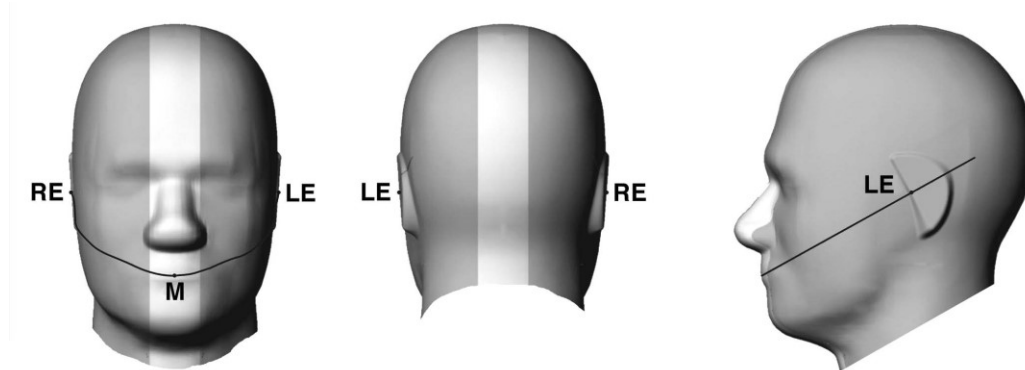


Fig 12.1.1 Front, back, and side views of SAM twin phantom

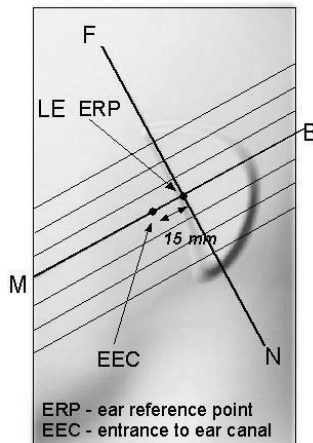


Fig 12.1.2 Close-up side view of phantom showing the ear region.

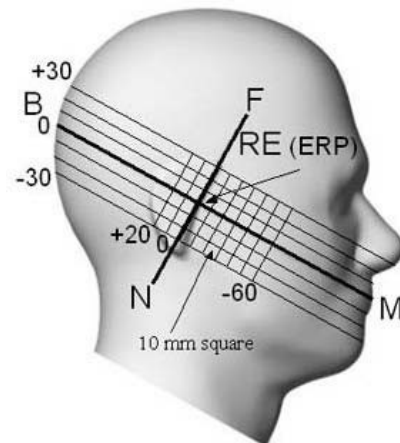


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

13.2 Definition of the cheek position

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

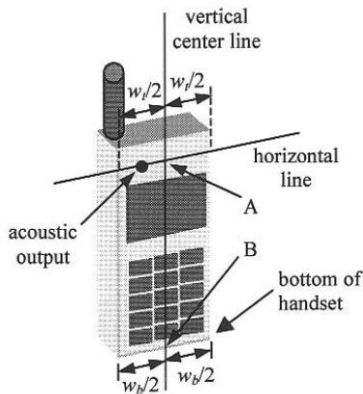


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

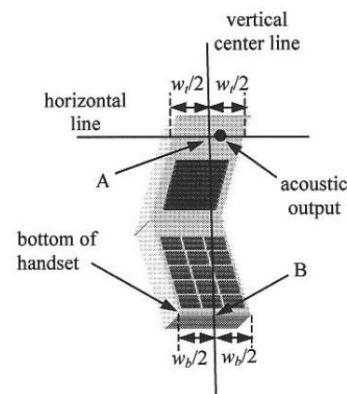


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

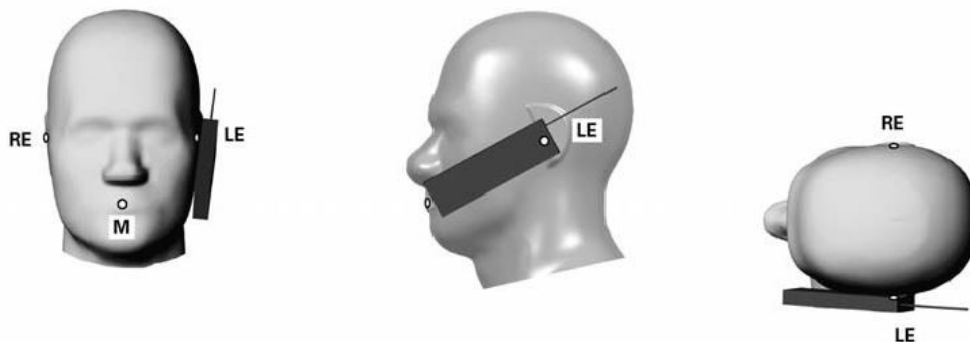


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

13.3 Definition of the tilt position

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

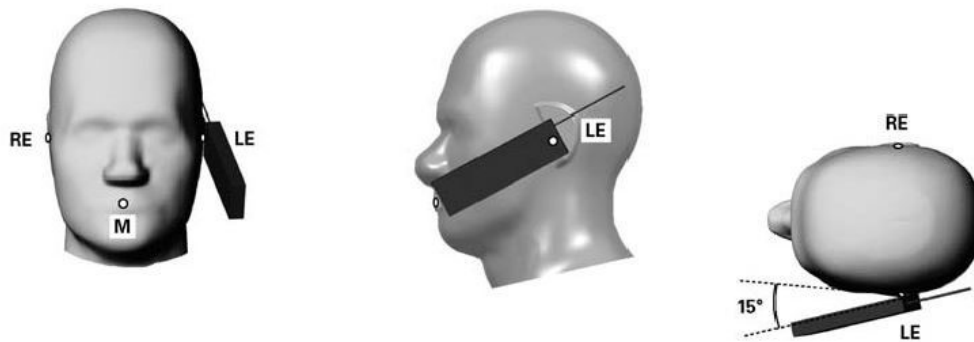


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

13.4 Body Worn Accessory

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

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

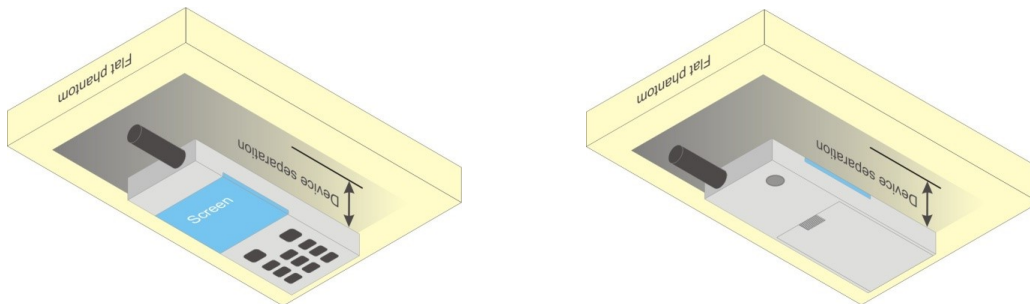


Fig 12.4 Body Worn Position

13.5 Product Specific 10g SAR Exposure

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

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

13.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets ($L \times W \geq 9$ 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. For DTM multi-slot class mode, the device was linked with base station simulator (Agilent E5515C) and transmit maximum power on maximum number of TX slots, i.e. one CS timeslot, and additional PS timeslots (1 for DTM class 5 and 9, 2 for DTM class 11) in one TDMA frame.
2. Agilent E5515C was used to setup the device operated under DTM mode for power measurement and SAR testing. For conducted power, the power of the burst for voice and the power of the bursts for data was reported separately in the table below, and the frame-average power is derived below to determine SAR testing.

$$DTM \text{ frame average power (dBm)} = 10 * \log [\sum (\text{power of each slot, in mW}) / 8]$$

3. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
4. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE / DTM 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.
5. Other configurations of GSM / GPRS / EDGE / DTM are considered as secondary modes. Both primary and secondary modes must be in the same frequency band. 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 or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1} : 47/15 β_{ed2} : 47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{hs} = 5/15 * \beta_c$.

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

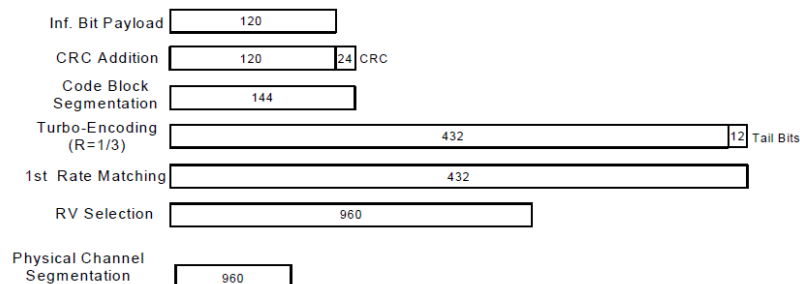


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK) Setup Configuration

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

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

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

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

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

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

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

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

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

Setup Configuration

<WCDMA Conducted Power>

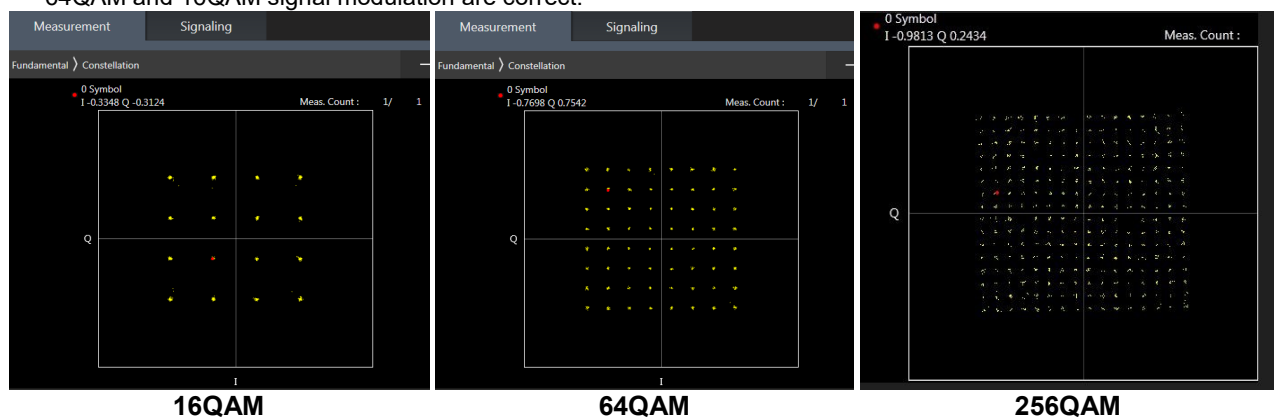
General Note:

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

<LTE Conducted Power>

General Note:

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



<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

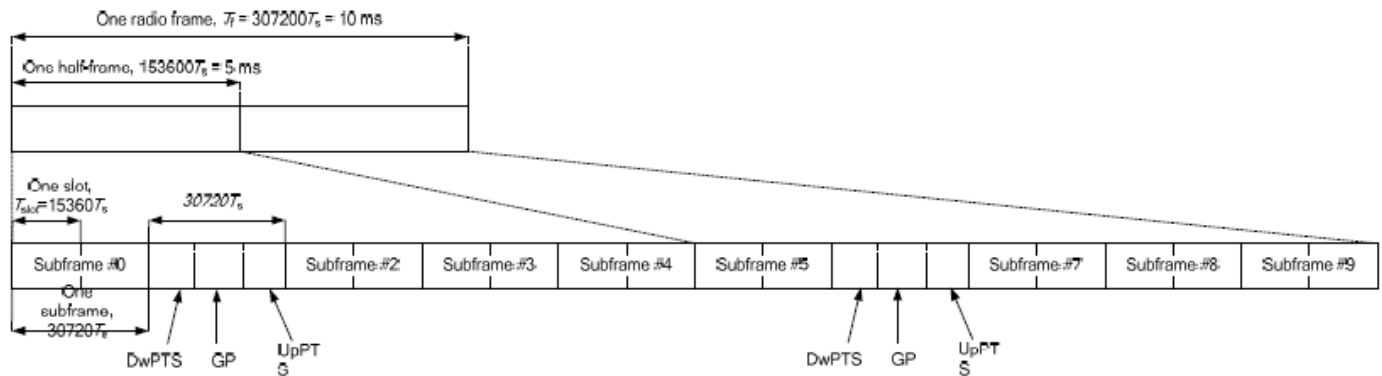


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

For LTE TDD Power class 3

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

<LTE Carrier Aggregation>
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. All permutations exist. No restrictions on Pcell & Scell combinations.
4. 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	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	CA_7C	3CC-5	1	CA_2A-4A-7A		1	CA_5A-7C-66A	
2	CA_38C		2	CA_2A-5A-7A		2	CA_5A-7A-66A-66A	
3	CA_41C		3	CA_2A-7A-7A		3	CA_2A-7C-38A	
4	CA_66C	3CC-17	4	CA_2A-7A-38A		4	CA_7C-66A-66A	
5	CA_66B		5	CA_2A-7C	4CC-3	5		
6	CA_2A-2A		6	CA_2A-4A-5A		6		
7	CA_4A-4A	3CC-9	7	CA_2A-5A-66A		7		
8	CA_5A-5A		8	CA_2A-7A-66A		8		
9	CA_7A-7A	3CC-3	9	CA_4A-4A-5A		9		
10	CA_41A-41A	3CC-14	10	CA_4A-4A-7A		10		
11	CA_66A-66A	3CC-12	11	CA_5A-7A-66A	4CC-1	11		
12	CA_2A-4A	3CC-1	12	CA_5A-66A-66A	4CC-2	12		
13	CA_2A-5A	3CC-2	13	CA_7A-66A-66A	4CC-2	13		
14	CA_2A-7A	3CC-3	14	CA_41A-41A-41A		14		
15	CA_2A-26A		15	CA_4A-7C		15		
16	CA_2A-38A	3CC-4	16	CA_5A-7C	4CC-1	16		
17	CA_4A-5A	3CC-6	17	CA_5A-66C	4CC-2	17		
18	CA_4A-7A	3CC-1	18	CA_41D		18		
19	CA_5A-7A	3CC-2	19			19		
20	CA_5A-38A		20			20		
21	CA_5A-41A		21			21		
22	CA_5A-66A	3CC-17	22			22		
23	CA_7A-26A		23			23		
24	CA_7A-32A		24			24		
25	CA_7A-66A	3CC-13	25			25		
26	CA_26A-41A		26			26		
27	CA_32A-38A		27			27		
28			28			28		
29			29			29		

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 Carrier Aggregation Conducted Power (Uplink)

Intra CA	TX Ant		
CA_7C	Ant 13	Ant 31	Ant 11
CA_38C	Ant 13	Ant 31	Ant 11
CA_41C	Ant 13	Ant 31	Ant 11
CA_66C	Ant 13	Ant 31	Ant 11
CA_66B	Ant 13	Ant 31	Ant 11

<Intra-band>
General Note:

- i. The device supports intra-band uplink carrier aggregation for LTE B7/B38/B41/B42 with a maximum of two 20MHz 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 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- iii. According Nov. 2017 TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- iv. Additional SAR measurement for LTE UL CA with other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active
- v. LTE CA_66B test was covered by CA_66C; therefore, SAR was only assessed for CA_66C.

<Inter-band uplink carrier aggregation consideration>

LTE Inter CA	LTE Band	TX		LTE Band	TX	
CA_2A-4A	LTE Band 2	Ant 13	Ant 31	LTE Band 4	Ant 11	
CA_2A-7A	LTE Band 2	Ant 13	Ant 31	LTE Band 7	Ant 11	Ant 13
CA_2A-66A	LTE Band 2	Ant 13	Ant 31	LTE Band 66	Ant 11	
CA_4A-5A	LTE Band 4	Ant 11		LTE Band 5	Ant 13	Ant 31
CA_4A-7A	LTE Band 4	Ant 13	Ant 31	LTE Band 7	Ant 11	
CA_5A-7A	LTE Band 5	Ant 13	Ant 31	LTE Band 7	Ant 11	
CA_5A-66A	LTE Band 5	Ant 13	Ant 31	LTE Band 66	Ant 11	
CA_7A-26A	LTE Band 7	Ant 11		LTE Band 26	Ant 13	Ant 31

General Note:

- 1 The LTE inter band total power is the same as LTE standalone power.
- 2 The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency $\leq 6\text{GHz}$). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
- 3 For LTE inter-band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two LTE bands. Smart Transmit algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit. Therefore, simultaneous transmission compliance for LTE CA inter band SAR operation is demonstrated in the Part 2 Report during algorithm validation. 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/n66 /n38 /n41 /n77/n78 is NSA mode.
2. 5G NR n2/n5/n7/n26 /n38/n66/n38/n41/n77/n78 is SA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
 - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
 - d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
 - f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
4. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
5. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
6. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
7. 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.
8. 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.
9. 5G NR n41/n77 supports HPUE, HPUE power and SAR testing performed separately.
10. 5G NR n41/n77 HUPE with higher power, 5G NR n41/n77 HUPE SAR can represent power class 3 level SAR.

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

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

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

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

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

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

<EN-DC combination>

ENDC	LTE Band	LTE TX		NR Band	FR1 NR TX	
DC_7A_n2A	LTE Band 7	ANT31		N2	ANT31	ANT13
DC_7A_n5A	LTE Band 7	ANT31		N5	ANT31	ANT13
DC_2A_n7A	LTE Band 2	ANT31		N7	ANT11	ANT13
DC_4A_n7A	LTE Band 4	ANT31		N7	ANT11	ANT13
DC_5A_n7A	LTE Band 5	ANT13	ANT31	N7	ANT11	ANT13
DC_66A_n7A	LTE Band 66	ANT31		N7	ANT11	ANT13
DC_2A_n38A	LTE Band 2	ANT31		N38	ANT11	ANT13
DC_4A_n38A	LTE Band 4	ANT31		N38	ANT11	ANT13
DC_5A_n38A	LTE Band 5	ANT13	ANT31	N38	ANT11	ANT13
DC_66A_n38A	LTE Band 66	ANT31		N38	ANT11	ANT13
DC_2A_n41A	LTE Band 2	ANT31		N41	ANT11	ANT13
DC_4A_n41A	LTE Band 4	ANT31		N41	ANT11	ANT13
DC_26A_n41A	LTE Band 26	ANT13	ANT31	N41	ANT11	ANT13
DC_66A_n41A	LTE Band 66	ANT31		N41	ANT11	ANT13
DC_2A_n66A	LTE Band 2	ANT31		N66	ANT11	ANT13
DC_5A_n66A	LTE Band 5	ANT13	ANT31	N66	ANT11	ANT13
DC_7A_n66A	LTE Band 7	ANT31		N66	ANT11	ANT13
DC_26A_n66A	LTE Band 26	ANT13	ANT31	N66	ANT11	ANT13
DC_7A_n77A	LTE Band 7	ANT31	ANT31	N77	ANT11	ANT12
DC_2A_n78A	LTE Band 2	ANT13	ANT31	N78	ANT11	ANT12
DC_4A_n78A	LTE Band 4	ANT13	ANT31	N78	ANT11	ANT12
DC_5A_n78A	LTE Band 5	ANT13	ANT31	N78	ANT11	ANT12
DC_7A_n78A	LTE Band 7	ANT31	ANT31	N78	ANT11	ANT12
DC_26A_n78A	LTE Band 26	ANT13	ANT31	N78	ANT11	ANT12
DC_38A_n78A	LTE Band 38	ANT13	ANT31	N78	ANT11	ANT12
DC_41A_n78A	LTE Band 41	ANT13	ANT31	N78	ANT11	ANT12
DC_66A_n78A	LTE Band 66	ANT13	ANT31	N78	ANT11	ANT12

<WLAN Conducted Power>

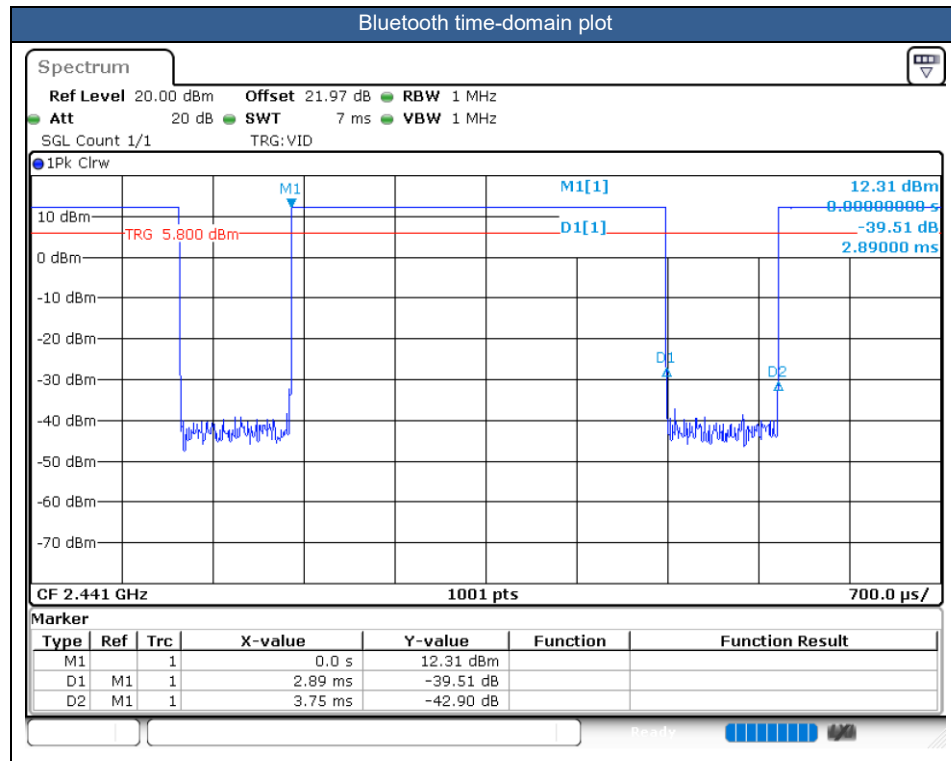
General Note:

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

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 77.07% as following figure, Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 100%, therefore the actual duty cycle will be scaled up to the theoretical value of 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/BT signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
 - f. For TDD LTE SAR measurement of power class 2, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8 W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements Proximity sensors/receiver/hotspot detect 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. It uses the receiver to indicate whether the user is making a call in head scenario or not. The selection between head and body power levels is based on the receiver detection mechanism. It can determine proximity to head or body and set the relevant power level for 2G&3G&4G&5G and Wi-Fi antennas accordingly. Details about the power management decision is provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. For WLAN/BT when transmit simultaneously together with WWAN, the device power will be reduced power at head, body-worn, hotspot and extremity conditions.
6. 5GNR n41/n77 supports HPUE, HPUE power and SAR testing performed separately.
7. 5G NR n41/n77 HUPE with higher power, 5G NR n41/n77 HUPE SAR can represent power class 3 level SAR.
8. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
9. 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 1.2 W/kg of WCDMA II/IV, LTE Band 2/4/7/66/38/41, 5GNR n7/n66/n38/n41/n77/n78, WLAN5.2/5.8GHz, therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
10. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).

11. The following table "n/a" in the result means the SAR cube is too small to be detected.

SRS (Sounding Reference Signal) description:

If one or more receive antennas are used as SRS as dedicated antennas, i.e., the antenna(s) is used for receive and Sound Reference Signal transmission (SRS) only (not traffic transmission), then the SAR measurement at Plimit for SAR as dedicated antenna(s) can be performed using FTM mode with CW modulation (as SRS could operate at very low duty cycle in online mode). Reported SAR for SRS dedicated antenna can be calculated by scaling the measured SAR at Plimit to a Tx power corresponding to worst-case SRS duty cycle * Pmax, then reported SAR for SRS = measured SAR @ Plimit * $10^{\lfloor \min\{(\text{reported } P_{\text{max_dBm}} + 10 \cdot \log_{10}(\text{duty_cycle}); \text{reported } P_{\text{limit_dBm}}\} - \text{measured } P_{\text{limit_dBm}}\} / 10 \rfloor}$. The worst-case SRS duty cycle is 8.5% (Declared by Manufacturer).

GSM Note:

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

WCDMA Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE B4 / B5 / B17 / B38 SAR test was covered by B66 / B26 / B12 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ 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:

For 5G NR test procedure was following step similar FCC KDB 941225 D05:

- 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.
- 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
- 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.
- 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.
- 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
- For 5G FR1 n5/n7/n25/n38/n41/n66/n77 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN/Bluetooth Note:

- 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.
- 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.
- When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
- For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
- 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.

DSI	Trigger Conditions	Antenna No.	Exposure conditions	
DSI2	Receiver on	All Ant	Head Standalone	Head all Position
DSI3	Receiver on+WLAN	All Ant	Head Simultaneous	Head all Position
DSI4	Receiver off/Sensor off	Ant 11/12/13	Sensor Trigger Distance -1mm	See by section 5
	Receiver off/Sensor off	Ant 21/23/31	Body/Extremity Standalone	Body all Position
DSI5	Receiver off/Sensor A +B on	Ant 13	Body/Extremity Standalone	See by section 5
	Receiver off/Sensor A+B on	Ant 11/12	Body/Extremity Standalone	See by section 5
	Receiver off/Sensor off	Ant 21/23/31	Body/Extremity Standalone	Body all Position
DSI8	Receiver off/Sensor A +B on+WLAN	Ant 13	Body/Extremity Simultaneous	See by section 5
	Receiver off/Sensor A +B on+WLAN	Ant 11/12	Body/Extremity Simultaneous	See by section 5
	Receiver off/Sensor off+WLAN	Ant 21/23/31	Body/Extremity Simultaneous	Body all Position
DSI9	Receiver off/Sensor A on+B off +WLAN	Ant 13	Body/Extremity Simultaneous	See by section 5
DSI10	Receiver off/Sensor A off +WLAN	Ant 21/23/31	Body/Extremity Simultaneous	Body all Position
	Hotspot	All ant	Hotspot	Body all Position



16.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750 MHz																					
01	LTE Band 12	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 13	DSI 2	23095	707.5	1	20.62	22.00	1.374	-	-	0.03	0.455	0.625
	LTE Band 12	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 13	DSI 2	23095	707.5	1	20.62	22.00	1.374	-	-	0.07	0.437	0.600
	LTE Band 12	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 13	DSI 2	23095	707.5	1	20.62	22.00	1.374	-	-	0.11	0.278	0.382
	LTE Band 12	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 13	DSI 2	23095	707.5	1	20.62	22.00	1.374	-	-	0.15	0.356	0.489
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 13	DSI 2	23095	707.5	1	20.57	22.00	1.390	-	-	0.03	0.441	0.613
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 13	DSI 2	23095	707.5	1	20.57	22.00	1.390	-	-	-0.03	0.372	0.517
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 13	DSI 2	23095	707.5	1	20.57	22.00	1.390	-	-	0.04	0.269	0.374
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 13	DSI 2	23095	707.5	1	20.57	22.00	1.390	-	-	-0.09	0.290	0.403
	LTE Band 12	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 31	DSI 2	23095	707.5	1	23.18	24.50	1.355	-	-	0.01	0.059	0.080
	LTE Band 12	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 31	DSI 2	23095	707.5	1	23.18	24.50	1.355	-	-	0.08	0.029	0.039
	LTE Band 12	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 31	DSI 2	23095	707.5	1	23.18	24.50	1.355	-	-	0.09	0.069	0.094
	LTE Band 12	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 31	DSI 2	23095	707.5	1	23.18	24.50	1.355	-	-	0.02	0.031	0.042
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 31	DSI 2	23095	707.5	1	22.16	23.50	1.361	-	-	0.04	0.048	0.065
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 31	DSI 2	23095	707.5	1	22.16	23.50	1.361	-	-	0.04	0.021	0.029
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 31	DSI 2	23095	707.5	1	22.16	23.50	1.361	-	-	-0.17	0.057	0.078
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 31	DSI 2	23095	707.5	1	22.16	23.50	1.361	-	-	0.04	0.024	0.033
02	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 13	DSI 2	23230	782	1	23.08	24.00	1.236	-	-	0.03	0.524	0.648
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 13	DSI 2	23230	782	1	23.08	24.00	1.236	-	-	-0.18	0.438	0.542
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 13	DSI 2	23230	782	1	23.08	24.00	1.236	-	-	-0.06	0.309	0.381
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 13	DSI 2	23230	782	1	23.08	24.00	1.236	-	-	-0.08	0.319	0.394
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 13	DSI 2	23230	782	1	21.89	23.00	1.291	-	-	-0.18	0.414	0.535
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 13	DSI 2	23230	782	1	21.89	23.00	1.291	-	-	-0.05	0.341	0.440
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 13	DSI 2	23230	782	1	21.89	23.00	1.291	-	-	-0.09	0.197	0.254
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 13	DSI 2	23230	782	1	21.89	23.00	1.291	-	-	0.07	0.207	0.268
	LTE Band 13	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 31	DSI 2	23230	782	1	22.67	24.00	1.358	-	-	0.12	0.081	0.110
	LTE Band 13	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 31	DSI 2	23230	782	1	22.67	24.00	1.358	-	-	-0.06	0.045	0.061
	LTE Band 13	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 31	DSI 2	23230	782	1	22.67	24.00	1.358	-	-	0.17	0.102	0.139
	LTE Band 13	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 31	DSI 2	23230	782	1	22.67	24.00	1.358	-	-	-0.14	0.055	0.075
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 31	DSI 2	23230	782	1	21.66	23.00	1.361	-	-	-0.14	0.068	0.093
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 31	DSI 2	23230	782	1	21.66	23.00	1.361	-	-	0.04	0.035	0.048
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 31	DSI 2	23230	782	1	21.66	23.00	1.361	-	-	-0.13	0.088	0.120
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 31	DSI 2	23230	782	1	21.66	23.00	1.361	-	-	-0.19	0.047	0.064
03	LTE Band 17	10M	QPSK	1	25	-	Right Cheek	0mm	Ant 13	DSI 2	23790	710	1	21.55	23.00	1.396	-	-	-0.14	0.590	0.824
	LTE Band 17	10M	QPSK	1	25	-	Right Tilted	0mm	Ant 13	DSI 2	23790	710	1	21.55	23.00	1.396	-	-	-0.05	0.517	0.722
	LTE Band 17	10M	QPSK	1	25	-	Left Cheek	0mm	Ant 13	DSI 2	23790	710	1	21.55	23.00	1.396	-	-	0.14	0.271	0.378
	LTE Band 17	10M	QPSK	1	25	-	Left Tilted	0mm	Ant 13	DSI 2	23790	710	1	21.55	23.00	1.396	-	-	-0.17	0.318	0.444
	LTE Band 17	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 13	DSI 2	23790	710	1	21.51	23.00	1.409	-	-	0.1	0.564	0.795
	LTE Band 17	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 13	DSI 2	23790	710	1	21.51	23.00	1.409	-	-	0.11	0.505	0.712
	LTE Band 17	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 13	DSI 2	23790	710	1	21.51	23.00	1.409	-	-	-0.11	0.268	0.378
	LTE Band 17	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 13	DSI 2	23790	710	1	21.51	23.00	1.409	-	-	0.09	0.312	0.440
	LTE Band 17	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 13	DSI 2	23790	710	1	21.48	23.00	1.419	-	-	0.02	0.534	0.758
835 MHz																					
04	GSM850	-	-	-	-	GPRS(4 Tx slots)	Right Cheek	0mm	Ant 13	DSI 2	189	836.4	1	23.66	25.00	1.361	-	-	0.06	0.423	0.576
	GSM850	-	-	-	-	GPRS(4 Tx slots)	Right Tilted	0mm	Ant 13	DSI 2	189	836.4	1	23.66	25.00	1.361	-	-	0.09	0.319	0.434
	GSM850	-	-	-	-	GPRS(4 Tx slots)	Left Cheek	0mm	Ant 13	DSI 2	189	836.4	1	23.66	25.00	1.361	-	-	0.07	0.279	0.380
	GSM850	-	-	-	-	GPRS(4 Tx slots)	Left Tilted	0mm	Ant 13	DSI 2	189	836.4	1	23.66	25.00	1.361	-	-	0.18	0.240	0.327
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Right Cheek	0mm	Ant 31	DSI 2	189	836.4	1	29.86	31.50	1.459	-	-	-0.08	0.163	0.238
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Right Tilted	0mm	Ant 31	DSI 2	189	836.4	1	29.86	31.50	1.459	-	-	-0.01	0.069	0.101
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Left Cheek	0mm	Ant 31	DSI 2	189	836.4	1	29.86	31.50	1.459	-	-	0.19	0.157	0.229



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	GSM850	-	-	-	-	GPRS(2 Tx slots)	Left Tilted	0mm	Ant 31	DSI 2	189	836.4	1	29.86	31.50	1.459	-	-	-0.13	0.077	0.112
05	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 13	DSI 2	4182	836.4	1	20.01	21.00	1.256	-	-	-0.13	0.545	0.685
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 13	DSI 2	4182	836.4	1	20.01	21.00	1.256	-	-	0.06	0.412	0.517
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 13	DSI 2	4182	836.4	1	20.01	21.00	1.256	-	-	0.12	0.269	0.338
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 13	DSI 2	4182	836.4	1	20.01	21.00	1.256	-	-	-0.09	0.262	0.329
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 31	DSI 2	4182	836.4	1	23.90	25.00	1.288	-	-	-0.01	0.111	0.143
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 31	DSI 2	4182	836.4	1	23.90	25.00	1.288	-	-	-0.14	0.046	0.059
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 31	DSI 2	4182	836.4	1	23.90	25.00	1.288	-	-	-0.15	0.093	0.120
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 31	DSI 2	4182	836.4	1	23.90	25.00	1.288	-	-	-0.13	0.050	0.064
06	LTE Band 5	10M	QPSK	1	25		Right Cheek	0mm	Ant 13	DSI 2	20525	836.5	1	19.79	21.00	1.321	-	-	-0.14	0.475	0.628
	LTE Band 5	10M	QPSK	1	25		Right Tilted	0mm	Ant 13	DSI 2	20525	836.5	1	19.79	21.00	1.321	-	-	-0.03	0.373	0.493
	LTE Band 5	10M	QPSK	1	25		Left Cheek	0mm	Ant 13	DSI 2	20525	836.5	1	19.79	21.00	1.321	-	-	-0.06	0.258	0.341
	LTE Band 5	10M	QPSK	1	25		Left Tilted	0mm	Ant 13	DSI 2	20525	836.5	1	19.79	21.00	1.321	-	-	-0.1	0.252	0.333
	LTE Band 5	10M	QPSK	25	0		Right Cheek	0mm	Ant 13	DSI 2	20525	836.5	1	19.78	21.00	1.324	-	-	0	0.443	0.587
	LTE Band 5	10M	QPSK	25	0		Right Tilted	0mm	Ant 13	DSI 2	20525	836.5	1	19.78	21.00	1.324	-	-	-0.03	0.365	0.483
	LTE Band 5	10M	QPSK	25	0		Left Cheek	0mm	Ant 13	DSI 2	20525	836.5	1	19.78	21.00	1.324	-	-	0.17	0.252	0.334
	LTE Band 5	10M	QPSK	25	0		Left Tilted	0mm	Ant 13	DSI 2	20525	836.5	1	19.78	21.00	1.324	-	-	-0.16	0.251	0.332
07	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 13	DSI 2	26865	831.5	1	19.05	20.50	1.396	-	-	-0.01	0.429	0.599
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 13	DSI 2	26865	831.5	1	19.05	20.50	1.396	-	-	0.17	0.374	0.522
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 13	DSI 2	26865	831.5	1	19.05	20.50	1.396	-	-	0.19	0.357	0.499
	LTE Band 26	15M	QPSK	1	37	-	Left Tilted	0mm	Ant 13	DSI 2	26865	831.5	1	19.05	20.50	1.396	-	-	0.05	0.343	0.479
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 13	DSI 2	26865	831.5	1	19.02	20.50	1.406	-	-	0.03	0.418	0.588
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 13	DSI 2	26865	831.5	1	19.02	20.50	1.406	-	-	-0.06	0.367	0.516
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 13	DSI 2	26865	831.5	1	19.02	20.50	1.406	-	-	-0.03	0.352	0.495
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 13	DSI 2	26865	831.5	1	19.02	20.50	1.406	-	-	-0.03	0.331	0.465
	LTE Band 26	15M	QPSK	1	37	-	Right Cheek	0mm	Ant 31	DSI 2	26865	831.5	1	23.47	25.00	1.422	-	-	-0.01	0.072	0.102
	LTE Band 26	15M	QPSK	1	37	-	Right Tilted	0mm	Ant 31	DSI 2	26865	831.5	1	23.47	25.00	1.422	-	-	0.01	0.033	0.047
	LTE Band 26	15M	QPSK	1	37	-	Left Cheek	0mm	Ant 31	DSI 2	26865	831.5	1	23.47	25.00	1.422	-	-	0.18	0.069	0.098
	LTE Band 26	15M	QPSK	1	37	-	Left Tilted	0mm	Ant 31	DSI 2	26865	831.5	1	23.47	25.00	1.422	-	-	0.02	0.028	0.040
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 31	DSI 2	26865	831.5	1	22.53	24.00	1.403	-	-	0.07	0.056	0.079
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 31	DSI 2	26865	831.5	1	22.53	24.00	1.403	-	-	0.01	0.027	0.038
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 31	DSI 2	26865	831.5	1	22.53	24.00	1.403	-	-	-0.05	0.052	0.073
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 31	DSI 2	26865	831.5	1	22.53	24.00	1.403	-	-	-0.09	0.021	0.029
08	FR1 n26	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	166300	831.5	1	20.05	21.00	1.245	-	-	-0.07	0.653	0.813
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	166300	831.5	2	20.05	21.00	1.245	-	-	-0.07	0.516	0.642
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	166300	831.5	1	20.05	21.00	1.245	-	-	-0.09	0.538	0.670
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	166300	831.5	1	20.05	21.00	1.245	-	-	0.11	0.442	0.550
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	166300	831.5	1	20.05	21.00	1.245	-	-	-0.18	0.423	0.526
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	166300	831.5	1	19.94	21.00	1.276	-	-	0.15	0.616	0.786
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	166300	831.5	1	19.94	21.00	1.276	-	-	0.1	0.486	0.620
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	166300	831.5	1	19.94	21.00	1.276	-	-	-0.04	0.421	0.537
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	166300	831.5	1	19.94	21.00	1.276	-	-	0	0.411	0.525
	FR1 n26	20M	QPSK	100	0	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	166300	831.5	1	19.88	21.00	1.294	-	-	0.02	0.621	0.804
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 31	DSI 2	166300	831.5	1	23.96	25.50	1.426	-	-	-0.04	0.075	0.107
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 31	DSI 2	166300	831.5	1	23.96	25.50	1.426	-	-	-0.09	0.034	0.048
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 31	DSI 2	166300	831.5	1	23.96	25.50	1.426	-	-	0.02	0.070	0.100
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 31	DSI 2	166300	831.5	1	23.96	25.50	1.426	-	-	0.09	0.025	0.036
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 31	DSI 2	166300	831.5	1	23.94	25.50	1.432	-	-	0.19	0.076	0.109
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 31	DSI 2	166300	831.5	1	23.94	25.50	1.432	-	-	0.03	0.035	0.050
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 31	DSI 2	166300	831.5	1	23.94	25.50	1.432	-	-	0.03	0.072	0.103
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 31	DSI 2	166300	831.5	1	23.94	25.50	1.432	-	-	0.11	0.027	0.039
1750 MHz																					
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 13	DSI 2	1413	1732.6	1	15.12	16.00	1.225	-	-	-0.13	0.476	0.583
09	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 13	DSI 2	1413	1732.6	1	15.12	16.00	1.225	-	-	0.03	0.548	0.671
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 13	DSI 2	1413	1732.6	1	15.12	16.00	1.225	-	-	-0.16	0.302	0.370



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	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 13	DSI 2	1413	1732.6	1	15.12	16.00	1.225	-	-	-0.08	0.345	0.422
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 31	DSI 2	1413	1732.6	1	23.11	24.50	1.377	-	-	-0.17	0.043	0.059
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 31	DSI 2	1413	1732.6	1	23.11	24.50	1.377	-	-	0.02	0.027	0.037
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 31	DSI 2	1413	1732.6	1	23.11	24.50	1.377	-	-	-0.17	0.065	0.090
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 31	DSI 2	1413	1732.6	1	23.11	24.50	1.377	-	-	0.09	0.034	0.047
10	LTE Band 4	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 13	DSI 2	20175	1732.5	1	15.21	16.50	1.346	-	-	0.12	0.579	0.780
	LTE Band 4	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 13	DSI 2	20175	1732.5	1	15.21	16.50	1.346	-	-	0.06	0.603	0.812
	LTE Band 4	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 13	DSI 2	20175	1732.5	1	15.21	16.50	1.346	-	-	0.17	0.303	0.408
	LTE Band 4	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 13	DSI 2	20175	1732.5	1	15.21	16.50	1.346	-	-	-0.16	0.401	0.539
	LTE Band 4	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 13	DSI 2	20175	1732.5	1	15.19	16.50	1.352	-	-	0.14	0.536	0.724
	LTE Band 4	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 13	DSI 2	20175	1732.5	1	15.19	16.50	1.352	-	-	0	0.554	0.749
	LTE Band 4	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 13	DSI 2	20175	1732.5	1	15.19	16.50	1.352	-	-	0.12	0.285	0.385
	LTE Band 4	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 13	DSI 2	20175	1732.5	1	15.19	16.50	1.352	-	-	-0.02	0.380	0.514
	LTE Band 4	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 13	DSI 2	20175	1732.5	1	14.97	16.50	1.422	-	-	0.06	0.532	0.757
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 13	DSI 2	132322	1745	1	14.71	16.00	1.346	-	-	-0.14	0.500	0.673
	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 13	DSI 2	132322	1745	1	14.71	16.00	1.346	-	-	0.03	0.506	0.681
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 13	DSI 2	132322	1745	1	14.71	16.00	1.346	-	-	0.13	0.250	0.336
	LTE Band 66	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 13	DSI 2	132322	1745	1	14.71	16.00	1.346	-	-	-0.04	0.297	0.400
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 13	DSI 2	132322	1745	1	14.62	16.00	1.374	-	-	0.19	0.514	0.706
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 13	DSI 2	132322	1745	1	14.62	16.00	1.374	-	-	-0.11	0.558	0.767
	LTE Band 66C	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 13	DSI 2	132322+ 132520	1745+ 1764.8	1	14.20	16.00	1.514	-	-	-0.16	0.392	0.593
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 13	DSI 2	132322	1745	1	14.62	16.00	1.374	-	-	-0.06	0.266	0.365
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 13	DSI 2	132322	1745	1	14.62	16.00	1.374	-	-	-0.09	0.309	0.425
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 31	DSI 2	132322	1745	1	23.04	24.50	1.400	-	-	0.08	0.041	0.057
	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 31	DSI 2	132322	1745	1	23.04	24.50	1.400	-	-	0.08	0.023	0.032
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 31	DSI 2	132322	1745	1	23.04	24.50	1.400	-	-	-0.03	0.052	0.073
	LTE Band 66C	20M	QPSK	1	99	-	Left Cheek	0mm	Ant 31	DSI 2	132322+ 132520	1745+ 1764.8	1	22.52	24.50	1.578	-	-	-0.03	0.037	0.058
	LTE Band 66	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 31	DSI 2	132322	1745	1	23.04	24.50	1.400	-	-	0.08	0.037	0.052
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 31	DSI 2	132322	1745	1	22.14	23.50	1.368	-	-	0.01	0.034	0.047
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 31	DSI 2	132322	1745	1	22.14	23.50	1.368	-	-	0.09	0.025	0.034
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 31	DSI 2	132322	1745	1	22.14	23.50	1.368	-	-	-0.03	0.050	0.068
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 31	DSI 2	132322	1745	1	22.14	23.50	1.368	-	-	0.01	0.027	0.037
	LTE Band 66	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	132322	1745	1	20.47	21.50	1.268	-	-	0.15	0.606	0.768
	LTE Band 66	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 11	DSI 2	132322	1745	1	20.47	21.50	1.268	-	-	0.09	0.119	0.151
	LTE Band 66	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 11	DSI 2	132322	1745	1	20.47	21.50	1.268	-	-	0.13	0.344	0.437
	LTE Band 66	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 11	DSI 2	132322	1745	1	20.47	21.50	1.268	-	-	0.08	0.080	0.102
11	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	132322	1745	1	20.40	21.50	1.288	-	-	-0.12	0.640	0.824
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	132322	1745	2	20.40	21.50	1.288	-	-	-0.12	0.622	0.801
	LTE Band 66C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 11	DSI 2	132322+ 132520	1745+ 1764.8	1	19.91	21.50	1.442	-	-	0.03	0.570	0.822
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 11	DSI 2	132322	1745	1	20.40	21.50	1.288	-	-	-0.17	0.121	0.156
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DSI 2	132322	1745	1	20.40	21.50	1.288	-	-	-0.07	0.378	0.487
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DSI 2	132322	1745	1	20.40	21.50	1.288	-	-	-0.15	0.087	0.112
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	132072	1720	1	20.22	21.50	1.343	-	-	-0.12	0.613	0.823
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	132572	1770	1	20.17	21.50	1.358	-	-	-0.12	0.584	0.793
	LTE Band 66	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 11	DSI 2	132322	1745	1	20.36	21.50	1.300	-	-	0.05	0.622	0.809
	LTE Band 66	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 11	DSI 2	132322	1745	1	20.36	21.50	1.300	-	-	0.05	0.622	0.809
12	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	349000	1745	1	14.48	15.00	1.127	-	-	0.03	0.401	0.452
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	349000	1745	1	14.48	15.00	1.127	-	-	0.01	0.409	0.461
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	349000	1745	1	14.48	15.00	1.127	-	-	-0.05	0.252	0.284
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	349000	1745	1	14.48	15.00	1.127	-	-	0.08	0.292	0.329
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	349000	1745	1	14.45	15.00	1.135	-	-	0.17	0.400	0.454
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	349000	1745	1	14.45	15.00	1.135	-	-	-0.07	0.523	0.594
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	349000	1745	1	14.45	15.00	1.135	-	-	0.1	0.259	0.294
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	349000	1745	1	14.45	15.00	1.135	-	-	-0.19	0.294	0.334
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 31	DSI 2	349000	1745	1	24.48	25.00	1.127	-	-	-0.17	0.058	0.065
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 31	DSI 2	349000	1745	1	24.48	25.00	1.127	-	-	-0.17	0.041	0.046



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	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 31	DSI 2	349000	1745	1	24.48	25.00	1.127	-	-	0.11	0.078	0.088
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 31	DSI 2	349000	1745	1	24.48	25.00	1.127	-	-	-0.05	0.045	0.051
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 31	DSI 2	349000	1745	1	24.24	25.00	1.191	-	-	0.04	0.051	0.061
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 31	DSI 2	349000	1745	1	24.24	25.00	1.191	-	-	-0.05	0.038	0.045
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 31	DSI 2	349000	1745	1	24.24	25.00	1.191	-	-	-0.14	0.072	0.086
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 31	DSI 2	349000	1745	1	24.24	25.00	1.191	-	-	0.04	0.041	0.049
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 11	DSI 2	349000	1745	1	18.42	19.50	1.282	-	-	0.17	0.448	0.574
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 11	DSI 2	349000	1745	1	18.42	19.50	1.282	-	-	-0.1	0.082	0.105
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 11	DSI 2	349000	1745	1	18.42	19.50	1.282	-	-	0.04	0.281	0.360
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 11	DSI 2	349000	1745	1	18.42	19.50	1.282	-	-	0.15	0.058	0.074
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 11	DSI 2	349000	1745	1	18.38	19.50	1.294	-	-	0.08	0.327	0.423
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 11	DSI 2	349000	1745	1	18.38	19.50	1.294	-	-	0.07	0.076	0.098
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 11	DSI 2	349000	1745	1	18.38	19.50	1.294	-	-	0.04	0.265	0.343
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 11	DSI 2	349000	1745	1	18.38	19.50	1.294	-	-	-0.06	0.057	0.074
1900 MHz																					
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Right Cheek	0mm	Ant 13	DSI 2	661	1880	1	19.54	20.50	1.247	-	-	0.04	0.477	0.595
13	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Right Tilted	0mm	Ant 13	DSI 2	661	1880	1	19.54	20.50	1.247	-	-	0.14	0.534	0.666
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Left Cheek	0mm	Ant 13	DSI 2	661	1880	1	19.54	20.50	1.247	-	-	-0.1	0.283	0.353
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Left Tilted	0mm	Ant 13	DSI 2	661	1880	1	19.54	20.50	1.247	-	-	0.16	0.370	0.462
	GSM1900	-	-	-	-	GPRS(2 Tx slots)	Right Cheek	0mm	Ant 31	DSI 2	661	1880	1	27.46	29.00	1.426	-	-	0.03	0.045	0.064
	GSM1900	-	-	-	-	GPRS(2 Tx slots)	Right Tilted	0mm	Ant 31	DSI 2	661	1880	1	27.46	29.00	1.426	-	-	-0.17	0.041	0.058
	GSM1900	-	-	-	-	GPRS(2 Tx slots)	Left Cheek	0mm	Ant 31	DSI 2	661	1880	1	27.46	29.00	1.426	-	-	0.01	0.056	0.080
	GSM1900	-	-	-	-	GPRS(2 Tx slots)	Left Tilted	0mm	Ant 31	DSI 2	661	1880	1	27.46	29.00	1.426	-	-	-0.01	0.030	0.043
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 13	DSI 2	9400	1880	1	15.32	16.50	1.312	-	-	0.14	0.447	0.587
14	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 13	DSI 2	9400	1880	1	15.32	16.50	1.312	-	-	0.18	0.579	0.760
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 13	DSI 2	9400	1880	1	15.32	16.50	1.312	-	-	0.01	0.253	0.332
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 13	DSI 2	9400	1880	1	15.32	16.50	1.312	-	-	-0.13	0.339	0.445
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 31	DSI 2	9400	1880	1	22.31	24.00	1.476	-	-	-0.17	0.064	0.094
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 31	DSI 2	9400	1880	1	22.31	24.00	1.476	-	-	-0.01	0.055	0.081
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 31	DSI 2	9400	1880	1	22.31	24.00	1.476	-	-	-0.13	0.077	0.114
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 31	DSI 2	9400	1880	1	22.31	24.00	1.476	-	-	0.02	0.047	0.069
	LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 13	DSI 2	18900	1880	1	15.53	16.50	1.250	-	-	-0.07	0.523	0.654
15	LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 13	DSI 2	18900	1880	1	15.53	16.50	1.250	-	-	0.11	0.644	0.805
	LTE Band 2	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 13	DSI 2	18900	1880	1	15.53	16.50	1.250	-	-	0	0.389	0.486
	LTE Band 2	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 13	DSI 2	18900	1880	1	15.53	16.50	1.250	-	-	-0.1	0.474	0.593
	LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 13	DSI 2	18700	1860	1	15.50	16.50	1.259	-	-	0.03	0.592	0.745
	LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 13	DSI 2	19100	1900	1	15.42	16.50	1.282	-	-	-0.13	0.577	0.740
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 13	DSI 2	18900	1880	1	15.50	16.50	1.259	-	-	0.14	0.517	0.651
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 13	DSI 2	18900	1880	1	15.50	16.50	1.259	-	-	0.03	0.580	0.730
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 13	DSI 2	18900	1880	1	15.50	16.50	1.259	-	-	0.08	0.307	0.386
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 13	DSI 2	18900	1880	1	15.50	16.50	1.259	-	-	-0.18	0.466	0.587
	LTE Band 2	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 13	DSI 2	18900	1880	1	15.46	16.50	1.271	-	-	0.11	0.596	0.757
	LTE Band 2	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 31	DSI 2	18900	1880	1	22.63	24.00	1.371	-	-	0.09	0.056	0.077
	LTE Band 2	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 31	DSI 2	18900	1880	1	22.63	24.00	1.371	-	-	-0.03	0.049	0.067
	LTE Band 2	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 31	DSI 2	18900	1880	1	22.63	24.00	1.371	-	-	-0.13	0.066	0.090
	LTE Band 2	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 31	DSI 2	18900	1880	1	22.63	24.00	1.371	-	-	0.18	0.041	0.056
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 31	DSI 2	18900	1880	1	21.60	23.00	1.380	-	-	0.17	0.048	0.066
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 31	DSI 2	18900	1880	1	21.60	23.00	1.380	-	-	-0.17	0.044	0.061
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 31	DSI 2	18900	1880	1	21.60	23.00	1.380	-	-	0.03	0.061	0.084
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 31	DSI 2	18900	1880	1	21.60	23.00	1.380	-	-	-0.18	0.035	0.048
	FR1 n2	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	376000	1880	1	13.99	15.00	1.262	-	-	0.09	0.373	0.471
16	FR1 n2	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	376000	1880	1	13.99	15.00	1.262	-	-	0.12	0.491	0.620
	FR1 n2	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	376000	1880	1	13.99	15.00	1.262	-	-	-0.02	0.194	0.245
	FR1 n2	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	376000	1880	1	13.99	15.00	1.262	-	-	0	0.256	0.323



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	FR1 n2	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	376000	1880	1	13.94	15.00	1.276	-	-	-0.19	0.316	0.403
	FR1 n2	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	376000	1880	1	13.94	15.00	1.276	-	-	-0.13	0.344	0.439
	FR1 n2	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	376000	1880	1	13.94	15.00	1.276	-	-	0.08	0.156	0.199
	FR1 n2	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	376000	1880	1	13.94	15.00	1.276	-	-	0.06	0.204	0.260
	FR1 n2	20M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 31	DSI 2	376000	1880	1	23.04	24.50	1.400	-	-	-0.15	0.074	0.104
	FR1 n2	20M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 31	DSI 2	376000	1880	1	23.04	24.50	1.400	-	-	-0.16	0.059	0.083
	FR1 n2	20M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 31	DSI 2	376000	1880	1	23.04	24.50	1.400	-	-	-0.09	0.085	0.119
	FR1 n2	20M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 31	DSI 2	376000	1880	1	23.04	24.50	1.400	-	-	0	0.054	0.076
	FR1 n2	20M	QPSK	50	28	DFT-15	Right Cheek	0mm	Ant 31	DSI 2	376000	1880	1	22.89	24.50	1.449	-	-	-0.02	0.077	0.112
	FR1 n2	20M	QPSK	50	28	DFT-15	Right Tilted	0mm	Ant 31	DSI 2	376000	1880	1	22.89	24.50	1.449	-	-	-0.01	0.068	0.099
	FR1 n2	20M	QPSK	50	28	DFT-15	Left Cheek	0mm	Ant 31	DSI 2	376000	1880	1	22.89	24.50	1.449	-	-	-0.09	0.088	0.127
	FR1 n2	20M	QPSK	50	28	DFT-15	Left Tilted	0mm	Ant 31	DSI 2	376000	1880	1	22.89	24.50	1.449	-	-	0.04	0.055	0.080
2600 MHz																					
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 13	DSI 2	21100	2535	1	12.35	13.50	1.303	-	-	0.09	0.359	0.468
	LTE Band 7	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 13	DSI 2	21100	2535	1	12.35	13.50	1.303	-	-	-0.1	0.413	0.538
	LTE Band 7	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 13	DSI 2	21100	2535	1	12.35	13.50	1.303	-	-	0.11	0.145	0.189
	LTE Band 7	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 13	DSI 2	21100	2535	1	12.35	13.50	1.303	-	-	-0.12	0.211	0.275
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 13	DSI 2	21100	2535	1	12.32	13.50	1.312	-	-	0.08	0.390	0.512
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 13	DSI 2	21100	2535	1	12.32	13.50	1.312	-	-	-0.17	0.421	0.552
	LTE Band 7C	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 13	DSI 2	21100+ 21298	2535+ 2554.8	1	11.88	13.50	1.452	-	-	-0.01	0.413	0.600
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 13	DSI 2	21100	2535	1	12.32	13.50	1.312	-	-	0.05	0.150	0.197
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 13	DSI 2	21100	2535	1	12.32	13.50	1.312	-	-	0.02	0.219	0.287
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 31	DSI 2	21100	2535	1	22.54	24.00	1.400	-	-	0.09	0.240	0.336
	LTE Band 7C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 31	DSI 2	21100+ 21298	2535+ 2554.8	1	22.08	24.00	1.556	-	-	0.09	0.210	0.327
	LTE Band 7	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 31	DSI 2	21100	2535	1	22.54	24.00	1.400	-	-	0.16	0.097	0.136
	LTE Band 7	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 31	DSI 2	21100	2535	1	22.54	24.00	1.400	-	-	-0.01	0.108	0.151
	LTE Band 7	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 31	DSI 2	21100	2535	1	22.54	24.00	1.400	-	-	0.18	0.055	0.077
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 31	DSI 2	21100	2535	1	21.63	23.00	1.371	-	-	-0.13	0.168	0.230
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 31	DSI 2	21100	2535	1	21.63	23.00	1.371	-	-	0.03	0.084	0.115
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 31	DSI 2	21100	2535	1	21.63	23.00	1.371	-	-	-0.18	0.086	0.118
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 31	DSI 2	21100	2535	1	21.63	23.00	1.371	-	-	-0.17	0.045	0.062
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	21100	2535	1	18.84	20.00	1.306	-	-	0.13	0.643	0.839
	LTE Band 7	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 11	DSI 2	21100	2535	1	18.84	20.00	1.306	-	-	-0.01	0.158	0.207
	LTE Band 7	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 11	DSI 2	21100	2535	1	18.84	20.00	1.306	-	-	-0.11	0.272	0.355
	LTE Band 7	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 11	DSI 2	21100	2535	1	18.84	20.00	1.306	-	-	-0.02	0.083	0.109
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	20850	2510	1	18.72	20.00	1.343	-	-	0.04	0.623	0.837
	LTE Band 7	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	21350	2560	1	18.64	20.00	1.368	-	-	-0.02	0.612	0.837
17	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	21100	2535	1	18.80	20.00	1.318	-	-	-0.17	0.651	0.858
	LTE Band 7C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 11	DSI 2	21100+ 21298	2535+ 2554.8	1	18.30	20.00	1.479	-	-	0.06	0.569	0.842
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 11	DSI 2	21100	2535	1	18.80	20.00	1.318	-	-	-0.18	0.165	0.218
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DSI 2	21100	2535	1	18.80	20.00	1.318	-	-	-0.11	0.347	0.457
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DSI 2	21100	2535	1	18.80	20.00	1.318	-	-	0.16	0.088	0.116
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	20850	2510	1	18.66	20.00	1.361	-	-	0.13	0.625	0.851
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	21350	2560	1	18.59	20.00	1.384	-	-	0.04	0.614	0.850
	LTE Band 7	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 11	DSI 2	21100	2535	1	18.74	20.00	1.337	-	-	0.07	0.620	0.829
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 13	DSI 2	40620	2593	1	14.59	15.50	1.233	62.9	1.006	0.02	0.358	0.444
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 13	DSI 2	40620	2593	1	14.59	15.50	1.233	62.9	1.006	-0.03	0.389	0.483
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 13	DSI 2	40620	2593	1	14.59	15.50	1.233	62.9	1.006	-0.06	0.153	0.190
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 13	DSI 2	40620	2593	1	14.59	15.50	1.233	62.9	1.006	0.03	0.255	0.316
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 13	DSI 2	40620	2593	1	14.55	15.50	1.245	62.9	1.006	0.02	0.376	0.471
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 13	DSI 2	40620	2593	1	14.55	15.50	1.245	62.9	1.006	-0.09	0.415	0.520
	LTE Band 41C	20M	QPSK	1	99	-	Right Tilted	0mm	Ant 13	DSI 2	40620+ 40818	2593+ 2612.8	1	14.21	15.50	1.346	62.9	1.006	0.04	0.414	0.561
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 13	DSI 2	40620	2593	1	14.55	15.50	1.245	62.9	1.006	-0.12	0.209	0.262
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 13	DSI 2	40620	2593	1	14.55	15.50	1.245	62.9	1.006	0.06	0.348	0.436
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 31	DSI 2	40620	2593	1	23.51	25.00	1.409	62.9	1.006	-0.09	0.187	0.265



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	LTE Band 41C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 31	DSI 2	40620+40818	2593+2612.8	1	23.06	25.00	1.563	62.9	1.006	0.02	0.134	0.211
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 31	DSI 2	40620	2593	1	23.51	25.00	1.409	62.9	1.006	0	0.082	0.116
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 31	DSI 2	40620	2593	1	23.51	25.00	1.409	62.9	1.006	0.1	0.104	0.147
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 31	DSI 2	40620	2593	1	23.51	25.00	1.409	62.9	1.006	0.15	0.060	0.085
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 31	DSI 2	40620	2593	1	22.60	24.00	1.380	62.9	1.006	0.08	0.155	0.215
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 31	DSI 2	40620	2593	1	22.60	24.00	1.380	62.9	1.006	0.15	0.065	0.090
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 31	DSI 2	40620	2593	1	22.60	24.00	1.380	62.9	1.006	-0.19	0.085	0.118
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 31	DSI 2	40620	2593	1	22.60	24.00	1.380	62.9	1.006	0.04	0.050	0.069
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	40620	2593	1	20.98	21.50	1.127	62.9	1.006	0.11	0.530	0.601
	LTE Band 41	20M	QPSK	1	49	-	Right Tilted	0mm	Ant 11	DSI 2	40620	2593	1	20.23	21.50	1.340	62.9	1.006	0.18	0.108	0.145
	LTE Band 41	20M	QPSK	1	49	-	Left Cheek	0mm	Ant 11	DSI 2	40620	2593	1	20.23	21.50	1.340	62.9	1.006	0.09	0.230	0.309
	LTE Band 41	20M	QPSK	1	49	-	Left Tilted	0mm	Ant 11	DSI 2	40620	2593	1	20.23	21.50	1.340	62.9	1.006	-0.02	0.063	0.085
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	39750	2506	1	20.15	21.50	1.365	62.9	1.006	-0.06	0.344	0.472
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	40185	2549.5	1	20.08	21.50	1.387	62.9	1.006	0.11	0.433	0.604
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	41055	2636.5	1	20.21	21.50	1.346	62.9	1.006	-0.01	0.519	0.702
	LTE Band 41	20M	QPSK	1	49	-	Right Cheek	0mm	Ant 11	DSI 2	41490	2680	1	20.04	21.50	1.400	62.9	1.006	-0.04	0.460	0.648
18	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	40620	2593	1	20.19	21.50	1.352	62.9	1.006	0.15	0.726	0.987
	LTE Band 41C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 11	DSI 2	40620+40818	2593+2612.8	1	20.13	21.50	1.371	62.9	1.006	0.03	0.484	0.667
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 11	DSI 2	40620	2593	1	20.19	21.50	1.352	62.9	1.006	-0.13	0.141	0.192
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 11	DSI 2	40620	2593	1	20.19	21.50	1.352	62.9	1.006	-0.09	0.397	0.540
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 11	DSI 2	40620	2593	1	20.19	21.50	1.352	62.9	1.006	0.16	0.080	0.109
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	39750	2506	1	20.07	21.50	1.390	62.9	1.006	0.19	0.471	0.659
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	40185	2549.5	1	20.02	21.50	1.406	62.9	1.006	0.13	0.584	0.826
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	41055	2636.5	1	20.11	21.50	1.377	62.9	1.006	-0.12	0.669	0.927
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 11	DSI 2	41490	2680	1	19.99	21.50	1.416	62.9	1.006	0.19	0.588	0.837
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 11	DSI 2	40620	2593	1	20.11	21.50	1.377	62.9	1.006	0.03	0.487	0.675
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	507000	2535	1	12.42	13.50	1.282	-	-	-0.11	0.491	0.630
19	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	507000	2535	1	12.42	13.50	1.282	-	-	0.18	0.585	0.750
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	507000	2535	1	12.42	13.50	1.282	-	-	0.09	0.205	0.263
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	507000	2535	1	12.42	13.50	1.282	-	-	-0.19	0.295	0.378
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 13	DSI 2	507000	2535	1	12.38	13.50	1.294	-	-	-0.04	0.422	0.546
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 13	DSI 2	507000	2535	1	12.38	13.50	1.294	-	-	0.12	0.528	0.683
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 13	DSI 2	507000	2535	1	12.38	13.50	1.294	-	-	0.05	0.172	0.223
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 13	DSI 2	507000	2535	1	12.38	13.50	1.294	-	-	0.07	0.248	0.321
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 31	DSI 2	507000	2535	1	23.25	24.50	1.334	-	-	0.16	0.263	0.351
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 31	DSI 2	507000	2535	1	23.25	24.50	1.334	-	-	-0.11	0.122	0.163
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 31	DSI 2	507000	2535	1	23.25	24.50	1.334	-	-	0.18	0.153	0.204
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 31	DSI 2	507000	2535	1	23.25	24.50	1.334	-	-	-0.09	0.101	0.135
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 31	DSI 2	507000	2535	1	22.86	24.50	1.459	-	-	0.09	0.231	0.337
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 31	DSI 2	507000	2535	1	22.86	24.50	1.459	-	-	-0.01	0.112	0.163
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 31	DSI 2	507000	2535	1	22.86	24.50	1.459	-	-	-0.04	0.138	0.201
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 31	DSI 2	507000	2535	1	22.86	24.50	1.459	-	-	0.15	0.091	0.133
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Cheek	0mm	Ant 11	DSI 2	507000	2535	1	17.42	18.50	1.282	-	-	0.14	0.434	0.557
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Tilted	0mm	Ant 11	DSI 2	507000	2535	1	17.42	18.50	1.282	-	-	0.01	0.100	0.128
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Cheek	0mm	Ant 11	DSI 2	507000	2535	1	17.42	18.50	1.282	-	-	-0.03	0.264	0.339
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Tilted	0mm	Ant 11	DSI 2	507000	2535	1	17.42	18.50	1.282	-	-	0.02	0.053	0.068
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Cheek	0mm	Ant 11	DSI 2	507000	2535	1	17.36	18.50	1.300	-	-	-0.12	0.444	0.577
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Tilted	0mm	Ant 11	DSI 2	507000	2535	1	17.36	18.50	1.300	-	-	0.14	0.108	0.140
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Cheek	0mm	Ant 11	DSI 2	507000	2535	1	17.36	18.50	1.300	-	-	0.05	0.267	0.347
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Tilted	0mm	Ant 11	DSI 2	507000	2535	1	17.36	18.50	1.300	-	-	-0.06	0.058	0.075
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 13	DSI 2	518598	2592.99	1	12.82	14.50	1.472	-	-	0.01	0.435	0.640
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 13	DSI 2	518598	2592.99	1	12.82	14.50	1.472	-	-	-0.14	0.510	0.751
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 13	DSI 2	518598	2592.99	1	12.82	14.50	1.472	-	-	0	0.181	0.266
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 13	DSI 2	518598	2592.99	1	12.82	14.50	1.472	-	-	0.05	0.267	0.393
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 13	DSI 2	518598	2592.99	1	12.69	14.50	1.517	-	-	-0.16	0.306	0.464



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	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 13	DSI 2	518598	2592.99	1	12.69	14.50	1.517	-	-	0.07	0.377	0.572
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 13	DSI 2	518598	2592.99	1	12.69	14.50	1.517	-	-	0.05	0.175	0.265
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 13	DSI 2	518598	2592.99	1	12.69	14.50	1.517	-	-	0.02	0.241	0.366
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 13	DSI 2	518598	2592.99	1	12.68	14.50	1.521	-	-	-0.12	0.312	0.474
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Tilted	0mm	Ant 13	DSI 2	518598	2592.99	1	12.68	14.50	1.521	-	-	0	0.384	0.584
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 31	DSI 2	518598	2592.99	1	25.03	26.50	1.403	-	-	-0.06	0.355	0.498
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 31	DSI 2	518598	2592.99	1	25.03	26.50	1.403	-	-	-0.1	0.147	0.206
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 31	DSI 2	518598	2592.99	1	25.03	26.50	1.403	-	-	0.04	0.174	0.244
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 31	DSI 2	518598	2592.99	1	25.03	26.50	1.403	-	-	-0.08	0.106	0.149
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 31	DSI 2	518598	2592.99	1	24.71	26.50	1.510	-	-	-0.06	0.394	0.595
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 31	DSI 2	518598	2592.99	1	24.71	26.50	1.510	-	-	-0.15	0.197	0.297
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 31	DSI 2	518598	2592.99	1	24.71	26.50	1.510	-	-	0	0.242	0.365
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 31	DSI 2	518598	2592.99	1	24.71	26.50	1.510	-	-	0.12	0.165	0.249
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	518598	2592.99	1	17.50	18.50	1.259	-	-	0.17	0.596	0.750
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 11	DSI 2	518598	2592.99	1	17.50	18.50	1.259	-	-	0.08	0.092	0.116
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 11	DSI 2	518598	2592.99	1	17.50	18.50	1.259	-	-	-0.06	0.270	0.340
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 11	DSI 2	518598	2592.99	1	17.50	18.50	1.259	-	-	-0.01	0.054	0.068
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	518598	2592.99	1	17.41	18.50	1.285	-	-	0.18	0.597	0.767
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 11	DSI 2	518598	2592.99	1	17.41	18.50	1.285	-	-	0.11	0.104	0.134
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 11	DSI 2	518598	2592.99	1	17.41	18.50	1.285	-	-	0.02	0.291	0.374
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 11	DSI 2	518598	2592.99	1	17.41	18.50	1.285	-	-	0.11	0.059	0.076
20	FR1 n41	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	518598	2592.99	1	17.38	18.50	1.294	-	-	-0.02	0.628	0.813
	FR1 n41	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	518598	2592.99	2	17.38	18.50	1.294	-	-	-0.02	0.553	0.716
3000~4000 MHz																					
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	633332	3499.98	1	15.52	17.00	1.406	-	-	-0.04	0.447	0.629
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 11	DSI 2	633332	3499.98	1	15.52	17.00	1.406	-	-	-0.03	0.095	0.134
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 11	DSI 2	633332	3499.98	1	15.52	17.00	1.406	-	-	-0.16	0.188	0.264
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 11	DSI 2	633332	3499.98	1	15.52	17.00	1.406	-	-	0.19	0.064	0.090
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	633332	3499.98	1	15.47	17.00	1.422	-	-	0.16	0.532	0.757
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 11	DSI 2	633332	3499.98	1	15.47	17.00	1.422	-	-	0.19	0.117	0.166
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 11	DSI 2	633332	3499.98	1	15.47	17.00	1.422	-	-	0.17	0.214	0.304
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 11	DSI 2	633332	3499.98	1	15.47	17.00	1.422	-	-	0.08	0.067	0.095
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	656000	3840	1	15.61	17.00	1.377	-	-	-0.12	0.401	0.552
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 11	DSI 2	656000	3840	1	15.61	17.00	1.377	-	-	0.13	0.096	0.132
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 11	DSI 2	656000	3840	1	15.61	17.00	1.377	-	-	0.16	0.169	0.233
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 11	DSI 2	656000	3840	1	15.61	17.00	1.377	-	-	-0.19	0.042	0.058
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	656000	3840	1	15.35	17.00	1.462	-	-	0.18	0.460	0.673
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 11	DSI 2	656000	3840	1	15.35	17.00	1.462	-	-	0.17	0.100	0.146
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 11	DSI 2	656000	3840	1	15.35	17.00	1.462	-	-	-0.16	0.182	0.266
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 11	DSI 2	656000	3840	1	15.35	17.00	1.462	-	-	0.11	0.051	0.075
	FR1 n77	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 11	DSI 2	656000	3840	1	15.34	17.00	1.466	-	-	0.19	0.478	0.701
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	15.70	17.00	1.349	-	-	-0.11	0.653	0.881
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 12	DSI 2	633332	3499.98	1	15.70	17.00	1.349	-	-	-0.12	0.320	0.432
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	15.70	17.00	1.349	-	-	0.04	0.214	0.289
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 12	DSI 2	633332	3499.98	1	15.70	17.00	1.349	-	-	-0.01	0.185	0.250
21	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	15.69	17.00	1.352	-	-	-0.08	0.695	0.940
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 12	DSI 2	633332	3499.98	1	15.69	17.00	1.352	-	-	0.11	0.381	0.515
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	15.69	17.00	1.352	-	-	0.17	0.235	0.318
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 12	DSI 2	633332	3499.98	1	15.69	17.00	1.352	-	-	0.13	0.199	0.269
	FR1 n77	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	15.54	17.00	1.400	-	-	-0.05	0.602	0.843
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	656000	3840	1	15.69	17.00	1.352	-	-	-0.1	0.556	0.752
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 12	DSI 2	656000	3840	1	15.69	17.00	1.352	-	-	-0.12	0.250	0.338
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 12	DSI 2	656000	3840	1	15.69	17.00	1.352	-	-	0.01	0.151	0.204
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 12	DSI 2	656000	3840	1	15.69	17.00	1.352	-	-	-0.08	0.126	0.170
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	656000	3840	1	15.65	17.00	1.365	-	-	0.17	0.454	0.620
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 12	DSI 2	656000	3840	1	15.65	17.00	1.365	-	-	0.01	0.200	0.273



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	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 12	DSI 2	656000	3840	1	15.65	17.00	1.365	-	-	-0.04	0.141	0.192
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 12	DSI 2	656000	3840	1	15.65	17.00	1.365	-	-	0.04	0.122	0.166
	FR1 n77	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	656000	3840	1	15.59	17.00	1.384	-	-	-0.02	0.442	0.612
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	16.60	17.50	1.230	-	-	0.03	0.641	0.789
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 12	DSI 2	633332	3499.98	1	16.60	17.50	1.230	-	-	0.08	0.411	0.506
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	16.60	17.50	1.230	-	-	-0.02	0.233	0.287
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 12	DSI 2	633332	3499.98	1	16.60	17.50	1.230	-	-	0.15	0.198	0.244
22	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	16.51	17.50	1.256	-	-	-0.01	0.790	0.992
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	633332	3499.98	2	16.51	17.50	1.256	-	-	-0.18	0.761	0.956
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 12	DSI 2	633332	3499.98	1	16.51	17.50	1.256	-	-	-0.06	0.428	0.538
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	16.51	17.50	1.256	-	-	0.13	0.255	0.320
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 12	DSI 2	633332	3499.98	1	16.51	17.50	1.256	-	-	-0.09	0.214	0.269
	FR1 n78	100M	QPSK	270	0	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	633332	3499.98	1	16.36	17.50	1.300	-	-	-0.18	0.692	0.900
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	650000	3750	1	16.10	17.50	1.380	-	-	-0.05	0.477	0.658
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 12	DSI 2	650000	3750	1	16.10	17.50	1.380	-	-	0.17	0.282	0.389
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 12	DSI 2	650000	3750	1	16.10	17.50	1.380	-	-	-0.09	0.164	0.226
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 12	DSI 2	650000	3750	1	16.10	17.50	1.380	-	-	-0.02	0.133	0.184
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 12	DSI 2	650000	3750	1	15.94	17.50	1.432	-	-	-0.02	0.416	0.596
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 12	DSI 2	650000	3750	1	15.94	17.50	1.432	-	-	-0.08	0.269	0.385
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 12	DSI 2	650000	3750	1	15.94	17.50	1.432	-	-	-0.14	0.145	0.208
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 12	DSI 2	650000	3750	1	15.94	17.50	1.432	-	-	0.04	0.123	0.176

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Measured Plimit (dBm)	Reported Plimit (dBm)	Reported Pmax (dBm)	Duty Cycle %	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
SRS																				
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 23	DSI 2	633332	3499.98	1	14.70	16.00	23.00	8.5	-0.1	0.133	0.076
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 23	DSI 2	633332	3499.98	1	14.70	16.00	23.00	8.5	-0.17	0.077	0.044
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 23	DSI 2	633332	3499.98	1	14.70	16.00	23.00	8.5	0.14	0.222	0.128
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 23	DSI 2	633332	3499.98	1	14.70	16.00	23.00	8.5	0.06	0.102	0.059
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 23	DSI 2	633332	3499.98	1	14.52	16.00	23.00	8.5	-0.01	0.127	0.076
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 23	DSI 2	633332	3499.98	1	14.52	16.00	23.00	8.5	-0.11	0.070	0.042
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 23	DSI 2	633332	3499.98	1	14.52	16.00	23.00	8.5	-0.19	0.229	0.137
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 23	DSI 2	633332	3499.98	1	14.52	16.00	23.00	8.5	-0.05	0.104	0.062
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 23	DSI 2	656000	3840	1	15.02	16.00	23.00	8.5	-0.12	0.244	0.130
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 23	DSI 2	656000	3840	1	15.02	16.00	23.00	8.5	-0.19	0.097	0.052
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 23	DSI 2	656000	3840	1	15.02	16.00	23.00	8.5	-0.03	0.689	0.368
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 23	DSI 2	656000	3840	1	15.02	16.00	23.00	8.5	0.06	0.129	0.069
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 23	DSI 2	656000	3840	1	14.75	16.00	23.00	8.5	0.08	0.207	0.118
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 23	DSI 2	656000	3840	1	14.75	16.00	23.00	8.5	-0.19	0.091	0.052
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 23	DSI 2	656000	3840	1	14.75	16.00	23.00	8.5	0.06	0.369	0.210
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 23	DSI 2	656000	3840	1	14.75	16.00	23.00	8.5	0.05	0.103	0.059
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 21	DSI 2	633332	3499.98	1	12.56	14.00	23.00	8.5	0.11	0.247	0.232
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 21	DSI 2	633332	3499.98	1	12.56	14.00	23.00	8.5	0.08	0.275	0.259
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 21	DSI 2	633332	3499.98	1	12.56	14.00	23.00	8.5	0.14	0.371	0.349
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	633332	3499.98	1	12.56	14.00	23.00	8.5	-0.1	0.408	0.384
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 21	DSI 2	633332	3499.98	1	12.39	14.00	23.00	8.5	0.18	0.244	0.239
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 21	DSI 2	633332	3499.98	1	12.39	14.00	23.00	8.5	0.13	0.290	0.284
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 21	DSI 2	633332	3499.98	1	12.39	14.00	23.00	8.5	-0.17	0.392	0.383
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	633332	3499.98	1	12.39	14.00	23.00	8.5	0.14	0.478	0.468
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 21	DSI 2	656000	3840	1	13.07	14.00	23.00	8.5	0.08	0.351	0.294
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 21	DSI 2	656000	3840	1	13.07	14.00	23.00	8.5	0.15	0.369	0.309
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 21	DSI 2	656000	3840	1	13.07	14.00	23.00	8.5	-0.01	0.434	0.363
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	656000	3840	1	13.07	14.00	23.00	8.5	-0.12	0.475	0.397
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 21	DSI 2	656000	3840	1	12.74	14.00	23.00	8.5	-0.04	0.314	0.283
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 21	DSI 2	656000	3840	1	12.74	14.00	23.00	8.5	-0.03	0.338	0.305



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FR1 n77	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 21	DSI 2	656000	3840	1	12.74	14.00	23.00	8.5	0.19	0.360	0.325
FR1 n77	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	656000	3840	1	12.74	14.00	23.00	8.5	-0.07	0.400	0.361
FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 23	DSI 2	633332	3499.98	1	14.78	16.50	24.50	8.5	0.12	0.140	0.112
FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 23	DSI 2	633332	3499.98	1	14.78	16.50	24.50	8.5	0.04	0.080	0.064
FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 23	DSI 2	633332	3499.98	1	14.78	16.50	24.50	8.5	-0.12	0.300	0.239
FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 23	DSI 2	633332	3499.98	1	14.78	16.50	24.50	8.5	-0.13	0.120	0.096
FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 23	DSI 2	633332	3499.98	1	14.66	16.50	24.50	8.5	-0.08	0.141	0.116
FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 23	DSI 2	633332	3499.98	1	14.66	16.50	24.50	8.5	-0.17	0.096	0.079
FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 23	DSI 2	633332	3499.98	1	14.66	16.50	24.50	8.5	-0.01	0.340	0.279
FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 23	DSI 2	633332	3499.98	1	14.66	16.50	24.50	8.5	-0.01	0.122	0.100
FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 23	DSI 2	650000	3750	1	15.08	16.50	24.50	8.5	-0.02	0.246	0.183
FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 23	DSI 2	650000	3750	1	15.08	16.50	24.50	8.5	-0.12	0.126	0.094
FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 23	DSI 2	650000	3750	1	15.08	16.50	24.50	8.5	0.04	0.717	0.533
FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 23	DSI 2	650000	3750	1	15.08	16.50	24.50	8.5	-0.02	0.157	0.117
FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 23	DSI 2	650000	3750	1	14.78	16.50	24.50	8.5	0.19	0.227	0.181
FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 23	DSI 2	650000	3750	1	14.78	16.50	24.50	8.5	-0.01	0.113	0.090
FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 23	DSI 2	650000	3750	1	14.78	16.50	24.50	8.5	-0.18	0.538	0.429
FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 23	DSI 2	650000	3750	1	14.78	16.50	24.50	8.5	-0.13	0.143	0.114
FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 21	DSI 2	633332	3499.98	1	12.87	14.50	25.00	8.5	-0.02	0.277	0.385
FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 21	DSI 2	633332	3499.98	1	12.87	14.50	25.00	8.5	-0.04	0.323	0.448
FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 21	DSI 2	633332	3499.98	1	12.87	14.50	25.00	8.5	-0.14	0.386	0.536
FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	633332	3499.98	1	12.87	14.50	25.00	8.5	-0.01	0.446	0.619
FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 21	DSI 2	633332	3499.98	1	12.71	14.50	25.00	8.5	-0.09	0.274	0.395
FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 21	DSI 2	633332	3499.98	1	12.71	14.50	25.00	8.5	-0.09	0.337	0.485
FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 21	DSI 2	633332	3499.98	1	12.71	14.50	25.00	8.5	-0.15	0.408	0.588
FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	633332	3499.98	1	12.71	14.50	25.00	8.5	0.01	0.483	0.696
FR1 n78	100M	QPSK	1	1	DFT-30	Right Cheek	0mm	Ant 21	DSI 2	650000	3750	1	12.89	14.50	25.00	8.5	-0.01	0.312	0.431
FR1 n78	100M	QPSK	1	1	DFT-30	Right Tilted	0mm	Ant 21	DSI 2	650000	3750	1	12.89	14.50	25.00	8.5	-0.05	0.391	0.540
FR1 n78	100M	QPSK	1	1	DFT-30	Left Cheek	0mm	Ant 21	DSI 2	650000	3750	1	12.89	14.50	25.00	8.5	-0.07	0.459	0.634
FR1 n78	100M	QPSK	1	1	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	650000	3750	1	12.89	14.50	25.00	8.5	-0.07	0.656	0.906
FR1 n78	100M	QPSK	135	69	DFT-30	Right Cheek	0mm	Ant 21	DSI 2	650000	3750	1	12.79	14.50	25.00	8.5	0	0.279	0.394
FR1 n78	100M	QPSK	135	69	DFT-30	Right Tilted	0mm	Ant 21	DSI 2	650000	3750	1	12.79	14.50	25.00	8.5	-0.16	0.335	0.474
FR1 n78	100M	QPSK	135	69	DFT-30	Left Cheek	0mm	Ant 21	DSI 2	650000	3750	1	12.79	14.50	25.00	8.5	0.11	0.401	0.567
FR1 n78	100M	QPSK	135	69	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	650000	3750	1	12.79	14.50	25.00	8.5	-0.19	0.568	0.803
FR1 n78	100M	QPSK	270	0	DFT-30	Left Tilted	0mm	Ant 21	DSI 2	650000	3750	1	12.60	14.50	25.00	8.5	-0.03	0.567	0.838



FCC SAR Test Report

Report No. : FA3D0709

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN & BT																	
23	Bluetooth	DH5 1Mbps	Right Cheek	0mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	0.08	0.086	0.153
	Bluetooth	DH5 1Mbps	Right Tilted	0mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	-0.1	0.085	0.151
	Bluetooth	DH5 1Mbps	Left Cheek	0mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	-0.09	0.311	0.553
	Bluetooth	DH5 1Mbps	Left Tilted	0mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	-0.15	0.240	0.427
24	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 22	Standalone	11	2462	1	12.25	14.00	1.496	98.73	1.013	0.06	0.114	0.173
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 22	Standalone	11	2462	1	12.25	14.00	1.496	98.73	1.013	-0.19	0.106	0.161
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 22	Standalone	11	2462	1	12.25	14.00	1.496	98.73	1.013	0.16	0.432	0.655
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 22	Standalone	11	2462	1	12.25	14.00	1.496	98.73	1.013	0.15	0.248	0.376
25	WLAN5.3GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 22	Standalone	54	5270	1	13.58	14.50	1.235	96.74	1.034	-0.17	0.201	0.257
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 22	Standalone	54	5270	1	13.58	14.50	1.235	96.74	1.034	-0.07	0.291	0.371
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 22	Standalone	54	5270	1	13.58	14.50	1.235	96.74	1.034	0.16	0.431	0.550
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 22	Standalone	54	5270	1	13.58	14.50	1.235	96.74	1.034	-0.02	0.306	0.391
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 22	Simultaneous	54	5270	1	12.52	13.50	1.252	96.74	1.034	0.01	0.312	0.404
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 22	Simultaneous	54	5270	1	12.52	13.50	1.252	96.74	1.034	0.09	0.224	0.290
26	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 22	Standalone	122	5610	1	10.53	12.00	1.402	92	1.087	0.13	0.092	0.140
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 22	Standalone	122	5610	1	10.53	12.00	1.402	92	1.087	0.17	0.117	0.178
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 22	Standalone	122	5610	1	10.53	12.00	1.402	92	1.087	0.17	0.498	0.759
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 22	Standalone	122	5610	1	10.53	12.00	1.402	92	1.087	-0.04	0.314	0.479
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 22	Simultaneous	122	5610	1	9.55	11.00	1.396	92	1.087	0.09	0.319	0.484
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 22	Simultaneous	122	5610	1	9.55	11.00	1.396	92	1.087	0.03	0.205	0.311
27	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 22	Standalone	155	5775	1	10.75	12.50	1.496	92	1.087	0.17	0.226	0.367
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 22	Standalone	155	5775	1	10.75	12.50	1.496	92	1.087	0.15	0.197	0.320
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 22	Standalone	155	5775	1	10.75	12.50	1.496	92	1.087	-0.13	0.497	0.808
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 22	Standalone	155	5775	2	10.75	12.50	1.496	92	1.087	-0.13	0.461	0.749
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 22	Standalone	155	5775	1	10.75	12.50	1.496	92	1.087	-0.11	0.328	0.533
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 22	Simultaneous	155	5775	1	9.79	11.50	1.482	92	1.087	0.1	0.317	0.511
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 22	Simultaneous	155	5775	1	9.79	11.50	1.482	92	1.087	0.07	0.253	0.408



16.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750 MHz																					
28	LTE Band 12	10M	QPSK	1	25	-	Front	10mm	Ant 13	DSI 10	23095	707.5	1	23.21	24.50	1.346	-	-	0.04	0.143	0.192
	LTE Band 12	10M	QPSK	1	25	-	Back	10mm	Ant 13	DSI 10	23095	707.5	1	23.21	24.50	1.346	-	-	0.1	0.194	0.261
	LTE Band 12	10M	QPSK	1	25	-	Left Side	10mm	Ant 13	DSI 10	23095	707.5	1	23.21	24.50	1.346	-	-	-0.08	0.135	0.182
	LTE Band 12	10M	QPSK	1	25	-	Top Side	10mm	Ant 13	DSI 10	23095	707.5	1	23.21	24.50	1.346	-	-	-0.18	0.158	0.213
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant 13	DSI 10	23095	707.5	1	22.30	23.50	1.318	-	-	-0.02	0.116	0.153
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant 13	DSI 10	23095	707.5	1	22.30	23.50	1.318	-	-	-0.18	0.164	0.216
	LTE Band 12	10M	QPSK	25	0	-	Left Side	10mm	Ant 13	DSI 10	23095	707.5	1	22.30	23.50	1.318	-	-	0.18	0.113	0.149
	LTE Band 12	10M	QPSK	25	0	-	Top Side	10mm	Ant 13	DSI 10	23095	707.5	1	22.30	23.50	1.318	-	-	0.19	0.125	0.165
	LTE Band 12	10M	QPSK	1	25	-	Front	10mm	Ant 31	DSI 10	23095	707.5	1	23.18	24.50	1.355	-	-	0.06	0.083	0.112
	LTE Band 12	10M	QPSK	1	25	-	Back	10mm	Ant 31	DSI 10	23095	707.5	1	23.18	24.50	1.355	-	-	-0.05	0.101	0.137
	LTE Band 12	10M	QPSK	1	25	-	Left Side	10mm	Ant 31	DSI 10	23095	707.5	1	23.18	24.50	1.355	-	-	0.1	0.130	0.176
	LTE Band 12	10M	QPSK	1	25	-	Right Side	10mm	Ant 31	DSI 10	23095	707.5	1	23.18	24.50	1.355	-	-	0.04	0.077	0.104
	LTE Band 12	10M	QPSK	1	25	-	Bottom Side	10mm	Ant 31	DSI 10	23095	707.5	1	23.18	24.50	1.355	-	-	0.18	0.087	0.118
	LTE Band 12	10M	QPSK	25	0	-	Front	10mm	Ant 31	DSI 10	23095	707.5	1	22.16	23.50	1.361	-	-	-0.16	0.072	0.098
	LTE Band 12	10M	QPSK	25	0	-	Back	10mm	Ant 31	DSI 10	23095	707.5	1	22.16	23.50	1.361	-	-	-0.07	0.084	0.114
	LTE Band 12	10M	QPSK	25	0	-	Left Side	10mm	Ant 31	DSI 10	23095	707.5	1	22.16	23.50	1.361	-	-	-0.18	0.104	0.142
	LTE Band 12	10M	QPSK	25	0	-	Right Side	10mm	Ant 31	DSI 10	23095	707.5	1	22.16	23.50	1.361	-	-	-0.18	0.070	0.095
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 31	DSI 10	23095	707.5	1	22.16	23.50	1.361	-	-	0.1	0.083	0.113
	LTE Band 13	10M	QPSK	1	25	-	Front	10mm	Ant 13	DSI 10	23230	782	1	23.08	24.00	1.236	-	-	0.03	0.096	0.119
	LTE Band 13	10M	QPSK	1	25	-	Back	10mm	Ant 13	DSI 10	23230	782	1	23.08	24.00	1.236	-	-	-0.09	0.151	0.187
	LTE Band 13	10M	QPSK	1	25	-	Left Side	10mm	Ant 13	DSI 10	23230	782	1	23.08	24.00	1.236	-	-	0.07	0.092	0.114
	LTE Band 13	10M	QPSK	1	25	-	Top Side	10mm	Ant 13	DSI 10	23230	782	1	23.08	24.00	1.236	-	-	0.12	0.104	0.129
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 13	DSI 10	23230	782	1	21.89	23.00	1.291	-	-	0.01	0.080	0.103
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 13	DSI 10	23230	782	1	21.89	23.00	1.291	-	-	-0.03	0.110	0.142
	LTE Band 13	10M	QPSK	25	0	-	Left Side	10mm	Ant 13	DSI 10	23230	782	1	21.89	23.00	1.291	-	-	-0.12	0.078	0.101
	LTE Band 13	10M	QPSK	25	0	-	Top Side	10mm	Ant 13	DSI 10	23230	782	1	21.89	23.00	1.291	-	-	-0.01	0.087	0.112
	LTE Band 13	10M	QPSK	1	25	-	Front	10mm	Ant 31	DSI 10	23230	782	1	22.67	24.00	1.358	-	-	-0.19	0.116	0.158
	LTE Band 13	10M	QPSK	1	25	-	Back	10mm	Ant 31	DSI 10	23230	782	1	22.67	24.00	1.358	-	-	0.11	0.143	0.194
29	LTE Band 13	10M	QPSK	1	25	-	Left Side	10mm	Ant 31	DSI 10	23230	782	1	22.67	24.00	1.358	-	-	0.03	0.176	0.239
	LTE Band 13	10M	QPSK	1	25	-	Right Side	10mm	Ant 31	DSI 10	23230	782	1	22.67	24.00	1.358	-	-	0.19	0.095	0.129
	LTE Band 13	10M	QPSK	1	25	-	Bottom Side	10mm	Ant 31	DSI 10	23230	782	1	22.67	24.00	1.358	-	-	-0.11	0.139	0.189
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 31	DSI 10	23230	782	1	21.66	23.00	1.361	-	-	-0.13	0.092	0.125
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 31	DSI 10	23230	782	1	21.66	23.00	1.361	-	-	0.15	0.115	0.157
	LTE Band 13	10M	QPSK	25	0	-	Left Side	10mm	Ant 31	DSI 10	23230	782	1	21.66	23.00	1.361	-	-	0.16	0.137	0.187
	LTE Band 13	10M	QPSK	25	0	-	Right Side	10mm	Ant 31	DSI 10	23230	782	1	21.66	23.00	1.361	-	-	-0.06	0.074	0.101
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 31	DSI 10	23230	782	1	21.66	23.00	1.361	-	-	0.09	0.109	0.148
	835 MHz																				
	GSM850	-	-	-	-	GPRS(4 Tx slots)	Front	10mm	Ant 13	DSI 10	189	836.4	1	26.66	28.00	1.361	-	-	-0.16	0.170	0.231
	GSM850	-	-	-	-	GPRS(4 Tx slots)	Back	10mm	Ant 13	DSI 10	189	836.4	1	26.66	28.00	1.361	-	-	0.07	0.207	0.282
	GSM850	-	-	-	-	GPRS(4 Tx slots)	Left Side	10mm	Ant 13	DSI 10	189	836.4	1	26.66	28.00	1.361	-	-	-0.03	0.081	0.110
	GSM850	-	-	-	-	GPRS(4 Tx slots)	Top Side	10mm	Ant 13	DSI 10	189	836.4	1	26.66	28.00	1.361	-	-	-0.13	0.193	0.263
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Front	10mm	Ant 31	DSI 10	189	836.4	1	29.86	31.50	1.459	-	-	-0.1	0.155	0.226
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Back	10mm	Ant 31	DSI 10	189	836.4	1	29.86	31.50	1.459	-	-	-0.01	0.190	0.277
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Left Side	10mm	Ant 31	DSI 10	189	836.4	1	29.86	31.50	1.459	-	-	-0.01	0.106	0.155
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Right Side	10mm	Ant 31	DSI 10	189	836.4	1	29.86	31.50	1.459	-	-	0.07	0.087	0.127
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Bottom Side	10mm	Ant 31	DSI 10	189	836.4	1	29.86	31.50	1.459	-	-	-0.1	0.145	0.212
31	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 13	DSI 10	4182	836.4	1	24.08	25.00	1.236	-	-	-0.1	0.262	0.324
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 13	DSI 10	4182	836.4	1	24.08	25.00	1.236	-	-	-0.09	0.387	0.478
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 13	DSI 10	4182	836.4	2	24.08	25.00	1.236	-	-	-0.09	0.337	0.417
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 13	DSI 10	4182	836.4	1	24.08	25.00	1.236	-	-	0.19	0.118	0.146



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	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 13	DSI 10	4182	836.4	1	24.08	25.00	1.236	-	-	0.17	0.305	0.377
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 31	DSI 10	4182	836.4	1	23.90	25.00	1.288	-	-	-0.1	0.095	0.122
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 31	DSI 10	4182	836.4	1	23.90	25.00	1.288	-	-	-0.19	0.137	0.176
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 31	DSI 10	4182	836.4	1	23.90	25.00	1.288	-	-	0.06	0.083	0.107
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 31	DSI 10	4182	836.4	1	23.90	25.00	1.288	-	-	-0.07	0.078	0.100
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 31	DSI 10	4182	836.4	1	23.90	25.00	1.288	-	-	-0.07	0.088	0.113
	LTE Band 26	15M	QPSK	1	37	-	Front	10mm	Ant 13	DSI 10	26865	831.5	1	23.53	25.00	1.403	-	-	-0.02	0.235	0.330
32	LTE Band 26	15M	QPSK	1	37	-	Back	10mm	Ant 13	DSI 10	26865	831.5	1	23.53	25.00	1.403	-	-	-0.19	0.331	0.464
	LTE Band 26	15M	QPSK	1	37	-	Left Side	10mm	Ant 13	DSI 10	26865	831.5	1	23.53	25.00	1.403	-	-	-0.15	0.120	0.168
	LTE Band 26	15M	QPSK	1	37	-	Top Side	10mm	Ant 13	DSI 10	26865	831.5	1	23.53	25.00	1.403	-	-	-0.15	0.276	0.387
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 13	DSI 10	26865	831.5	1	22.56	24.00	1.393	-	-	0.04	0.184	0.256
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 13	DSI 10	26865	831.5	1	22.56	24.00	1.393	-	-	0.19	0.252	0.351
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 13	DSI 10	26865	831.5	1	22.56	24.00	1.393	-	-	-0.1	0.094	0.131
	LTE Band 26	15M	QPSK	36	0	-	Top Side	10mm	Ant 13	DSI 10	26865	831.5	1	22.56	24.00	1.393	-	-	-0.09	0.221	0.308
	LTE Band 26	15M	QPSK	1	37	-	Front	10mm	Ant 31	DSI 10	26865	831.5	1	23.47	25.00	1.422	-	-	0.18	0.091	0.129
	LTE Band 26	15M	QPSK	1	37	-	Back	10mm	Ant 31	DSI 10	26865	831.5	1	23.47	25.00	1.422	-	-	-0.07	0.108	0.154
	LTE Band 26	15M	QPSK	1	37	-	Left Side	10mm	Ant 31	DSI 10	26865	831.5	1	23.47	25.00	1.422	-	-	-0.19	0.076	0.108
	LTE Band 26	15M	QPSK	1	37	-	Right Side	10mm	Ant 31	DSI 10	26865	831.5	1	23.47	25.00	1.422	-	-	-0.06	0.065	0.092
	LTE Band 26	15M	QPSK	1	37	-	Bottom Side	10mm	Ant 31	DSI 10	26865	831.5	1	23.47	25.00	1.422	-	-	0.1	0.086	0.122
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 31	DSI 10	26865	831.5	1	22.53	24.00	1.403	-	-	0.19	0.060	0.084
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 31	DSI 10	26865	831.5	1	22.53	24.00	1.403	-	-	-0.17	0.082	0.115
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 31	DSI 10	26865	831.5	1	22.53	24.00	1.403	-	-	0.05	0.057	0.080
	LTE Band 26	15M	QPSK	36	0	-	Right Side	10mm	Ant 31	DSI 10	26865	831.5	1	22.53	24.00	1.403	-	-	0.08	0.055	0.077
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	10mm	Ant 31	DSI 10	26865	831.5	1	22.53	24.00	1.403	-	-	0.14	0.059	0.083
	FR1 n26	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 13	DSI 10	166300	831.5	1	24.18	25.00	1.208	-	-	0.03	0.207	0.250
	FR1 n26	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 13	DSI 10	166300	831.5	1	24.18	25.00	1.208	-	-	0.08	0.300	0.362
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 13	DSI 10	166300	831.5	1	24.18	25.00	1.208	-	-	0.13	0.119	0.144
	FR1 n26	20M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 13	DSI 10	166300	831.5	1	24.18	25.00	1.208	-	-	-0.05	0.246	0.297
	FR1 n26	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 13	DSI 10	166300	831.5	1	23.95	25.00	1.274	-	-	0.01	0.206	0.262
33	FR1 n26	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 13	DSI 10	166300	831.5	1	23.95	25.00	1.274	-	-	0.07	0.369	0.470
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 13	DSI 10	166300	831.5	1	23.95	25.00	1.274	-	-	0.1	0.115	0.146
	FR1 n26	20M	QPSK	50	28	DFT-15	Top Side	10mm	Ant 13	DSI 10	166300	831.5	1	23.95	25.00	1.274	-	-	-0.01	0.315	0.401
	FR1 n26	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 31	DSI 10	166300	831.5	1	23.96	25.50	1.426	-	-	0.17	0.071	0.101
	FR1 n26	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 31	DSI 10	166300	831.5	1	23.96	25.50	1.426	-	-	0.03	0.097	0.138
	FR1 n26	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 31	DSI 10	166300	831.5	1	23.96	25.50	1.426	-	-	-0.14	0.061	0.087
	FR1 n26	20M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 31	DSI 10	166300	831.5	1	23.96	25.50	1.426	-	-	0.09	0.052	0.074
	FR1 n26	20M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 31	DSI 10	166300	831.5	1	23.96	25.50	1.426	-	-	-0.05	0.064	0.091
	FR1 n26	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 31	DSI 10	166300	831.5	1	23.94	25.50	1.432	-	-	-0.17	0.079	0.113
	FR1 n26	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 31	DSI 10	166300	831.5	1	23.94	25.50	1.432	-	-	0.09	0.096	0.138
	FR1 n26	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 31	DSI 10	166300	831.5	1	23.94	25.50	1.432	-	-	-0.09	0.063	0.090
	FR1 n26	20M	QPSK	50	28	DFT-15	Right Side	10mm	Ant 31	DSI 10	166300	831.5	1	23.94	25.50	1.432	-	-	-0.11	0.062	0.089
	FR1 n26	20M	QPSK	50	28	DFT-15	Bottom Side	10mm	Ant 31	DSI 10	166300	831.5	1	23.94	25.50	1.432	-	-	0.15	0.067	0.096
1750 MHz																					
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 13	DSI 10	1413	1732.6	1	20.02	21.00	1.253	-	-	-0.11	0.329	0.412
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 13	DSI 10	1413	1732.6	1	20.02	21.00	1.253	-	-	0.14	0.359	0.450
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 13	DSI 10	1413	1732.6	1	20.02	21.00	1.253	-	-	-0.06	0.067	0.084
34	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 13	DSI 10	1413	1732.6	1	20.02	21.00	1.253	-	-	-0.16	0.513	0.643
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 13	DSI 10	1413	1732.6	2	20.02	21.00	1.253	-	-	-0.16	0.497	0.623
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 31	DSI 10	1413	1732.6	1	19.78	21.00	1.324	-	-	-0.08	0.154	0.204
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 31	DSI 10	1413	1732.6	1	19.78	21.00	1.324	-	-	0.02	0.253	0.335
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 31	DSI 10	1413	1732.6	1	19.78	21.00	1.324	-	-	-0.11	0.006	0.008
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 31	DSI 10	1413	1732.6	1	19.78	21.00	1.324	-	-	0.06	0.062	0.082
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 31	DSI 10	1413	1732.6	1	19.78	21.00	1.324	-	-	0.06	0.355	0.470
	LTE Band 66	20M	QPSK	1	49	-	Front	10mm	Ant 13	DSI 10	132322	1745	1	19.57	21.00	1.390	-	-	0.08	0.366	0.509
	LTE Band 66	20M	QPSK	1	49	-	Back	10mm	Ant 13	DSI 10	132322	1745	1	19.57	21.00	1.390	-	-	0.02	0.381	0.530
	LTE Band 66	20M	QPSK	1	49	-	Left Side	10mm	Ant 13	DSI 10	132322	1745	1	19.57	21.00	1.390	-	-	-0.14	0.089	0.124



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35	LTE Band 66	20M	QPSK	1	49	-	Top Side	10mm	Ant 13	DSI 10	132322	1745	1	19.57	21.00	1.390	-	-	0.05	0.525	0.730
	LTE Band 66C	20M	QPSK	1	99	-	Top Side	10mm	Ant 13	DSI 10	132322+ 132520	1745+ 1764.8	1	19.23	21.00	1.503	-	-	-0.02	0.413	0.621
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 13	DSI 10	132322	1745	1	19.48	21.00	1.419	-	-	0.12	0.355	0.504
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 13	DSI 10	132322	1745	1	19.48	21.00	1.419	-	-	0.1	0.373	0.529
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 13	DSI 10	132322	1745	1	19.48	21.00	1.419	-	-	0.08	0.082	0.117
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 10	132322	1745	1	19.48	21.00	1.419	-	-	-0.13	0.472	0.670
	LTE Band 66	20M	QPSK	1	49	-	Front	10mm	Ant 31	DSI 10	132322	1745	1	19.95	21.50	1.429	-	-	0.07	0.153	0.219
	LTE Band 66	20M	QPSK	1	49	-	Back	10mm	Ant 31	DSI 10	132322	1745	1	19.95	21.50	1.429	-	-	0.14	0.239	0.342
	LTE Band 66	20M	QPSK	1	49	-	Left Side	10mm	Ant 31	DSI 10	132322	1745	1	19.95	21.50	1.429	-	-	0.13	0.032	0.046
	LTE Band 66	20M	QPSK	1	49	-	Right Side	10mm	Ant 31	DSI 10	132322	1745	1	19.95	21.50	1.429	-	-	-0.09	0.068	0.097
	LTE Band 66	20M	QPSK	1	49	-	Bottom Side	10mm	Ant 31	DSI 10	132322	1745	1	19.95	21.50	1.429	-	-	0.09	0.359	0.513
	LTE Band 66C	20M	QPSK	1	99	-	Bottom Side	10mm	Ant 31	DSI 10	132322+ 132520	1745+ 1764.8	1	19.88	21.50	1.452	-	-	-0.02	0.341	0.495
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 31	DSI 10	132322	1745	1	19.92	21.50	1.439	-	-	0.12	0.150	0.216
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 31	DSI 10	132322	1745	1	19.92	21.50	1.439	-	-	-0.14	0.233	0.335
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 31	DSI 10	132322	1745	1	19.92	21.50	1.439	-	-	0.08	0.030	0.043
	LTE Band 66	20M	QPSK	50	0	-	Right Side	10mm	Ant 31	DSI 10	132322	1745	1	19.92	21.50	1.439	-	-	-0.12	0.061	0.088
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 31	DSI 10	132322	1745	1	19.92	21.50	1.439	-	-	-0.19	0.356	0.512
	LTE Band 66	20M	QPSK	1	49	-	Front	10mm	Ant 11	DSI 10	132322	1745	1	20.47	21.50	1.268	-	-	-0.04	0.181	0.229
	LTE Band 66	20M	QPSK	1	49	-	Back	10mm	Ant 11	DSI 10	132322	1745	1	20.47	21.50	1.268	-	-	0.09	0.262	0.333
	LTE Band 66	20M	QPSK	1	49	-	Left Side	10mm	Ant 11	DSI 10	132322	1745	1	20.47	21.50	1.268	-	-	-0.04	0.426	0.541
	LTE Band 66	20M	QPSK	1	49	-	Top Side	10mm	Ant 11	DSI 10	132322	1745	1	20.47	21.50	1.268	-	-	-0.02	0.035	0.044
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 11	DSI 10	132322	1745	1	20.40	21.50	1.288	-	-	-0.11	0.184	0.238
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 11	DSI 10	132322	1745	1	20.40	21.50	1.288	-	-	0.12	0.272	0.350
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 11	DSI 10	132322	1745	1	20.40	21.50	1.288	-	-	-0.09	0.430	0.554
	LTE Band 66C	20M	QPSK	1	99	-	Left Side	10mm	Ant 11	DSI 10	132322+ 132520	1745+ 1764.8	1	19.91	21.50	1.442	-	-	-0.09	0.383	0.552
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 11	DSI 10	132322	1745	1	20.40	21.50	1.288	-	-	0.08	0.037	0.048
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 13	DSI 10	349000	1745	1	19.43	20.00	1.140	-	-	-0.08	0.304	0.347
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 13	DSI 10	349000	1745	1	19.43	20.00	1.140	-	-	0.01	0.377	0.430
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 13	DSI 10	349000	1745	1	19.43	20.00	1.140	-	-	-0.09	0.071	0.081
	FR1 n66	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 13	DSI 10	349000	1745	1	19.43	20.00	1.140	-	-	0.18	0.423	0.482
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 13	DSI 10	349000	1745	1	19.37	20.00	1.156	-	-	0.01	0.324	0.375
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 13	DSI 10	349000	1745	1	19.37	20.00	1.156	-	-	-0.16	0.402	0.465
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 13	DSI 10	349000	1745	1	19.37	20.00	1.156	-	-	-0.04	0.083	0.096
36	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 13	DSI 10	349000	1745	1	19.37	20.00	1.156	-	-	-0.01	0.464	0.536
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 31	DSI 10	349000	1745	1	19.86	20.50	1.159	-	-	0.11	0.149	0.173
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 31	DSI 10	349000	1745	1	19.86	20.50	1.159	-	-	0.16	0.228	0.264
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 31	DSI 10	349000	1745	1	19.86	20.50	1.159	-	-	0.02	0.039	0.045
	FR1 n66	40M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 31	DSI 10	349000	1745	1	19.86	20.50	1.159	-	-	-0.12	0.056	0.065
	FR1 n66	40M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 31	DSI 10	349000	1745	1	19.86	20.50	1.159	-	-	0.15	0.312	0.362
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 31	DSI 10	349000	1745	1	19.81	20.50	1.172	-	-	0.11	0.154	0.181
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 31	DSI 10	349000	1745	1	19.81	20.50	1.172	-	-	0.19	0.257	0.301
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 31	DSI 10	349000	1745	1	19.81	20.50	1.172	-	-	-0.05	0.040	0.047
	FR1 n66	40M	QPSK	108	54	DFT-15	Right Side	10mm	Ant 31	DSI 10	349000	1745	1	19.81	20.50	1.172	-	-	0.03	0.063	0.074
	FR1 n66	40M	QPSK	108	54	DFT-15	Bottom Side	10mm	Ant 31	DSI 10	349000	1745	1	19.81	20.50	1.172	-	-	-0.17	0.316	0.370
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 11	DSI 10	349000	1745	1	18.89	20.00	1.291	-	-	0.06	0.157	0.203
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 11	DSI 10	349000	1745	1	18.89	20.00	1.291	-	-	0.12	0.254	0.328
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 11	DSI 10	349000	1745	1	18.89	20.00	1.291	-	-	-0.02	0.343	0.443
	FR1 n66	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 11	DSI 10	349000	1745	1	18.89	20.00	1.291	-	-	-0.05	0.020	0.026
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 11	DSI 10	349000	1745	1	18.77	20.00	1.327	-	-	0.11	0.162	0.215
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 11	DSI 10	349000	1745	1	18.77	20.00	1.327	-	-	0.06	0.254	0.337
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 11	DSI 10	349000	1745	1	18.77	20.00	1.327	-	-	-0.08	0.344	0.457
	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 11	DSI 10	349000	1745	1	18.77	20.00	1.327	-	-	0.01	0.021	0.027
1900 MHz																					
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Front	10mm	Ant 13	DSI 10	661	1880	1	23.22	24.00	1.197	-	-	-0.13	0.235	0.281
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Back	10mm	Ant 13	DSI 10	661	1880	1	23.22	24.00	1.197	-	-	-0.1	0.297	0.355



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	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Left Side	10mm	Ant 13	DSI 10	661	1880	1	23.22	24.00	1.197	-	-	0.17	0.046	0.055
37	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Top Side	10mm	Ant 13	DSI 10	661	1880	1	23.22	24.00	1.197	-	-	0.19	0.478	0.572
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Front	10mm	Ant 31	DSI 10	661	1880	1	23.39	25.00	1.449	-	-	-0.09	0.199	0.288
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Back	10mm	Ant 31	DSI 10	661	1880	1	23.39	25.00	1.449	-	-	0.08	0.329	0.477
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Left Side	10mm	Ant 31	DSI 10	661	1880	1	23.39	25.00	1.449	-	-	0.19	0.050	0.072
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Right Side	10mm	Ant 31	DSI 10	661	1880	1	23.39	25.00	1.449	-	-	0.16	0.117	0.170
	GSM1900	-	-	-	-	GPRS(4 Tx slots)	Bottom Side	10mm	Ant 31	DSI 10	661	1880	1	23.39	25.00	1.449	-	-	-0.05	0.355	0.514
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 13	DSI 10	9400	1880	1	17.78	19.00	1.324	-	-	-0.03	0.201	0.266
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 13	DSI 10	9400	1880	1	17.78	19.00	1.324	-	-	0.19	0.250	0.331
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 13	DSI 10	9400	1880	1	17.78	19.00	1.324	-	-	0.01	0.041	0.054
38	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 13	DSI 10	9400	1880	1	17.78	19.00	1.324	-	-	-0.06	0.382	0.506
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 31	DSI 10	9400	1880	1	18.70	20.50	1.514	-	-	-0.03	0.137	0.207
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 31	DSI 10	9400	1880	1	18.70	20.50	1.514	-	-	0.09	0.237	0.359
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 31	DSI 10	9400	1880	1	18.70	20.50	1.514	-	-	-0.08	0.042	0.064
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 31	DSI 10	9400	1880	1	18.70	20.50	1.514	-	-	0.15	0.078	0.118
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 31	DSI 10	9400	1880	1	18.70	20.50	1.514	-	-	0.01	0.293	0.443
	LTE Band 2	20M	QPSK	1	49	-	Front	10mm	Ant 13	DSI 10	18900	1880	1	18.41	19.50	1.285	-	-	0.07	0.251	0.323
	LTE Band 2	20M	QPSK	1	49	-	Back	10mm	Ant 13	DSI 10	18900	1880	1	18.41	19.50	1.285	-	-	-0.02	0.284	0.365
	LTE Band 2	20M	QPSK	1	49	-	Left Side	10mm	Ant 13	DSI 10	18900	1880	1	18.41	19.50	1.285	-	-	-0.19	0.053	0.068
39	LTE Band 2	20M	QPSK	1	49	-	Top Side	10mm	Ant 13	DSI 10	18900	1880	1	18.41	19.50	1.285	-	-	-0.05	0.487	0.626
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 13	DSI 10	18900	1880	1	18.32	19.50	1.312	-	-	-0.08	0.242	0.318
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 13	DSI 10	18900	1880	1	18.32	19.50	1.312	-	-	-0.12	0.270	0.354
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 13	DSI 10	18900	1880	1	18.32	19.50	1.312	-	-	0.07	0.050	0.066
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 10	18900	1880	1	18.32	19.50	1.312	-	-	-0.11	0.441	0.579
	LTE Band 2	20M	QPSK	1	49	-	Front	10mm	Ant 31	DSI 10	18900	1880	1	19.55	21.00	1.396	-	-	0.15	0.153	0.214
	LTE Band 2	20M	QPSK	1	49	-	Back	10mm	Ant 31	DSI 10	18900	1880	1	19.55	21.00	1.396	-	-	0.09	0.271	0.378
	LTE Band 2	20M	QPSK	1	49	-	Left Side	10mm	Ant 31	DSI 10	18900	1880	1	19.55	21.00	1.396	-	-	-0.03	0.044	0.061
	LTE Band 2	20M	QPSK	1	49	-	Right Side	10mm	Ant 31	DSI 10	18900	1880	1	19.55	21.00	1.396	-	-	0.02	0.081	0.113
	LTE Band 2	20M	QPSK	1	49	-	Bottom Side	10mm	Ant 31	DSI 10	18900	1880	1	19.55	21.00	1.396	-	-	-0.18	0.321	0.448
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 31	DSI 10	18900	1880	1	19.47	21.00	1.422	-	-	0.14	0.158	0.225
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 31	DSI 10	18900	1880	1	19.47	21.00	1.422	-	-	0.09	0.278	0.395
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 31	DSI 10	18900	1880	1	19.47	21.00	1.422	-	-	0.17	0.043	0.061
	LTE Band 2	20M	QPSK	50	0	-	Right Side	10mm	Ant 31	DSI 10	18900	1880	1	19.47	21.00	1.422	-	-	-0.01	0.082	0.117
	LTE Band 2	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 31	DSI 10	18900	1880	1	19.47	21.00	1.422	-	-	-0.16	0.322	0.458
	FR1 n2	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 13	DSI 10	376000	1880	1	17.42	18.50	1.282	-	-	0.08	0.200	0.256
	FR1 n2	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 13	DSI 10	376000	1880	1	17.42	18.50	1.282	-	-	-0.03	0.261	0.335
	FR1 n2	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 13	DSI 10	376000	1880	1	17.42	18.50	1.282	-	-	0.09	0.048	0.062
	FR1 n2	20M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 13	DSI 10	376000	1880	1	17.42	18.50	1.282	-	-	-0.01	0.400	0.513
	FR1 n2	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 13	DSI 10	376000	1880	1	17.36	18.50	1.300	-	-	0.13	0.209	0.272
	FR1 n2	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 13	DSI 10	376000	1880	1	17.36	18.50	1.300	-	-	0.03	0.268	0.348
	FR1 n2	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 13	DSI 10	376000	1880	1	17.36	18.50	1.300	-	-	0.04	0.052	0.068
40	FR1 n2	20M	QPSK	50	28	DFT-15	Top Side	10mm	Ant 13	DSI 10	376000	1880	1	17.36	18.50	1.300	-	-	-0.17	0.425	0.553
	FR1 n2	20M	QPSK	1	1	DFT-15	Front	10mm	Ant 31	DSI 10	376000	1880	1	19.59	21.00	1.384	-	-	-0.14	0.165	0.228
	FR1 n2	20M	QPSK	1	1	DFT-15	Back	10mm	Ant 31	DSI 10	376000	1880	1	19.59	21.00	1.384	-	-	-0.07	0.286	0.396
	FR1 n2	20M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 31	DSI 10	376000	1880	1	19.59	21.00	1.384	-	-	-0.14	0.064	0.089
	FR1 n2	20M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 31	DSI 10	376000	1880	1	19.59	21.00	1.384	-	-	0.11	0.092	0.127
	FR1 n2	20M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 31	DSI 10	376000	1880	1	19.59	21.00	1.384	-	-	0.01	0.327	0.452
	FR1 n2	20M	QPSK	50	28	DFT-15	Front	10mm	Ant 31	DSI 10	376000	1880	1	19.55	21.00	1.396	-	-	0.03	0.161	0.225
	FR1 n2	20M	QPSK	50	28	DFT-15	Back	10mm	Ant 31	DSI 10	376000	1880	1	19.55	21.00	1.396	-	-	0.01	0.279	0.390
	FR1 n2	20M	QPSK	50	28	DFT-15	Left Side	10mm	Ant 31	DSI 10	376000	1880	1	19.55	21.00	1.396	-	-	0.17	0.055	0.077
	FR1 n2	20M	QPSK	50	28	DFT-15	Right Side	10mm	Ant 31	DSI 10	376000	1880	1	19.55	21.00	1.396	-	-	0.19	0.087	0.121
	FR1 n2	20M	QPSK	50	28	DFT-15	Bottom Side	10mm	Ant 31	DSI 10	376000	1880	1	19.55	21.00	1.396	-	-	-0.02	0.316	0.441
2600 MHz																					
	LTE Band 7	20M	QPSK	1	49	-	Front	10mm	Ant 13	DSI 10	21100	2535	1	14.67	16.00	1.358		1.000	-0.15	0.149	0.202
	LTE Band 7	20M	QPSK	1	49	-	Back	10mm	Ant 13	DSI 10	21100	2535	1	14.67	16.00	1.358		1.000	0.06	0.458	0.622
	LTE Band 7	20M	QPSK	1	49	-	Left Side	10mm	Ant 13	DSI 10	21100	2535	1	14.67	16.00	1.358		1.000	-0.17	0.060	0.081



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41	LTE Band 7	20M	QPSK	1	49	-	Top Side	10mm	Ant 13	DSI 10	21100	2535	1	14.67	16.00	1.358		1.000	-0.11	0.554	0.753
	LTE Band 7C	20M	QPSK	1	99	-	Top Side	10mm	Ant 13	DSI 10	21100+ 21298	2535+ 2554.8	1	14.42	16.00	1.439		1.000	-0.05	0.513	0.738
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 13	DSI 10	21100	2535	1	14.52	16.00	1.406		1.000	-0.01	0.143	0.201
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 13	DSI 10	21100	2535	1	14.52	16.00	1.406		1.000	0.18	0.439	0.617
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 13	DSI 10	21100	2535	1	14.52	16.00	1.406		1.000	-0.12	0.052	0.073
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 10	21100	2535	1	14.52	16.00	1.406		1.000	-0.11	0.518	0.728
	LTE Band 7	20M	QPSK	1	49	-	Front	10mm	Ant 31	DSI 10	21100	2535	1	20.44	22.00	1.432		1.000	-0.01	0.180	0.258
	LTE Band 7	20M	QPSK	1	49	-	Back	10mm	Ant 31	DSI 10	21100	2535	1	20.44	22.00	1.432		1.000	-0.03	0.237	0.339
	LTE Band 7	20M	QPSK	1	49	-	Left Side	10mm	Ant 31	DSI 10	21100	2535	1	20.44	22.00	1.432		1.000	-0.15	0.038	0.054
	LTE Band 7	20M	QPSK	1	49	-	Right Side	10mm	Ant 31	DSI 10	21100	2535	1	20.44	22.00	1.432		1.000	-0.13	0.148	0.212
	LTE Band 7	20M	QPSK	1	49	-	Bottom Side	10mm	Ant 31	DSI 10	21100	2535	1	20.44	22.00	1.432		1.000	-0.08	0.156	0.223
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 31	DSI 10	21100	2535	1	20.37	22.00	1.455		1.000	-0.16	0.192	0.279
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 31	DSI 10	21100	2535	1	20.37	22.00	1.455		1.000	-0.19	0.269	0.392
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 31	DSI 10	21100	2535	1	20.37	22.00	1.455		1.000	-0.14	0.040	0.058
	LTE Band 7	20M	QPSK	50	0	-	Right Side	10mm	Ant 31	DSI 10	21100	2535	1	20.37	22.00	1.455		1.000	0.1	0.148	0.215
	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 31	DSI 10	21100	2535	1	20.37	22.00	1.455		1.000	-0.12	0.159	0.231
	LTE Band 7C	20M	QPSK	1	99	-	Back	10mm	Ant 31	DSI 10	21100+ 21298	2535+ 2554.8	1	20.17	22.00	1.524		1.000	-0.07	0.134	0.204
	LTE Band 7	20M	QPSK	1	49	-	Front	10mm	Ant 11	DSI 10	21100	2535	1	17.20	18.50	1.349		1.000	0.1	0.140	0.189
	LTE Band 7	20M	QPSK	1	49	-	Back	10mm	Ant 11	DSI 10	21100	2535	1	17.20	18.50	1.349		1.000	0.17	0.257	0.347
	LTE Band 7	20M	QPSK	1	49	-	Left Side	10mm	Ant 11	DSI 10	21100	2535	1	17.20	18.50	1.349		1.000	0.08	0.355	0.479
	LTE Band 7	20M	QPSK	1	49	-	Top Side	10mm	Ant 11	DSI 10	21100	2535	1	17.20	18.50	1.349		1.000	0.06	0.049	0.066
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 11	DSI 10	21100	2535	1	17.15	18.50	1.365		1.000	0.1	0.147	0.201
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 11	DSI 10	21100	2535	1	17.15	18.50	1.365		1.000	0.17	0.256	0.349
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 11	DSI 10	21100	2535	1	17.15	18.50	1.365		1.000	-0.1	0.393	0.536
	LTE Band 7C	20M	QPSK	1	99	-	Left Side	10mm	Ant 11	DSI 10	21100+ 21298	2535+ 2554.8	1	16.77	18.50	1.489		1.000	-0.1	0.366	0.545
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 11	DSI 10	21100	2535	1	17.15	18.50	1.365		1.000	-0.1	0.053	0.072
	LTE Band 41	20M	QPSK	1	49	-	Front	10mm	Ant 13	DSI 10	40620	2593	1	17.05	18.00	1.245	62.9	1.006	0.06	0.149	0.187
	LTE Band 41	20M	QPSK	1	49	-	Back	10mm	Ant 13	DSI 10	40620	2593	1	17.05	18.00	1.245	62.9	1.006	0.01	0.453	0.567
	LTE Band 41	20M	QPSK	1	49	-	Left Side	10mm	Ant 13	DSI 10	40620	2593	1	17.05	18.00	1.245	62.9	1.006	-0.01	0.061	0.076
	LTE Band 41	20M	QPSK	1	49	-	Top Side	10mm	Ant 13	DSI 10	40620	2593	1	17.05	18.00	1.245	62.9	1.006	-0.02	0.498	0.623
	LTE Band 41	20M	QPSK	1	49	-	Top Side	10mm	Ant 13	DSI 10	39750	2506	1	16.81	18.00	1.315	62.9	1.006	0.19	0.468	0.619
	LTE Band 41	20M	QPSK	1	49	-	Top Side	10mm	Ant 13	DSI 10	40185	2549.5	1	16.88	18.00	1.294	62.9	1.006	-0.18	0.454	0.591
	LTE Band 41	20M	QPSK	1	49	-	Top Side	10mm	Ant 13	DSI 10	41055	2636.5	1	17.02	18.00	1.253	62.9	1.006	0.16	0.453	0.571
	LTE Band 41	20M	QPSK	1	49	-	Top Side	10mm	Ant 13	DSI 10	41490	2680	1	16.95	18.00	1.274	62.9	1.006	0.01	0.301	0.386
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 13	DSI 10	40620	2593	1	17.00	18.00	1.259	62.9	1.006	-0.11	0.154	0.195
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 13	DSI 10	40620	2593	1	17.00	18.00	1.259	62.9	1.006	-0.07	0.462	0.585
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 13	DSI 10	40620	2593	1	17.00	18.00	1.259	62.9	1.006	0.07	0.062	0.079
42	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 10	40620	2593	1	17.00	18.00	1.259	62.9	1.006	0.14	0.501	0.635
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 10	39750	2506	1	16.74	18.00	1.337	62.9	1.006	-0.01	0.471	0.633
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 10	40185	2549.5	1	16.79	18.00	1.321	62.9	1.006	-0.04	0.453	0.602
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 10	41055	2636.5	1	16.90	18.00	1.288	62.9	1.006	-0.06	0.479	0.621
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 13	DSI 10	41490	2680	1	16.85	18.00	1.303	62.9	1.006	-0.06	0.328	0.430
	LTE Band 41C	20M	QPSK	1	99	-	Top Side	10mm	Ant 13	DSI 10	40620+ 40818	2593+ 2612.8	1	16.75	18.00	1.334	62.9	1.006	-0.01	0.334	0.448
	LTE Band 41	20M	QPSK	100	0	-	Top Side	10mm	Ant 13	DSI 10	40620	2593	1	16.92	18.00	1.282	62.9	1.006	-0.16	0.476	0.614
	LTE Band 41	20M	QPSK	1	49	-	Front	10mm	Ant 31	DSI 10	40620	2593	1	23.51	25.00	1.409	62.9	1.006	0.06	0.293	0.415
	LTE Band 41	20M	QPSK	1	49	-	Back	10mm	Ant 31	DSI 10	40620	2593	1	23.51	25.00	1.409	62.9	1.006	-0.02	0.326	0.462
	LTE Band 41	20M	QPSK	1	49	-	Left Side	10mm	Ant 31	DSI 10	40620	2593	1	23.51	25.00	1.409	62.9	1.006	-0.03	0.057	0.081
	LTE Band 41	20M	QPSK	1	49	-	Right Side	10mm	Ant 31	DSI 10	40620	2593	1	23.51	25.00	1.409	62.9	1.006	0.06	0.236	0.335
	LTE Band 41	20M	QPSK	1	49	-	Bottom Side	10mm	Ant 31	DSI 10	40620	2593	1	23.51	25.00	1.409	62.9	1.006	-0.01	0.290	0.411
	LTE Band 41C	20M	QPSK	1	99	-	Back	10mm	Ant 31	DSI 10	40620+ 40818	2593+ 2612.8	1	23.03	25.00	1.574	62.9	1.006	0.12	0.300	0.475
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 31	DSI 10	40620	2593	1	22.60	24.00	1.380	62.9	1.006	0.18	0.241	0.335
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 31	DSI 10	40620	2593	1	22.60	24.00	1.380	62.9	1.006	-0.13	0.261	0.362
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 31	DSI 10	40620	2593	1	22.60	24.00	1.380	62.9	1.006	0.11	0.040	0.056
	LTE Band 41	20M	QPSK	50	0	-	Right Side	10mm	Ant 31	DSI 10	40620	2593	1	22.60	24.00	1.380	62.9	1.006	0.07	0.192	0.267
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 31	DSI 10	40620	2593	1	22.60	24.00	1.380	62.9	1.006	-0.08	0.240	0.333



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	LTE Band 41	20M	QPSK	1	49	-	Front	10mm	Ant 11	DSI 10	40620	2593	1	19.19	20.00	1.205	62.9	1.006	0.09	0.143	0.173
	LTE Band 41	20M	QPSK	1	49	-	Back	10mm	Ant 11	DSI 10	40620	2593	1	19.19	20.00	1.205	62.9	1.006	0.11	0.267	0.324
	LTE Band 41	20M	QPSK	1	49	-	Left Side	10mm	Ant 11	DSI 10	40620	2593	1	19.19	20.00	1.205	62.9	1.006	-0.19	0.418	0.507
	LTE Band 41	20M	QPSK	1	49	-	Top Side	10mm	Ant 11	DSI 10	40620	2593	1	19.19	20.00	1.205	62.9	1.006	0.11	0.025	0.030
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 11	DSI 10	40620	2593	1	19.15	20.00	1.216	62.9	1.006	-0.08	0.141	0.173
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 11	DSI 10	40620	2593	1	19.15	20.00	1.216	62.9	1.006	0.14	0.267	0.327
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 11	DSI 10	40620	2593	1	19.15	20.00	1.216	62.9	1.006	-0.01	0.489	0.598
	LTE Band 41C	20M	QPSK	1	99	-	Left Side	10mm	Ant 11	DSI 10	40620+ 40818	2593+ 2612.8	1	18.86	20.00	1.300	62.9	1.006	-0.01	0.412	0.539
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 11	DSI 10	40620	2593	1	19.15	20.00	1.216	62.9	1.006	0.17	0.041	0.050
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 13	DSI 10	507000	2535	1	14.33	15.50	1.309		1.000	0.14	0.155	0.203
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 13	DSI 10	507000	2535	1	14.33	15.50	1.309		1.000	-0.13	0.479	0.627
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 13	DSI 10	507000	2535	1	14.33	15.50	1.309		1.000	-0.13	0.058	0.076
43	FR1 n7	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 13	DSI 10	507000	2535	1	14.33	15.50	1.309		1.000	-0.02	0.552	0.723
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 13	DSI 10	507000	2535	1	14.30	15.50	1.318		1.000	-0.06	0.137	0.181
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 13	DSI 10	507000	2535	1	14.30	15.50	1.318		1.000	0.06	0.446	0.588
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 13	DSI 10	507000	2535	1	14.30	15.50	1.318		1.000	-0.1	0.054	0.071
	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 13	DSI 10	507000	2535	1	14.30	15.50	1.318		1.000	-0.15	0.527	0.695
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 31	DSI 10	507000	2535	1	20.77	22.00	1.327		1.000	-0.09	0.212	0.281
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 31	DSI 10	507000	2535	1	20.77	22.00	1.327		1.000	0.18	0.268	0.356
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 31	DSI 10	507000	2535	1	20.77	22.00	1.327		1.000	0.06	0.043	0.057
	FR1 n7	40M	QPSK	1	1	DFT-15	Right Side	10mm	Ant 31	DSI 10	507000	2535	1	20.77	22.00	1.327		1.000	-0.04	0.153	0.203
	FR1 n7	40M	QPSK	1	1	DFT-15	Bottom Side	10mm	Ant 31	DSI 10	507000	2535	1	20.77	22.00	1.327		1.000	-0.15	0.189	0.251
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 31	DSI 10	507000	2535	1	20.71	22.00	1.346		1.000	0.12	0.201	0.271
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 31	DSI 10	507000	2535	1	20.71	22.00	1.346		1.000	-0.04	0.229	0.308
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 31	DSI 10	507000	2535	1	20.71	22.00	1.346		1.000	0.13	0.040	0.054
	FR1 n7	40M	QPSK	108	54	DFT-15	Right Side	10mm	Ant 31	DSI 10	507000	2535	1	20.71	22.00	1.346		1.000	0.02	0.134	0.180
	FR1 n7	40M	QPSK	108	54	DFT-15	Bottom Side	10mm	Ant 31	DSI 10	507000	2535	1	20.71	22.00	1.346		1.000	-0.01	0.184	0.248
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	10mm	Ant 11	DSI 10	507000	2535	1	16.42	17.50	1.282		1.000	0.08	0.104	0.133
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	10mm	Ant 11	DSI 10	507000	2535	1	16.42	17.50	1.282		1.000	0.07	0.199	0.255
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	10mm	Ant 11	DSI 10	507000	2535	1	16.42	17.50	1.282		1.000	-0.12	0.264	0.339
	FR1 n7	40M	QPSK	1	1	DFT-15	Top Side	10mm	Ant 11	DSI 10	507000	2535	1	16.42	17.50	1.282		1.000	0.1	0.035	0.045
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	10mm	Ant 11	DSI 10	507000	2535	1	16.37	17.50	1.297		1.000	0.01	0.112	0.145
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	10mm	Ant 11	DSI 10	507000	2535	1	16.37	17.50	1.297		1.000	0.14	0.216	0.280
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Side	10mm	Ant 11	DSI 10	507000	2535	1	16.37	17.50	1.297		1.000	-0.02	0.324	0.420
	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	10mm	Ant 11	DSI 10	507000	2535	1	16.37	17.50	1.297		1.000	-0.18	0.037	0.048
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 13	DSI 10	518598	2592.99	1	14.96	16.50	1.426		1.000	-0.02	0.143	0.204
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 13	DSI 10	518598	2592.99	1	14.96	16.50	1.426		1.000	-0.06	0.383	0.546
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 13	DSI 10	518598	2592.99	1	14.96	16.50	1.426		1.000	0.13	0.040	0.057
	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 13	DSI 10	518598	2592.99	1	14.96	16.50	1.426		1.000	-0.11	0.487	0.694
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 13	DSI 10	518598	2592.99	1	14.76	16.50	1.493		1.000	-0.02	0.143	0.213
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 13	DSI 10	518598	2592.99	1	14.76	16.50	1.493		1.000	0.11	0.447	0.667
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 13	DSI 10	518598	2592.99	1	14.76	16.50	1.493		1.000	0.17	0.059	0.088
44	FR1 n41	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 13	DSI 10	518598	2592.99	1	14.76	16.50	1.493		1.000	-0.04	0.571	0.852
	FR1 n41	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 13	DSI 10	518598	2592.99	2	14.76	16.50	1.493		1.000	-0.04	0.377	0.563
	FR1 n41	100M	QPSK	270	0	DFT-30	Back	10mm	Ant 13	DSI 10	518598	2592.99	1	14.75	16.50	1.496		1.000	0.11	0.440	0.658
	FR1 n41	100M	QPSK	270	0	DFT-30	Top Side	10mm	Ant 13	DSI 10	518598	2592.99	1	14.75	16.50	1.496		1.000	-0.04	0.514	0.769
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 31	DSI 10	518598	2592.99	1	21.48	23.00	1.419		1.000	-0.12	0.286	0.406
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 31	DSI 10	518598	2592.99	1	21.48	23.00	1.419		1.000	-0.19	0.315	0.447
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 31	DSI 10	518598	2592.99	1	21.48	23.00	1.419		1.000	0.06	0.047	0.067
	FR1 n41	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 31	DSI 10	518598	2592.99	1	21.48	23.00	1.419		1.000	0.12	0.184	0.261
	FR1 n41	100M	QPSK	1	1	DFT-30	Bottom Side	10mm	Ant 31	DSI 10	518598	2592.99	1	21.48	23.00	1.419		1.000	-0.12	0.262	0.372
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 31	DSI 10	518598	2592.99	1	21.25	23.00	1.496		1.000	-0.09	0.327	0.489
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 31	DSI 10	518598	2592.99	1	21.25	23.00	1.496		1.000	-0.18	0.353	0.528
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 31	DSI 10	518598	2592.99	1	21.25	23.00	1.496		1.000	0.17	0.048	0.072
	FR1 n41	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 31	DSI 10	518598	2592.99	1	21.25	23.00	1.496		1.000	-0.07	0.238	0.356
	FR1 n41	100M	QPSK	135	69	DFT-30	Bottom Side	10mm	Ant 31	DSI 10	518598	2592.99	1	21.25	23.00	1.496		1.000	-0.18	0.295	0.441



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	FR1 n41	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 11	DSI 10	518598	2592.99	1	15.99	17.00	1.262	1.000	0.09	0.106	0.134
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 11	DSI 10	518598	2592.99	1	15.99	17.00	1.262	1.000	-0.18	0.191	0.241
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 11	DSI 10	518598	2592.99	1	15.99	17.00	1.262	1.000	-0.19	0.291	0.367
	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 11	DSI 10	518598	2592.99	1	15.99	17.00	1.262	1.000	-0.19	0.038	0.048
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 11	DSI 10	518598	2592.99	1	15.89	17.00	1.291	1.000	0.18	0.124	0.160
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 11	DSI 10	518598	2592.99	1	15.89	17.00	1.291	1.000	-0.12	0.229	0.296
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 10	518598	2592.99	1	15.89	17.00	1.291	1.000	-0.19	0.360	0.465
	FR1 n41	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 11	DSI 10	518598	2592.99	1	15.89	17.00	1.291	1.000	-0.03	0.044	0.057
3000~4000 MHz																				
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 11	DSI 10	633332	3499.98	1	17.08	18.50	1.387	1.000	-0.16	0.194	0.269
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 11	DSI 10	633332	3499.98	1	17.08	18.50	1.387	1.000	0.01	0.341	0.473
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 11	DSI 10	633332	3499.98	1	17.08	18.50	1.387	1.000	0.13	0.535	0.742
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 11	DSI 10	633332	3499.98	1	17.08	18.50	1.387	1.000	-0.05	0.044	0.061
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 11	DSI 10	633332	3499.98	1	17.05	18.50	1.396	1.000	0.06	0.212	0.296
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 11	DSI 10	633332	3499.98	1	17.05	18.50	1.396	1.000	0.01	0.358	0.500
45	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 10	633332	3499.98	1	17.05	18.50	1.396	1.000	0.16	0.540	0.754
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 10	633332	3499.98	2	17.05	18.50	1.396	1.000	0.02	0.535	0.747
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 11	DSI 10	633332	3499.98	1	17.05	18.50	1.396	1.000	-0.19	0.048	0.067
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 11	DSI 10	656000	3840	1	17.05	18.50	1.396	1.000	-0.07	0.194	0.271
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 11	DSI 10	656000	3840	1	17.05	18.50	1.396	1.000	0.12	0.295	0.412
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 11	DSI 10	656000	3840	1	17.05	18.50	1.396	1.000	0.01	0.429	0.599
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 11	DSI 10	656000	3840	1	17.05	18.50	1.396	1.000	0.1	0.020	0.028
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 11	DSI 10	656000	3840	1	16.95	18.50	1.429	1.000	-0.01	0.185	0.264
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 11	DSI 10	656000	3840	1	16.95	18.50	1.429	1.000	0.13	0.280	0.400
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 11	DSI 10	656000	3840	1	16.95	18.50	1.429	1.000	0.16	0.403	0.576
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 11	DSI 10	656000	3840	1	16.95	18.50	1.429	1.000	-0.19	0.019	0.027
	FR1 n77	100M	QPSK	270	0	DFT-30	Back	10mm	Ant 11	DSI 10	656000	3840	1	16.87	18.50	1.455	1.000	0.04	0.271	0.394
	FR1 n77	100M	QPSK	270	0	DFT-30	Left Side	10mm	Ant 11	DSI 10	656000	3840	1	16.87	18.50	1.455	1.000	0.02	0.401	0.584
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 12	DSI 10	633332	3499.98	1	16.24	17.50	1.337	1.000	-0.17	0.188	0.251
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 12	DSI 10	633332	3499.98	1	16.24	17.50	1.337	1.000	-0.17	0.300	0.401
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 12	DSI 10	633332	3499.98	1	16.24	17.50	1.337	1.000	0.04	0.221	0.295
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 12	DSI 10	633332	3499.98	1	16.24	17.50	1.337	1.000	0.1	0.135	0.180
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 12	DSI 10	633332	3499.98	1	16.13	17.50	1.371	1.000	-0.05	0.210	0.288
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 12	DSI 10	633332	3499.98	1	16.13	17.50	1.371	1.000	0.08	0.368	0.504
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 12	DSI 10	633332	3499.98	1	16.13	17.50	1.371	1.000	0.15	0.248	0.340
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 12	DSI 10	633332	3499.98	1	16.13	17.50	1.371	1.000	-0.06	0.143	0.196
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 12	DSI 10	656000	3840	1	16.19	17.50	1.352	1.000	-0.03	0.105	0.142
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 12	DSI 10	656000	3840	1	16.19	17.50	1.352	1.000	-0.07	0.139	0.188
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 12	DSI 10	656000	3840	1	16.19	17.50	1.352	1.000	0.14	0.134	0.181
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 12	DSI 10	656000	3840	1	16.19	17.50	1.352	1.000	0.05	0.067	0.091
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 12	DSI 10	656000	3840	1	16.11	17.50	1.377	1.000	0.15	0.092	0.127
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 12	DSI 10	656000	3840	1	16.11	17.50	1.377	1.000	-0.01	0.124	0.171
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 12	DSI 10	656000	3840	1	16.11	17.50	1.377	1.000	0.11	0.110	0.151
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 12	DSI 10	656000	3840	1	16.11	17.50	1.377	1.000	0.1	0.064	0.088
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 12	DSI 10	633332	3499.98	1	16.91	18.00	1.285	1.000	0.17	0.195	0.251
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 12	DSI 10	633332	3499.98	1	16.91	18.00	1.285	1.000	0.16	0.291	0.374
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 12	DSI 10	633332	3499.98	1	16.91	18.00	1.285	1.000	-0.12	0.221	0.284
	FR1 n78	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 12	DSI 10	633332	3499.98	1	16.91	18.00	1.285	1.000	0.09	0.136	0.175
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 12	DSI 10	633332	3499.98	1	16.72	18.00	1.343	1.000	-0.12	0.222	0.298
46	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 12	DSI 10	633332	3499.98	1	16.72	18.00	1.343	1.000	-0.17	0.427	0.573
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 12	DSI 10	633332	3499.98	1	16.72	18.00	1.343	1.000	-0.15	0.252	0.338
	FR1 n78	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 12	DSI 10	633332	3499.98	1	16.72	18.00	1.343	1.000	-0.03	0.151	0.203
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 12	DSI 10	650000	3750	1	16.52	18.00	1.406	1.000	0.01	0.160	0.225
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 12	DSI 10	650000	3750	1	16.52	18.00	1.406	1.000	0.16	0.211	0.297
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	10mm	Ant 12	DSI 10	650000	3750	1	16.52	18.00	1.406	1.000	0.14	0.206	0.290
	FR1 n78	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 12	DSI 10	650000	3750	1	16.52	18.00	1.406	1.000	0.13	0.115	0.162



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FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 12	DSI 10	650000	3750	1	16.46	18.00	1.426	1.000	0.03	0.136	0.194
FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 12	DSI 10	650000	3750	1	16.46	18.00	1.426	1.000	-0.07	0.179	0.255
FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	10mm	Ant 12	DSI 10	650000	3750	1	16.46	18.00	1.426	1.000	-0.19	0.176	0.251
FR1 n78	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 12	DSI 10	650000	3750	1	16.46	18.00	1.426	1.000	0.12	0.097	0.138

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Measured Plimit (dBm)	Reported Plimit (dBm)	Reported Pmax (dBm)	Duty Cycle %	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
SRS																				
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 23	DSI 10	633332	3499.98	1	17.05	18.50	23.00	8.5	-0.09	0.125	0.042
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 23	DSI 10	633332	3499.98	1	17.05	18.50	23.00	8.5	0.17	0.213	0.071
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 23	DSI 10	633332	3499.98	1	17.05	18.50	23.00	8.5	0.19	0.275	0.092
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 23	DSI 10	633332	3499.98	1	17.05	18.50	23.00	8.5	-0.13	0.050	0.017
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 23	DSI 10	633332	3499.98	1	16.97	18.50	23.00	8.5	-0.1	0.122	0.042
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 23	DSI 10	633332	3499.98	1	16.97	18.50	23.00	8.5	0.18	0.209	0.071
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 23	DSI 10	633332	3499.98	1	16.97	18.50	23.00	8.5	-0.06	0.254	0.087
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 23	DSI 10	633332	3499.98	1	16.97	18.50	23.00	8.5	0.14	0.048	0.016
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 23	DSI 10	656000	3840	1	17.39	18.50	23.00	8.5	0.05	0.230	0.071
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 23	DSI 10	656000	3840	1	17.39	18.50	23.00	8.5	0.03	0.425	0.131
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 23	DSI 10	656000	3840	1	17.39	18.50	23.00	8.5	-0.01	0.463	0.143
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 23	DSI 10	656000	3840	1	17.39	18.50	23.00	8.5	0.01	0.092	0.028
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 23	DSI 10	656000	3840	1	17.15	18.50	23.00	8.5	-0.08	0.233	0.076
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 23	DSI 10	656000	3840	1	17.15	18.50	23.00	8.5	-0.09	0.415	0.136
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 23	DSI 10	656000	3840	1	17.15	18.50	23.00	8.5	-0.07	0.465	0.152
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 23	DSI 10	656000	3840	1	17.15	18.50	23.00	8.5	-0.04	0.093	0.030
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 21	DSI 10	633332	3499.98	1	16.04	17.50	23.00	8.5	0.01	0.179	0.076
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 21	DSI 10	633332	3499.98	1	16.04	17.50	23.00	8.5	-0.11	0.302	0.127
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 21	DSI 10	633332	3499.98	1	16.04	17.50	23.00	8.5	0.11	0.035	0.015
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 21	DSI 10	633332	3499.98	1	16.04	17.50	23.00	8.5	0.01	0.335	0.141
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 21	DSI 10	633332	3499.98	1	15.85	17.50	23.00	8.5	-0.07	0.191	0.084
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 21	DSI 10	633332	3499.98	1	15.85	17.50	23.00	8.5	0.08	0.323	0.142
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 21	DSI 10	633332	3499.98	1	15.85	17.50	23.00	8.5	0.04	0.078	0.034
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 21	DSI 10	633332	3499.98	1	15.85	17.50	23.00	8.5	-0.06	0.341	0.150
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 21	DSI 10	656000	3840	1	16.54	17.50	23.00	8.5	-0.09	0.183	0.069
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 21	DSI 10	656000	3840	1	16.54	17.50	23.00	8.5	-0.06	0.291	0.109
	FR1 n77	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 21	DSI 10	656000	3840	1	16.54	17.50	23.00	8.5	-0.06	0.078	0.029
	FR1 n77	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 21	DSI 10	656000	3840	1	16.54	17.50	23.00	8.5	-0.08	0.342	0.129
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 21	DSI 10	656000	3840	1	16.17	17.50	23.00	8.5	-0.08	0.160	0.066
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 21	DSI 10	656000	3840	1	16.17	17.50	23.00	8.5	0.17	0.262	0.107
	FR1 n77	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 21	DSI 10	656000	3840	1	16.17	17.50	23.00	8.5	-0.01	0.066	0.027
	FR1 n77	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 21	DSI 10	656000	3840	1	16.17	17.50	23.00	8.5	-0.11	0.264	0.108
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 23	DSI 10	633332	3499.98	1	17.30	19.00	24.50	8.5	-0.07	0.114	0.051
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 23	DSI 10	633332	3499.98	1	17.30	19.00	24.50	8.5	-0.04	0.196	0.087
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 23	DSI 10	633332	3499.98	1	17.30	19.00	24.50	8.5	0.04	0.254	0.113
	FR1 n78	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 23	DSI 10	633332	3499.98	1	17.30	19.00	24.50	8.5	0.04	0.069	0.031
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 23	DSI 10	633332	3499.98	1	17.07	19.00	24.50	8.5	-0.12	0.117	0.055
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 23	DSI 10	633332	3499.98	1	17.07	19.00	24.50	8.5	0.08	0.221	0.104
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 23	DSI 10	633332	3499.98	1	17.07	19.00	24.50	8.5	0.12	0.241	0.113
	FR1 n78	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 23	DSI 10	633332	3499.98	1	17.07	19.00	24.50	8.5	0.04	0.066	0.031
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	10mm	Ant 23	DSI 10	650000	3750	1	17.39	19.00	24.50	8.5	-0.04	0.243	0.106
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	10mm	Ant 23	DSI 10	650000	3750	1	17.39	19.00	24.50	8.5	-0.04	0.519	0.227
	FR1 n78	100M	QPSK	1	1	DFT-30	Right Side	10mm	Ant 23	DSI 10	650000	3750	1	17.39	19.00	24.50	8.5	0.12	0.537	0.235
	FR1 n78	100M	QPSK	1	1	DFT-30	Top Side	10mm	Ant 23	DSI 10	650000	3750	1	17.39	19.00	24.50	8.5	0.13	0.134	0.059
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	10mm	Ant 23	DSI 10	650000	3750	1	17.17	19.00	24.50	8.5	-0.01	0.227	0.104
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	10mm	Ant 23	DSI 10	650000	3750	1	17.17	19.00	24.50	8.5	0.12	0.481	0.221
	FR1 n78	100M	QPSK	135	69	DFT-30	Right Side	10mm	Ant 23	DSI 10	650000	3750	1	17.17	19.00	24.50	8.5	0.05	0.507	0.233
	FR1 n78	100M	QPSK	135	69	DFT-30	Top Side	10mm	Ant 23	DSI 10	650000	3750	1	17.17	19.00	24.50	8.5	0.02	0.109	0.050



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN & BT																	
47	Bluetooth	DH5 1Mbps	Front	10mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	0.02	0.047	0.084
	Bluetooth	DH5 1Mbps	Back	10mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	-0.09	0.056	0.099
	Bluetooth	DH5 1Mbps	Right Side	10mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	-0.14	0.040	0.071
	Bluetooth	DH5 1Mbps	Top Side	10mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	0.03	0.047	0.084
48	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 22	Reduced	11	2462	1	16.22	18.00	1.507	98.73	1.013	-0.18	0.184	0.281
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 22	Reduced	11	2462	1	16.22	18.00	1.507	98.73	1.013	0.17	0.203	0.310
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 22	Reduced	11	2462	1	16.22	18.00	1.507	98.73	1.013	0.01	0.170	0.259
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 22	Reduced	11	2462	1	16.22	18.00	1.507	98.73	1.013	0.12	0.210	0.321
49	WLAN5.2GHz	802.11n-HT40 MCS0	Front	10mm	Ant 22	Reduced	46	5230	1	13.06	14.50	1.392	96.74	1.034	-0.09	0.088	0.127
	WLAN5.2GHz	802.11n-HT40 MCS0	Back	10mm	Ant 22	Reduced	46	5230	1	13.06	14.50	1.392	96.74	1.034	0.18	0.339	0.488
	WLAN5.2GHz	802.11n-HT40 MCS0	Right Side	10mm	Ant 22	Reduced	46	5230	1	13.06	14.50	1.392	96.74	1.034	0.05	0.106	0.153
	WLAN5.2GHz	802.11n-HT40 MCS0	Top Side	10mm	Ant 22	Reduced	46	5230	1	13.06	14.50	1.392	96.74	1.034	-0.11	0.336	0.483
50	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	10mm	Ant 22	Reduced	155	5775	1	15.38	17.00	1.451	92	1.087	-0.02	0.208	0.328
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 22	Reduced	155	5775	1	15.38	17.00	1.451	92	1.087	-0.07	0.337	0.532
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 22	Reduced	155	5775	2	15.38	17.00	1.451	92	1.087	-0.07	0.440	0.694
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	10mm	Ant 22	Reduced	155	5775	1	15.38	17.00	1.451	92	1.087	0.17	0.241	0.380
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	10mm	Ant 22	Reduced	155	5775	1	15.38	17.00	1.451	92	1.087	0.14	0.320	0.505



16.3 Body Worn Accessory SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750 MHz																					
51	LTE Band 12	10M	QPSK	1	25	-	Front	15mm	Ant 13	DSI 4	23095	707.5	1	23.21	24.50	1.346	-	-	0.01	0.144	0.194
	LTE Band 12	10M	QPSK	1	25	-	Back	15mm	Ant 13	DSI 4	23095	707.5	1	23.21	24.50	1.346	-	-	-0.17	0.174	0.234
	LTE Band 12	10M	QPSK	25	0	-	Front	15mm	Ant 13	DSI 4	23095	707.5	1	22.30	23.50	1.318	-	-	-0.08	0.113	0.149
	LTE Band 12	10M	QPSK	25	0	-	Back	15mm	Ant 13	DSI 4	23095	707.5	1	22.30	23.50	1.318	-	-	0.10	0.143	0.189
	LTE Band 12	10M	QPSK	1	25	-	Front	15mm	Ant 31	DSI 4	23095	707.5	1	23.18	24.50	1.355	-	-	0.17	0.096	0.130
	LTE Band 12	10M	QPSK	1	25	-	Back	15mm	Ant 31	DSI 4	23095	707.5	1	23.18	24.50	1.355	-	-	-0.06	0.112	0.152
	LTE Band 12	10M	QPSK	25	0	-	Front	15mm	Ant 31	DSI 4	23095	707.5	1	22.16	23.50	1.361	-	-	0.01	0.077	0.105
	LTE Band 12	10M	QPSK	25	0	-	Back	15mm	Ant 31	DSI 4	23095	707.5	1	22.16	23.50	1.361	-	-	0.12	0.086	0.117
52	LTE Band 13	10M	QPSK	1	25	-	Front	15mm	Ant 13	DSI 4	23230	782	1	23.08	24.00	1.236	-	-	0.06	0.104	0.129
	LTE Band 13	10M	QPSK	1	25	-	Back	15mm	Ant 13	DSI 4	23230	782	1	23.08	24.00	1.236	-	-	-0.03	0.142	0.176
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant 13	DSI 4	23230	782	1	21.89	23.00	1.291	-	-	0.09	0.087	0.112
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant 13	DSI 4	23230	782	1	21.89	23.00	1.291	-	-	0.19	0.105	0.136
	LTE Band 13	10M	QPSK	1	25	-	Front	15mm	Ant 31	DSI 4	23230	782	1	22.67	24.00	1.358	-	-	0.00	0.126	0.171
	LTE Band 13	10M	QPSK	1	25	-	Back	15mm	Ant 31	DSI 4	23230	782	1	22.67	24.00	1.358	-	-	-0.18	0.152	0.206
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant 31	DSI 4	23230	782	1	21.66	23.00	1.361	-	-	0.15	0.103	0.140
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant 31	DSI 4	23230	782	1	21.66	23.00	1.361	-	-	0.02	0.115	0.157
835 MHz																					
53	GSM850	-	-	-	-	GPRS(2 Tx slots)	Front	15mm	Ant 13	DSI 4	189	836.4	1	30.56	32.00	1.393	-	-	-0.09	0.132	0.184
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Back	15mm	Ant 13	DSI 4	189	836.4	1	30.56	32.00	1.393	-	-	0.13	0.189	0.263
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Front	15mm	Ant 31	DSI 4	189	836.4	1	29.86	31.50	1.459	-	-	-0.04	0.098	0.143
	GSM850	-	-	-	-	GPRS(2 Tx slots)	Back	15mm	Ant 31	DSI 4	189	836.4	1	29.86	31.50	1.459	-	-	0.08	0.116	0.169
54	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 13	DSI 4	4182	836.4	1	24.08	25.00	1.236	-	-	0.06	0.181	0.224
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 13	DSI 4	4182	836.4	1	24.08	25.00	1.236	-	-	0.08	0.213	0.263
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 31	DSI 4	4182	836.4	1	23.90	25.00	1.288	-	-	-0.16	0.098	0.126
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 31	DSI 4	4182	836.4	1	23.90	25.00	1.288	-	-	-0.12	0.104	0.134
55	LTE Band 26	15M	QPSK	1	37	-	Front	15mm	Ant 13	DSI 4	26865	831.5	1	23.53	25.00	1.403	-	-	-0.06	0.150	0.210
	LTE Band 26	15M	QPSK	1	37	-	Back	15mm	Ant 13	DSI 4	26865	831.5	1	23.53	25.00	1.403	-	-	-0.01	0.196	0.275
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 13	DSI 4	26865	831.5	1	22.56	24.00	1.393	-	-	-0.13	0.127	0.177
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 13	DSI 4	26865	831.5	1	22.56	24.00	1.393	-	-	-0.17	0.157	0.219
	LTE Band 26	15M	QPSK	1	37	-	Front	15mm	Ant 31	DSI 4	26865	831.5	1	23.47	25.00	1.422	-	-	-0.04	0.080	0.114
	LTE Band 26	15M	QPSK	1	37	-	Back	15mm	Ant 31	DSI 4	26865	831.5	1	23.47	25.00	1.422	-	-	-0.17	0.090	0.128
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 31	DSI 4	26865	831.5	1	22.53	24.00	1.403	-	-	-0.02	0.061	0.086
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 31	DSI 4	26865	831.5	1	22.53	24.00	1.403	-	-	0.13	0.071	0.100
56	FR1 n26	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 13	DSI 4	166300	831.5	1	24.18	25.00	1.208	-	-	0.00	0.175	0.211
	FR1 n26	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 13	DSI 4	166300	831.5	1	24.18	25.00	1.208	-	-	0.06	0.237	0.286
	FR1 n26	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 13	DSI 4	166300	831.5	2	24.18	25.00	1.208	-	-	0.06	0.202	0.244
	FR1 n26	20M	QPSK	50	28	DFT-15	Front	15mm	Ant 13	DSI 4	166300	831.5	1	23.95	25.00	1.274	-	-	-0.19	0.172	0.219
	FR1 n26	20M	QPSK	50	28	DFT-15	Back	15mm	Ant 13	DSI 4	166300	831.5	1	23.95	25.00	1.274	-	-	0.08	0.208	0.265
	FR1 n26	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 31	DSI 4	166300	831.5	1	23.96	25.50	1.426	-	-	0.16	0.074	0.105
	FR1 n26	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 31	DSI 4	166300	831.5	1	23.96	25.50	1.426	-	-	0.08	0.086	0.123
	FR1 n26	20M	QPSK	50	28	DFT-15	Front	15mm	Ant 31	DSI 4	166300	831.5	1	23.94	25.50	1.432	-	-	0.15	0.084	0.120
58	FR1 n26	20M	QPSK	50	28	DFT-15	Back	15mm	Ant 31	DSI 4	166300	831.5	1	23.94	25.50	1.432	-	-	0.14	0.104	0.149
	1750 MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 13	DSI 4	1413	1732.6	1	23.66	24.50	1.213	-	-	-0.12	0.381	0.462
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 13	DSI 4	1413	1732.6	1	23.66	24.50	1.213	-	-	0.14	0.393	0.477
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 31	DSI 4	1413	1732.6	1	20.71	22.00	1.346	-	-	-0.03	0.109	0.147
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 31	DSI 4	1413	1732.6	1	20.71	22.00	1.346	-	-	-0.03	0.166	0.223
	LTE Band 66	20M	QPSK	1	49	-	Front	15mm	Ant 13	DSI 4	132322	1745	1	23.24	24.50	1.337	-	-	0.12	0.344	0.460
	LTE Band 66	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	132322	1745	1	23.24	24.50	1.337	-	-	0.07	0.421	0.563
	LTE Band 66C	20M	QPSK	1	99	-	Back	15mm	Ant 13	DSI 4	132322+132520	1745+1764.8	1	22.68	24.50	1.521	-	-	0.05	0.370	0.563



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	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 13	DSI 4	132322	1745	1	22.28	23.50	1.324	-	-	0.16	0.307	0.407
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	132322	1745	1	22.28	23.50	1.324	-	-	-0.18	0.349	0.462
	LTE Band 66	20M	QPSK	1	49	-	Front	15mm	Ant 31	DSI 4	132322	1745	1	21.00	22.50	1.413	-	-	0.07	0.110	0.155
	LTE Band 66	20M	QPSK	1	49	-	Back	15mm	Ant 31	DSI 4	132322	1745	1	21.00	22.50	1.413	-	-	-0.14	0.160	0.226
	LTE Band 66C	20M	QPSK	1	99	-	Back	15mm	Ant 31	DSI 4	132322+ 132520	1745+ 1764.8	1	20.65	22.50	1.531	-	-	0.02	0.143	0.219
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 31	DSI 4	132322	1745	1	20.92	22.50	1.439	-	-	0.08	0.108	0.155
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 31	DSI 4	132322	1745	1	20.92	22.50	1.439	-	-	0.10	0.155	0.223
	LTE Band 66	20M	QPSK	1	49	-	Front	15mm	Ant 11	DSI 4	132322	1745	1	23.49	24.50	1.262	-	-	-0.05	0.132	0.167
	LTE Band 66	20M	QPSK	1	49	-	Back	15mm	Ant 11	DSI 4	132322	1745	1	23.49	24.50	1.262	-	-	-0.07	0.241	0.304
	LTE Band 66C	20M	QPSK	1	99	-	Back	15mm	Ant 11	DSI 4	132322+ 132520	1745+ 1764.8	1	22.78	24.50	1.486	-	-	-0.03	0.193	0.287
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 11	DSI 4	132322	1745	1	22.62	23.50	1.225	-	-	0.18	0.110	0.135
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 11	DSI 4	132322	1745	1	22.62	23.50	1.225	-	-	0.07	0.173	0.212
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 13	DSI 4	349000	1745	1	23.91	24.50	1.146	-	-	-0.13	0.402	0.460
59	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 13	DSI 4	349000	1745	1	23.91	24.50	1.146	-	-	0.10	0.454	0.520
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 13	DSI 4	349000	1745	1	23.84	24.50	1.164	-	-	0.06	0.393	0.458
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 13	DSI 4	349000	1745	1	23.84	24.50	1.164	-	-	-0.08	0.441	0.513
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 31	DSI 4	349000	1745	1	21.04	21.50	1.112	-	-	-0.15	0.106	0.118
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 31	DSI 4	349000	1745	1	21.04	21.50	1.112	-	-	-0.13	0.143	0.159
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 31	DSI 4	349000	1745	1	20.95	21.50	1.135	-	-	-0.13	0.105	0.119
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 31	DSI 4	349000	1745	1	20.95	21.50	1.135	-	-	-0.09	0.156	0.177
	FR1 n66	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 11	DSI 4	349000	1745	1	23.31	24.50	1.315	-	-	-0.17	0.199	0.262
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 11	DSI 4	349000	1745	1	23.31	24.50	1.315	-	-	-0.19	0.311	0.409
	FR1 n66	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 11	DSI 4	349000	1745	1	23.23	24.50	1.340	-	-	-0.17	0.191	0.256
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 11	DSI 4	349000	1745	1	23.23	24.50	1.340	-	-	-0.06	0.302	0.405
1900 MHz																					
	GSM1900	-	-	-	-	GPRS(2 Tx slots)	Front	15mm	Ant 13	DSI 4	661	1880	1	28.18	29.00	1.208	-	-	0.08	0.197	0.238
	GSM1900	-	-	-	-	GPRS(2 Tx slots)	Back	15mm	Ant 13	DSI 4	661	1880	1	28.18	29.00	1.208	-	-	-0.17	0.251	0.303
	GSM1900	-	-	-	-	GPRS(2 Tx slots)	Front	15mm	Ant 31	DSI 4	661	1880	1	27.46	29.00	1.426	-	-	0.07	0.127	0.181
60	GSM1900	-	-	-	-	GPRS(2 Tx slots)	Back	15mm	Ant 31	DSI 4	661	1880	1	27.46	29.00	1.426	-	-	-0.08	0.248	0.354
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 13	DSI 4	9400	1880	1	22.87	24.00	1.297	-	-	0.08	0.304	0.394
61	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 13	DSI 4	9400	1880	1	22.87	24.00	1.297	-	-	0.07	0.398	0.516
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 31	DSI 4	9400	1880	1	19.75	21.50	1.496	-	-	0.02	0.094	0.141
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 31	DSI 4	9400	1880	1	19.75	21.50	1.496	-	-	-0.06	0.163	0.244
	LTE Band 2	20M	QPSK	1	49	-	Front	15mm	Ant 13	DSI 4	18900	1880	1	22.88	24.00	1.294	-	-	0.02	0.332	0.430
62	LTE Band 2	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	18900	1880	1	22.88	24.00	1.294	-	-	-0.14	0.447	0.579
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant 13	DSI 4	18900	1880	1	21.96	23.00	1.271	-	-	0.06	0.284	0.361
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	18900	1880	1	21.96	23.00	1.271	-	-	0.06	0.355	0.451
	LTE Band 2	20M	QPSK	1	49	-	Front	15mm	Ant 31	DSI 4	18900	1880	1	20.56	22.00	1.393	-	-	-0.19	0.102	0.142
	LTE Band 2	20M	QPSK	1	49	-	Back	15mm	Ant 31	DSI 4	18900	1880	1	20.56	22.00	1.393	-	-	-0.15	0.188	0.262
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant 31	DSI 4	18900	1880	1	20.44	22.00	1.432	-	-	0.11	0.104	0.149
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant 31	DSI 4	18900	1880	1	20.44	22.00	1.432	-	-	0.03	0.194	0.278
	FR1 n2	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 13	DSI 4	376000	1880	1	22.88	24.00	1.294	-	-	-0.04	0.196	0.254
63	FR1 n2	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 13	DSI 4	376000	1880	1	22.88	24.00	1.294	-	-	-0.15	0.447	0.579
	FR1 n2	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 13	DSI 4	376000	1880	2	22.88	24.00	1.294	-	-	-0.15	0.377	0.488
	FR1 n2	20M	QPSK	50	28	DFT-15	Front	15mm	Ant 13	DSI 4	376000	1880	1	22.80	24.00	1.318	-	-	0.01	0.184	0.243
	FR1 n2	20M	QPSK	50	28	DFT-15	Back	15mm	Ant 13	DSI 4	376000	1880	1	22.80	24.00	1.318	-	-	0.07	0.310	0.409
	FR1 n2	20M	QPSK	1	1	DFT-15	Front	15mm	Ant 31	DSI 4	376000	1880	1	20.56	22.00	1.393	-	-	0.05	0.208	0.290
	FR1 n2	20M	QPSK	1	1	DFT-15	Back	15mm	Ant 31	DSI 4	376000	1880	1	20.56	22.00	1.393	-	-	0.05	0.275	0.383
	FR1 n2	20M	QPSK	50	28	DFT-15	Front	15mm	Ant 31	DSI 4	376000	1880	1	20.50	22.00	1.413	-	-	0.05	0.192	0.271
	FR1 n2	20M	QPSK	50	28	DFT-15	Back	15mm	Ant 31	DSI 4	376000	1880	1	20.50	22.00	1.413	-	-	-0.18	0.265	0.374
2600 MHz																					
	LTE Band 7	20M	QPSK	1	49	-	Front	15mm	Ant 13	DSI 4	21100	2535	1	19.26	20.50	1.330	-	-	0.10	0.225	0.299
	LTE Band 7	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	21100	2535	1	19.26	20.50	1.330	-	-	-0.13	0.603	0.802
64	LTE Band 7	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	20850	2510	1	19.20	20.50	1.349	-	-	0.15	0.628	0.847
	LTE Band 7C	20M	QPSK	1	99	-	Back	15mm	Ant 13	DSI 4	20850+ 21048	2510+ 2529.8	1	18.91	20.50	1.442	-	-	0.03	0.518	0.747



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	LTE Band 7	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	21350	2560	1	19.22	20.50	1.343	-	-	-0.17	0.583	0.783
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 13	DSI 4	21100	2535	1	19.20	20.50	1.349	-	-	-0.14	0.186	0.251
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	21100	2535	1	19.20	20.50	1.349	-	-	-0.06	0.512	0.691
	LTE Band 7	20M	QPSK	100	0	-	Back	15mm	Ant 13	DSI 4	21100	2535	1	19.17	20.50	1.358	-	-	0.00	0.489	0.665
	LTE Band 7	20M	QPSK	1	49	-	Front	15mm	Ant 31	DSI 4	21100	2535	1	21.56	23.00	1.393	-	-	0.00	0.123	0.171
	LTE Band 7	20M	QPSK	1	49	-	Back	15mm	Ant 31	DSI 4	21100	2535	1	21.56	23.00	1.393	-	-	-0.15	0.140	0.195
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 31	DSI 4	21100	2535	1	21.52	23.00	1.406	-	-	0.06	0.126	0.177
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 31	DSI 4	21100	2535	1	21.52	23.00	1.406	-	-	-0.16	0.143	0.201
	LTE Band 7C	20M	QPSK	1	99	-	Back	15mm	Ant 31	DSI 4	21100+ 21298	2535+ 2554.8	1	21.12	23.00	1.542	-	-	-0.13	0.129	0.199
	LTE Band 7	20M	QPSK	1	49	-	Front	15mm	Ant 11	DSI 4	21100	2535	1	22.51	23.50	1.256	-	-	-0.01	0.189	0.237
	LTE Band 7	20M	QPSK	1	49	-	Back	15mm	Ant 11	DSI 4	21100	2535	1	22.51	23.50	1.256	-	-	-0.14	0.358	0.450
	LTE Band 7C	20M	QPSK	1	99	-	Back	15mm	Ant 11	DSI 4	21100+ 21298	2535+ 2554.8	1	21.79	23.50	1.483	-	-	0.11	0.300	0.445
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 11	DSI 4	21100	2535	1	21.51	22.50	1.256	-	-	-0.09	0.157	0.197
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 11	DSI 4	21100	2535	1	21.51	22.50	1.256	-	-	0.08	0.283	0.355
	LTE Band 38	20M	QPSK	1	49	-	Front	15mm	Ant 13	DSI 4	38000	2595	1	22.24	23.00	1.191	62.9	1.006	-0.05	0.254	0.305
65	LTE Band 38	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	38000	2595	1	22.24	23.00	1.191	62.9	1.006	-0.11	0.704	0.844
	LTE Band 38C	20M	QPSK	1	99	-	Back	15mm	Ant 13	DSI 4	37901+ 38099	2595+ 2614.8	1	21.41	23.00	1.442	62.9	1.006	0.06	0.580	0.841
	LTE Band 38	20M	QPSK	50	0	-	Front	15mm	Ant 13	DSI 4	38000	2595	1	22.17	23.00	1.211	62.9	1.006	-0.05	0.210	0.256
	LTE Band 38	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	38000	2595	1	22.17	23.00	1.211	62.9	1.006	-0.17	0.574	0.699
	LTE Band 38	20M	QPSK	100	0	-	Back	15mm	Ant 13	DSI 4	38000	2595	1	22.14	23.00	1.219	62.9	1.006	0.04	0.558	0.684
	LTE Band 41	20M	QPSK	1	49	-	Front	15mm	Ant 13	DSI 4	40620	2593	1	21.00	22.00	1.259	62.9	1.006	-0.08	0.200	0.253
	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	40620	2593	1	21.00	22.00	1.259	62.9	1.006	0.07	0.564	0.714
66	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	39750	2506	1	20.77	22.00	1.327	62.9	1.006	0.12	0.573	0.765
	LTE Band 41C	20M	QPSK	1	99	-	Back	15mm	Ant 13	DSI 4	39750+ 39948	2506+ 2525.8	1	20.73	22.00	1.340	62.9	1.006	0.10	0.524	0.706
	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	40185	2549.5	1	20.82	22.00	1.312	62.9	1.006	0.14	0.498	0.658
	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	41055	2636.5	1	20.93	22.00	1.279	62.9	1.006	-0.04	0.479	0.617
	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	41490	2680	1	20.87	22.00	1.297	62.9	1.006	-0.13	0.340	0.444
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 13	DSI 4	40620	2593	1	20.92	22.00	1.282	62.9	1.006	-0.08	0.163	0.210
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	40620	2593	1	20.92	22.00	1.282	62.9	1.006	-0.09	0.471	0.608
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	39750	2506	1	20.73	22.00	1.340	62.9	1.006	0.00	0.480	0.647
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	40185	2549.5	1	20.79	22.00	1.321	62.9	1.006	0.05	0.422	0.561
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	41055	2636.5	1	20.87	22.00	1.297	62.9	1.006	-0.13	0.374	0.488
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	41490	2680	1	20.85	22.00	1.303	62.9	1.006	0.04	0.293	0.384
	LTE Band 41	20M	QPSK	100	0	-	Back	15mm	Ant 13	DSI 4	40620	2593	1	20.84	22.00	1.306	62.9	1.006	-0.08	0.453	0.595
	LTE Band 41	20M	QPSK	1	49	-	Front	15mm	Ant 31	DSI 4	40620	2593	1	23.51	25.00	1.409	62.9	1.006	0.11	0.155	0.220
	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 31	DSI 4	40620	2593	1	23.51	25.00	1.409	62.9	1.006	0.12	0.166	0.235
	LTE Band 41C	20M	QPSK	1	99	-	Back	15mm	Ant 31	DSI 4	40620+ 40818	2593+ 2612.8	1	23.06	25.00	1.563	62.9	1.006	0.12	0.140	0.220
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 31	DSI 4	40620	2593	1	22.60	24.00	1.380	62.9	1.006	0.08	0.122	0.169
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 31	DSI 4	40620	2593	1	22.60	24.00	1.380	62.9	1.006	-0.11	0.130	0.181
	LTE Band 41	20M	QPSK	1	49	-	Front	15mm	Ant 11	DSI 4	40620	2593	1	23.63	25.00	1.371	62.9	1.006	0.03	0.192	0.265
	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 11	DSI 4	40620	2593	1	23.63	25.00	1.371	62.9	1.006	0.10	0.318	0.439
	LTE Band 41C	20M	QPSK	1	99	-	Back	15mm	Ant 11	DSI 4	40620+ 40818	2593+ 2612.8	1	23.01	25.00	1.581	62.9	1.006	0.10	0.270	0.429
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 11	DSI 4	40620	2593	1	22.69	24.00	1.352	62.9	1.006	-0.04	0.154	0.209
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 11	DSI 4	40620	2593	1	22.69	24.00	1.352	62.9	1.006	0.10	0.272	0.370
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 13	DSI 4	507000	2535	1	19.30	20.50	1.318	-	-	-0.07	0.225	0.297
67	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 13	DSI 4	507000	2535	1	19.30	20.50	1.318	-	-	0.09	0.639	0.842
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 13	DSI 4	507000	2535	1	19.26	20.50	1.330	-	-	-0.17	0.213	0.283
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 13	DSI 4	507000	2535	1	19.26	20.50	1.330	-	-	0.09	0.624	0.830
	FR1 n7	40M	QPSK	216	0	DFT-15	Back	15mm	Ant 13	DSI 4	507000	2535	1	19.21	20.50	1.346	-	-	-0.05	0.621	0.836
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 31	DSI 4	507000	2535	1	21.80	23.00	1.318	-	-	-0.18	0.135	0.178
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 31	DSI 4	507000	2535	1	21.80	23.00	1.318	-	-	0.16	0.153	0.202
	FR1 n7	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 31	DSI 4	507000	2535	1	21.76	23.00	1.330	-	-	-0.05	0.130	0.173
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 31	DSI 4	507000	2535	1	21.76	23.00	1.330	-	-	-0.06	0.136	0.181
	FR1 n7	40M	QPSK	1	1	DFT-15	Front	15mm	Ant 11	DSI 4	507000	2535	1	22.89	24.00	1.291	-	-	0.04	0.218	0.281
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 11	DSI 4	507000	2535	1	22.89	24.00	1.291	-	-	0.10	0.389	0.502



FCC SAR Test Report

Report No. : FA3D0709

	FR1 n7	40M	QPSK	108	54	DFT-15	Front	15mm	Ant 11	DSI 4	507000	2535	1	22.66	24.00	1.361	-	-	0.16	0.244	0.332
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 11	DSI 4	507000	2535	1	22.66	24.00	1.361	-	-	0.03	0.413	0.562
	FR1 n38	40M	QPSK	1	1	DFT-30	Front	15mm	Ant 13	DSI 4	519000	2595	1	19.50	21.00	1.413	-	-	-0.03	0.221	0.312
	FR1 n38	40M	QPSK	1	1	DFT-30	Back	15mm	Ant 13	DSI 4	519000	2595	1	19.50	21.00	1.413	-	-	-0.08	0.625	0.883
	FR1 n38	40M	QPSK	50	28	DFT-30	Front	15mm	Ant 13	DSI 4	519000	2595	1	19.38	21.00	1.452	-	-	-0.19	0.216	0.313
68	FR1 n38	40M	QPSK	50	28	DFT-30	Back	15mm	Ant 13	DSI 4	519000	2595	1	19.38	21.00	1.452	-	-	-0.09	0.611	0.887
	FR1 n38	40M	QPSK	100	0	DFT-30	Back	15mm	Ant 13	DSI 4	519000	2595	1	19.22	21.00	1.507	-	-	-0.13	0.585	0.881
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 13	DSI 4	518598	2592.99	1	19.81	21.50	1.476	-	-	0.07	0.182	0.269
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 13	DSI 4	518598	2592.99	1	19.81	21.50	1.476	-	-	-0.18	0.529	0.781
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 13	DSI 4	518598	2592.99	1	19.63	21.50	1.538	-	-	0.17	0.214	0.329
69	FR1 n41	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 13	DSI 4	518598	2592.99	1	19.63	21.50	1.538	-	-	-0.11	0.633	0.974
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 13	DSI 4	518598	2592.99	2	19.63	21.50	1.538	-	-	-0.11	0.510	0.784
	FR1 n41	100M	QPSK	270	0	DFT-30	Back	15mm	Ant 13	DSI 4	518598	2592.99	1	19.60	21.50	1.549	-	-	-0.03	0.612	0.948
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 31	DSI 4	518598	2592.99	1	22.43	24.00	1.435	-	-	0.06	0.196	0.281
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 31	DSI 4	518598	2592.99	1	22.43	24.00	1.435	-	-	0.03	0.198	0.284
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 31	DSI 4	518598	2592.99	1	22.13	24.00	1.538	-	-	-0.11	0.220	0.338
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 31	DSI 4	518598	2592.99	1	22.13	24.00	1.538	-	-	-0.15	0.231	0.355
	FR1 n41	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 11	DSI 4	518598	2592.99	1	23.53	24.50	1.250	-	-	-0.12	0.305	0.381
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	518598	2592.99	1	23.53	24.50	1.250	-	-	-0.06	0.549	0.686
	FR1 n41	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 11	DSI 4	518598	2592.99	1	23.41	24.50	1.285	-	-	-0.15	0.316	0.406
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	518598	2592.99	1	23.41	24.50	1.285	-	-	0.17	0.554	0.712
	FR1 n41	100M	QPSK	270	0	DFT-30	Back	15mm	Ant 11	DSI 4	518598	2592.99	1	23.38	24.50	1.294	-	-	0.05	0.569	0.736
3000~4000 MHz																					
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 11	DSI 4	633332	3499.98	1	22.52	24.00	1.406	-	-	0.05	0.343	0.482
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	633332	3499.98	1	22.52	24.00	1.406	-	-	-0.02	0.581	0.817
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 11	DSI 4	633332	3499.98	1	22.51	24.00	1.409	-	-	0.16	0.353	0.497
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	633332	3499.98	1	22.51	24.00	1.409	-	-	0.05	0.585	0.824
	FR1 n77	100M	QPSK	270	0	DFT-30	Back	15mm	Ant 11	DSI 4	633332	3499.98	1	22.05	23.50	1.396	-	-	-0.02	0.526	0.734
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 11	DSI 4	656000	3840	1	22.51	24.00	1.409	-	-	0.14	0.331	0.466
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	656000	3840	1	22.51	24.00	1.409	-	-	-0.13	0.482	0.679
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 11	DSI 4	656000	3840	1	22.35	24.00	1.462	-	-	-0.18	0.313	0.458
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	656000	3840	1	22.35	24.00	1.462	-	-	-0.02	0.463	0.677
	FR1 n77	100M	QPSK	270	0	DFT-30	Front	15mm	Ant 11	DSI 4	656000	3840	1	21.75	23.50	1.496	-	-	0.09	0.301	0.450
	FR1 n77	100M	QPSK	270	0	DFT-30	Back	15mm	Ant 11	DSI 4	656000	3840	1	21.75	23.50	1.496	-	-	-0.01	0.434	0.649
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 12	DSI 4	633332	3499.98	1	22.58	23.50	1.236	-	-	-0.16	0.421	0.520
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	1	22.58	23.50	1.236	-	-	-0.09	0.595	0.735
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 12	DSI 4	633332	3499.98	1	22.08	23.50	1.387	-	-	0.03	0.475	0.659
70	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	1	22.08	23.50	1.387	-	-	0.04	0.707	0.980
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	2	22.08	23.50	1.387	-	-	-0.06	0.697	0.967
	FR1 n77	100M	QPSK	270	0	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	1	21.56	22.50	1.242	-	-	0.06	0.523	0.649
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 12	DSI 4	656000	3840	1	22.30	23.50	1.318	-	-	-0.13	0.219	0.289
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	656000	3840	1	22.30	23.50	1.318	-	-	-0.17	0.239	0.315
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 12	DSI 4	656000	3840	1	22.11	23.50	1.377	-	-	0.04	0.202	0.278
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	656000	3840	1	22.11	23.50	1.377	-	-	-0.01	0.207	0.285
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 12	DSI 4	633332	3499.98	1	22.83	24.00	1.309	-	-	-0.17	0.410	0.537
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	1	22.83	24.00	1.309	-	-	-0.02	0.641	0.839
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 12	DSI 4	633332	3499.98	1	22.66	24.00	1.361	-	-	-0.18	0.462	0.629
71	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	1	22.66	24.00	1.361	-	-	-0.01	0.687	0.935
	FR1 n78	100M	QPSK	270	0	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	1	22.54	24.00	1.400	-	-	0.13	0.664	0.929
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 12	DSI 4	650000	3750	1	22.55	24.00	1.396	-	-	0.09	0.268	0.374
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	650000	3750	1	22.55	24.00	1.396	-	-	-0.19	0.338	0.472
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 12	DSI 4	650000	3750	1	22.39	24.00	1.449	-	-	0.04	0.251	0.364
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 12	DSI 4	650000	3750	1	22.39	24.00	1.449	-	-	0.16	0.320	0.464



FCC SAR Test Report

Report No. : FA3D0709

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Measured Plimit (dBm)	Reported Plimit (dBm)	Reported Pmax (dBm)	Duty Cycle %	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
SRS																				
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 23	DSI 4	633332	3499.98	1	19.10	20.50	23.00	8.5	-0.19	0.095	0.020
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 23	DSI 4	633332	3499.98	1	19.10	20.50	23.00	8.5	0.12	0.149	0.031
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 23	DSI 4	633332	3499.98	1	19.03	20.50	23.00	8.5	0.02	0.112	0.024
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 23	DSI 4	633332	3499.98	1	19.03	20.50	23.00	8.5	0.19	0.165	0.035
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 23	DSI 4	656000	3840	1	19.34	20.50	23.00	8.5	0.17	0.196	0.039
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 23	DSI 4	656000	3840	1	19.34	20.50	23.00	8.5	-0.13	0.401	0.079
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 23	DSI 4	656000	3840	1	19.21	20.50	23.00	8.5	0.16	0.166	0.034
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 23	DSI 4	656000	3840	1	19.21	20.50	23.00	8.5	0.19	0.328	0.067
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 21	DSI 4	633332	3499.98	1	17.60	19.00	23.00	8.5	0.03	0.153	0.045
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 21	DSI 4	633332	3499.98	1	17.60	19.00	23.00	8.5	-0.07	0.227	0.067
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 21	DSI 4	633332	3499.98	1	17.49	19.00	23.00	8.5	0.01	0.161	0.049
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 21	DSI 4	633332	3499.98	1	17.49	19.00	23.00	8.5	-0.03	0.245	0.074
	FR1 n77	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 21	DSI 4	656000	3840	1	18.03	19.00	23.00	8.5	-0.06	0.202	0.054
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 21	DSI 4	656000	3840	1	18.03	19.00	23.00	8.5	0.16	0.309	0.082
	FR1 n77	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 21	DSI 4	656000	3840	1	17.77	19.00	23.00	8.5	-0.11	0.171	0.048
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 21	DSI 4	656000	3840	1	17.77	19.00	23.00	8.5	-0.11	0.267	0.076
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 23	DSI 4	633332	3499.98	1	19.26	21.00	24.50	8.5	0.19	0.109	0.031
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 23	DSI 4	633332	3499.98	1	19.26	21.00	24.50	8.5	0.08	0.158	0.045
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 23	DSI 4	633332	3499.98	1	19.07	21.00	24.50	8.5	0.10	0.106	0.031
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 23	DSI 4	633332	3499.98	1	19.07	21.00	24.50	8.5	0.18	0.175	0.052
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 23	DSI 4	650000	3750	1	19.28	21.00	24.50	8.5	-0.18	0.197	0.056
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 23	DSI 4	650000	3750	1	19.28	21.00	24.50	8.5	0.13	0.365	0.103
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 23	DSI 4	650000	3750	1	19.06	21.00	24.50	8.5	0.14	0.198	0.059
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 23	DSI 4	650000	3750	1	19.06	21.00	24.50	8.5	0.15	0.428	0.127
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 21	DSI 4	633332	3499.98	1	17.84	19.50	25.00	8.5	0.19	0.167	0.074
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 21	DSI 4	633332	3499.98	1	17.84	19.50	25.00	8.5	0.00	0.257	0.114
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 21	DSI 4	633332	3499.98	1	17.78	19.50	25.00	8.5	0.00	0.184	0.082
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 21	DSI 4	633332	3499.98	1	17.78	19.50	25.00	8.5	-0.06	0.270	0.121
	FR1 n78	100M	QPSK	1	1	DFT-30	Front	15mm	Ant 21	DSI 4	650000	3750	1	17.85	19.50	25.00	8.5	-0.09	0.223	0.098
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 21	DSI 4	650000	3750	1	17.85	19.50	25.00	8.5	-0.12	0.340	0.150
	FR1 n78	100M	QPSK	135	69	DFT-30	Front	15mm	Ant 21	DSI 4	650000	3750	1	17.66	19.50	25.00	8.5	-0.02	0.211	0.097
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 21	DSI 4	650000	3750	1	17.66	19.50	25.00	8.5	0.12	0.325	0.150

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
WLAN & BT																	
	Bluetooth	DH5 1Mbps	Front	15mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	0.14	0.020	0.036
72	Bluetooth	DH5 1Mbps	Back	15mm	Ant 22	Full	39	2441	1	12.13	13.50	1.371	77.07	1.298	-0.06	0.022	0.038
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 22	Standalone	11	2462	1	18.15	20.00	1.531	98.73	1.013	-0.19	0.143	0.222
73	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 22	Standalone	11	2462	1	18.15	20.00	1.531	98.73	1.013	0.02	0.159	0.247
	WLAN5.2&5.3GHz	802.11n-HT40 MCS0	Front	15mm	Ant 22	Standalone	54	5270	1	16.56	17.50	1.240	96.94	1.032	-0.08	0.094	0.120
74	WLAN5.2&5.3GHz	802.11n-HT40 MCS0	Back	15mm	Ant 22	Standalone	54	5270	1	16.56	17.50	1.240	96.94	1.032	0.06	0.378	0.484
	WLAN5.2&5.3GHz	802.11n-HT40 MCS0	Back	15mm	Ant 22	Simultaneous	54	5270	1	13.58	14.50	1.235	96.94	1.032	0.01	0.194	0.247
	WLAN5.5GHz	802.11a 6Mbps	Front	15mm	Ant 22	Standalone	116	5580	1	17.95	19.50	1.428	98.57	1.015	-0.10	0.343	0.497
75	WLAN5.5GHz	802.11a 6Mbps	Back	15mm	Ant 22	Standalone	116	5580	1	17.95	19.50	1.428	98.57	1.015	-0.18	0.379	0.549
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 22	Simultaneous	122	5610	1	15.54	17.00	1.399	92	1.087	0.09	0.211	0.321
	WLAN5.8GHz	802.11a 6Mbps	Front	15mm	Ant 22	Standalone	149	5745	1	18.19	20.00	1.516	98.57	1.015	-0.04	0.329	0.506
	WLAN5.8GHz	802.11a 6Mbps	Back	15mm	Ant 22	Standalone	149	5745	1	18.19	20.00	1.516	98.57	1.015	-0.08	0.364	0.560
76	WLAN5.8GHz	802.11a 6Mbps	Back	15mm	Ant 22	Standalone	149	5745	2	18.19	20.00	1.516	98.57	1.015	-0.08	0.485	0.746
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 22	Simultaneous	155	5775	1	15.38	17.00	1.451	92	1.087	0.02	0.244	0.385



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)	Sample	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)
1750 MHz																					
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 5	1413	1732.6	1	22.05	23.00	1.245	-	-	0.07	1.700	2.116
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 5	1312	1712.4	1	22.02	23.00	1.253	-	-	0.08	1.590	1.992
77	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 5	1513	1752.6	1	22.00	23.00	1.259	-	-	0.01	1.790	2.253
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	14mm	Ant 13	DSI 4	1513	1752.6	1	23.63	24.50	1.222	-	-	0.01	0.341	0.417
	LTE Band 66	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	132322	1745	1	22.13	23.50	1.371	-	-	0.18	1.770	2.426
	LTE Band 66	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	132072	1720	1	22.06	23.50	1.393	-	-	-0.09	1.690	2.354
	LTE Band 66	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	132572	1770	1	21.99	23.50	1.416	-	-	0.04	1.940	2.747
	LTE Band 66	20M	QPSK	1	49	-	Top Side	14mm	Ant 13	DSI 4	132572	1770	1	23.17	24.50	1.358	-	-	-0.02	0.391	0.531
	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	132322	1745	1	22.06	23.50	1.393	-	-	-0.18	1.820	2.536
	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	132072	1720	1	22.01	23.50	1.409	-	-	0.06	1.690	2.382
78	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	132572	1770	1	21.98	23.50	1.419	-	-	0.06	2.090	2.966
	LTE Band 66	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	132572	1770	2	21.88	23.50	1.452	-	-	0.13	1.720	2.498
	LTE Band 66C	20M	QPSK	1	99	-	Top Side	0mm	Ant 13	DSI 5	132572+132374	1770+1750.2	1	21.76	23.50	1.493	-	-	-0.06	1.710	2.553
	LTE Band 66	20M	QPSK	50	0	-	Top Side	14mm	Ant 13	DSI 4	132572	1770	1	22.26	23.50	1.330	-	-	0.02	0.312	0.415
	LTE Band 66	20M	QPSK	100	0	-	Top Side	0mm	Ant 13	DSI 5	132322	1745	1	21.98	23.50	1.419	-	-	0.01	1.750	2.483
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 13	DSI 5	349000	1745	1	21.39	22.00	1.151	-	-	0.04	1.460	1.680
	FR1 n66	40M	QPSK	1	1	DFT-15	Top Side	0mm	Ant 13	DSI 5	349000	1745	1	21.39	22.00	1.151	-	-	-0.01	1.410	1.623
	FR1 n66	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 13	DSI 4	349000	1745	1	23.91	24.50	1.146	-	-	-0.05	0.251	0.288
	FR1 n66	40M	QPSK	1	1	DFT-15	Top Side	14mm	Ant 13	DSI 4	349000	1745	1	23.91	24.50	1.146	-	-	0.06	0.332	0.380
	FR1 n66	40M	QPSK	108	54	DFT-15	Back	0mm	Ant 13	DSI 5	349000	1745	1	21.32	22.00	1.169	-	-	-0.18	1.370	1.602
	FR1 n66	40M	QPSK	108	54	DFT-15	Top Side	0mm	Ant 13	DSI 5	349000	1745	1	21.32	22.00	1.169	-	-	0.03	1.350	1.579
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	0mm	Ant 11	DSI 5	349000	1745	1	19.89	21.00	1.291	-	-	-0.13	1.340	1.730
	FR1 n66	40M	QPSK	1	1	DFT-15	Left Side	17mm	Ant 11	DSI 4	349000	1745	1	23.31	24.50	1.315	-	-	-0.08	0.130	0.171
79	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	0mm	Ant 11	DSI 5	349000	1745	1	19.86	21.00	1.300	-	-	-0.07	1.520	1.976
	FR1 n66	40M	QPSK	108	54	DFT-15	Left Side	17mm	Ant 11	DSI 4	349000	1745	1	23.23	24.50	1.340	-	-	0.03	0.134	0.180
1900 MHz																					
80	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	0mm	Ant 13	DSI 5	9400	1880	1	19.17	20.50	1.358	-	-	-0.18	0.962	1.307
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	14mm	Ant 13	DSI 4	9400	1880	1	22.87	24.00	1.297	-	-	0.05	0.351	0.455
	LTE Band 2	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	18900	1880	1	19.76	21.00	1.330	-	-	0.14	1.150	1.530
	LTE Band 2	20M	QPSK	1	49	-	Top Side	14mm	Ant 13	DSI 4	18900	1880	1	22.88	24.00	1.294	-	-	0.09	0.397	0.513
81	LTE Band 2	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	18900	1880	1	19.69	21.00	1.352	-	-	0.08	1.270	1.717
	LTE Band 2	20M	QPSK	50	0	-	Top Side	14mm	Ant 13	DSI 4	18900	1880	1	21.96	23.00	1.271	-	-	0.02	0.337	0.428
2600 MHz																					
	LTE Band 7	20M	QPSK	1	49	-	Back	0mm	Ant 13	DSI 5	21100	2535	1	18.72	20.00	1.343	-	-	-0.01	1.590	2.135
	LTE Band 7	20M	QPSK	1	49	-	Back	0mm	Ant 13	DSI 5	20850	2510	1	18.60	20.00	1.380	-	-	0.01	1.640	2.264
	LTE Band 7	20M	QPSK	1	49	-	Back	0mm	Ant 13	DSI 5	21350	2560	1	18.56	20.00	1.393	-	-	-0.06	1.680	2.341
	LTE Band 7	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	21100	2535	1	18.72	20.00	1.343	-	-	0.13	1.620	2.175
	LTE Band 7	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	20850	2510	1	18.60	20.00	1.380	-	-	-0.05	1.660	2.291
	LTE Band 7	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	21350	2560	1	18.56	20.00	1.393	-	-	-0.11	1.700	2.368
	LTE Band 7	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	21350	2560	1	19.22	20.50	1.343	-	-	0.08	0.223	0.299
	LTE Band 7	20M	QPSK	1	49	-	Top Side	14mm	Ant 13	DSI 4	21350	2560	1	19.22	20.50	1.343	-	-	-0.03	0.296	0.397
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 13	DSI 5	21100	2535	1	18.64	20.00	1.368	-	-	-0.17	1.610	2.202
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 13	DSI 5	20850	2510	1	18.57	20.00	1.390	-	-	0.18	1.680	2.335
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 13	DSI 5	21350	2560	1	18.52	20.00	1.406	-	-	0.13	1.670	2.348
	LTE Band 7	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	21100	2535	1	18.64	20.00	1.368	-	-	0.19	1.670	2.284
	LTE Band 7	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	20850	2510	1	18.57	20.00	1.390	-	-	0.09	1.700	2.363
	LTE Band 7	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	21350	2560	1	18.52	20.00	1.406	-	-	0.19	1.700	2.390
	LTE Band 7C	20M	QPSK	1	0	-	Top Side	0mm	Ant 13	DSI 5	21350+21152	2560+2540.2	1	18.38	20.00	1.452	-	-	-0.11	1.530	2.222
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	21350	2560	1	19.07	20.50	1.390	-	-	0.06	0.224	0.311
	LTE Band 7	20M	QPSK	50	0	-	Top Side	14mm	Ant 13	DSI 4	21350	2560	1	19.07	20.50	1.390	-	-	-0.17	0.301	0.418



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	LTE Band 7	20M	QPSK	100	0	-	Back	0mm	Ant 13	DSI 5	21100	2535	1	18.59	20.00	1.384	-	-	-0.12	1.580	2.186
	LTE Band 7	20M	QPSK	100	0	-	Top Side	0mm	Ant 13	DSI 5	21100	2535	1	18.59	20.00	1.384	-	-	0.06	1.630	2.255
	LTE Band 7	20M	QPSK	1	49	-	Left Side	0mm	Ant 11	DSI 5	21100	2535	1	18.84	20.00	1.306	-	-	-0.06	1.790	2.338
	LTE Band 7	20M	QPSK	1	49	-	Left Side	0mm	Ant 11	DSI 5	20850	2510	1	18.72	20.00	1.343	-	-	0.08	1.790	2.404
	LTE Band 7	20M	QPSK	1	49	-	Left Side	0mm	Ant 11	DSI 5	21350	2560	1	18.64	20.00	1.368	-	-	0.02	1.890	2.585
	LTE Band 7	20M	QPSK	1	49	-	Left Side	17mm	Ant 11	DSI 4	21350	2560	1	22.26	23.50	1.330	-	-	0.09	0.303	0.403
	LTE Band 7	20M	QPSK	50	0	-	Left Side	0mm	Ant 11	DSI 5	21100	2535	1	18.80	20.00	1.318	-	-	0.08	1.870	2.465
	LTE Band 7	20M	QPSK	50	0	-	Left Side	0mm	Ant 11	DSI 5	20850	2510	1	18.66	20.00	1.361	-	-	-0.17	1.820	2.478
82	LTE Band 7	20M	QPSK	50	0	-	Left Side	0mm	Ant 11	DSI 5	21350	2560	1	18.59	20.00	1.384	-	-	0.04	1.940	2.684
	LTE Band 7C	20M	QPSK	1	0	-	Left Side	0mm	Ant 11	DSI 5	21350+ 21152	2560+ 2540.2	1	18.18	20.00	1.521	-	-	0.04	1.750	2.661
	LTE Band 7	20M	QPSK	50	0	-	Left Side	17mm	Ant 11	DSI 4	21350	2560	1	21.38	22.50	1.294	-	-	0.02	0.253	0.327
	LTE Band 7	20M	QPSK	100	0	-	Left Side	0mm	Ant 11	DSI 5	21100	2535	1	18.74	20.00	1.337	-	-	-0.12	1.800	2.406
	LTE Band 41	20M	QPSK	1	49	-	Back	0mm	Ant 13	DSI 5	40620	2593	1	21.00	22.00	1.259	62.9	1.006	0.07	1.720	2.178
	LTE Band 41	20M	QPSK	1	49	-	Back	0mm	Ant 13	DSI 5	39750	2506	1	20.87	22.00	1.297	62.9	1.006	-0.08	1.810	2.362
	LTE Band 41	20M	QPSK	1	49	-	Back	0mm	Ant 13	DSI 5	40185	2549.5	1	20.82	22.00	1.312	62.9	1.006	0.02	1.690	2.231
	LTE Band 41	20M	QPSK	1	49	-	Back	0mm	Ant 13	DSI 5	41055	2636.5	1	20.93	22.00	1.279	62.9	1.006	-0.19	1.380	1.776
	LTE Band 41	20M	QPSK	1	49	-	Back	0mm	Ant 13	DSI 5	41490	2680	1	20.87	22.00	1.297	62.9	1.006	-0.01	1.180	1.540
	LTE Band 41	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	40620	2593	1	21.00	22.00	1.259	62.9	1.006	0.18	1.580	2.001
	LTE Band 41	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	39750	2506	1	20.77	22.00	1.327	62.9	1.006	-0.17	1.740	2.324
	LTE Band 41	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	40185	2549.5	1	20.82	22.00	1.312	62.9	1.006	-0.05	1.530	2.020
	LTE Band 41	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	41055	2636.5	1	20.93	22.00	1.279	62.9	1.006	0.02	1.420	1.828
	LTE Band 41	20M	QPSK	1	49	-	Top Side	0mm	Ant 13	DSI 5	41490	2680	1	20.87	22.00	1.297	62.9	1.006	0.06	1.110	1.449
	LTE Band 41	20M	QPSK	1	49	-	Back	15mm	Ant 13	DSI 4	39750	2506	1	20.77	22.00	1.327	62.9	1.006	0.08	0.225	0.300
	LTE Band 41	20M	QPSK	1	49	-	Top Side	14mm	Ant 13	DSI 4	39750	2506	1	20.77	22.00	1.327	62.9	1.006	0.03	0.331	0.442
	LTE Band 41	20M	QPSK	50	0	-	Back	0mm	Ant 13	DSI 5	40620	2593	1	20.92	22.00	1.282	62.9	1.006	-0.08	1.810	2.335
	LTE Band 41	20M	QPSK	50	0	-	Back	0mm	Ant 13	DSI 5	39750	2506	1	20.83	22.00	1.309	62.9	1.006	0.1	1.890	2.489
	LTE Band 41	20M	QPSK	50	0	-	Back	0mm	Ant 13	DSI 5	40185	2549.5	1	20.79	22.00	1.321	62.9	1.006	0.04	1.790	2.379
	LTE Band 41	20M	QPSK	50	0	-	Back	0mm	Ant 13	DSI 5	41055	2636.5	1	20.87	22.00	1.297	62.9	1.006	-0.03	1.500	1.957
	LTE Band 41	20M	QPSK	50	0	-	Back	0mm	Ant 13	DSI 5	41490	2680	1	20.85	22.00	1.303	62.9	1.006	-0.06	1.240	1.626
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	40620	2593	1	20.92	22.00	1.282	62.9	1.006	0.12	1.660	2.141
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	39750	2506	1	20.73	22.00	1.340	62.9	1.006	0.02	1.780	2.399
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	40185	2549.5	1	20.79	22.00	1.321	62.9	1.006	-0.01	1.610	2.140
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	41055	2636.5	1	20.87	22.00	1.297	62.9	1.006	-0.03	1.460	1.905
	LTE Band 41	20M	QPSK	50	0	-	Top Side	0mm	Ant 13	DSI 5	41490	2680	1	20.85	22.00	1.303	62.9	1.006	-0.12	1.180	1.547
	LTE Band 41C	20M	QPSK	1	99	-	Back	0mm	Ant 13	DSI 5	39750+ 39948	2506+ 2525.8	1	20.76	22.00	1.330	62.9	1.006	0.05	1.010	1.352
	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 13	DSI 4	39750	2506	1	20.73	22.00	1.340	62.9	1.006	0.06	0.230	0.310
	LTE Band 41	20M	QPSK	50	0	-	Top Side	14mm	Ant 13	DSI 4	39750	2506	1	20.73	22.00	1.340	62.9	1.006	0.01	0.337	0.454
	LTE Band 41	20M	QPSK	100	0	-	Back	0mm	Ant 13	DSI 5	40620	2593	1	20.84	22.00	1.306	62.9	1.006	-0.07	1.770	2.326
	LTE Band 41	20M	QPSK	100	0	-	Top Side	0mm	Ant 13	DSI 5	40620	2593	1	20.84	22.00	1.306	62.9	1.006	-0.08	1.630	2.142
	LTE Band 41	20M	QPSK	1	49	-	Left Side	0mm	Ant 11	DSI 5	40620	2593	1	20.98	21.50	1.127	62.9	1.006	0.03	1.740	1.973
	LTE Band 41	20M	QPSK	1	49	-	Left Side	0mm	Ant 11	DSI 5	39750	2506	1	20.90	21.50	1.148	62.9	1.006	0.07	1.590	1.837
	LTE Band 41	20M	QPSK	1	49	-	Left Side	0mm	Ant 11	DSI 5	40185	2549.5	1	20.83	21.50	1.167	62.9	1.006	0.14	1.660	1.949
	LTE Band 41	20M	QPSK	1	49	-	Left Side	0mm	Ant 11	DSI 5	41055	2636.5	1	20.96	21.50	1.132	62.9	1.006	-0.13	1.690	1.925
	LTE Band 41	20M	QPSK	1	49	-	Left Side	0mm	Ant 11	DSI 5	41490	2680	1	20.79	21.50	1.178	62.9	1.006	0.14	1.650	1.955
	LTE Band 41	20M	QPSK	1	49	-	Left Side	17mm	Ant 11	DSI 4	40620	2593	1	24.38	25.00	1.153	62.9	1.006	0.05	0.330	0.383
83	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 11	DSI 5	40620	2593	1	20.94	21.50	1.138	62.9	1.006	0.06	2.190	2.506
	LTE Band 41C	20M	QPSK	1	99	-	Left Side	0mm	Ant 11	DSI 5	40620+ 40818	2593+ 2612.8	1	20.15	21.50	1.365	62.9	1.006	0.06	1.700	2.334
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 11	DSI 5	39750	2506	1	20.82	21.50	1.169	62.9	1.006	0.17	1.620	1.906
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 11	DSI 5	40185	2549.5	1	20.77	21.50	1.183	62.9	1.006	0.08	1.650	1.964
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 11	DSI 5	41055	2636.5	1	20.86	21.50	1.159	62.9	1.006	-0.08	1.720	2.005
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 11	DSI 5	41490	2680	1	20.74	21.50	1.191	62.9	1.006	0.06	1.730	2.073
	LTE Band 41	20M	QPSK	50	0	-	Left Side	17mm	Ant 11	DSI 4	40620	2593	1	23.44	24.00	1.138	62.9	1.006	0.06	0.264	0.302
	LTE Band 41	20M	QPSK	100	0	-	Left Side	0mm	Ant 11	DSI 5	40620	2593	1	20.86	21.50	1.159	62.9	1.006	-0.19	1.720	2.005
84	FR1 n7	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 13	DSI 5	507000	2535	1	18.25	19.50	1.334	-	-	0.18	1.860	2.480
	FR1 n7	40M	QPSK	1	1	DFT-15	Top Side	0mm	Ant 13	DSI 5	507000	2535	1	18.25	19.50	1.334	-	-	0.05	1.690	2.254



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	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 13	DSI 4	507000	2535	1	19.30	20.50	1.318	-	-	0.07	0.290	0.382
	FR1 n7	40M	QPSK	1	1	DFT-15	Top Side	14mm	Ant 13	DSI 4	507000	2535	1	19.30	20.50	1.318	-	-	0.14	0.391	0.515
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	0mm	Ant 13	DSI 5	507000	2535	1	18.19	19.50	1.352	-	-	0.01	1.720	2.326
	FR1 n7	40M	QPSK	108	54	DFT-15	Top Side	0mm	Ant 13	DSI 5	507000	2535	1	18.19	19.50	1.352	-	-	-0.06	1.560	2.109
	FR1 n7	40M	QPSK	216	0	DFT-15	Back	0mm	Ant 13	DSI 5	507000	2535	1	18.15	19.50	1.365	-	-	0.06	1.760	2.402
	FR1 n7	40M	QPSK	216	0	DFT-15	Top Side	0mm	Ant 13	DSI 5	507000	2535	1	18.15	19.50	1.365	-	-	0.19	1.610	2.197
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	0mm	Ant 11	DSI 5	507000	2535	1	17.42	18.50	1.282	-	-	0.07	1.100	1.411
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	0mm	Ant 11	DSI 5	507000	2535	1	17.42	18.50	1.282	-	-	-0.07	1.430	1.834
	FR1 n7	40M	QPSK	1	1	DFT-15	Back	15mm	Ant 11	DSI 4	507000	2535	1	22.89	24.00	1.291	-	-	0.07	0.190	0.245
	FR1 n7	40M	QPSK	1	1	DFT-15	Left Side	17mm	Ant 11	DSI 4	507000	2535	1	22.89	24.00	1.291	-	-	0.09	0.216	0.279
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	0mm	Ant 11	DSI 5	507000	2535	1	17.36	18.50	1.300	-	-	-0.18	1.160	1.508
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Side	0mm	Ant 11	DSI 5	507000	2535	1	17.36	18.50	1.300	-	-	0.13	1.460	1.898
	FR1 n7	40M	QPSK	108	54	DFT-15	Back	15mm	Ant 11	DSI 4	507000	2535	1	22.66	24.00	1.361	-	-	0.05	0.195	0.265
	FR1 n7	40M	QPSK	108	54	DFT-15	Left Side	17mm	Ant 11	DSI 4	507000	2535	1	22.66	24.00	1.361	-	-	0.05	0.217	0.295
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	0mm	Ant 13	DSI 5	518598	2592.99	1	18.93	20.50	1.435	-	-	-0.03	1.780	2.555
85	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 13	DSI 5	518598	2592.99	1	18.93	20.50	1.435	-	-	0.19	1.970	2.828
	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	0mm	Ant 13	DSI 5	518598	2592.99	2	18.93	20.50	1.435	-	-	0.19	1.810	2.598
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 13	DSI 4	518598	2592.99	1	19.81	21.50	1.476	-	-	0.06	0.258	0.381
	FR1 n41	100M	QPSK	1	1	DFT-30	Top Side	14mm	Ant 13	DSI 4	518598	2592.99	1	19.81	21.50	1.476	-	-	-0.11	0.384	0.567
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	0mm	Ant 13	DSI 5	518598	2592.99	1	18.79	20.50	1.483	-	-	0.05	1.700	2.520
	FR1 n41	100M	QPSK	135	69	DFT-30	Top Side	0mm	Ant 13	DSI 5	518598	2592.99	1	18.79	20.50	1.483	-	-	0.1	1.830	2.713
	FR1 n41	100M	QPSK	270	0	DFT-30	Back	0mm	Ant 13	DSI 5	518598	2592.99	1	18.67	20.50	1.524	-	-	0.07	1.680	2.560
	FR1 n41	100M	QPSK	270	0	DFT-30	Top Side	0mm	Ant 13	DSI 5	518598	2592.99	1	18.67	20.50	1.524	-	-	-0.19	1.790	2.728
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	0mm	Ant 11	DSI 5	518598	2592.99	1	17.50	18.50	1.259	-	-	-0.13	1.170	1.473
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 11	DSI 5	518598	2592.99	1	17.50	18.50	1.259	-	-	-0.16	1.560	1.964
	FR1 n41	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	518598	2592.99	1	23.53	24.50	1.250	-	-	0.05	0.241	0.301
	FR1 n41	100M	QPSK	1	1	DFT-30	Left Side	17mm	Ant 11	DSI 4	518598	2592.99	1	23.53	24.50	1.250	-	-	0.01	0.284	0.355
	FR1 n41	100M	QPSK	135	69	DFT-30	Back	0mm	Ant 11	DSI 5	518598	2592.99	1	17.41	18.50	1.285	-	-	-0.02	1.100	1.414
	FR1 n41	100M	QPSK	135	69	DFT-30	Left Side	0mm	Ant 11	DSI 5	518598	2592.99	1	17.41	18.50	1.285	-	-	-0.05	1.510	1.941
	FR1 n41	100M	QPSK	270	0	DFT-30	Left Side	0mm	Ant 11	DSI 5	518598	2592.99	1	17.38	18.50	1.294	-	-	0.05	1.490	1.928
3000-4000 MHz																					
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	0mm	Ant 11	DSI 5	633332	3499.98	1	18.62	20.00	1.374	-	-	0.18	1.760	2.418
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 11	DSI 5	633332	3499.98	1	18.62	20.00	1.374	-	-	0.17	1.280	1.759
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	633332	3499.98	1	22.52	24.00	1.406	-	-	-0.15	0.296	0.416
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	17mm	Ant 11	DSI 4	633332	3499.98	1	22.52	24.00	1.406	-	-	-0.01	0.500	0.703
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	0mm	Ant 11	DSI 5	633332	3499.98	1	18.46	20.00	1.426	-	-	-0.12	1.800	2.566
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	0mm	Ant 11	DSI 5	633332	3499.98	2	18.46	20.00	1.426	-	-	0.05	1.680	2.395
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	0mm	Ant 11	DSI 5	633332	3499.98	1	18.46	20.00	1.426	-	-	0.1	1.370	1.953
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	15mm	Ant 11	DSI 4	633332	3499.98	1	22.51	24.00	1.409	-	-	-0.12	0.298	0.420
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	17mm	Ant 11	DSI 4	633332	3499.98	1	22.51	24.00	1.409	-	-	0.1	0.501	0.706
	FR1 n77	100M	QPSK	270	0	DFT-30	Back	0mm	Ant 11	DSI 5	633332	3499.98	1	18.54	20.00	1.400	-	-	-0.04	1.720	2.407
86	FR1 n77	100M	QPSK	1	1	DFT-30	Back	0mm	Ant 11	DSI 5	656000	3840	1	18.54	20.00	1.400	-	-	-0.05	2.070	2.897
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 11	DSI 5	656000	3840	1	18.54	20.00	1.400	-	-	-0.12	1.310	1.833
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 11	DSI 4	656000	3840	1	22.51	24.00	1.409	-	-	-0.08	0.210	0.296
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	17mm	Ant 11	DSI 4	656000	3840	1	22.51	24.00	1.409	-	-	-0.02	0.323	0.455
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	0mm	Ant 11	DSI 5	656000	3840	1	18.45	20.00	1.429	-	-	0.07	1.710	2.443
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	0mm	Ant 11	DSI 5	656000	3840	1	18.45	20.00	1.429	-	-	-0.03	1.250	1.786
	FR1 n77	100M	QPSK	270	0	DFT-30	Back	0mm	Ant 11	DSI 5	656000	3840	1	18.43	20.00	1.435	-	-	0.01	1.700	2.440
	FR1 n77	100M	QPSK	270	0	DFT-30	Left Side	0mm	Ant 11	DSI 5	656000	3840	1	18.43	20.00	1.435	-	-	-0.03	1.230	1.766
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	0mm	Ant 12	DSI 5	633332	3499.98	1	17.59	19.00	1.384	-	-	0.04	1.640	2.269
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 12	DSI 5	633332	3499.98	1	17.59	19.00	1.384	-	-	-0.08	1.470	2.034
	FR1 n77	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	1	22.58	23.50	1.236	-	-	0.13	0.270	0.334
	FR1 n77	100M	QPSK	1	1	DFT-30	Left Side	17mm	Ant 12	DSI 4	633332	3499.98	1	22.58	23.50	1.236	-	-	0.16	0.251	0.310
	FR1 n77	100M	QPSK	135	69	DFT-30	Back	0mm	Ant 12	DSI 5	633332	3499.98	1	17.57	19.00	1.390	-	-	-0.03	1.620	2.252
	FR1 n77	100M	QPSK	135	69	DFT-30	Left Side	0mm	Ant 12	DSI 5	633332	3499.98	1	17.57	19.00	1.390	-	-	-0.04	1.450	2.015
	FR1 n77	100M	QPSK	270	0	DFT-30	Back	0mm	Ant 12	DSI 5	633332	3499.98	1	17.41	19.00	1.442	-	-	-0.09	1.570	2.264



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	FR1 n77	100M	QPSK	270	0	DFT-30	Left Side	0mm	Ant 12	DSI 5	633332	3499.98	1	17.41	19.00	1.442	-	-	-0.01	1.380	1.990
87	FR1 n78	100M	QPSK	1	1	DFT-30	Back	0mm	Ant 12	DSI 5	633332	3499.98	1	18.41	19.50	1.285	-	-	0.01	1.760	2.262
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	0mm	Ant 12	DSI 5	633332	3499.98	1	18.41	19.50	1.285	-	-	-0.06	1.650	2.121
	FR1 n78	100M	QPSK	1	1	DFT-30	Back	15mm	Ant 12	DSI 4	633332	3499.98	1	22.83	24.00	1.309	-	-	-0.06	0.298	0.390
	FR1 n78	100M	QPSK	1	1	DFT-30	Left Side	17mm	Ant 12	DSI 4	633332	3499.98	1	22.83	24.00	1.309	-	-	-0.08	0.277	0.363
	FR1 n78	100M	QPSK	135	69	DFT-30	Back	0mm	Ant 12	DSI 5	633332	3499.98	1	18.19	19.50	1.352	-	-	0.11	1.620	2.190
	FR1 n78	100M	QPSK	135	69	DFT-30	Left Side	0mm	Ant 12	DSI 5	633332	3499.98	1	18.19	19.50	1.352	-	-	0.02	1.500	2.028
	FR1 n78	100M	QPSK	270	0	DFT-30	Back	0mm	Ant 12	DSI 5	633332	3499.98	1	18.12	19.50	1.374	-	-	0.14	1.830	2.514
	FR1 n78	100M	QPSK	270	0	DFT-30	Left Side	0mm	Ant 12	DSI 5	633332	3499.98	1	18.12	19.50	1.374	-	-	-0.19	1.500	2.061

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
WLAN & BT																	
	WLAN5.3GHz	802.11n-HT40 MCS0	Front	0mm	Ant 22	Standalone	54	5270	1	16.56	17.50	1.240	96.74	1.034	0.18	0.436	0.559
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 22	Standalone	54	5270	1	16.56	17.50	1.240	96.74	1.034	-0.1	0.807	1.035
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 22	Standalone	54	5270	1	16.56	17.50	1.240	96.74	1.034	0.1	0.588	0.754
88	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 22	Standalone	54	5270	1	16.56	17.50	1.240	96.74	1.034	0.07	1.020	1.308
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 22	Simultaneous	54	5270	1	13.58	14.50	1.235	96.74	1.034	0.03	0.392	0.500
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 22	Simultaneous	54	5270	1	13.58	14.50	1.235	96.74	1.034	0.06	0.502	0.641
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant 22	Standalone	116	5580	1	17.95	19.50	1.428	98.57	1.015	0.12	0.890	1.290
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 22	Standalone	116	5580	1	17.95	19.50	1.428	98.57	1.015	0.13	1.030	1.493
89	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 22	Standalone	116	5580	1	17.95	19.50	1.428	98.57	1.015	-0.14	1.280	1.855
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 22	Standalone	116	5580	2	17.95	19.50	1.428	98.57	1.015	-0.14	1.250	1.812
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 22	Standalone	116	5580	1	17.95	19.50	1.428	98.57	1.015	0.01	0.918	1.331
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 22	Simultaneous	122	5610	1	15.54	17.00	1.399	92	1.087	0.06	0.548	0.833
	WLAN5.5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 22	Simultaneous	122	5610	1	15.54	17.00	1.399	92	1.087	-0.16	0.499	0.759

16.5 Repeated SAR Measurement

<10g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	LTE Band 41	20M	QPSK	50	0	Left Side	0mm	Ant 11	DSI 5	40620	2593	1	20.94	21.50	1.138	62.9	1.006	0.06	2.190	1	2.506
2nd	LTE Band 41	20M	QPSK	50	0	Left Side	0mm	Ant 11	DSI 5	40620	2593	1	20.94	21.50	1.138	62.9	1.006	0.06	2.170	1.009	2.483
1st	LTE Band 66	20M	QPSK	50	0	Top Side	0mm	Ant 13	DSI 5	132572	1770	1	21.98	23.50	1.419			0.06	2.090	1	2.966
2nd	LTE Band 66	20M	QPSK	50	0	Top Side	0mm	Ant 13	DSI 5	132572	1770	1	21.98	23.50	1.419			0.02	2.010	1.040	2.852
1st	LTE Band 41	20M	QPSK	50	0	Left Side	0mm	Ant 11	DSI 5	40620	2593	1	20.94	21.50	1.138	62.9	1.006	0.06	2.190	1	2.506
2nd	LTE Band 41	20M	QPSK	50	0	Left Side	0mm	Ant 11	DSI 5	40620	2593	1	20.94	21.50	1.138	62.9	1.006	0.06	2.170	1.009	2.483

General Note:

- 1 Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/kg}$.
- 2 Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45\text{W/kg}$, only one repeated measurement is required.
- 3 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 ratio is the difference in percentage between original and repeated *measured SAR*.
- 5 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
(a)	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes
(b)	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes
(c)	WWAN + Bluetooth	Yes	Yes	Yes	Yes

General Note:

1. This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. WWAN above includes 5G NR bands and EN-DC.
3. EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
4. For EN-DC mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure from 4G(LTE) and time-averaged RF exposure from 5G NR. Smart Transmit algorithm controls the total RF exposure from both 4G and 5G NR to not exceed FCC limit. Therefore, simultaneous transmission compliance between 4G+5G NR operation is demonstrated in the Part 2 Report during algorithm validation. In Part 1 Report, simultaneous transmission compliance was evaluated individually with other Radios (WLAN or BT) using one of 4G or 5G NR.
5. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
6. 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.
7. The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
8. According to the EUT characteristic, WLAN 2.4GHz and Bluetooth cannot transmit simultaneously.
9. According to the EUT characteristic, WLAN 5GHz and Bluetooth cannot transmit simultaneously.
10. According to the EUT characteristic, WLAN 5GHz and WLAN 2.4GHz cannot transmit simultaneously.
11. When stand-alone SAR is not required for a transmitter or antenna, its SAR is considered zero in the SAR summing process to assess Multi-band transmission SAR compliance.
12. The maximum SAR summation is calculated based on the same configuration and test position.
13. For standalone WWAN, always choose the highest SAR among the selected 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 bands.
14. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{ separation distance, mm})$, 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.
 - iii) If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.

17.1 5G NR + LTE + WLAN + BT Sim-Tx analysis

In 5G NR + LTE + WLAN + BT simultaneous transmission, 5G NR and LTE transmission are managed and controlled by Qualcomm® Smart Transmit, while the RF exposure from WLAN and BT radios is managed using legacy approach, i.e., through a fixed power back-off if needed.

Since WLAN and BT do not employ time-averaging, 1gSAR and 10gSAR measurement for WLAN and BT need to be conducted at their corresponding rated power following current FCC test procedures to determine reported SAR values.

Smart Transmit current implementation assumes hotspots from 5G NR and LTE are collocated. Therefore, for a total of 100% exposure margin, if LTE uses x%, then the exposure margin left for 5G NR is capped to (100-x)%. Thus, the compliance equation for LTE + 5G NR is

$$x\% * A + (100-x)\% * B \leq 1.0,$$

Where, A is normalized reported time-averaged SAR exposure ratio from LTE, and $A \leq 1.0$; B is normalized reported time-averaged exposure ratio from 5G NR (i.e. SAR exposure for 5G FR1), and $B \leq 1.0$.

Let C = normalized reported SAR exposure ratio from WLAN+BT, then for compliance,

$$x\% * A + (100-x)\% * B + C \leq 1.0 \quad (1)$$

$$x\% * A + (100-x)\% * B \leq x\% * \max(A, B) + (100-x)\% * \max(A, B) \leq \max(A, B)$$

$$x\% * A + (100-x)\% * B + C \leq \max(A, B) + C \leq 1.0 \quad (2)$$

If $A + C \leq 1.0$ and $B + C \leq 1.0$ can be proven, then “ $x\% * A + (100-x)\% * B + C \leq 1.0$ ”. Therefore simultaneous transmission analysis for 5G NR + LTE + WLAN + BT can be performed in two steps

Step 1: Prove total exposure ratio (TER) of LTE + WLAN + BT < 1

Step 2: Prove total exposure ratio (TER) of 5G NR + WLAN + BT < 1

Else, if $A + C > 1.0$ and/or $B + C > 1.0$, then the followings need to hold true for compliance:

- i. A and C are decoupled based on the SPLSR criteria, and
- ii. $(100-x)\% * B + C \leq 1.0$, and
- iii. $x\% * A + (100-x)\% * B \leq 1.0$

Note iii. is covered in Part 2 report; i. and ii. should be addressed in Part 2 report.

Above analysis is also apply to LTE inter-band uplink CA, LTE1 + LTE2 + WLAN + BT simultaneous transmission, so inter-band uplink CA no need to do additional simultaneously analysis again. Only required comply with total exposure ratio (TER) of LTE + WLAN + BT < 1.



17.2 Head Exposure Conditions

WWAN Band	Exposure Position	1	3	4	5	1+3	1+4	1+5
		WWAN	WLAN2.4GHz Ant 22	WLAN5GHz Ant 22	Bluetooth Ant 22	Summed	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM850 Ant 13	Right Cheek	0.576	0.173	0.367	0.153	0.75	0.94	0.73
	Right Tilted	0.434	0.161	0.371	0.151	0.60	0.81	0.59
	Left Cheek	0.380	0.655	0.511	0.553	1.04	0.89	0.93
	Left Tilted	0.327	0.376	0.408	0.427	0.70	0.74	0.75
GSM850 Ant 31	Right Cheek	0.238	0.173	0.367	0.153	0.41	0.61	0.39
	Right Tilted	0.101	0.161	0.371	0.151	0.26	0.47	0.25
	Left Cheek	0.229	0.655	0.511	0.553	0.88	0.74	0.78
	Left Tilted	0.112	0.376	0.408	0.427	0.49	0.52	0.54
GSM1900 Ant 13	Right Cheek	0.595	0.173	0.367	0.153	0.77	0.96	0.75
	Right Tilted	0.666	0.161	0.371	0.151	0.83	1.04	0.82
	Left Cheek	0.353	0.655	0.511	0.553	1.01	0.86	0.91
	Left Tilted	0.462	0.376	0.408	0.427	0.84	0.87	0.89
GSM1900 Ant 31	Right Cheek	0.064	0.173	0.367	0.153	0.24	0.43	0.22
	Right Tilted	0.058	0.161	0.371	0.151	0.22	0.43	0.21
	Left Cheek	0.080	0.655	0.511	0.553	0.74	0.59	0.63
	Left Tilted	0.043	0.376	0.408	0.427	0.42	0.45	0.47
WCDMA II Ant 13	Right Cheek	0.587	0.173	0.367	0.153	0.76	0.95	0.74
	Right Tilted	0.760	0.161	0.371	0.151	0.92	1.13	0.91
	Left Cheek	0.332	0.655	0.511	0.553	0.99	0.84	0.89
	Left Tilted	0.445	0.376	0.408	0.427	0.82	0.85	0.87
WCDMA II Ant 31	Right Cheek	0.094	0.173	0.367	0.153	0.27	0.46	0.25
	Right Tilted	0.081	0.161	0.371	0.151	0.24	0.45	0.23
	Left Cheek	0.114	0.655	0.511	0.553	0.77	0.63	0.67
	Left Tilted	0.069	0.376	0.408	0.427	0.45	0.48	0.50
WCDMA IV Ant 13	Right Cheek	0.583	0.173	0.367	0.153	0.76	0.95	0.74
	Right Tilted	0.671	0.161	0.371	0.151	0.83	1.04	0.82
	Left Cheek	0.370	0.655	0.511	0.553	1.03	0.88	0.92
	Left Tilted	0.422	0.376	0.408	0.427	0.80	0.83	0.85
WCDMA IV Ant 31	Right Cheek	0.059	0.173	0.367	0.153	0.23	0.43	0.21
	Right Tilted	0.037	0.161	0.371	0.151	0.20	0.41	0.19
	Left Cheek	0.090	0.655	0.511	0.553	0.75	0.60	0.64
	Left Tilted	0.047	0.376	0.408	0.427	0.42	0.46	0.47
WCDMA V Ant 13	Right Cheek	0.685	0.173	0.367	0.153	0.86	1.05	0.84
	Right Tilted	0.517	0.161	0.371	0.151	0.68	0.89	0.67
	Left Cheek	0.338	0.655	0.511	0.553	0.99	0.85	0.89
	Left Tilted	0.329	0.376	0.408	0.427	0.71	0.74	0.76
WCDMA V Ant 31	Right Cheek	0.143	0.173	0.367	0.153	0.32	0.51	0.30
	Right Tilted	0.059	0.161	0.371	0.151	0.22	0.43	0.21
	Left Cheek	0.120	0.655	0.511	0.553	0.78	0.63	0.67
	Left Tilted	0.064	0.376	0.408	0.427	0.44	0.47	0.49
LTE Band 2 Ant 13	Right Cheek	0.654	0.173	0.367	0.153	0.83	1.02	0.81
	Right Tilted	0.805	0.161	0.371	0.151	0.97	1.18	0.96
	Left Cheek	0.486	0.655	0.511	0.553	1.14	1.00	1.04
	Left Tilted	0.593	0.376	0.408	0.427	0.97	1.00	1.02
LTE Band 2 Ant 31	Right Cheek	0.077	0.173	0.367	0.153	0.25	0.44	0.23
	Right Tilted	0.067	0.161	0.371	0.151	0.23	0.44	0.22
	Left Cheek	0.090	0.655	0.511	0.553	0.75	0.60	0.64
	Left Tilted	0.056	0.376	0.408	0.427	0.43	0.46	0.48
LTE Band 4 Ant 13	Right Cheek	0.780	0.173	0.367	0.153	0.95	1.15	0.93
	Right Tilted	0.812	0.161	0.371	0.151	0.97	1.18	0.96



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	Left Cheek	0.408	0.655	0.511	0.553	1.06	0.92	0.96
	Left Tilted	0.539	0.376	0.408	0.427	0.92	0.95	0.97
LTE Band 7 Ant 13	Right Cheek	0.512	0.173	0.367	0.153	0.69	0.88	0.67
	Right Tilted	0.552	0.161	0.371	0.151	0.71	0.92	0.70
	Left Cheek	0.197	0.655	0.511	0.553	0.85	0.71	0.75
	Left Tilted	0.287	0.376	0.408	0.427	0.66	0.70	0.71
LTE Band 7 Ant 31	Right Cheek	0.336	0.173	0.367	0.153	0.51	0.70	0.49
	Right Tilted	0.136	0.161	0.371	0.151	0.30	0.51	0.29
	Left Cheek	0.151	0.655	0.511	0.553	0.81	0.66	0.70
	Left Tilted	0.077	0.376	0.408	0.427	0.45	0.49	0.50
LTE Band 7 Ant 11	Right Cheek	0.858	0.173	0.367	0.153	1.03	1.23	1.01
	Right Tilted	0.218	0.161	0.371	0.151	0.38	0.59	0.37
	Left Cheek	0.457	0.655	0.511	0.553	1.11	0.97	1.01
	Left Tilted	0.116	0.376	0.408	0.427	0.49	0.52	0.54
LTE Band 12 Ant 13	Right Cheek	0.625	0.173	0.367	0.153	0.80	0.99	0.78
	Right Tilted	0.600	0.161	0.371	0.151	0.76	0.97	0.75
	Left Cheek	0.382	0.655	0.511	0.553	1.04	0.89	0.94
	Left Tilted	0.489	0.376	0.408	0.427	0.87	0.90	0.92
LTE Band 12 Ant 31	Right Cheek	0.080	0.173	0.367	0.153	0.25	0.45	0.23
	Right Tilted	0.039	0.161	0.371	0.151	0.20	0.41	0.19
	Left Cheek	0.094	0.655	0.511	0.553	0.75	0.61	0.65
	Left Tilted	0.042	0.376	0.408	0.427	0.42	0.45	0.47
LTE Band 13 Ant 13	Right Cheek	0.648	0.173	0.367	0.153	0.82	1.02	0.80
	Right Tilted	0.542	0.161	0.371	0.151	0.70	0.91	0.69
	Left Cheek	0.381	0.655	0.511	0.553	1.04	0.89	0.93
	Left Tilted	0.394	0.376	0.408	0.427	0.77	0.80	0.82
LTE Band 13 Ant 31	Right Cheek	0.110	0.173	0.367	0.153	0.28	0.48	0.26
	Right Tilted	0.061	0.161	0.371	0.151	0.22	0.43	0.21
	Left Cheek	0.139	0.655	0.511	0.553	0.79	0.65	0.69
	Left Tilted	0.075	0.376	0.408	0.427	0.45	0.48	0.50
LTE Band 17 Ant 13	Right Cheek	0.824	0.173	0.367	0.153	1.00	1.19	0.98
	Right Tilted	0.722	0.161	0.371	0.151	0.88	1.09	0.87
	Left Cheek	0.378	0.655	0.511	0.553	1.03	0.89	0.93
	Left Tilted	0.444	0.376	0.408	0.427	0.82	0.85	0.87
LTE Band 26 Ant 13	Right Cheek	0.599	0.173	0.367	0.153	0.77	0.97	0.75
	Right Tilted	0.522	0.161	0.371	0.151	0.68	0.89	0.67
	Left Cheek	0.499	0.655	0.511	0.553	1.15	1.01	1.05
	Left Tilted	0.479	0.376	0.408	0.427	0.86	0.89	0.91
LTE Band 26 Ant 31	Right Cheek	0.102	0.173	0.367	0.153	0.28	0.47	0.26
	Right Tilted	0.047	0.161	0.371	0.151	0.21	0.42	0.20
	Left Cheek	0.098	0.655	0.511	0.553	0.75	0.61	0.65
	Left Tilted	0.040	0.376	0.408	0.427	0.42	0.45	0.47
LTE Band 66 Ant 13	Right Cheek	0.706	0.173	0.367	0.153	0.88	1.07	0.86
	Right Tilted	0.767	0.161	0.371	0.151	0.93	1.14	0.92
	Left Cheek	0.365	0.655	0.511	0.553	1.02	0.88	0.92
	Left Tilted	0.425	0.376	0.408	0.427	0.80	0.83	0.85
LTE Band 66 Ant 31	Right Cheek	0.057	0.173	0.367	0.153	0.23	0.42	0.21
	Right Tilted	0.034	0.161	0.371	0.151	0.20	0.41	0.19
	Left Cheek	0.073	0.655	0.511	0.553	0.73	0.58	0.63
	Left Tilted	0.052	0.376	0.408	0.427	0.43	0.46	0.48
LTE Band 66 Ant 11	Right Cheek	0.824	0.173	0.367	0.153	1.00	1.19	0.98
	Right Tilted	0.156	0.161	0.371	0.151	0.32	0.53	0.31
	Left Cheek	0.487	0.655	0.511	0.553	1.14	1.00	1.04
	Left Tilted	0.112	0.376	0.408	0.427	0.49	0.52	0.54
LTE Band 41 Ant 13	Right Cheek	0.471	0.173	0.367	0.153	0.64	0.84	0.62
	Right Tilted	0.047	0.161	0.371	0.151	0.21	0.42	0.20



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	Left Cheek	0.098	0.655	0.511	0.553	0.75	0.61	0.65
	Left Tilted	0.040	0.376	0.408	0.427	0.42	0.45	0.47
LTE Band 41 Ant 31	Right Cheek	0.265	0.173	0.367	0.153	0.44	0.63	0.42
	Right Tilted	0.116	0.161	0.371	0.151	0.28	0.49	0.27
	Left Cheek	0.147	0.655	0.511	0.553	0.80	0.66	0.70
	Left Tilted	0.085	0.376	0.408	0.427	0.46	0.49	0.51
LTE Band 41 Ant 11	Right Cheek	0.987	0.173	0.367	0.153	1.16	1.35	1.14
	Right Tilted	0.192	0.161	0.371	0.151	0.35	0.56	0.34
	Left Cheek	0.540	0.655	0.511	0.553	1.20	1.05	1.09
	Left Tilted	0.109	0.376	0.408	0.427	0.49	0.52	0.54
FR1 n2 Ant 13	Right Cheek	0.471	0.173	0.367	0.153	0.64	0.84	0.62
	Right Tilted	0.620	0.161	0.371	0.151	0.78	0.99	0.77
	Left Cheek	0.245	0.655	0.511	0.553	0.90	0.76	0.80
	Left Tilted	0.323	0.376	0.408	0.427	0.70	0.73	0.75
FR1 n2 Ant 31	Right Cheek	0.112	0.173	0.367	0.153	0.29	0.48	0.27
	Right Tilted	0.099	0.161	0.371	0.151	0.26	0.47	0.25
	Left Cheek	0.127	0.655	0.511	0.553	0.78	0.64	0.68
	Left Tilted	0.080	0.376	0.408	0.427	0.46	0.49	0.51
FR1 n7 Ant 13	Right Cheek	0.630	0.173	0.367	0.153	0.80	1.00	0.78
	Right Tilted	0.750	0.161	0.371	0.151	0.91	1.12	0.90
	Left Cheek	0.263	0.655	0.511	0.553	0.92	0.77	0.82
	Left Tilted	0.378	0.376	0.408	0.427	0.75	0.79	0.81
FR1 n7 Ant 31	Right Cheek	0.351	0.173	0.367	0.153	0.52	0.72	0.50
	Right Tilted	0.163	0.161	0.371	0.151	0.32	0.53	0.31
	Left Cheek	0.204	0.655	0.511	0.553	0.86	0.72	0.76
	Left Tilted	0.135	0.376	0.408	0.427	0.51	0.54	0.56
FR1 n7 Ant 11	Right Cheek	0.577	0.173	0.367	0.153	0.75	0.94	0.73
	Right Tilted	0.140	0.161	0.371	0.151	0.30	0.51	0.29
	Left Cheek	0.347	0.655	0.511	0.553	1.00	0.86	0.90
	Left Tilted	0.075	0.376	0.408	0.427	0.45	0.48	0.50
FR1 n26 Ant 13	Right Cheek	0.813	0.173	0.367	0.153	0.99	1.18	0.97
	Right Tilted	0.670	0.161	0.371	0.151	0.83	1.04	0.82
	Left Cheek	0.550	0.655	0.511	0.553	1.21	1.06	1.10
	Left Tilted	0.526	0.376	0.408	0.427	0.90	0.93	0.95
FR1 n26 Ant 31	Right Cheek	0.109	0.173	0.367	0.153	0.28	0.48	0.26
	Right Tilted	0.050	0.161	0.371	0.151	0.21	0.42	0.20
	Left Cheek	0.103	0.655	0.511	0.553	0.76	0.61	0.66
	Left Tilted	0.039	0.376	0.408	0.427	0.42	0.45	0.47
FR1 n66 Ant 13	Right Cheek	0.454	0.173	0.367	0.153	0.63	0.82	0.61
	Right Tilted	0.594	0.161	0.371	0.151	0.76	0.97	0.75
	Left Cheek	0.294	0.655	0.511	0.553	0.95	0.81	0.85
	Left Tilted	0.334	0.376	0.408	0.427	0.71	0.74	0.76
FR1 n66 Ant 31	Right Cheek	0.065	0.173	0.367	0.153	0.24	0.43	0.22
	Right Tilted	0.046	0.161	0.371	0.151	0.21	0.42	0.20
	Left Cheek	0.088	0.655	0.511	0.553	0.74	0.60	0.64
	Left Tilted	0.051	0.376	0.408	0.427	0.43	0.46	0.48
FR1 n66 Ant 11	Right Cheek	0.574	0.173	0.367	0.153	0.75	0.94	0.73
	Right Tilted	0.105	0.161	0.371	0.151	0.27	0.48	0.26
	Left Cheek	0.360	0.655	0.511	0.553	1.02	0.87	0.91
	Left Tilted	0.074	0.376	0.408	0.427	0.45	0.48	0.50
FR1 n41 Ant 13	Right Cheek	0.640	0.173	0.367	0.153	0.81	1.01	0.79
	Right Tilted	0.751	0.161	0.371	0.151	0.91	1.12	0.90
	Left Cheek	0.266	0.655	0.511	0.553	0.92	0.78	0.82
	Left Tilted	0.393	0.376	0.408	0.427	0.77	0.80	0.82
FR1 n41 Ant 31	Right Cheek	0.595	0.173	0.367	0.153	0.77	0.96	0.75
	Right Tilted	0.297	0.161	0.371	0.151	0.46	0.67	0.45



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	Left Cheek	0.365	0.655	0.511	0.553	1.02	0.88	0.92
	Left Tilted	0.249	0.376	0.408	0.427	0.63	0.66	0.68
FR1 n41 Ant 11	Right Cheek	0.813	0.173	0.367	0.153	0.99	1.18	0.97
	Right Tilted	0.134	0.161	0.371	0.151	0.30	0.51	0.29
	Left Cheek	0.374	0.655	0.511	0.553	1.03	0.89	0.93
	Left Tilted	0.076	0.376	0.408	0.427	0.45	0.48	0.50
FR1 n77 Ant 11	Right Cheek	0.757	0.173	0.367	0.153	0.93	1.12	0.91
	Right Tilted	0.166	0.161	0.371	0.151	0.33	0.54	0.32
	Left Cheek	0.304	0.655	0.511	0.553	0.96	0.82	0.86
	Left Tilted	0.095	0.376	0.408	0.427	0.47	0.50	0.52
FR1 n77 Ant 12	Right Cheek	0.940	0.173	0.367	0.153	1.11	1.31	1.09
	Right Tilted	0.515	0.161	0.371	0.151	0.68	0.89	0.67
	Left Cheek	0.318	0.655	0.511	0.553	0.97	0.83	0.87
	Left Tilted	0.269	0.376	0.408	0.427	0.65	0.68	0.70
FR1 n77 Ant 23	Right Cheek	0.130	0.173	0.367	0.153	0.30	0.50	0.28
	Right Tilted	0.052	0.161	0.371	0.151	0.21	0.42	0.20
	Left Cheek	0.368	0.655	0.511	0.553	1.02	0.88	0.92
	Left Tilted	0.069	0.376	0.408	0.427	0.45	0.48	0.50
FR1 n77 Ant 21	Right Cheek	0.294	0.173	0.367	0.153	0.47	0.66	0.45
	Right Tilted	0.309	0.161	0.371	0.151	0.47	0.68	0.46
	Left Cheek	0.383	0.655	0.511	0.553	1.04	0.89	0.94
	Left Tilted	0.468	0.376	0.408	0.427	0.84	0.88	0.90
FR1 n78 Ant 12	Right Cheek	0.992	0.173	0.367	0.153	1.17	1.36	1.15
	Right Tilted	0.538	0.161	0.371	0.151	0.70	0.91	0.69
	Left Cheek	0.320	0.655	0.511	0.553	0.98	0.83	0.87
	Left Tilted	0.269	0.376	0.408	0.427	0.65	0.68	0.70
FR1 n78 Ant 23	Right Cheek	0.183	0.173	0.367	0.153	0.36	0.55	0.34
	Right Tilted	0.094	0.161	0.371	0.151	0.26	0.47	0.25
	Left Cheek	0.533	0.655	0.511	0.553	1.19	1.04	1.09
	Left Tilted	0.117	0.376	0.408	0.427	0.49	0.53	0.54
FR1 n78 Ant 21	Right Cheek	0.431	0.173	0.367	0.153	0.60	0.80	0.58
	Right Tilted	0.540	0.161	0.371	0.151	0.70	0.91	0.69
	Left Cheek	0.634	0.655	0.511	0.553	1.29	1.15	1.19
	Left Tilted	0.906	0.376	0.408	0.427	1.28	1.31	1.33



17.3 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	3	4	5	1+3	1+4	1+5
		WWAN	WLAN2.4GHz Ant 22	WLAN5GHz Ant 22	Bluetooth Ant 22	Summed	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM850 Ant 13	Front	0.231	0.281	0.328	0.084	0.51	0.56	0.32
	Back	0.282	0.310	0.694	0.099	0.59	0.98	0.38
	Left side	0.110				0.11	0.11	0.11
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.263	0.321	0.505	0.084	0.58	0.77	0.35
	Bottom side					0.00	0.00	0.00
GSM850 Ant 31	Front	0.226	0.281	0.328	0.084	0.51	0.55	0.31
	Back	0.277	0.310	0.694	0.099	0.59	0.97	0.38
	Left side	0.155				0.16	0.16	0.16
	Right side	0.127	0.259	0.380	0.071	0.39	0.51	0.20
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.212				0.21	0.21	0.21
GSM1900 Ant 13	Front	0.281	0.281	0.328	0.084	0.56	0.61	0.37
	Back	0.355	0.310	0.694	0.099	0.67	1.05	0.45
	Left side	0.055				0.06	0.06	0.06
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.572	0.321	0.505	0.084	0.89	1.08	0.66
	Bottom side					0.00	0.00	0.00
GSM1900 Ant 31	Front	0.288	0.281	0.328	0.084	0.57	0.62	0.37
	Back	0.477	0.310	0.694	0.099	0.79	1.17	0.58
	Left side	0.072				0.07	0.07	0.07
	Right side	0.170	0.259	0.380	0.071	0.43	0.55	0.24
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.514				0.51	0.51	0.51
WCDMA II Ant 13	Front	0.266	0.281	0.328	0.084	0.55	0.59	0.35
	Back	0.331	0.310	0.694	0.099	0.64	1.03	0.43
	Left side	0.054				0.05	0.05	0.05
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.506	0.321	0.505	0.084	0.83	1.01	0.59
	Bottom side					0.00	0.00	0.00
WCDMA II Ant 31	Front	0.207	0.281	0.328	0.084	0.49	0.54	0.29
	Back	0.359	0.310	0.694	0.099	0.67	1.05	0.46
	Left side	0.064				0.06	0.06	0.06
	Right side	0.118	0.259	0.380	0.071	0.38	0.50	0.19
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.443				0.44	0.44	0.44
WCDMA IV Ant 13	Front	0.412	0.281	0.328	0.084	0.69	0.74	0.50
	Back	0.450	0.310	0.694	0.099	0.76	1.14	0.55
	Left side	0.084				0.08	0.08	0.08
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.643	0.321	0.505	0.084	0.96	1.15	0.73
	Bottom side					0.00	0.00	0.00
WCDMA IV Ant 31	Front	0.204	0.281	0.328	0.084	0.49	0.53	0.29
	Back	0.335	0.310	0.694	0.099	0.65	1.03	0.43
	Left side	0.008				0.01	0.01	0.01
	Right side	0.082	0.259	0.380	0.071	0.34	0.46	0.15
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.470				0.47	0.47	0.47
WCDMA V Ant 13	Front	0.324	0.281	0.328	0.084	0.61	0.65	0.41
	Back	0.478	0.310	0.694	0.099	0.79	1.17	0.58
	Left side	0.146				0.15	0.15	0.15
	Right side		0.259	0.380	0.071	0.26	0.38	0.07



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	Top side	0.377	0.321	0.505	0.084	0.70	0.88	0.46
	Bottom side					0.00	0.00	0.00
WCDMA V Ant 31	Front	0.122	0.281	0.328	0.084	0.40	0.45	0.21
	Back	0.176	0.310	0.694	0.099	0.49	0.87	0.28
	Left side	0.107				0.11	0.11	0.11
	Right side	0.100	0.259	0.380	0.071	0.36	0.48	0.17
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.113				0.11	0.11	0.11
LTE Band 2 Ant 13	Front	0.323	0.281	0.328	0.084	0.60	0.65	0.41
	Back	0.365	0.310	0.694	0.099	0.68	1.06	0.46
	Left side	0.068				0.07	0.07	0.07
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.626	0.321	0.505	0.084	0.95	1.13	0.71
	Bottom side					0.00	0.00	0.00
LTE Band 2 Ant 31	Front	0.225	0.281	0.328	0.084	0.51	0.55	0.31
	Back	0.395	0.310	0.694	0.099	0.71	1.09	0.49
	Left side	0.061				0.06	0.06	0.06
	Right side	0.117	0.259	0.380	0.071	0.38	0.50	0.19
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.458				0.46	0.46	0.46
LTE Band 7 Ant 13	Front	0.202	0.281	0.328	0.084	0.48	0.53	0.29
	Back	0.622	0.310	0.694	0.099	0.93	1.32	0.72
	Left side	0.081				0.08	0.08	0.08
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.753	0.321	0.505	0.084	1.07	1.26	0.84
	Bottom side					0.00	0.00	0.00
LTE Band 7 Ant 31	Front	0.279	0.281	0.328	0.084	0.56	0.61	0.36
	Back	0.392	0.310	0.694	0.099	0.70	1.09	0.49
	Left side	0.058				0.06	0.06	0.06
	Right side	0.215	0.259	0.380	0.071	0.47	0.60	0.29
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.231				0.23	0.23	0.23
LTE Band 7 Ant 11	Front	0.201	0.281	0.328	0.084	0.48	0.53	0.29
	Back	0.349	0.310	0.694	0.099	0.66	1.04	0.45
	Left side	0.536				0.54	0.54	0.54
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.072	0.321	0.505	0.084	0.39	0.58	0.16
	Bottom side					0.00	0.00	0.00
LTE Band 12 Ant 13	Front	0.192	0.281	0.328	0.084	0.47	0.52	0.28
	Back	0.261	0.310	0.694	0.099	0.57	0.96	0.36
	Left side	0.182				0.18	0.18	0.18
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.213	0.321	0.505	0.084	0.53	0.72	0.30
	Bottom side					0.00	0.00	0.00
LTE Band 12 Ant 31	Front	0.112	0.281	0.328	0.084	0.39	0.44	0.20
	Back	0.137	0.310	0.694	0.099	0.45	0.83	0.24
	Left side	0.176				0.18	0.18	0.18
	Right side	0.104	0.259	0.380	0.071	0.36	0.48	0.18
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.118				0.12	0.12	0.12
LTE Band 13 Ant 13	Front	0.119	0.281	0.328	0.084	0.40	0.45	0.20
	Back	0.187	0.310	0.694	0.099	0.50	0.88	0.29
	Left side	0.114				0.11	0.11	0.11
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.129	0.321	0.505	0.084	0.45	0.63	0.21
	Bottom side					0.00	0.00	0.00
LTE Band 13 Ant 31	Front	0.158	0.281	0.328	0.084	0.44	0.49	0.24
	Back	0.194	0.310	0.694	0.099	0.50	0.89	0.29



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	Left side	0.239				0.24	0.24	0.24
	Right side	0.129	0.259	0.380	0.071	0.39	0.51	0.20
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.189				0.19	0.19	0.19
LTE Band 26 Ant 13	Front	0.330	0.281	0.328	0.084	0.61	0.66	0.41
	Back	0.464	0.310	0.694	0.099	0.77	1.16	0.56
	Left side	0.168				0.17	0.17	0.17
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.387	0.321	0.505	0.084	0.71	0.89	0.47
	Bottom side					0.00	0.00	0.00
LTE Band 26 Ant 31	Front	0.129	0.281	0.328	0.084	0.41	0.46	0.21
	Back	0.154	0.310	0.694	0.099	0.46	0.85	0.25
	Left side	0.108				0.11	0.11	0.11
	Right side	0.092	0.259	0.380	0.071	0.35	0.47	0.16
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.122				0.12	0.12	0.12
LTE Band 66 Ant 13	Front	0.509	0.281	0.328	0.084	0.79	0.84	0.59
	Back	0.530	0.310	0.694	0.099	0.84	1.22	0.63
	Left side	0.124				0.12	0.12	0.12
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.730	0.321	0.505	0.084	1.05	1.24	0.81
	Bottom side					0.00	0.00	0.00
LTE Band 66 Ant 31	Front	0.219	0.281	0.328	0.084	0.50	0.55	0.30
	Back	0.342	0.310	0.694	0.099	0.65	1.04	0.44
	Left side	0.046				0.05	0.05	0.05
	Right side	0.097	0.259	0.380	0.071	0.36	0.48	0.17
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.513				0.51	0.51	0.51
LTE Band 66 Ant 11	Front	0.238	0.281	0.328	0.084	0.52	0.57	0.32
	Back	0.350	0.310	0.694	0.099	0.66	1.04	0.45
	Left side	0.554				0.55	0.55	0.55
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.048	0.321	0.505	0.084	0.37	0.55	0.13
	Bottom side					0.00	0.00	0.00
LTE Band 41 Ant 13	Front	0.195	0.281	0.328	0.084	0.48	0.52	0.28
	Back	0.585	0.310	0.694	0.099	0.90	1.28	0.68
	Left side	0.079				0.08	0.08	0.08
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.635	0.321	0.505	0.084	0.96	1.14	0.72
	Bottom side					0.00	0.00	0.00
LTE Band 41 Ant 31	Front	0.415	0.281	0.328	0.084	0.70	0.74	0.50
	Back	0.462	0.310	0.694	0.099	0.77	1.16	0.56
	Left side	0.081				0.08	0.08	0.08
	Right side	0.335	0.259	0.380	0.071	0.59	0.72	0.41
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.411				0.41	0.41	0.41
LTE Band 41 Ant 11	Front	0.173	0.281	0.328	0.084	0.45	0.50	0.26
	Back	0.327	0.310	0.694	0.099	0.64	1.02	0.43
	Left side	0.598				0.60	0.60	0.60
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.050	0.321	0.505	0.084	0.37	0.56	0.13
	Bottom side					0.00	0.00	0.00
FR1 n2 Ant 13	Front	0.272	0.281	0.328	0.084	0.55	0.60	0.36
	Back	0.348	0.310	0.694	0.099	0.66	1.04	0.45
	Left side	0.068				0.07	0.07	0.07
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.553	0.321	0.505	0.084	0.87	1.06	0.64
	Bottom side					0.00	0.00	0.00



FR1 n2 Ant 31	Front	0.228	0.281	0.328	0.084	0.51	0.56	0.31
	Back	0.396	0.310	0.694	0.099	0.71	1.09	0.50
	Left side	0.089				0.09	0.09	0.09
	Right side	0.127	0.259	0.380	0.071	0.39	0.51	0.20
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.452				0.45	0.45	0.45
FR1 n7 Ant 13	Front	0.203	0.281	0.328	0.084	0.48	0.53	0.29
	Back	0.627	0.310	0.694	0.099	0.94	1.32	0.73
	Left side	0.076				0.08	0.08	0.08
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.723	0.321	0.505	0.084	1.04	1.23	0.81
	Bottom side					0.00	0.00	0.00
FR1 n7 Ant 31	Front	0.281	0.281	0.328	0.084	0.56	0.61	0.37
	Back	0.356	0.310	0.694	0.099	0.67	1.05	0.46
	Left side	0.057				0.06	0.06	0.06
	Right side	0.203	0.259	0.380	0.071	0.46	0.58	0.27
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.251				0.25	0.25	0.25
FR1 n7 Ant 11	Front	0.145	0.281	0.328	0.084	0.43	0.47	0.23
	Back	0.280	0.310	0.694	0.099	0.59	0.97	0.38
	Left side	0.420				0.42	0.42	0.42
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.048	0.321	0.505	0.084	0.37	0.55	0.13
	Bottom side					0.00	0.00	0.00
FR1 n26 Ant 13	Front	0.262	0.281	0.328	0.084	0.54	0.59	0.35
	Back	0.470	0.310	0.694	0.099	0.78	1.16	0.57
	Left side	0.146				0.15	0.15	0.15
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.401	0.321	0.505	0.084	0.72	0.91	0.49
	Bottom side					0.00	0.00	0.00
FR1 n26 Ant 31	Front	0.113	0.281	0.328	0.084	0.39	0.44	0.20
	Back	0.138	0.310	0.694	0.099	0.45	0.83	0.24
	Left side	0.090				0.09	0.09	0.09
	Right side	0.089	0.259	0.380	0.071	0.35	0.47	0.16
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.096				0.10	0.10	0.10
FR1 n66 Ant 13	Front	0.375	0.281	0.328	0.084	0.66	0.70	0.46
	Back	0.465	0.310	0.694	0.099	0.78	1.16	0.56
	Left side	0.096				0.10	0.10	0.10
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.536	0.321	0.505	0.084	0.86	1.04	0.62
	Bottom side					0.00	0.00	0.00
FR1 n66 Ant 31	Front	0.181	0.281	0.328	0.084	0.46	0.51	0.27
	Back	0.301	0.310	0.694	0.099	0.61	1.00	0.40
	Left side	0.047				0.05	0.05	0.05
	Right side	0.074	0.259	0.380	0.071	0.33	0.45	0.15
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.370				0.37	0.37	0.37
FR1 n66 Ant 11	Front	0.215	0.281	0.328	0.084	0.50	0.54	0.30
	Back	0.337	0.310	0.694	0.099	0.65	1.03	0.44
	Left side	0.457				0.46	0.46	0.46
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.027	0.321	0.505	0.084	0.35	0.53	0.11
	Bottom side					0.00	0.00	0.00
FR1 n41 Ant 13	Front	0.213	0.281	0.328	0.084	0.49	0.54	0.30
	Back	0.667	0.310	0.694	0.099	0.98	1.36	0.77
	Left side	0.088				0.09	0.09	0.09
	Right side		0.259	0.380	0.071	0.26	0.38	0.07



	Top side	0.852	0.321	0.505	0.084	1.17	1.36	0.94
	Bottom side					0.00	0.00	0.00
FR1 n41 Ant 31	Front	0.489	0.281	0.328	0.084	0.77	0.82	0.57
	Back	0.528	0.310	0.694	0.099	0.84	1.22	0.63
	Left side	0.072				0.07	0.07	0.07
	Right side	0.356	0.259	0.380	0.071	0.62	0.74	0.43
	Top side		0.321	0.505	0.084	0.32	0.51	0.08
	Bottom side	0.441				0.44	0.44	0.44
FR1 n41 Ant 11	Front	0.160	0.281	0.328	0.084	0.44	0.49	0.24
	Back	0.296	0.310	0.694	0.099	0.61	0.99	0.40
	Left side	0.465				0.47	0.47	0.47
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.057	0.321	0.505	0.084	0.38	0.56	0.14
	Bottom side					0.00	0.00	0.00
FR1 n77 Ant 11	Front	0.296	0.281	0.328	0.084	0.58	0.62	0.38
	Back	0.500	0.310	0.694	0.099	0.81	1.19	0.60
	Left side	0.754				0.75	0.75	0.75
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.067	0.321	0.505	0.084	0.39	0.57	0.15
	Bottom side					0.00	0.00	0.00
FR1 n77 Ant 12	Front	0.288	0.281	0.328	0.084	0.57	0.62	0.37
	Back	0.504	0.310	0.694	0.099	0.81	1.20	0.60
	Left side	0.340				0.34	0.34	0.34
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.196	0.321	0.505	0.084	0.52	0.70	0.28
	Bottom side					0.00	0.00	0.00
FR1 n77 Ant 23	Front	0.076	0.281	0.328	0.084	0.36	0.40	0.16
	Back	0.136	0.310	0.694	0.099	0.45	0.83	0.24
	Left side					0.00	0.00	0.00
	Right side	0.152	0.259	0.380	0.071	0.41	0.53	0.22
	Top side	0.030	0.321	0.505	0.084	0.35	0.54	0.11
	Bottom side					0.00	0.00	0.00
FR1 n77 Ant 21	Front	0.084	0.281	0.328	0.084	0.37	0.41	0.17
	Back	0.142	0.310	0.694	0.099	0.45	0.84	0.24
	Left side					0.00	0.00	0.00
	Right side	0.034	0.259	0.380	0.071	0.29	0.41	0.11
	Top side	0.150	0.321	0.505	0.084	0.47	0.66	0.23
	Bottom side					0.00	0.00	0.00
FR1 n78 Ant 12	Front	0.298	0.281	0.328	0.084	0.58	0.63	0.38
	Back	0.573	0.310	0.694	0.099	0.88	1.27	0.67
	Left side	0.338				0.34	0.34	0.34
	Right side		0.259	0.380	0.071	0.26	0.38	0.07
	Top side	0.203	0.321	0.505	0.084	0.52	0.71	0.29
	Bottom side					0.00	0.00	0.00
FR1 n78 Ant 23	Front	0.106	0.281	0.328	0.084	0.39	0.43	0.19
	Back	0.227	0.310	0.694	0.099	0.54	0.92	0.33
	Left side					0.00	0.00	0.00
	Right side	0.235	0.259	0.380	0.071	0.49	0.62	0.31
	Top side	0.059	0.321	0.505	0.084	0.38	0.56	0.14
	Bottom side					0.00	0.00	0.00

**17.4 Body-Worn Accessory Exposure Conditions**

WWAN Band	Exposure Position	1	3	4	5	1+3	1+4	1+5
		WWAN	WLAN2.4GHz Ant 22	WLAN5GHz Ant 22	Bluetooth Ant 22	Summed	Summed	Summed
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
GSM850 Ant 13	Front	0.184	0.222	0.506	0.036	0.41	0.69	0.22
	Back	0.263	0.247	0.385	0.038	0.51	0.65	0.30
GSM850 Ant 31	Front	0.143	0.222	0.506	0.036	0.37	0.65	0.18
	Back	0.169	0.247	0.385	0.038	0.42	0.55	0.21
GSM1900 Ant 13	Front	0.238	0.222	0.506	0.036	0.46	0.74	0.27
	Back	0.303	0.247	0.385	0.038	0.55	0.69	0.34
GSM1900 Ant 31	Front	0.181	0.222	0.506	0.036	0.40	0.69	0.22
	Back	0.354	0.247	0.385	0.038	0.60	0.74	0.39
WCDMA II Ant 13	Front	0.394	0.222	0.506	0.036	0.62	0.90	0.43
	Back	0.516	0.247	0.385	0.038	0.76	0.90	0.55
WCDMA II Ant 31	Front	0.141	0.222	0.506	0.036	0.36	0.65	0.18
	Back	0.244	0.247	0.385	0.038	0.49	0.63	0.28
WCDMA IV Ant 13	Front	0.462	0.222	0.506	0.036	0.68	0.97	0.50
	Back	0.477	0.247	0.385	0.038	0.72	0.86	0.52
WCDMA IV Ant 31	Front	0.147	0.222	0.506	0.036	0.37	0.65	0.18
	Back	0.223	0.247	0.385	0.038	0.47	0.61	0.26
WCDMA V Ant 13	Front	0.224	0.222	0.506	0.036	0.45	0.73	0.26
	Back	0.263	0.247	0.385	0.038	0.51	0.65	0.30
WCDMA V Ant 31	Front	0.126	0.222	0.506	0.036	0.35	0.63	0.16
	Back	0.134	0.247	0.385	0.038	0.38	0.52	0.17
LTE Band 2 Ant 13	Front	0.430	0.222	0.506	0.036	0.65	0.94	0.47
	Back	0.579	0.247	0.385	0.038	0.83	0.96	0.62
LTE Band 2 Ant 31	Front	0.149	0.222	0.506	0.036	0.37	0.66	0.19
	Back	0.278	0.247	0.385	0.038	0.53	0.66	0.32
LTE Band 7 Ant 13	Front	0.299	0.222	0.506	0.036	0.52	0.81	0.34
	Back	0.847	0.247	0.385	0.038	1.09	1.23	0.89
LTE Band 7 Ant 31	Front	0.177	0.222	0.506	0.036	0.40	0.68	0.21
	Back	0.201	0.247	0.385	0.038	0.45	0.59	0.24
LTE Band 7 Ant 11	Front	0.237	0.222	0.506	0.036	0.46	0.74	0.27
	Back	0.450	0.247	0.385	0.038	0.70	0.84	0.49
LTE Band 12 Ant 13	Front	0.194	0.222	0.506	0.036	0.42	0.70	0.23
	Back	0.234	0.247	0.385	0.038	0.48	0.62	0.27
LTE Band 12 Ant 31	Front	0.130	0.222	0.506	0.036	0.35	0.64	0.17
	Back	0.152	0.247	0.385	0.038	0.40	0.54	0.19
LTE Band 13 Ant 13	Front	0.129	0.222	0.506	0.036	0.35	0.64	0.17
	Back	0.176	0.247	0.385	0.038	0.42	0.56	0.21
LTE Band 13 Ant 31	Front	0.171	0.222	0.506	0.036	0.39	0.68	0.21
	Back	0.206	0.247	0.385	0.038	0.45	0.59	0.24
LTE Band 26 Ant 13	Front	0.210	0.222	0.506	0.036	0.43	0.72	0.25
	Back	0.275	0.247	0.385	0.038	0.52	0.66	0.31
LTE Band 26 Ant 31	Front	0.114	0.222	0.506	0.036	0.34	0.62	0.15
	Back	0.128	0.247	0.385	0.038	0.38	0.51	0.17
LTE Band 66 Ant 13	Front	0.460	0.222	0.506	0.036	0.68	0.97	0.50
	Back	0.563	0.247	0.385	0.038	0.81	0.95	0.60
LTE Band 66 Ant 31	Front	0.155	0.222	0.506	0.036	0.38	0.66	0.19
	Back	0.226	0.247	0.385	0.038	0.47	0.61	0.26
LTE Band 66 Ant 11	Front	0.167	0.222	0.506	0.036	0.39	0.67	0.20
	Back	0.304	0.247	0.385	0.038	0.55	0.69	0.34
LTE Band 38 Ant 13	Front	0.305	0.222	0.506	0.036	0.53	0.81	0.34
	Back	0.844	0.247	0.385	0.038	1.09	1.23	0.88



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LTE Band 41 Ant 13	Front	0.253	0.222	0.506	0.036	0.48	0.76	0.29
	Back	0.765	0.247	0.385	0.038	1.01	1.15	0.80
LTE Band 41 Ant 31	Front	0.220	0.222	0.506	0.036	0.44	0.73	0.26
	Back	0.235	0.247	0.385	0.038	0.48	0.62	0.27
LTE Band 41 Ant 11	Front	0.265	0.222	0.506	0.036	0.49	0.77	0.30
	Back	0.439	0.247	0.385	0.038	0.69	0.82	0.48
FR1 n2 Ant 13	Front	0.254	0.222	0.506	0.036	0.48	0.76	0.29
	Back	0.579	0.247	0.385	0.038	0.83	0.96	0.62
FR1 n2 Ant 31	Front	0.290	0.222	0.506	0.036	0.51	0.80	0.33
	Back	0.383	0.247	0.385	0.038	0.63	0.77	0.42
FR1 n7 Ant 13	Front	0.297	0.222	0.506	0.036	0.52	0.80	0.33
	Back	0.842	0.247	0.385	0.038	1.09	1.23	0.88
FR1 n7 Ant 31	Front	0.178	0.222	0.506	0.036	0.40	0.68	0.21
	Back	0.202	0.247	0.385	0.038	0.45	0.59	0.24
FR1 n7 Ant 11	Front	0.332	0.222	0.506	0.036	0.55	0.84	0.37
	Back	0.562	0.247	0.385	0.038	0.81	0.95	0.60
FR1 n26 Ant 13	Front	0.219	0.222	0.506	0.036	0.44	0.73	0.26
	Back	0.286	0.247	0.385	0.038	0.53	0.67	0.32
FR1 n26 Ant 31	Front	0.120	0.222	0.506	0.036	0.34	0.63	0.16
	Back	0.149	0.247	0.385	0.038	0.40	0.53	0.19
FR1 n66 Ant 13	Front	0.460	0.222	0.506	0.036	0.68	0.97	0.50
	Back	0.520	0.247	0.385	0.038	0.77	0.91	0.56
FR1 n66 Ant 31	Front	0.119	0.222	0.506	0.036	0.34	0.63	0.16
	Back	0.177	0.247	0.385	0.038	0.42	0.56	0.22
FR1 n66 Ant 11	Front	0.262	0.222	0.506	0.036	0.48	0.77	0.30
	Back	0.409	0.247	0.385	0.038	0.66	0.79	0.45
FR1 n41 Ant 13	Front	0.329	0.222	0.506	0.036	0.55	0.84	0.37
	Back	0.974	0.247	0.385	0.038	1.22	1.36	1.01
FR1 n41 Ant 31	Front	0.338	0.222	0.506	0.036	0.56	0.84	0.37
	Back	0.355	0.247	0.385	0.038	0.60	0.74	0.39
FR1 n41 Ant 11	Front	0.406	0.222	0.506	0.036	0.63	0.91	0.44
	Back	0.736	0.247	0.385	0.038	0.98	1.12	0.77
FR1 n77 Ant 11	Front	0.497	0.222	0.506	0.036	0.72	1.00	0.53
	Back	0.824	0.247	0.385	0.038	1.07	1.21	0.86
FR1 n77 Ant 12	Front	0.659	0.222	0.506	0.036	0.88	1.17	0.70
	Back	0.980	0.247	0.385	0.038	1.23	1.37	1.02
FR1 n77 Ant 23	Front	0.039	0.222	0.506	0.036	0.26	0.55	0.08
	Back	0.079	0.247	0.385	0.038	0.33	0.46	0.12
FR1 n77 Ant 21	Front	0.054	0.222	0.506	0.036	0.28	0.56	0.09
	Back	0.082	0.247	0.385	0.038	0.33	0.47	0.12
FR1 n78 Ant 12	Front	0.629	0.222	0.506	0.036	0.85	1.14	0.67
	Back	0.935	0.247	0.385	0.038	1.18	1.32	0.97
FR1 n78 Ant 23	Front	0.059	0.222	0.506	0.036	0.28	0.57	0.10
	Back	0.127	0.247	0.385	0.038	0.37	0.51	0.17
FR1 n78 Ant 21	Front	0.098	0.222	0.506	0.036	0.32	0.60	0.13
	Back	0.150	0.247	0.385	0.038	0.40	0.54	0.19

**17.5 Product specific 10g SAR Exposure Conditions****Remark:**

1. For WLAN2.4GHz/Bluetooth Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.

WWAN Band		Exposure Position	1	3	4	6	1+3+6	1+4+6
			WWAN	WLAN2.4GHz Ant 22	WLAN5GHz Ant 22	NFC	Summed	Summed
			10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
GSM	GSM850 Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	GSM850 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	GSM1900 Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	GSM1900 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
WCDMA	WCDMA II Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side	1.307		0.759		1.31	2.07
		Bottom side					0.00	0.00
	WCDMA II Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	WCDMA IV Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side	2.253		0.759		2.25	3.01
		Bottom side					0.00	0.00
	WCDMA IV Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	WCDMA V Ant	Front			1.290		0.00	1.29



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LTE	13	Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
		Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	WCDMA V Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 2 Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side	1.717		0.759		1.72	2.48
		Bottom side					0.00	0.00
	LTE Band 2 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 2 Ant 11	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 7 Ant 13	Front			1.290		0.00	1.29
		Back	2.348		0.833	0.034	2.38	3.22
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side	2.390		0.759		2.39	3.15
		Bottom side					0.00	0.00
	LTE Band 7 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 7 Ant 11	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side	2.684				2.68	2.68
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 12 Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 12 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.76



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	LTE Band 13 Ant 13	Bottom side					0.00	0.00
		Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 13 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 17 Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 26 Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 26 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 66 Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side	2.966		0.759		2.97	3.73
		Bottom side					0.00	0.00
	LTE Band 66 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 66 Ant 11	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 41 Ant 13	Front			1.290		0.00	1.29
		Back	2.489		0.833	0.034	2.52	3.36
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side	2.399		0.759		2.40	3.16
		Bottom side					0.00	0.00
	LTE Band 41 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00



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		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	LTE Band 41 Ant 11	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side	2.506				2.51	2.51
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
		Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
	FR1 n2 Ant 13	Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	FR1 n2 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	FR1 n7 Ant 13	Front			1.290		0.00	1.29
		Back	2.480		0.833	0.034	2.51	3.35
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side	2.254		0.759		2.25	3.01
		Bottom side					0.00	0.00
	FR1 n7 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	FR1 n7 Ant 11	Front			1.290		0.00	1.29
		Back	1.508		0.833	0.034	1.54	2.38
		Left side	1.898				1.90	1.90
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	FR1 n26 Ant 13	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	FR1 n26 Ant 31	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	FR1 n66 Ant 13	Front			1.290		0.00	1.29
		Back	1.680		0.833	0.034	1.71	2.55
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side	1.623		0.759		1.62	2.38
		Bottom side					0.00	0.00
	FR1 n66 Ant	Front			1.290		0.00	1.29



	31	Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	FR1 n66 Ant 11	Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side	1.976				1.98	1.98
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
	FR1 n41 Ant 13	Bottom side					0.00	0.00
		Front			1.290		0.00	1.29
		Back	2.560		0.833	0.034	2.59	3.43
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
	FR1 n41 Ant 31	Top side	2.828		0.759		2.83	3.59
		Bottom side					0.00	0.00
		Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
	FR1 n41 Ant 11	Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
		Front			1.290		0.00	1.29
		Back	1.473		0.833	0.034	1.51	2.34
	FR1 n77 Ant 11	Left side	1.964				1.96	1.96
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
		Front			1.290		0.00	1.29
	FR1 n77 Ant 12	Back	2.897		0.833	0.034	2.93	3.76
		Left side	1.953				1.95	1.95
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00
	FR1 n77 Ant 23	Front			1.290		0.00	1.29
		Back	2.269		0.833	0.034	2.30	3.14
		Left side	2.034				2.03	2.03
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
	FR1 n77 Ant 21	Bottom side					0.00	0.00
		Front			1.290		0.00	1.29
		Back			0.833	0.034	0.03	0.87
		Left side					0.00	0.00
		Right side			1.855		0.00	1.86
		Top side			0.759		0.00	0.76
		Bottom side					0.00	0.00

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18. Uncertainty Assessment

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be $\leq 30\%$, for a confidence interval of $k = 2$. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

19. References

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- [6] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.
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- [14] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015

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