

FCC SAR Test Report

APPLICANT : Zebra Technologies Corporation
EQUIPMENT : Enterprise Mobile
BRAND NAME : Zebra
MODEL NAME : EM45B2
FCC ID : UZ7EM45B2
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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



Approved by: Si Zhang



Sporton International Inc. (Kunshan)

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



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[illegible]

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Zebra Technologies Corporation, Enterprise Mobile, EM45B2**, 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	1.07	0.50	0.27	1.59
		GSM1900	1.09	0.75	0.25	
	WCDMA	WCDMA II	1.09	1.08	0.58	
		WCDMA IV	1.10	1.09	0.67	
		WCDMA V	1.08	0.41	0.27	
	LTE	LTE Band 2	1.10	1.10	0.53	
		LTE Band 7	1.09	1.10	0.57	
		LTE Band 13	1.07	0.39	0.21	
		LTE Band 17	1.09	0.39	0.20	
		LTE Band 26/5	1.09	0.34	0.21	
		LTE Band 66/4	1.10	1.18	0.59	
		LTE Band 71	1.08	0.37	0.21	
		LTE Band 41/38	1.09	1.09	0.50	
		LTE Band 42	1.09	0.83	0.51	
	5G NR	FR1 n2	1.07	1.09	0.54	
		FR1 n7	1.08	1.10	0.99	
		FR1 n26/5	1.09	0.48	0.23	
		FR1 n66	1.09	1.08	0.61	
		FR1 n71	1.08	0.53	0.32	
		FR1 n41/38	1.08	1.08	0.78	
		FR1 n77/78	1.09	1.10	0.71	
DSS	RFID	RFID		0.16	0.10	1.56
DTS	WLAN	2.4GHz WLAN	1.18	1.14	0.49	1.59
NII		5GHz WLAN	1.10	1.09	1.18	1.59
DSS	Bluetooth	2.4GHz Bluetooth	0.12	<0.10	<0.10	1.59

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	WCDMA	WCDMA II	3.07	3.99
		WCDMA IV	2.99	
	LTE	LTE Band 2	2.88	
		LTE Band 7	3.13	
		LTE Band 66/4	2.82	
		LTE Band 41/38	3.17	
	FR1	FR1 n2	3.08	
		FR1 n7	3.09	
		FR1 n66	3.03	
		FR1 n41/38	3.18	
FR1 n77/78		3.08		
DSS	RFID	RFID	0.26	3.45
DTS	WLAN	2.4GHz WLAN	3.16	3.99
NII		5GHz WLAN	2.96	3.99
Date of Testing:			2024/7/30 ~ 2024/8/23	

Remark:

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

Declaration of Conformity:

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

Comments and Explanations:

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

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

2. Administration Data

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR04-KS	CN1257	314309

Applicant	
Company Name	Zebra Technologies Corporation
Address	3 Overlook Point, Lincolnshire, IL 60069 USA

Manufacturer	
Company Name	Zebra Technologies Corporation
Address	3 Overlook Point, Lincolnshire, IL 60069 USA

3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 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	Enterprise Mobile
Brand Name	Zebra
Model Name	EM45B2
FCC ID	UZ7EM45B2
IMEI Code	IMEI1: 350854420037984 IMEI2: 350854420038545
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 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 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 WLAN 6GHz U-NII 5: 5925 MHz ~ 6425 MHz WLAN 6GHz U-NII 6: 6425 MHz ~ 6525 MHz WLAN 6GHz U-NII 7: 6525 MHz ~ 6875 MHz WLAN 6GHz U-NII 8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz RFID : 902.75 MHz ~ 927.25 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN 2.4GHz 802.11b/g/n HT20 WLAN 2.4GHz 802.11ac VHT20

	WLAN 2.4GHz 802.11ax HE20 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 WLAN 6GHz 802.11a/ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK RFID : ASK
HW Version	EV2.5
SW Version	13-32-02.00-TG-U06-STD-ATH-04
MFD	02AUG24
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 WLAN supports WiFi Direct (GC only). WLAN 6GHz has no hotspot function. 4. This device supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). 5. The device implements 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. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E. 6. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head body-worn, hotspot and extremity exposure condition. 7. The device support P-light sensor detection and the power verification include in appendix G, more information refer to operational description. 8. This device supports HPUE mode for 5G NR n77/n78, since HPUE mode is with higher power, so power class 2 was chosen to perform full SAR testing and power class 2 SAR can represent power class 3 SAR. 9. For 5G NR bands test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing. 10. SAR testing for RFID was performed using FTM (Factory Test Mode). 11. The device support DBS (Dual Band Simultaneous) function, when the device 2.4GHz and 5GHz or 6GHz transmit at the same time the device will limit different output power for simultaneous transmission compliance. 12. This device has one EM45 Protective Case that does not contain metal components and any electronic circuitry, it has no effect on RF exposure and does not require evaluation for SAR. 13. The device support DBS (Dual Band Simultaneous) function, when the device 2.4GHz and 5GHz or 6GHz transmit at the same time the module will limit different output power for simultaneous transmission compliance. 14. This device has NFC function and the NFC SAR report will be separately submitted. 15. SAR and Power density test report for WLAN 6GHz U-NII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth always chose higher SAR of WLAN5GHz U-NII-1/2A/2C/3 and WLAN 6GHz U-NII-5/6/7/8. 16. This device supports 5G NR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.	

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 40
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n71	FDD	15	5, 10, 15, 20
	n38	TDD	30	20, 30, 40
	n77	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	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, 30, 40
	n71	FDD	15	5, 10, 15, 20
	n38	TDD	30	20, 30, 40
	n41	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n77	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100

Specification of Accessory				
AC Adapter 1 (Type C Wall Charger 1)	Brand Name	Zebra	Model	SAWA-102-22520A
			Part Number	PWR-WUA5V45W1US
AC Adapter 2 (Type A Wall Charger 2)	Brand Name	Zebra	Model	SAWA-65-20005A
			Part Number	PWR-WUA5V12W0US
Battery 1	Brand Name	Zebra	Model	BT-000501
			Part Number	BT-000501-2000
Earphone 1 (Wired headset USB-C)	Brand Name	Zebra	Part Number	HDST-USBC-PTT1-01
Earphone 2 (Rugged Bluetooth Headset)	Brand Name	Zebra	Part Number	HS3100-OTH
Earphone 3 (3.5mm PTT Headset)	Brand Name	Zebra	Part Number	HDST-35MM-PTT1-02
Earphone 4 (Rugged Headset)	Brand Name	Zebra	Part Number	HS2100-OTH
3.5mm to 3.5mm audio connector	Brand Name	Zebra	Part Number	CBL-HS2100-3MS1-01
Type C-Audio Cable (Type C to 3.5mm)	Brand Name	Zebra	Part Number	ADP-USBC-35MM1-01
USB Cable 1 (USB-C to C Cable)	Brand Name	Zebra	Part Number	CBL-EC5X-USBC3A-01
USB Cable 2 (USB-A to C Cable)	Brand Name	Zebra	Part Number	CBL-TC5X-USBC2A-01
EM45 Protective Case	Brand Name	Zebra	Part Number	SG-EM45EXO1-01

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																													
FCC ID	UZ7EM45B2																																																																												
Equipment Name	Enterprise Mobile																																																																												
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 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 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 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																																												
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM																																																																												
LTE Voice / Data requirements	Voice and Data																																																																												
LTE Release Version	R15																																																																												
CA Support	Supported, Uplink and Downlink																																																																												
LTE MPR permanently built-in by design	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table>							Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
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16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1																																																																						
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64 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 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 13.																																																																												
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 13.																																																																												
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-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						
M	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						
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						
M	21100	2535	21100	2535	21100	2535	21100	2535						
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560						
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				
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5				
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5				
LTE Band 38														
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580						
M	38000	2595	38000	2595	38000	2595	38000	2595						
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610						
LTE Band 41														
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	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 42														
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460						
M	42590	3500	42590	3500	42590	3500	42590	3500						

H	43065		3547.5		43040		3545		43015		3542.5		42990		3540	
LTE Band 66																
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720				
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745				
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770				
LTE Band 71																
	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	133147		665.5		133172		668		133197		670.5		133222		673	
M	133247		675.5		133272		678		133297		680.5		133322		683	
H	133447		695.5		133422		693		133397		690.5		133372		688	

<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 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Antenna	Head DSI 2 Tune-up Limit	Hotspot DSI 1 RFID OFF Tune-up Limit	Hotspot DSI 4 RFID ON Tune-up Limit	Bodyworn Extremity DSI 0 RFID OFF Tune-up Limit	Bodyworn Extremity DSI 5 RFID ON Tune-up Limit	Default Tune-up Limit
LTE Band 66(4)	Ant 2	20.20	22.70	21.30	24.00	22.40	24.00
LTE Band 26(5)	Ant 0	22.30	24.00	24.00	24.00	24.00	24.00
LTE Band 26(5)	Ant 1			23.00		23.00	23.00
LTE Band 41(38)	Ant 3	18.70	22.20	20.80	23.60	21.60	24.00

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information														
Operating Frequency Range of each 5G NR transmission band	5G NR n2 : 1850 MHz ~ 1910 MHz													
	5G NR n5 : 824 MHz ~ 849 MHz													
	5G NR n7 : 2500 MHz ~ 2570 MHz													
	5G NR n26 : 814 MHz ~ 849 MHz													
	5G NR n38 : 2570 MHz ~ 2620 MHz													
	5G NR n41 : 2496 MHz ~ 2690 MHz													
	5G NR n66 : 1710 MHz ~ 1780 MHz													
	5G NR n71 : 663 MHz ~ 698 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 B2/7/66													
LTE Anchor Bands for n7	LTE B2/5/66													
LTE Anchor Bands for n38	LTE B5													
LTE Anchor Bands for n66	LTE B5/7													
LTE Anchor Bands for n71	LTE B2													
LTE Anchor Bands for n77	LTE B7/41													
LTE Anchor Bands for n78	LTE B2/5/7/38/41/66													
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)	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	165300	826.5	165800	829	166300	831.5	166800	834						
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5						
H	169300	846.5	168800	844	168300	841.5	167800	839						
NR Band 7														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550
NR Band 26														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	163300	816.5	163800	819	164300	821.5	164800	824						
M	166300	831.5	166300	831.5	166300	831.5	166300	831.5						
H	169300	846.5	168800	844	168300	841.5	167800	839						
NR Band 66														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 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	342500	1712.5	343000	1715	343500	1717.5	344000	1720	345000	1725	346000	1730		
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745		
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353000	1765	352000	1760		



NR Band 71								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133100	665.5	133600	668	134100	670.5	134600	673
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5
H	139100	695.5	138600	693	138100	690.5	137600	688

NR Band 38						
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	516000	2580	517002	2585.01	518004	2590.02
M	519000	2595	519000	2595	519000	2595
H	522000	2610	520998	2604.99	519996	2599.98

NR Band 41																		
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)
L	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	500202	2501.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	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 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)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840.00	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	664668	3970.02	664334	3965.01	664000	3960	663668	3955.02	663334	3950.01	663000	3945	662668	3940.02	662334	3935.01	662000	3930

NR Band 78																		
	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)
L	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750.00	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	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																		
	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)
L	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02		

NR Band 78																		
	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)
L	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H	636000	3540	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02		

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

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

2) NR Bands Tune up:

Band	Antenna	Head DSI 2 Tune-up Limit	Hotspot DSI 1 RFID OFF Tune-up Limit	Hotspot DSI 4 RFID ON Tune-up Limit	Bodyworn Extremity DSI 0 RFID OFF Tune-up Limit	Bodyworn Extremity DSI 5 RFID ON Tune-up Limit	Default Tune-up Limit
FR1 n26(5)	Ant 0	23.20	24.00	24.00	24.00	24.00	24.00
FR1 n26(5)	Ant 1			23.00		23.00	23.00
FR1 n41(38)	Ant 3	16.40	21.20	19.80	21.10	19.10	24.00
FR1 n77(78) Part 27O	Ant 2	17.10	23.00	21.60	23.00	21.80	23.00
FR1 n77(78) Part 27Q	Ant 2	17.10	23.00	21.60	23.00	21.80	23.00
FR1 n77(78) HPUE Part 27O	Ant 2	17.10	23.00	21.60	23.80	21.80	24.50
FR1 n77(78) HPUE Part 27Q	Ant 2	17.10	23.00	21.60	23.80	21.80	24.50
FR1 n77(78) Part 27O	Ant 3	18.90	20.60	19.20	20.60	18.60	23.00
FR1 n77(78) Part 27Q	Ant 3	18.90	20.60	19.20	20.60	18.60	23.00
FR1 n77(78) HPUE Part 27O	Ant 3	18.90	20.60	19.20	20.60	18.60	24.50
FR1 n77(78) HPUE Part 27Q	Ant 3	18.90	20.60	19.20	20.60	18.60	24.50
FR1 n77(78) Part 27O	Ant 4	16.20	23.20	21.80	24.00	22.90	24.00
FR1 n77(78) Part 27Q	Ant 4	16.20	23.20	21.80	24.00	22.90	24.00
FR1 n77(78) HPUE Part 27O	Ant 4	16.20	23.20	21.80	24.90	22.90	27.00
FR1 n77(78) HPUE Part 27Q	Ant 4	16.20	23.20	21.80	24.90	22.90	27.00
FR1 n77(78) Part 27O	Ant 6	24.00	20.70	19.30	20.50	18.50	24.00
FR1 n77(78) Part 27Q	Ant 6	24.00	20.70	19.30	20.50	18.50	24.00
FR1 n77(78) HPUE Part 27O	Ant 6	25.40	20.70	19.30	20.50	18.50	27.00
FR1 n77(78) HPUE Part 27Q	Ant 6	25.40	20.70	19.30	20.50	18.50	27.00

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 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 and uncertainty>

Item	Uncertainty dB (k=2)
Total uncertainty	1.0

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

$$SAR_{\text{design_target}} < SAR_{\text{regulatory_limit}} \times 10^{\frac{-total_uncertainty}{10}}$$



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

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

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

Band	Antenna	Head DSI 2	Hotspot DSI 1 RFID OFF	Hotspot DSI 4 RFID ON	Body-Worn& Extremity DSI 0 RFID OFF	Body-Worn& Extremity DSI 5 RFID ON	Pmax*
GSM850	Ant 0	22.1	27.3	25.9	24.0	24.0	24.0
GSM850	Ant 1			25.9		24.0	22.2
GSM1900	Ant 2	19.4	22.6	21.2	21.0	21.0	21.0
WCDMA II	Ant 2	19.3	21.1	19.7	23.0	21.0	23.0
WCDMA IV	Ant 2	19.2	22.1	20.7	23.2	21.2	23.0
WCDMA V	Ant 0	21.7	27.2	25.8	23.0	23.0	23.0
WCDMA V	Ant 1			25.8		23.0	22.0
LTE Band 71	Ant 0	21.8	27.6	26.2	23.0	23.0	23.0
LTE Band 71	Ant 1			26.2		23.0	22.0
LTE Band 13	Ant 0	21.7	27.4	26.0	23.0	23.0	23.0
LTE Band 13	Ant 1			26.0		23.0	22.0
LTE Band 17	Ant 0	21.8	27.4	26.0	23.0	23.0	23.0
LTE Band 17	Ant 1			26.0		23.0	22.0
LTE Band 26(5)	Ant 0	21.3	28.0	26.6	23.0	23.0	23.0
LTE Band 26(5)	Ant 1			26.6		23.0	22.0
LTE Band 66(4)	Ant 2	19.2	21.7	20.3	23.4	21.4	23.0
LTE Band 66(4)	Ant 5	30.3	22.8	21.4	23.0	23.0	23.0
LTE Band 2	Ant 2	19.2	20.7	19.3	23.3	21.3	23.0
LTE Band 7	Ant 3	16.6	19.9	18.5	21.4	19.4	24.0
LTE Band 41(38)	Ant 3	15.7	19.2	17.8	20.6	18.6	21.0
LTE Band 42	Ant 4	14	22.2	20.8	21.0	21.0	21.0
FR1 n71	Ant 0	21.7	26.4	25.0	23.0	23.0	23.0
FR1 n71	Ant 1			25.0		23.0	22.0
FR1 n26(5)	Ant 0	22.2	26.7	25.3	23.0	23.0	23.0
FR1 n26(5)	Ant 1			25.3		23.0	22.0
FR1 n66	Ant 2	18.9	21.5	20.1	23.1	21.1	23.0
FR1 n2	Ant 2	18.6	20.8	19.4	22.7	20.7	23.0
FR1 n7	Ant 3	15.5	19.2	17.8	20.5	18.5	24.0
FR1 n41(38)	Ant 3	15.4	20.2	18.8	20.1	18.1	23.0
FR1 n41	Ant 0	16	25.2	23.8	23.0	23.0	23.0
FR1 n41	Ant 5	32.3	21.1	19.7	20.3	18.3	21.0
FR1 n41	Ant 6	24.4	20.7	19.3	20.8	18.8	21.0
FR1 n77(78) Part 27O	Ant 2	16.1	22.0	20.6	22.8	20.8	22.0
FR1 n77(78) Part 27Q	Ant 2	16.1	22.0	20.6	22.8	20.8	22.0
FR1 n77(78) HPUE Part 27O	Ant 2	16.1	22.0	20.6	22.8	20.8	23.5
FR1 n77(78) HPUE Part 27Q	Ant 2	16.1	22.0	20.6	22.8	20.8	23.5
FR1 n77(78) Part 27O	Ant 3	17.9	19.6	18.2	19.6	17.6	22.0
FR1 n77(78) Part 27Q	Ant 3	17.9	19.6	18.2	19.6	17.6	22.0
FR1 n77(78) HPUE Part 27O	Ant 3	17.9	19.6	18.2	19.6	17.6	23.5
FR1 n77(78) HPUE Part 27Q	Ant 3	17.9	19.6	18.2	19.6	17.6	23.5
FR1 n77(78) Part 27O	Ant 4	15.2	22.2	20.8	23.9	21.9	23.0
FR1 n77(78) Part 27Q	Ant 4	15.2	22.2	20.8	23.9	21.9	23.0
FR1 n77(78) HPUE Part 27O	Ant 4	15.2	22.2	20.8	23.9	21.9	26.0
FR1 n77(78) HPUE Part 27Q	Ant 4	15.2	22.2	20.8	23.9	21.9	26.0
FR1 n77(78) Part 27O	Ant 6	24.4	19.7	18.3	19.5	17.5	23.0
FR1 n77(78) Part 27Q	Ant 6	24.4	19.7	18.3	19.5	17.5	23.0



FR1 n77(78) HPUE Part 27O	Ant 6	24.4	19.7	18.3	19.5	17.5	26.0
FR1 n77(78) HPUE Part 27Q	Ant 6	24.4	19.7	18.3	19.5	17.5	26.0

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 Plimit power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).
- 3) The max allowed output power is the Plimit + 1.0 dB device uncertainty, and if Plimit is higher than P_{max}, the device output power will be P_{max} instead.
- 4) When P-light sensor is used to detect the user who take the device close to head, or during the voice call is established and audio is actively routed through the earpiece receiver (earpiece is ON) while P-light sensor be detected Phone close to Head, therefore RFID is turned off. When the RFID is turned off, then WWAN ant1 cannot be transmitted. When the RFID is active, then WWAN ant1 can be transmitted.

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

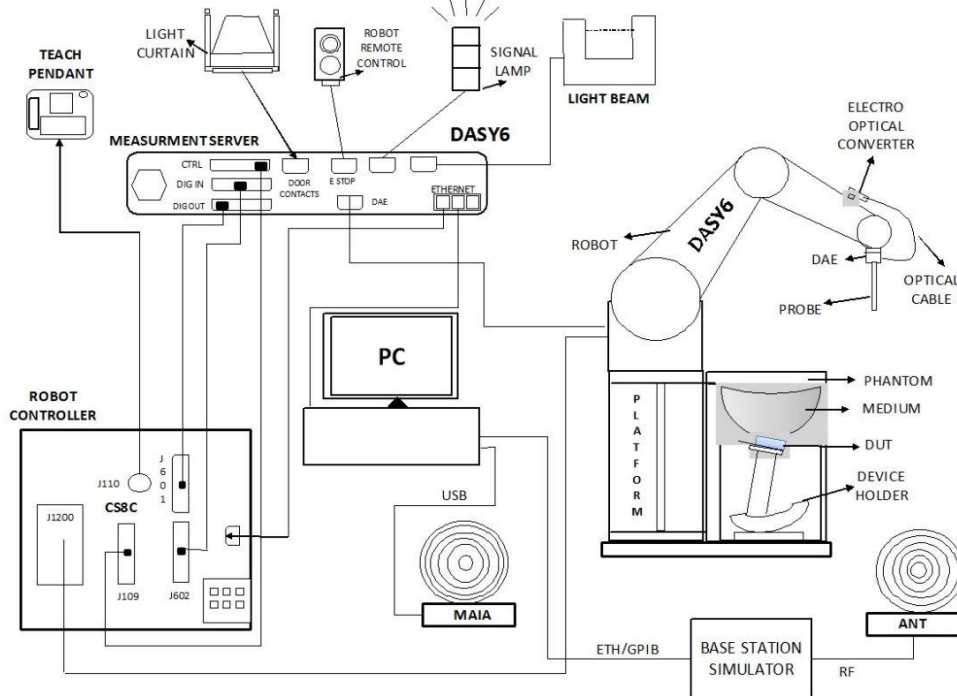
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 or Win10 and the DASY5 or DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

8.1 E-Field Probe

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

<EX3DV4 Probe>

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

8.2 Data Acquisition Electronics (DAE)

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

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



Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

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

9.2 Power Reference Measurement

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

9.3 Area Scan

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

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

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

9.4 Zoom Scan

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

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

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

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	2022/2/24	2025/2/22
SPEAG	835MHz System Validation Kit	D835V2	4d091	2022/8/19	2025/8/18
SPEAG	900MHz System Validation Kit	D900V2	1d186	2022/2/3	2025/2/1
SPEAG	1750MHz System Validation Kit	D1750V2	1090	2022/2/24	2025/2/22
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	2022/3/30	2025/3/28
SPEAG	2450MHz System Validation Kit	D2450V2	1095	2024/2/8	2025/2/7
SPEAG	2600MHz System Validation Kit	D2600V2	1112	2023/12/18	2024/12/17
SPEAG	3500MHz System Validation Kit	D3500V2	1037	2023/11/20	2024/11/19
SPEAG	3700MHz System Validation Kit	D3700V2	1008	2023/11/20	2024/11/19
SPEAG	3900MHz System Validation Kit	D3900V2	1048	2023/3/9	2026/3/8
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	2022/9/23	2025/9/22
SPEAG	Data Acquisition Electronics	DAE4	1358	2024/5/23	2025/5/22
SPEAG	Data Acquisition Electronics	DAE4	1650	2023/9/13	2024/9/12
SPEAG	Dosimetric E-Field Probe	EX3DV4	7729	2024/1/22	2025/1/21
SPEAG	Dosimetric E-Field Probe	EX3DV4	7627	2024/6/3	2025/6/2
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2024/1/22	2025/1/21
SPEAG	SAM Twin Phantom	SAM Twin	TP-2074	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-1842	NCR	NCR
Testo	Thermo-Hygrometer	HTC-1	55011	2024/1/4	2025/1/3
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio Communication Analyzer	MT8821C	6262306175	2024/7/4	2025/7/3
Agilent	ENA Series Network Analyzer	E5071C	MY46112129	2024/7/4	2025/7/3
SPEAG	Dielectric Probe Kit	DAK-3.5	1071	2024/2/19	2025/2/18
Anritsu	Vector Signal Generator	MG3710A	6201682672	2024/1/2	2025/1/1
Rohde & Schwarz	Power Meter	NRVD	102081	2024/7/4	2025/7/3
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	2024/7/4	2025/7/3
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	2024/7/4	2025/7/3
R&S	BLUETOOTH TESTER	CBT	101246	2024/7/4	2025/7/3
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	2023/10/11	2024/10/10
TES	DIGITAC THERMOMETER	TYPE-K	220305411	2024/1/4	2025/1/3
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	

Note:

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

11. System Verification

11.1 Tissue Simulating Liquids

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

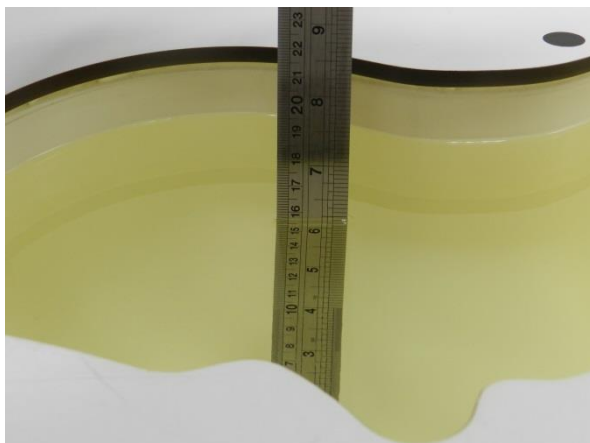


Fig 11.1 Photo of Liquid Height for Head SAR



Fig 11.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

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

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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Conductivity Target (σ)	Permittivity Target (ε _r)	Delta (σ) (%)	Delta (ε _r) (%)	Limit (%)	Date
750	Head	22.8	0.900	41.2	0.89	41.90	1.12	-1.67	±5	2024/7/30
835	Head	22.9	0.902	41.3	0.90	41.50	0.22	-0.48	±5	2024/7/31
1750	Head	22.6	1.41	40.7	1.37	40.10	2.92	1.50	±5	2024/8/1
1900	Head	22.6	1.40	39.0	1.40	40.00	0.00	-2.50	±5	2024/8/2
2600	Head	22.7	1.93	38.2	1.96	39.00	-1.53	-2.05	±5	2024/8/3
3500	Head	22.8	2.78	38.9	2.91	37.90	-4.47	2.64	±5	2024/8/4
3700	Head	22.8	2.99	38.7	3.12	37.70	-4.17	2.65	±5	2024/8/5
3900	Head	22.7	3.27	39.1	3.32	37.50	-1.51	4.27	±5	2024/8/6
750	Head	22.9	0.906	41.4	0.89	41.90	1.80	-1.19	±5	2024/8/7
835	Head	22.8	0.911	42.7	0.90	41.50	1.25	2.94	±5	2024/8/8
1750	Head	22.9	1.34	38.5	1.37	40.10	-1.97	-3.89	±5	2024/8/9
1900	Head	22.7	1.40	41.4	1.40	40.00	-0.12	3.61	±5	2024/8/10
2600	Head	22.6	1.93	38.3	1.96	39.00	-1.69	-1.74	±5	2024/8/11
3500	Head	22.7	2.85	38.6	2.91	37.90	-2.09	1.87	±5	2024/8/12
3700	Head	22.6	3.08	38.0	3.12	37.70	-1.36	0.90	±5	2024/8/13
3900	Head	22.8	3.28	37.6	3.32	37.50	-1.20	0.30	±5	2024/8/14
2450	Head	22.6	1.830	37.500	1.80	39.20	1.67	-4.34	±5	2024/8/15
5250	Head	22.7	4.600	35.900	4.71	35.90	-2.34	0.00	±5	2024/8/16
5600	Head	22.8	5.000	35.300	5.07	35.50	-1.38	-0.56	±5	2024/8/17
5750	Head	22.8	5.170	35.100	5.22	35.40	-0.96	-0.85	±5	2024/8/18
900	Head	22.7	0.929	42.108	0.97	41.50	-4.23	1.47	±5	2024/8/23

11.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2024/7/30	750	Head	50	1087	7627	1358	0.422	8.58	8.44	-1.63
2024/7/31	835	Head	50	4d091	7627	1358	0.480	9.45	9.6	1.59
2024/8/1	1750	Head	50	1090	7627	1358	1.950	37.00	39	5.41
2024/8/2	1900	Head	50	5d118	7627	1358	1.870	39.30	37.4	-4.83
2024/8/3	2600	Head	50	1112	7627	1358	2.710	55.10	54.2	-1.63
2024/8/4	3500	Head	50	1037	7627	1358	3.240	65.40	64.8	-0.92
2024/8/5	3700	Head	50	1008	7627	1358	3.250	67.20	65	-3.27
2024/8/6	3900	Head	50	1048	7729	1358	3.650	69.10	73	5.64
2024/8/7	750	Head	50	1087	7627	1358	0.422	8.58	8.44	-1.63
2024/8/8	835	Head	50	4d091	7627	1358	0.470	9.45	9.4	-0.53
2024/8/9	1750	Head	50	1090	7627	1358	1.900	37.00	38	2.70
2024/8/10	1900	Head	50	5d118	7627	1358	2.030	39.30	40.6	3.31
2024/8/11	2600	Head	50	1112	7627	1358	2.670	55.10	53.4	-3.09
2024/8/12	3500	Head	50	1037	7627	1358	3.220	65.40	64.4	-1.53
2024/8/13	3700	Head	50	1008	7627	1358	3.280	67.20	65.6	-2.38
2024/8/14	3900	Head	50	1048	7729	1358	3.650	69.10	73	5.64
2024/8/15	2450	Head	50	1095	7627	1358	2.720	52.60	54.4	3.42
2024/8/16	5250	Head	50	1113	7627	1358	3.800	81.50	76	-6.75
2024/8/17	5600	Head	50	1113	7627	1358	3.900	82.60	78	-5.57
2024/8/18	5750	Head	50	1113	7627	1358	3.850	80.80	77	-4.70
2024/8/23	900	Head	50	1d186	3857	1650	0.508	10.90	10.16	-6.79

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2024/7/30	750	Head	50	1087	7627	1358	0.285	5.65	5.7	0.88
2024/7/31	835	Head	50	4d091	7627	1358	0.321	6.22	6.42	3.22
2024/8/1	1750	Head	50	1090	7627	1358	1.030	19.50	20.6	5.64
2024/8/2	1900	Head	50	5d118	7627	1358	1.030	20.40	20.6	0.98
2024/8/3	2600	Head	50	1112	7627	1358	1.250	24.80	25	0.81
2024/8/4	3500	Head	50	1037	7627	1358	1.270	24.70	25.4	2.83
2024/8/5	3700	Head	50	1008	7627	1358	1.240	24.40	24.8	1.64
2024/8/6	3900	Head	50	1048	7729	1358	1.280	24.10	25.6	6.22
2024/8/7	750	Head	50	1087	7627	1358	0.284	5.65	5.68	0.53
2024/8/8	835	Head	50	4d091	7627	1358	0.313	6.22	6.26	0.64
2024/8/9	1750	Head	50	1090	7627	1358	1.050	19.50	21	7.69
2024/8/10	1900	Head	50	5d118	7627	1358	1.100	20.40	22	7.84
2024/8/11	2600	Head	50	1112	7627	1358	1.230	24.80	24.6	-0.81
2024/8/12	3500	Head	50	1037	7627	1358	1.260	24.70	25.2	2.02
2024/8/13	3700	Head	50	1008	7627	1358	1.260	24.40	25.2	3.28
2024/8/14	3900	Head	50	1048	7729	1358	1.220	24.10	24.4	1.24
2024/8/15	2450	Head	50	1095	7627	1358	1.300	24.70	26	5.26
2024/8/16	5250	Head	50	1113	7627	1358	1.110	23.30	22.2	-4.72
2024/8/17	5600	Head	50	1113	7627	1358	1.120	23.70	22.4	-5.49
2024/8/18	5750	Head	50	1113	7627	1358	1.090	23.00	21.8	-5.22
2024/8/23	900	Head	50	1d186	3857	1650	0.330	7.02	6.6	-5.98

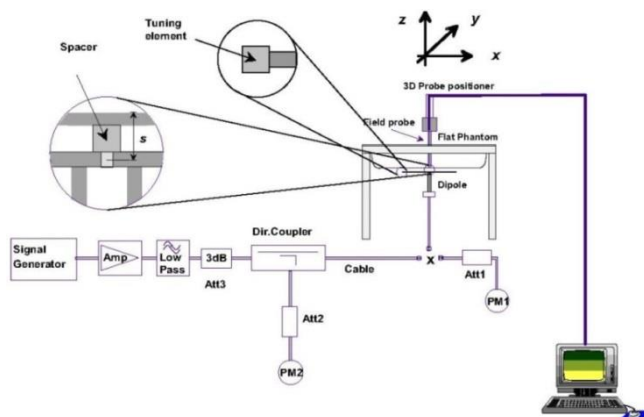


Fig 11.3.1 System Performance Check Setup



Fig 11.3.2 Setup Photo

12. RF Exposure Positions

12.1 Ear and handset reference point

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

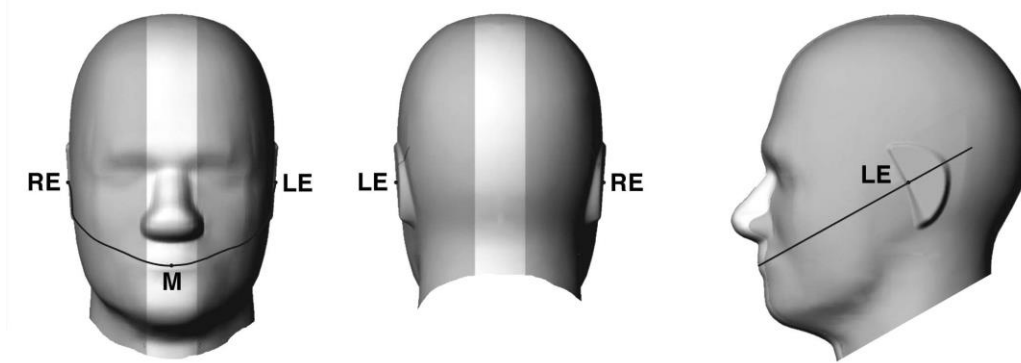


Fig 12.1.1 Front, back, and side views of SAM twin phantom

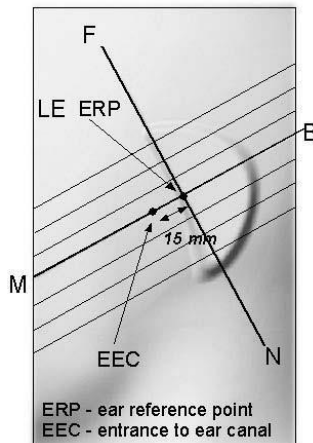


Fig 12.1.2 Close-up side view of phantom showing the ear region.

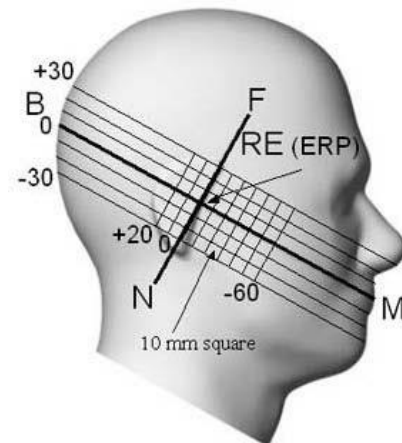


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

12.2 Definition of the cheek position

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

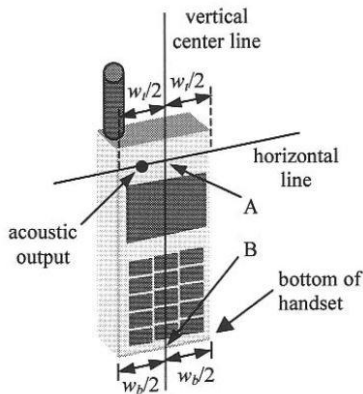


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

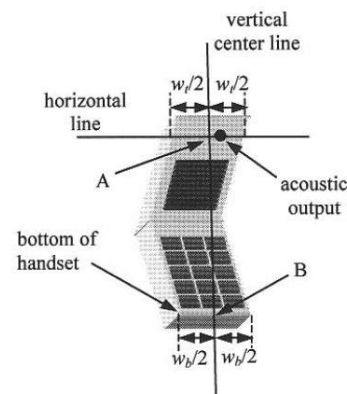


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

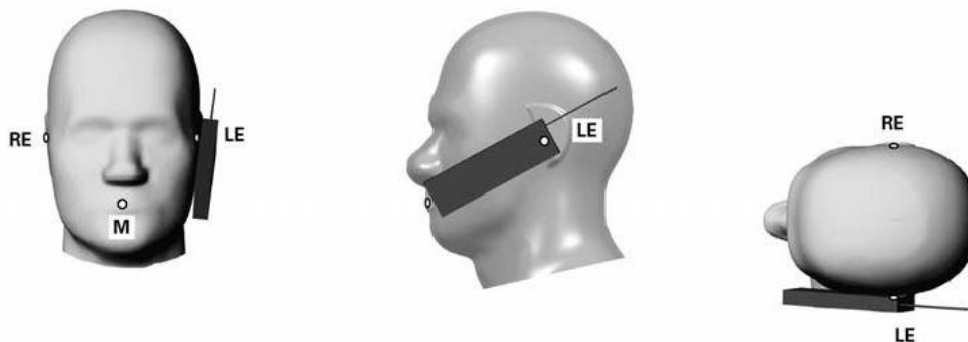


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

12.3 Definition of the tilt position

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

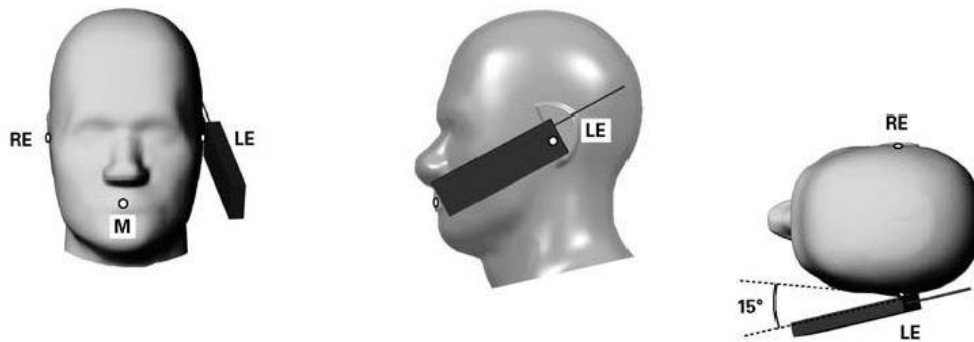


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

12.4 Body Worn Accessory

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

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

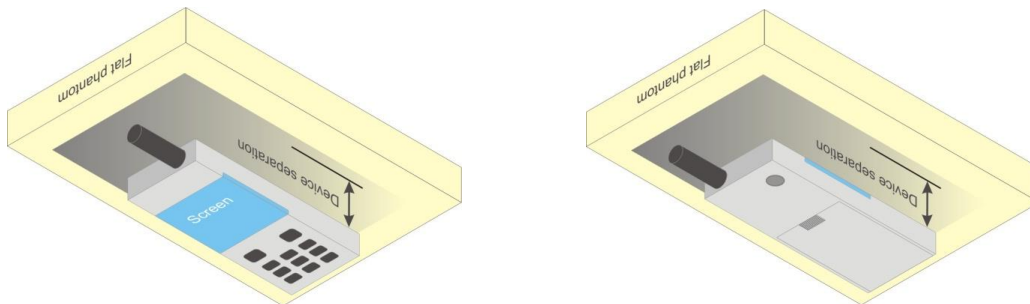


Fig 12.4 Body Worn Position

12.5 Product Specific 10g SAR Exposure

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

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

12.6 Wireless Router

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

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

13. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

13.1 DL/UL Carrier Aggregation

<LTE Carrier Aggregation>

General Note:

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

2CC Downlink Carrier Aggregation				3CC Downlink Carrier Aggregation				4CC Downlink Carrier Aggregation			
Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Covered by Measurement Superset
1	CA_2C		3CC-7	1	CA_41D	41A	4CC-1	1	CA_41A-41D	41A	
2	CA_5B		3CC-11	2	CA_42D	42A		2	CA_4A-4A-5B	4A	
3	CA_7B	7A		3	CA_66D	66A	4CC-8	3	CA_5A-5A-66A-66A	66A	
4	CA_7C	7A	3CC-13	4	CA_41A-41C	41A	4CC-13	4	CA_5A-5A-66B	66A	
5	CA_38C	38A		5	CA_2A-5B			5	CA_5A-5A-66C	66A	
6	CA_41C	41A	4CC-13	6	CA_2A-7A-7A	7A		6	CA_5A-66A-66C	66A	
7	CA_42C	42A		7	CA_2C-5A			7	CA_5A-66A-66B	66A	
8	CA_66B	66A	3CC-18	8	CA_4A-4A-5A	4A		8	CA_5A-66D	66A	
9	CA_66C	66A	3CC-19	9	CA_4A-4A-7A	4A 7A		9	CA_5B-66A-66A	66A	
10	CA_2A-2A			10	CA_4A-4A-71A	4A		10	CA_5B-66B	66A	
11	CA_4A-4A	4A	3CC-8	11	CA_4A-5B	4A	4CC-2	11	CA_5B-66C	66A	
12	CA_5A-5A		3CC-14	12	CA_4A-7A-7A	4A 7A		12	CA_7C-66A-66A	7A 66A	
13	CA_7A-7A	7A	3CC-15	13	CA_4A-7C	4A 7A		13	CA_41A-41A-41C	41A	
14	CA_41A-41A	41A	4CC-13	14	CA_5A-5A-66A	66A	4CC-3	14	CA_5A-7C-66A	7A 66A	
15	CA_66A-66A	66A	3CC-17	15	CA_5A-7A-7A	7A					
16	CA_2A-4A	4A		16	CA_5A-7C	7A					
17	CA_2A-5A			17	CA_5A-66A-66A	66A	4CC-3				
18	CA_2A-7A	7A	3CC-6	18	CA_5A-66B	66A	4CC-4				
19	CA_2A-71A			19	CA_5A-66C	66A	4CC-5				
20	CA_4A-5A	4A	3CC-8	20	CA_7A-66A-66A	66A					
21	CA_4A-7A	4A 7A	3CC-9	21	CA_5B-66A	66A	4CC-9				
22	CA_4A-71A	4A	3CC-10	22	CA_7C-66A	7A 66A	4CC-12				
23	CA_5A-7A	7A	3CC-15	23	CA_41C-42A	41A 42A					
24	CA_5A-38A	38A		24	CA_2A-4A-7A	4A 7A					
25	CA_5A-41A	41A		25	CA_5A-7A-66A	7A 66A					
26	CA_5A-66A	66A	3CC-14								
27	CA_7A-66A	7A 66A									
28	CA_41A-42A	41A 42A									

LTE Carrier Aggregation Conducted Power (Downlink)

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

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

LTE 4x4 MIMO (Downlink)

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

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

4X4 MIMO	Band
	LTE Band 4/7/38/41/66/42



<2CA_DL Power>

CA List	PCC									SCC					Power	
	LTE	BW	BW	UL	UL	Mod.	UL#	UL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	With CA	Without CA
	Band	Ant	(MHz)	Freq. (MHz)	Channel		RB	RB Offset		Band	(MHz)	Freq. (MHz)	Channel		Tx. Power	Tx. Power
															(dBm)	(dBm)
CA_7B	Band 7	Ant 3	15M	2535	21100	QPSK	1	0	4X4 MIMO	Band 7	5M	2544.3	3193	4X4 MIMO	23.49	23.69
CA_38C	Band 38	Ant 3	20M	2580	37850	QPSK	1	0	4X4 MIMO	Band 38	20M	2599.8	38048	4X4 MIMO	22.54	22.69
CA_2A-2A	Band 2	Ant 2	20M	1880	18900	QPSK	1	0	4X4 MIMO	Band 2	5M	1987.5	1175	4x4MIMO	22.67	22.84
CA_2A-4A	Band 2	Ant 2	20M	1880	18900	QPSK	1	0	4X4 MIMO	Band 4	20M	2132.5	2175	4X4 MIMO	22.81	22.84
	Band 4	Ant 2	20M	1732.5	20175	QPSK	1	0	4X4 MIMO	Band 2	20M	1960	900	4X4 MIMO	22.77	22.89
CA_2A-5A	Band 2	Ant 2	20M	1880	18900	QPSK	1	0	4X4 MIMO	Band 5	10M	881.5	2525		22.74	22.84
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 2	20M	1960	900	4X4 MIMO	22.81	22.84
CA_2A-71A	Band 2	Ant 2	20M	1880	18900	QPSK	1	0		Band 2	5M	1987.5	1175	4x4MIMO	22.74	22.84
	Band 71	Ant 0	20M	683	133322	QPSK	1	0		Band 2	20M	1960	900	4x4MIMO	22.85	22.98
CA_5A-38A	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 38	20M	2595	38000	4X4 MIMO	22.80	22.84
CA_5A-41A	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 41	20M	2593	40620	4X4 MIMO	22.78	22.84
CA_7A-66A	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4X4 MIMO	Band 66	20M	2155	66886	4X4 MIMO	23.76	23.83
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4X4 MIMO	Band 7	20M	2655	3100	4X4 MIMO	22.83	22.85
CA_42C	Band 42	Ant 4	20M	3500	42590	QPSK	1	0	4x4MIMO	Band 42	20M	3519.8	42788	4x4MIMO	22.49	22.64
CA_41A-42A	Band 41	Ant 3	20M	2593	40620	QPSK	1	0	4x4MIMO	Band 42	20M	3500	42590	4x4MIMO	22.73	22.77
	Band 42	Ant 4	20M	3500	42590	QPSK	1	0	4x4MIMO	Band 41	20M	2593	40620	4x4MIMO	22.56	22.64

<3CA_DL Power>

3CA List	PCC									SCC1					SCC2					Power		
	LTE	BW	BW	UL	UL	Mod.	UL#	UL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	With CA	Without CA	
	Band	Ant	(MHz)	Freq. (MHz)	Channel		RB	Offset		Band	(MHz)	Freq. (MHz)	Channel		Band	(MHz)	Freq. (MHz)	Channel		DL Antenna Configuration	Tx. Power	Tx. Power
																					(dBm)	(dBm)
CA_2A-5B	Band 2	Ant 2	20M	1880	18900	QPSK	1	0		Band 2	5M	1987.5	1175		Band 5	10M	881.5	2525		22.71	22.84	
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 5	5M	888.7	2597		Band 2	20M	1960	900		22.82	22.84	
CA_2A-7A-7A	Band 2	Ant 2	20M	1880	18900	QPSK	1	0		Band 7	20M	2655	3100	4X4 MIMO	Band 7	5M	2687.5	3425	4X4 MIMO	22.68	22.84	
	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4x4MIMO	Band 7	5M	2687.5	3425	4X4 MIMO	Band 2	20M	1960	900		23.65	23.83	
CA_2C-5A	Band 2	Ant 2	20M	1880	18900	QPSK	1	0		Band 2	20M	1979.8	1098		Band 5	10M	881.5	2525		22.62	22.84	
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 2	20M	1960	900		Band 2	20M	1979.8	1098	4x4MIMO	22.69	22.84	
CA_4A-4A-5A	Band 4	Ant 2	20M	1732.5	20175	QPSK	1	0	4x4MIMO	Band 4	5M	2152.5	2375	4x4MIMO	Band 5	10M	881.5	2525		22.82	22.89	
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 4	20M	2132.5	2175	4x4MIMO	Band 4	5M	2152.5	2375	4X4 MIMO	22.74	22.84	
CA_4A-4A-7A	Band 4	Ant 2	20M	1732.5	20175	QPSK	1	0	4X4 MIMO	Band 4	5M	2152.5	2375	4X4 MIMO	Band 7	5M	2687.5	3425	4X4 MIMO	22.81	22.89	
	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4X4 MIMO	Band 4	20M	2132.5	2175	4X4 MIMO	Band 4	5M	2152.5	2375	4X4 MIMO	23.66	23.83	
CA_4A-4A-71A	Band 4	Ant 2	20M	1732.5	20175	QPSK	1	0	4X4 MIMO	Band 4	5M	2152.5	2375	4X4 MIMO	Band 71	20M	683	68786		22.64	22.89	
	Band 71	Ant 0	20M	683	133322	QPSK	1	0		Band 4	20M	2132.5	2175	4X4 MIMO	Band 4	5M	2152.5	2375	4X4 MIMO	22.80	22.98	
CA_4A-7A-7A	Band 4	Ant 2	20M	1732.5	20175	QPSK	1	0	4X4 MIMO	Band 7	20M	2655	3100	4X4 MIMO	Band 7	5M	2687.5	3425	4X4 MIMO	22.85	22.89	
	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4X4 MIMO	Band 7	5M	2687.5	3425	4X4 MIMO	Band 4	20M	2132.5	2175	4X4 MIMO	23.75	23.83	
CA_4A-7C	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4X4 MIMO	Band 7	20M	2554.8	3298	4X4 MIMO	Band 4	20M	2132.5	2175	4X4 MIMO	23.63	23.83	
	Band 4	Ant 2	20M	1732.5	20175	QPSK	1	0	4X4 MIMO	Band 7	20M	2655	3100	4X4 MIMO	Band 7	20M	2554.8	3298	4X4 MIMO	22.68	22.89	
CA_5A-7A-7A	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	4X4 MIMO	Band 7	5M	2687.5	3425	4X4 MIMO	22.76	22.84	
	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4X4 MIMO	Band 7	5M	2687.5	3425	4X4 MIMO	Band 5	10M	881.5	2525		23.67	23.83	
CA_5A-7C	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4X4 MIMO	Band 7	20M	2554.8	3298	4X4 MIMO	Band 5	10M	881.5	2525		23.59	23.83	
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	4X4 MIMO	Band 7	20M	2554.8	3298	4X4 MIMO	22.80	22.84	
CA_7A-66A-66A	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4x4MIMO	Band 66	20M	2155	66886	4x4MIMO	Band 66	5M	2197.5	67311	4x4MIMO	23.79	23.83	
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	5M	2197.5	67311	4x4MIMO	Band 7	20M	2655	3100	4x4MIMO	22.82	22.85	
CA_2A-4A-7A	Band 2	Ant 2	20M	1880	18900	QPSK	1	0		Band 4	20M	2132.5	2175	4x4MIMO	Band 7	20M	2655	3100		22.63	22.84	
	Band 4	Ant 2	20M	1732.5	20175	QPSK	1	0	4x4MIMO	Band 7	20M	2655	3100	4x4MIMO	Band 2	20M	1979.8	1098		22.86	22.89	
	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4x4MIMO	Band 4	20M	2132.5	2175	4x4MIMO	Band 2	20M	1960	900		23.69	23.83	
CA_5A-7A-66A	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	4x4MIMO	Band 66	20M	2155	66886	4x4MIMO	22.60	22.84	
	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4x4MIMO	Band 66	20M	2155	66886	4x4MIMO	Band 5	10M	881.5	2525		23.67	23.83	
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 7	20M	2655	3100	4x4MIMO	Band 5	10M	881.5	2525		22.71	22.85	
CA_42D	Band 42	Ant 4	20M	3500	42590	QPSK	1	0	4x4MIMO	Band 42	20M	3519.8	42788	4x4MIMO	Band 42	20M	3539.6	42986	4x4MIMO	22.40	22.64	



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CA_41C-42A	Band 41	Ant 3	20M	2593	40620	QPSK	1	0	4x4MIMO	Band 41	20M	2612.8	40818	4x4MIMO	Band 42	20M	3500	42590	4x4MIMO	22.61	22.77
	Band 42	Ant 4	20M	3500	42590	QPSK	1	0	4x4MIMO	Band 41	20M	2593	40620	4x4MIMO	Band 41	20M	2612.8	40818	4x4MIMO	22.53	22.64

<4CA_DL Power>

Configure	PCC									SCC1					SCC2					SCC3					Power	
	LTE	BW	BW	UL	UL		UL#	UL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	LTE	BW	DL	DL	DL Antenna Configuration	With CA	Without CA
	Band	Ant	(MHz)	Freq. (MHz)	Channel	Mod.	RB	RB Offset		Band	(MHz)	Freq. (MHz)	Channel		Band	(MHz)	Freq. (MHz)	Channel		Band	(MHz)	Freq. (MHz)	Channel		Tx. Power (dBm)	Tx. Power (dBm)
CA_4A-4A-5B	Band 4	Ant 2	20M	1732.5	20175	QPSK	1	0	4x4MIMO	Band 4	5M	2152.5	2375	4x4MIMO	Band 5	10M	881.5	2525		Band 5	5M	888.7	2597		22.86	22.89
	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 5	5M	888.7	2597		Band 4	20M	2132.5	2175	4x4MIMO	Band 4	5M	2152.5	2375	4x4MIMO	22.70	22.84
CA_5A-5A-66A-66A	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 5	5M	891.5	2625		Band 66	15M	2155	66886	4x4MIMO	Band 66	5M	2164.3	66979	4x4MIMO	22.77	22.84
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	5M	2197.5	67311	4x4MIMO	Band 5	10M	881.5	2525		Band 5	5M	891.5	2625		22.71	22.85
CA_5A-5A-66B	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 5	5M	891.5	2625		Band 66	20M	2155	66886	4x4MIMO	Band 66	5M	2197.5	67311	4x4MIMO	22.80	22.84
	Band 66	Ant 2	15M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	5M	2154.3	66879	4x4MIMO	Band 5	10M	881.5	2525		Band 5	5M	891.5	2625		22.60	22.74
CA_5A-5A-66C	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 5	5M	891.5	2625		Band 66	20M	2155	66886	4x4MIMO	Band 66	20M	2174.8	67084	4x4MIMO	22.69	22.84
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	20M	2164.8	66984	4x4MIMO	Band 5	10M	881.5	2525		Band 5	5M	891.5	2625		22.69	22.85
CA_5A-66A-66C	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 66	20M	2120	66536	4x4MIMO	Band 66	20M	2150.2	66838	4x4MIMO	Band 66	20M	2170	67036	4x4MIMO	22.76	22.84
	Band 66	Ant 2	20M	1720	132072	QPSK	1	0	4x4MIMO	Band 66	20M	2150.2	66838	4x4MIMO	Band 66	20M	2170	67036	4x4MIMO	Band 5	5M	891.5	2625		22.58	22.64
CA_5A-66A-66B	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 66	20M	2120	66536	4x4MIMO	Band 66	15M	2155	66886	4x4MIMO	Band 66	5M	2164.3	66979	4x4MIMO	22.71	22.84
	Band 66	Ant 2	20M	1720	132072	QPSK	1	0	4x4MIMO	Band 66	20M	2150.2	66838	4x4MIMO	Band 66	20M	2170	67036	4x4MIMO	Band 5	5M	891.5	2625		22.46	22.64
CA_5A-66D	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 66	20M	2145	66786	4x4MIMO	Band 66	20M	2164.8	66984	4x4MIMO	Band 66	20M	2184.6	67182	4x4MIMO	22.61	22.84
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	20M	2164.8	66984	4x4MIMO	Band 66	20M	2184.6	67182	4x4MIMO	Band 5	5M	891.5	2625		22.63	22.85
CA_5B-66A-66A	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 5	5M	888.7	2597		Band 66	20M	2155	66886	4x4MIMO	Band 66	5M	2197.5	67311	4x4MIMO	22.74	22.84
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	5M	2197.5	67311	4x4MIMO	Band 5	10M	881.5	2525		Band 5	5M	888.7	2597		22.63	22.85
CA_5B-66B	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 5	5M	888.7	2597		Band 66	15M	2155	66886	4x4MIMO	Band 66	5M	2164.3	66979	4x4MIMO	22.75	22.84
	Band 66	Ant 2	15M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	5M	2154.3	66879	4x4MIMO	Band 5	10M	881.5	2525		Band 5	5M	888.7	2597		22.53	22.74
CA_5B-66C	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 5	5M	888.7	2597		Band 66	20M	2155	66886	4x4MIMO	Band 66	20M	2174.8	67084	4x4MIMO	22.80	22.84
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	20M	2164.8	66984	4x4MIMO	Band 5	10M	881.5	2525		Band 5	5M	888.7	2597		22.78	22.85
CA_7C-66A-66A	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4x4MIMO	Band 7	20M	2554.8	3298	4x4MIMO	Band 66	20M	2155	66886	4x4MIMO	Band 66	5M	2197.5	67311	4x4MIMO	23.73	23.83
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 66	5M	2197.5	67311	4x4MIMO	Band 7	20M	2655	3100	4x4MIMO	Band 7	20M	2554.8	3298	4x4MIMO	22.80	22.85
CA_5A-7C-66A	Band 5	Ant 0	10M	836.5	20525	QPSK	1	0		Band 7	20M	2655	3100	4x4MIMO	Band 7	20M	2554.8	3298	4x4MIMO	Band 66	20M	2155	66886	4x4MIMO	22.65	22.84
	Band 7	Ant 3	20M	2535	21100	QPSK	1	0	4x4MIMO	Band 7	20M	2554.8	3298	4x4MIMO	Band 66	20M	2155	66886	4x4MIMO	Band 5	10M	881.5	2525		23.81	23.83
	Band 66	Ant 2	20M	1745	132322	QPSK	1	0	4x4MIMO	Band 5	10M	881.5	2525		Band 7	20M	2655	3100	4x4MIMO	Band 7	20M	2554.8	3298	4x4MIMO	22.76	22.85
CA_41A-41D	Band 41	Ant 3	20M	2506	39750	QPSK	1	0	4x4MIMO	Band 41	20M	2640.4	41094	4x4MIMO	Band 41	20M	2660.2	41292	4x4MIMO	Band 41	20M	2680	41490	4x4MIMO	22.67	22.69
CA_41A-41A-41C	Band 41	Ant 3	20M	2593	40620	QPSK	1	0	4x4MIMO	Band 41	5M	2687.5	41565	4x4MIMO	Band 41	20M	2506	39750	4x4MIMO	Band 41	20M	2525.8	39948	4x4MIMO	22.58	22.77

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Uplink CA	2CC Uplink Carrier Aggregation
Intra-band	Antenna Tx
CA_5B	Ant0&Ant1
CA_7C	Ant3
CA_38C	Ant3
CA_41C	Ant3
CA_66B	Ant2
CA_66C	Ant2

<Intra-band>
General Note:

- The device supports intra-band uplink carrier aggregation for LTE B5/7/38/41/66 with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- The device supports uplink carrier aggregation with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
- According Nov. 2017 TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- Additional SAR measurement for LTE UL CA with other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.
- LTE CA_66B, test was covered by CA_66C, therefore, SAR was only assessed for CA_66C.

<Uplink CA Full Power>

CA_5B Ant0 Default&DSI3								
Combination 10MHz+10MHz (50RB+50RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20450	20549	QPSK	1	49	1	0	22.54	24.00
20476	20575	QPSK	1	49	1	0	22.65	24.00
20600	20501	QPSK	1	0	1	49	22.56	24.00
CA_5B Ant1 Default								
Combination 10MHz+10MHz (50RB+50RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20450	20549	QPSK	1	49	1	0	21.47	23.00
20476	20575	QPSK	1	49	1	0	21.50	23.00
20600	20501	QPSK	1	0	1	49	21.49	23.00
CA_7C Ant3 Default								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	1	99	1	0	23.40	25.00
21100	21298	QPSK	1	99	1	0	23.55	25.00



21350	21152	QPSK	1	0	1	99	23.46	25.00
CA_38C Ant3 Default								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
37850	38048	QPSK	1	99	1	0	22.61	24.00
37901	38099	QPSK	1	99	1	0	22.72	24.00
38150	37952	QPSK	1	0	1	99	22.60	24.00
CA_41C Ant3 Default								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	99	1	0	22.48	24.00
40185	40383	QPSK	1	99	1	0	22.47	24.00
40620	40818	QPSK	1	99	1	0	22.74	24.00
41055	41253	QPSK	1	99	1	0	22.61	24.00
41490	41292	QPSK	1	0	1	99	22.65	24.00
CA_66C Ant2 Default								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
132072	132270	QPSK	1	99	1	0	22.64	24.00
132322	132520	QPSK	1	99	1	0	22.66	24.00
132572	132374	QPSK	1	0	1	99	22.62	24.00
CA_66B Ant2 Default								
Combination 15MHz+5MHz (75RB+25RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
132047	132140	QPSK	1	74	1	0	22.54	24.00
132322	132415	QPSK	1	74	1	0	22.61	24.00
132597	132504	QPSK	1	0	1	24	22.58	24.00

<Uplink CA Power Mode for DSI 2>

CA_5B Ant0 DSI2										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	49	1	0	2	0	20.61	22.30
20476	20575	QPSK	1	49	1	0	2	0	20.75	22.30
20600	20501	QPSK	1	0	1	49	2	0	20.55	22.30
CA_7C Ant3 DSI2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	99	1	0	2	0	16.45	17.60
21100	21298	QPSK	1	99	1	0	2	0	16.56	17.60
21350	21152	QPSK	1	0	1	99	2	0	16.38	17.60
CA_38C Ant3 DSI2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	99	1	0	2	0	17.25	18.70



37901	38099	QPSK	1	99	1	0	2	0	17.31	18.70
38150	37952	QPSK	1	0	1	99	2	0	17.21	18.70
CA_41C Ant3 DSI2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	1	0	2	0	17.29	18.70
40185	40383	QPSK	1	99	1	0	2	0	17.32	18.70
40620	40818	QPSK	1	99	1	0	2	0	17.55	18.70
41055	41253	QPSK	1	99	1	0	2	0	17.31	18.70
41490	41292	QPSK	1	0	1	99	2	0	17.3	18.70
CA_66C Ant2 DSI2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	99	1	0	1	0	18.84	20.20
132322	132520	QPSK	1	99	1	0	1	0	19.06	20.20
132572	132374	QPSK	1	0	1	99	1	0	18.80	20.20
CA_66B Ant2 DSI2										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	74	1	0	1	0	17.35	20.20
132322	132415	QPSK	1	74	1	0	1	0	17.49	20.20
132597	132504	QPSK	1	0	1	24	1	0	17.31	20.20

<Uplink CA Power Mode for DSI 0>

CA_7C Ant3 DSI0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	99	1	0	2	0	20.85	22.40
21100	21298	QPSK	1	99	1	0	2	0	20.92	22.40
21350	21152	QPSK	1	0	1	99	2	0	20.79	22.40
CA_38C Ant3 DSI0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	99	1	0	2	0	21.82	23.60
37901	38099	QPSK	1	99	1	0	2	0	21.91	23.60
38150	37952	QPSK	1	0	1	99	2	0	21.81	23.60
CA_41C Ant3 DSI0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	1	0	2	0	21.8	23.60
40185	40383	QPSK	1	99	1	0	2	0	21.81	23.60
40620	40818	QPSK	1	99	1	0	2	0	21.94	23.60
41055	41253	QPSK	1	99	1	0	2	0	21.82	23.60
41490	41292	QPSK	1	0	1	99	2	0	21.77	23.60
CA_66C Ant2 DSI0										
Combination 20MHz+20MHz (100RB+100RB)										

PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	99	1	0	1	0	22.64	24.00
132322	132520	QPSK	1	99	1	0	1	0	22.66	24.00
132572	132374	QPSK	1	0	1	99	1	0	22.62	24.00
CA_66B Ant2 DSI0										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC RB Size	PCC RB offset	SCC RB Size	SCC RB offset	Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
132047	132140	QPSK	1	74	1	0	1	0	22.54	24.00
132322	132415	QPSK	1	74	1	0	1	0	22.61	24.00
132597	132504	QPSK	1	0	1	24	1	0	22.58	24.00

<Uplink CA Power Mode for DSI 1>

CA_7C Ant3 DSI1										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC RB Size	PCC RB offset	SCC RB Size	SCC RB offset	Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
20850	21048	QPSK	1	99	1	0	2	0	20.17	20.90
21100	21298	QPSK	1	99	1	0	2	0	20.19	20.90
21350	21152	QPSK	1	0	1	99	2	0	20.04	20.90
CA_38C Ant3 DSI1										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC RB Size	PCC RB offset	SCC RB Size	SCC RB offset	Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
37850	38048	QPSK	1	99	1	0	2	0	21.16	22.20
37901	38099	QPSK	1	99	1	0	2	0	21.28	22.20
38150	37952	QPSK	1	0	1	99	2	0	21.17	22.20
CA_41C Ant3 DSI1										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC RB Size	PCC RB offset	SCC RB Size	SCC RB offset	Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
39750	39948	QPSK	1	99	1	0	2	0	21.15	22.20
40185	40383	QPSK	1	99	1	0	2	0	21.22	22.20
40620	40818	QPSK	1	99	1	0	2	0	21.39	22.20
41055	41253	QPSK	1	99	1	0	2	0	21.24	22.20
41490	41292	QPSK	1	0	1	99	2	0	21.21	22.20
CA_66C Ant2 DSI1										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC RB Size	PCC RB offset	SCC RB Size	SCC RB offset	Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
132072	132270	QPSK	1	99	1	0	1	0	21.51	22.70
132322	132520	QPSK	1	99	1	0	1	0	21.62	22.70
132572	132374	QPSK	1	0	1	99	1	0	21.45	22.70
CA_66B Ant2 DSI1										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC RB Size	PCC RB offset	SCC RB Size	SCC RB offset	Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
132047	132140	QPSK	1	74	1	0	1	0	21.44	22.70
132322	132415	QPSK	1	74	1	0	1	0	21.54	22.70
132597	132504	QPSK	1	0	1	24	1	0	21.40	22.70

<Uplink CA Power Mode for DSI 4>

CA_7C Ant3 DSI4								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	1	99	1	0	18.22	19.50
21100	21298	QPSK	1	99	1	0	18.24	19.50
21350	21152	QPSK	1	0	1	99	18.09	19.50
CA_38C Ant3 DSI4								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
37850	38048	QPSK	1	99	1	0	19.66	20.80
37901	38099	QPSK	1	99	1	0	19.78	20.80
38150	37952	QPSK	1	0	1	99	19.67	20.80
CA_41C Ant3 DSI4								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	99	1	0	19.65	20.80
40185	40383	QPSK	1	99	1	0	19.72	20.80
40620	40818	QPSK	1	99	1	0	19.89	20.80
41055	41253	QPSK	1	99	1	0	19.74	20.80
41490	41292	QPSK	1	0	1	99	19.71	20.80
CA_66C Ant2 DSI4								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
132072	132270	QPSK	1	99	1	0	20.31	21.30
132322	132520	QPSK	1	99	1	0	20.42	21.30
132572	132374	QPSK	1	0	1	99	20.25	21.30
CA_66B Ant2 DSI4								
Combination 15MHz+5MHz (75RB+25RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
132047	132140	QPSK	1	74	1	0	20.24	21.30
132322	132415	QPSK	1	74	1	0	20.34	21.30
132597	132504	QPSK	1	0	1	24	20.20	21.30

<Uplink CA Power Mode for DSI 5>

CA_7C Ant3 DSI5								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20850	21048	QPSK	1	99	1	0	19.15	20.40
21100	21298	QPSK	1	99	1	0	19.22	20.40
21350	21152	QPSK	1	0	1	99	19.09	20.40
CA_38C Ant3 DSI5								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		

37850	38048	QPSK	1	99	1	0	20.52	21.60
37901	38099	QPSK	1	99	1	0	20.64	21.60
38150	37952	QPSK	1	0	1	99	20.51	21.60
CA_41C Ant3 DS15								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	99	1	0	20.05	21.60
40185	40383	QPSK	1	99	1	0	20.06	21.60
40620	40818	QPSK	1	99	1	0	20.19	21.60
41055	41253	QPSK	1	99	1	0	20.07	21.60
41490	41292	QPSK	1	0	1	99	20.02	21.60
CA_66C Ant2 DS15								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
132072	132270	QPSK	1	99	1	0	21.71	22.40
132322	132520	QPSK	1	99	1	0	21.81	22.40
132572	132374	QPSK	1	0	1	99	21.64	22.40
CA_66B Ant2 DS15								
Combination 15MHz+5MHz (75RB+25RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
132047	132140	QPSK	1	74	1	0	21.62	22.40
132322	132415	QPSK	1	74	1	0	21.71	22.40
132597	132504	QPSK	1	0	1	24	21.51	22.40

13.2 EN-DC Combination Configuration

<EN-DC combination>

ENDC	LTE TX	NR TX
DC_2A_n5A	Ant 2	Ant 0
DC_5A_n66A	Ant 0	Ant 2
DC_5A_n78A	Ant 0	Ant 4
DC_7A_n78A	Ant 3	Ant 4
DC_41A_n78A	Ant 3	Ant 4
DC_66A_n78A	Ant 5	Ant 4
DC_7A_n2A	Ant 3	Ant 2
DC_7A_n5A	Ant 3	Ant 0
DC_2A_n7A	Ant 2	Ant 3
DC_5A_n7A	Ant 0	Ant 3
DC_66A_n7A	Ant 2	Ant 3
DC_7A_n66A	Ant 3	Ant 2
DC_5A_n38A	Ant 0	Ant 3
DC_7A_n77A	Ant 3	Ant 4
DC_41A_n77A	Ant 3	Ant 4
DC_2A_n78A	Ant 2	Ant 4
DC_38A_n78A	Ant 3	Ant 4
DC_66A_n5A	Ant 2	Ant 0
DC_2A_n71A	Ant 2	Ant 0

NR UL MIMO Bands Configuration:

NR UL MIMO	TX Ant	TX Ant
n77	Ant4	Ant6
n78	Ant4	Ant6



14. Antenna Location

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

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
 - d. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - e. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - f. For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
 - g. For RFID: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor* Transmission duty cycle factor.
 - h. The transmission duty cycle for RFID is 30% declared by Manufacturer.
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 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. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head body-worn, hotspot and extremity exposure condition.
6. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
 - a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of WCDMA Band II/IV, LTE Band 2/4/7/66/38/41, 5GNR n2/n7/n66/n38/n41/n78/n77, WLAN2.4/5.8GHz, therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
7. Although the headset SAR is greater than 0.8 W/kg, the headset SAR verified the worst of the non-headset SAR and less than non-headset SAR, so there is no need to be tested other channels.
8. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
9. LTE Band 2/66 at ant2, LTE Band 7 at ant3 and 5GNR n7/38 at ant3 support different PAs for some antennas, and LTE/NR bands support Other PA only under ENDC. Some LTE/NR bands support different PAs for some antennas, whether it is the maximum power of Main PA is higher than and very close to the other PA, for RF exposure, after verification all PAs in a same position, so the worst-case PA was chosen to perform full SAR testing to ensure the RF exposure is compliance and

other Pas verified the worst case.

10. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot SAR.
11. For Phablet devices, when hotspot mode is not supported, Product specific 10-g SAR is required for all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge in direct contact with a flat phantom, to address interactive hand use exposure conditions.
12. For WLAN SISO & MIMO(CDD) & TX Beamforming mode of 802.11ax, and WLAN SISO & TX Beamforming mode is not greater than WLAN MIMO(CDD) mode, so WLAN MIMO(CDD) mode SAR covers WLAN SISO & Tx Beamforming mode SAR.
13. When the RFID is active will continue scan and only evaluation on hotspot, body-worn and product specific exposure condition for Sim-Tx analysis, when the device operate on head RFID was not perform due to the P-light sensor if detect used on head that RFID is turn off.

GSM Note:

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

WCDMA Note:

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

LTE Note:

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

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
 - b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - c. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - d. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - e. Smaller bandwidth output power for each RB allocation configuration for this device will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - f. For 5G FR1 n5/n7/n26/n66/n38/n41/n77 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN/Bluetooth Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. SISO and MIMO all supported by WLAN2.4GHz/WLAN5GHz, for SISO mode power is less than per chain power of MIMO mode. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power, so only chose MIMO mode to perform SAR testing. However, in order to do SISO simultaneous transmission, additional tested the WLAN 2.4GHz SISO antenna 9.
7. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. Further simplification chose the worse SAR value and the worst scaling factor from each transmit chain perform reported SAR calculation conservatively. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain.

DSI status description:

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

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

Exposure Condition	DSI	Trigger Conditions
Head	DSI2	Receiver on
Body Worn/Extremity	DSI0	RFID Off + Receiver Off + Hotspot Off
Hotspot	DSI1	RFID Off + Receiver Off + Hotspot On
Hotspot	DSI4	RFID On + Receiver Off + Hotspot On
Body Worn/Extremity	DSI5	RFID On + Receiver Off + Hotspot Off



15.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																				
01	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	133322	683	21.40	22.80	1.380	-	-	-0.09	0.783	1.081
	LTE Band 71	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	133322	683	21.38	22.80	1.387	-	-	0.08	0.622	0.863
	LTE Band 71	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 0	DSI 2	133322	683	21.39	22.80	1.384	-	-	0.01	0.598	0.827
	LTE Band 71	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	133322	683	21.40	22.80	1.380	-	-	0.03	0.665	0.918
	LTE Band 71	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	133322	683	21.38	22.80	1.387	-	-	-0.08	0.537	0.745
	LTE Band 71	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 0	DSI 2	133322	683	21.39	22.80	1.384	-	-	-0.08	0.526	0.728
	LTE Band 71	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	133322	683	21.40	22.80	1.380	-	-	0.1	0.555	0.766
	LTE Band 71	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	133322	683	21.38	22.80	1.387	-	-	-0.18	0.458	0.635
	LTE Band 71	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	133322	683	21.40	22.80	1.380	-	-	0.1	0.472	0.652
	LTE Band 71	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 0	DSI 2	133322	683	21.38	22.80	1.387	-	-	0.12	0.397	0.551
02	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	21.34	22.70	1.368	-	-	-0.02	0.784	1.072
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	21.29	22.70	1.384	-	-	-0.17	0.637	0.881
	LTE Band 13	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	23230	782	21.37	22.70	1.358	-	-	-0.03	0.654	0.888
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	21.34	22.70	1.368	-	-	0.14	0.630	0.862
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	21.29	22.70	1.384	-	-	0.11	0.519	0.718
	LTE Band 13	10M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	23230	782	21.37	22.70	1.358	-	-	-0.05	0.538	0.731
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	21.34	22.70	1.368	-	-	0.18	0.587	0.803
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	21.29	22.70	1.384	-	-	0.14	0.485	0.671
	LTE Band 13	10M	QPSK	50	0	-	Left Cheek	0mm	Ant 0	DSI 2	23230	782	21.37	22.70	1.358	-	-	-0.17	0.506	0.687
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	21.34	22.70	1.368	-	-	0.17	0.484	0.662
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23230	782	21.29	22.70	1.384	-	-	-0.05	0.403	0.558
03	LTE Band 17	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	23790	710	21.87	22.80	1.239	-	-	0.08	0.883	1.094
	LTE Band 17	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 0	DSI 2	23790	710	21.76	22.80	1.271	-	-	0.1	0.751	0.954
	LTE Band 17	10M	QPSK	50	0	-	Right Cheek	0mm	Ant 0	DSI 2	23790	710	21.78	22.80	1.265	-	-	-0.17	0.773	0.978
	LTE Band 17	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	23790	710	21.87	22.80	1.239	-	-	0.04	0.673	0.834
	LTE Band 17	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 0	DSI 2	23790	710	21.76	22.80	1.271	-	-	-0.01	0.580	0.737
	LTE Band 17	10M	QPSK	50	0	-	Right Tilted	0mm	Ant 0	DSI 2	23790	710	21.78	22.80	1.265	-	-	-0.08	0.593	0.750
	LTE Band 17	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	23790	710	21.87	22.80	1.239	-	-	0.05	0.608	0.753
	LTE Band 17	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 0	DSI 2	23790	710	21.76	22.80	1.271	-	-	0.06	0.522	0.663
	LTE Band 17	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	23790	710	21.87	22.80	1.239	-	-	-0.09	0.491	0.608
	LTE Band 17	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 0	DSI 2	23790	710	21.76	22.80	1.271	-	-	-0.08	0.423	0.537
04	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	21.84	22.70	1.219	-	-	-0.01	0.888	1.082
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	21.80	22.70	1.230	-	-	0.12	0.839	1.032
	FR1 n71	20M	QPSK	100	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	21.58	22.70	1.294	-	-	0.03	0.722	0.934
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI 2	136100	680.5	21.84	22.70	1.219	-	-	0.18	0.742	0.904
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI 2	136100	680.5	21.80	22.70	1.230	-	-	0.16	0.728	0.896
	FR1 n71	20M	QPSK	100	0	DFT-SCS-15KHz	Right Tilted	0mm	Ant 0	DSI 2	136100	680.5	21.58	22.70	1.294	-	-	-0.1	0.604	0.782
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	21.84	22.70	1.219	-	-	0.07	0.626	0.763
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	21.80	22.70	1.230	-	-	0.18	0.652	0.802
	FR1 n71	20M	QPSK	100	0	DFT-SCS-15KHz	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	21.58	22.70	1.294	-	-	-0.1	0.515	0.667
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DSI 2	136100	680.5	21.84	22.70	1.219	-	-	0.01	0.532	0.649
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 0	DSI 2	136100	680.5	21.80	22.70	1.230	-	-	-0.15	0.561	0.690
835MHz																				
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	189	836.4	25.34	26.10	1.191	-	-	0.19	0.778	0.927
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	128	824.2	25.12	26.10	1.253	-	-	0.07	0.579	0.726
05	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	251	848.8	25.24	26.10	1.219	-	-	0.02	0.877	1.069
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	189	836.4	25.34	26.10	1.191	-	-	-0.18	0.692	0.824
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	128	824.2	25.12	26.10	1.253	-	-	0.03	0.486	0.609
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Tilted	0mm	Ant 0	DSI 2	251	848.8	25.24	26.10	1.219	-	-	-0.15	0.803	0.979
	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	25.34	26.10	1.191	-	-	-0.15	0.608	0.724



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	GSM850	-	-	-	-	GPRS (4 Tx slots)	Left Tilted	0mm	Ant 0	DSI 2	189	836.4	25.34	26.10	1.191	-	-	0.11	0.553	0.659
06	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4182	836.4	21.20	22.70	1.413	-	-	0.01	0.766	1.082
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4132	826.4	21.15	22.70	1.429	-	-	-0.17	0.708	1.012
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4233	846.6	21.18	22.70	1.419	-	-	-0.08	0.760	1.078
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4182	836.4	21.20	22.70	1.413	-	-	-0.04	0.668	0.944
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4132	826.4	21.15	22.70	1.429	-	-	-0.08	0.559	0.799
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4233	846.6	21.18	22.70	1.419	-	-	0.17	0.731	1.037
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4182	836.4	21.20	22.70	1.413	-	-	0.18	0.573	0.809
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4132	826.4	21.15	22.70	1.429	-	-	-0.04	0.486	0.694
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4233	846.6	21.18	22.70	1.419	-	-	-0.08	0.616	0.874
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	4182	836.4	21.20	22.70	1.413	-	-	-0.13	0.522	0.737
07	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	20.87	22.30	1.390	-	-	-0.03	0.784	1.090
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	20.84	22.30	1.400	-	-	0.06	0.662	0.927
	LTE Band 26	15M	QPSK	75	0	-	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	20.72	22.30	1.439	-	-	-0.03	0.680	0.978
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	20.87	22.30	1.390	-	-	-0.03	0.616	0.856
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	20.84	22.30	1.400	-	-	0.08	0.532	0.745
	LTE Band 26	15M	QPSK	75	0	-	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	20.72	22.30	1.439	-	-	-0.07	0.569	0.819
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	20.87	22.30	1.390	-	-	0.05	0.545	0.758
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	20.84	22.30	1.400	-	-	-0.11	0.473	0.662
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	20.87	22.30	1.390	-	-	-0.12	0.443	0.616
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	20.84	22.30	1.400	-	-	0.03	0.392	0.549
	LTE Band 5B	10M	QPSK	1	49	-	Right Cheek	0mm	Ant 0	DSI2	20476+20575	826.6+836.5	20.75	22.30	1.429	-	-	-0.02	0.641	0.916
	FR1 n26	20M	QPSK	1	1	-	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.12	23.20	1.282	-	-	-0.02	0.763	0.978
08	FR1 n26	20M	QPSK	50	28	-	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.11	23.20	1.285	-	-	-0.02	0.848	1.090
	FR1 n26	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	21.78	23.00	1.324	-	-	0.15	0.670	0.887
	FR1 n26	20M	QPSK	1	1	-	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.12	23.20	1.282	-	-	-0.09	0.608	0.780
	FR1 n26	20M	QPSK	50	28	-	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.11	23.20	1.285	-	-	0.11	0.721	0.927
	FR1 n26	20M	QPSK	100	0	-	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	21.78	23.00	1.324	-	-	-0.05	0.555	0.735
	FR1 n26	20M	QPSK	1	1	-	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.12	23.20	1.282	-	-	-0.08	0.521	0.668
	FR1 n26	20M	QPSK	50	28	-	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	22.11	23.20	1.285	-	-	0.16	0.607	0.780
	FR1 n26	20M	QPSK	1	1	-	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.12	23.20	1.282	-	-	0.05	0.425	0.545
	FR1 n26	20M	QPSK	50	28	-	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	22.11	23.20	1.285	-	-	0.05	0.524	0.673
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	1413	1732.6	19.17	20.20	1.268	-	-	-0.03	0.607	0.769
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	DSI 2	1413	1732.6	19.17	20.20	1.268	-	-	-0.15	0.185	0.235
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 2	1413	1732.6	19.17	20.20	1.268	-	-	0.02	0.835	1.058
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 2	1312	1712.4	19.07	20.20	1.297	-	-	0.07	0.778	1.009
09	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 2	1513	1752.6	19.15	20.20	1.274	-	-	0.01	0.860	1.095
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	DSI 2	1413	1732.6	19.17	20.20	1.268	-	-	0.16	0.149	0.189
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	132322	1745	19.14	20.20	1.276	-	-	-0.18	0.625	0.798
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	132322	1745	19.06	20.20	1.300	-	-	0.02	0.516	0.671
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 2	132322	1745	19.14	20.20	1.276	-	-	0.16	0.201	0.257
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	132322	1745	19.06	20.20	1.300	-	-	-0.03	0.167	0.217
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	132322	1745	19.14	20.20	1.276	-	-	0.01	0.847	1.081
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	132072	1720	18.86	20.20	1.361	-	-	0.07	0.792	1.078
10	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	132572	1770	18.84	20.20	1.368	-	-	0.02	0.801	1.096
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	132322	1745	19.06	20.20	1.300	-	-	0.01	0.694	0.902
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	132072	1720	18.80	20.20	1.380	-	-	-0.01	0.661	0.912
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	132572	1770	18.91	20.20	1.346	-	-	-0.06	0.674	0.907
	LTE Band 66	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 2	DSI 2	132322	1745	19.07	20.20	1.297	-	-	-0.04	0.694	0.900
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 2	132322	1745	19.14	20.20	1.276	-	-	-0.09	0.159	0.203
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	132322	1745	19.06	20.20	1.300	-	-	-0.17	0.129	0.168
	LTE Band 66C	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI2	132572+132374	1770+1750.2	18.80	20.20	1.380	-	-	-0.02	0.724	0.999
	LTE Band 66_Other PA	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	132572	1770	18.84	20.20	1.368	-	-	0.01	0.705	0.964
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 5	DSI 2	132322	1745	22.85	24.00	1.303	-	-	0.18	0.141	0.184



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	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 5	DSI 2	132322	1745	21.90	23.00	1.288	-	-	-0.17	0.117	0.151
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 5	DSI 2	132322	1745	22.85	24.00	1.303	-	-	-0.04	0.053	0.069
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 5	DSI 2	132322	1745	21.90	23.00	1.288	-	-	-0.05	0.044	0.057
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 5	DSI 2	132322	1745	22.85	24.00	1.303	-	-	-0.09	0.155	0.202
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 5	DSI 2	132322	1745	21.90	23.00	1.288	-	-	0.03	0.135	0.174
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 5	DSI 2	132322	1745	22.85	24.00	1.303	-	-	-0.13	0.056	0.073
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 5	DSI 2	132322	1745	21.90	23.00	1.288	-	-	-0.01	0.049	0.063
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	349000	1745	18.90	19.90	1.259	-	-	0.05	0.537	0.676
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	349000	1745	18.89	19.90	1.262	-	-	0.02	0.603	0.761
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	349000	1745	18.90	19.90	1.259	-	-	-0.13	0.173	0.218
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	349000	1745	18.89	19.90	1.262	-	-	0.17	0.193	0.244
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	349000	1745	18.90	19.90	1.259	-	-	0.06	0.744	0.937
11	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	349000	1745	18.89	19.90	1.262	-	-	0.01	0.861	1.086
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	349000	1745	18.83	19.90	1.279	-	-	0.09	0.630	0.806
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	349000	1745	18.90	19.90	1.259	-	-	-0.04	0.133	0.167
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	349000	1745	18.89	19.90	1.262	-	-	-0.15	0.149	0.188
1900MHz																				
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Cheek	0mm	Ant 2	DSI 2	661	1880	25.16	26.40	1.330	-	-	-0.02	0.472	0.628
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Right Tilted	0mm	Ant 2	DSI 2	661	1880	25.16	26.40	1.330	-	-	0.1	0.125	0.166
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Cheek	0mm	Ant 2	DSI 2	661	1880	25.16	26.40	1.330	-	-	0.04	0.693	0.922
12	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Cheek	0mm	Ant 2	DSI 2	512	1850.2	25.04	26.40	1.368	-	-	0.01	0.797	1.090
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Cheek	0mm	Ant 2	DSI 2	810	1909.8	24.95	26.40	1.396	-	-	0.13	0.731	1.021
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Tilted	0mm	Ant 2	DSI 2	661	1880	25.16	26.40	1.330	-	-	-0.18	0.090	0.120
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	9400	1880	18.70	20.30	1.445	-	-	-0.16	0.621	0.898
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	9262	1852.4	18.68	20.30	1.452	-	-	-0.15	0.631	0.916
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Cheek	0mm	Ant 2	DSI 2	9538	1907.6	18.69	20.30	1.449	-	-	-0.06	0.612	0.887
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Right Tilted	0mm	Ant 2	DSI 2	9400	1880	18.70	20.30	1.445	-	-	-0.14	0.192	0.278
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 2	9400	1880	18.70	20.30	1.445	-	-	-0.19	0.712	1.029
13	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 2	9262	1852.4	18.68	20.30	1.452	-	-	-0.06	0.747	1.085
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Cheek	0mm	Ant 2	DSI 2	9538	1907.6	18.69	20.30	1.449	-	-	0.01	0.654	0.947
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Tilted	0mm	Ant 2	DSI 2	9400	1880	18.70	20.30	1.445	-	-	0.06	0.137	0.198
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	18900	1880	19.11	20.20	1.285	-	-	0.12	0.673	0.865
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	18700	1860	19.10	20.20	1.288	-	-	-0.16	0.681	0.877
	LTE Band 2	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	DSI 2	19100	1900	18.87	20.20	1.358	-	-	-0.12	0.665	0.903
	LTE Band 2	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	DSI 2	18900	1880	19.05	20.20	1.303	-	-	0.07	0.548	0.714
	LTE Band 2	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 2	DSI 2	18900	1880	19.03	20.20	1.309	-	-	-0.02	0.556	0.728
	LTE Band 2	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	DSI 2	18900	1880	19.11	20.20	1.285	-	-	-0.05	0.205	0.263
	LTE Band 2	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	DSI 2	18900	1880	19.05	20.20	1.303	-	-	-0.13	0.164	0.214
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	18900	1880	19.11	20.20	1.285	-	-	0.08	0.830	1.067
14	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	18700	1860	19.10	20.20	1.288	-	-	-0.12	0.850	1.095
	LTE Band 2	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	19100	1900	18.87	20.20	1.358	-	-	0.16	0.786	1.068
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	18900	1880	19.05	20.20	1.303	-	-	0.01	0.657	0.856
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	18700	1860	18.78	20.20	1.387	-	-	-0.16	0.681	0.944
	LTE Band 2	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	DSI 2	19100	1900	18.87	20.20	1.358	-	-	0.1	0.636	0.864
	LTE Band 2	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 2	DSI 2	18900	1880	19.03	20.20	1.309	-	-	-0.04	0.657	0.860
	LTE Band 2	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	DSI 2	18900	1880	19.11	20.20	1.285	-	-	-0.01	0.151	0.194
	LTE Band 2	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	DSI 2	18900	1880	19.05	20.20	1.303	-	-	-0.11	0.120	0.156
	LTE Band 2_Other PA	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	DSI 2	18700	1860	19.10	20.20	1.288	-	-	0.02	0.811	1.045
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	376000	1880	18.33	19.60	1.340	-	-	-0.06	0.678	0.908
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	372000	1860	18.32	19.60	1.343	-	-	-0.15	0.664	0.892
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	380000	1900	18.26	19.60	1.361	-	-	0.03	0.613	0.835
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	376000	1880	18.29	19.60	1.352	-	-	-0.13	0.658	0.890
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	372000	1860	18.00	19.60	1.445	-	-	0.16	0.640	0.925
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	380000	1900	18.02	19.60	1.439	-	-	-0.15	0.596	0.858
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	DSI 2	376000	1880	18.32	19.60	1.343	-	-	-0.02	0.493	0.662
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	376000	1880	18.33	19.60	1.340	-	-	-0.09	0.198	0.265



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	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	DSI 2	376000	1880	18.29	19.60	1.352	-	-	0.14	0.187	0.253
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	376000	1880	18.33	19.60	1.340	-	-	0.1	0.750	1.005
15	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	372000	1860	18.32	19.60	1.343	-	-	-0.01	0.798	1.072
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	380000	1900	18.26	19.60	1.361	-	-	-0.09	0.716	0.975
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	376000	1880	18.29	19.60	1.352	-	-	0.07	0.771	1.042
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	372000	1860	18.00	19.60	1.445	-	-	-0.09	0.706	1.020
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	380000	1900	18.02	19.60	1.439	-	-	-0.16	0.695	1.000
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	DSI 2	376000	1880	18.32	19.60	1.343	-	-	-0.18	0.562	0.755
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	376000	1880	18.33	19.60	1.340	-	-	-0.07	0.142	0.190
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	DSI 2	376000	1880	18.29	19.60	1.352	-	-	0.11	0.136	0.184
2600MHz																				
16	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	21100	2535	16.65	17.60	1.245	-	-	-0.01	0.879	1.094
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	20850	2510	16.54	17.60	1.276	-	-	-0.08	0.814	1.039
	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	21350	2560	16.57	17.60	1.268	-	-	-0.1	0.823	1.043
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	21100	2535	16.30	17.60	1.349	-	-	-0.01	0.718	0.969
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	20850	2510	16.17	17.60	1.390	-	-	-0.09	0.679	0.944
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	21350	2560	16.08	17.60	1.419	-	-	-0.06	0.690	0.979
	LTE Band 7	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 3	DSI 2	21100	2535	16.37	17.60	1.327	-	-	-0.17	0.714	0.948
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	21100	2535	16.65	17.60	1.245	-	-	-0.01	0.466	0.580
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	21100	2535	16.30	17.60	1.349	-	-	-0.11	0.381	0.514
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	21100	2535	16.65	17.60	1.245	-	-	0.14	0.298	0.371
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 2	21100	2535	16.30	17.60	1.349	-	-	0.03	0.248	0.335
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	21100	2535	16.65	17.60	1.245	-	-	0.1	0.257	0.320
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 2	21100	2535	16.30	17.60	1.349	-	-	0.16	0.213	0.287
	LTE Band 7C	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	21100+ 21298	2535+ 2554.8	16.56	17.60	1.271	-	-	0.01	0.745	0.947
	LTE Band 7_Other PA	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	21100	2535	16.65	17.60	1.245	-	-	0.02	0.813	1.012
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	40620	2593	17.58	18.70	1.294	62.9	1.006	0.02	0.796	1.036
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	39750	2506	17.42	18.70	1.343	62.9	1.006	-0.16	0.744	1.005
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	40185	2549.5	17.10	18.70	1.445	62.9	1.006	0.05	0.744	1.082
	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	41055	2636.5	17.47	18.70	1.327	62.9	1.006	-0.03	0.810	1.082
17	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 3	DSI 2	41490	2680	17.15	18.70	1.429	62.9	1.006	-0.08	0.761	1.094
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	40620	2593	17.46	18.70	1.330	62.9	1.006	0.17	0.646	0.865
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	39750	2506	17.35	18.70	1.365	62.9	1.006	-0.15	0.622	0.854
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	40185	2549.5	17.10	18.70	1.445	62.9	1.006	0.16	0.626	0.910
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	41055	2636.5	17.42	18.70	1.343	62.9	1.006	0.05	0.660	0.892
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 3	DSI 2	41490	2680	17.13	18.70	1.435	62.9	1.006	-0.06	0.685	0.989
	LTE Band 41	20M	QPSK	100	0	-	Right Cheek	0mm	Ant 3	DSI 2	40620	2593	17.49	18.70	1.321	62.9	1.006	-0.13	0.653	0.868
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 3	DSI 2	40620	2593	17.58	18.70	1.294	62.9	1.006	-0.01	0.335	0.436
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 3	DSI 2	40620	2593	17.46	18.70	1.330	62.9	1.006	-0.11	0.274	0.367
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 3	DSI 2	40620	2593	17.58	18.70	1.294	62.9	1.006	0.19	0.267	0.348
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 3	DSI 2	40620	2593	17.46	18.70	1.330	62.9	1.006	-0.14	0.218	0.292
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 3	DSI 2	40620	2593	17.58	18.70	1.294	62.9	1.006	-0.18	0.186	0.242
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 3	DSI 2	40620	2593	17.46	18.70	1.330	62.9	1.006	-0.06	0.152	0.203
	LTE Band 41C	20M	QPSK	1	99	-	Right Cheek	0mm	Ant 3	DSI 2	41490+ 41292	2680+ 2660.2	17.30	18.70	1.380	62.9	1.006	0.09	0.678	0.942
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	DSI 2	507000	2535	15.68	16.50	1.208	-	-	0.16	0.839	1.013
18	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	DSI 2	507000	2535	15.66	16.50	1.213	-	-	0.01	0.893	1.084
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	DSI 2	507000	2535	15.47	16.50	1.268	-	-	0.01	0.721	0.914
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 3	DSI 2	507000	2535	15.68	16.50	1.208	-	-	-0.04	0.531	0.641
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 3	DSI 2	507000	2535	15.66	16.50	1.213	-	-	0.13	0.482	0.585
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 3	DSI 2	507000	2535	15.68	16.50	1.208	-	-	0.12	0.316	0.382
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 3	DSI 2	507000	2535	15.66	16.50	1.213	-	-	0.07	0.312	0.379
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 3	DSI 2	507000	2535	15.68	16.50	1.208	-	-	0.08	0.289	0.349
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 3	DSI 2	507000	2535	15.66	16.50	1.213	-	-	0.19	0.282	0.342
	FR1 n7_Other PA	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 3	DSI 2	507000	2535	15.66	16.50	1.213	-	-	0.02	0.851	1.033
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	518598	2592.99	15.30	16.40	1.288	-	-	-0.04	0.834	1.074



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	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	518598	2592.99	15.26	16.40	1.300	-	-	-0.06	0.677	0.880
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	518598	2592.99	15.22	16.40	1.312	-	-	-0.03	0.593	0.778
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 2	518598	2592.99	15.30	16.40	1.288	-	-	0.07	0.385	0.496
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 2	518598	2592.99	15.26	16.40	1.300	-	-	-0.12	0.265	0.345
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 2	518598	2592.99	15.30	16.40	1.288	-	-	-0.03	0.262	0.338
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 2	518598	2592.99	15.26	16.40	1.300	-	-	0.02	0.201	0.261
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 2	518598	2592.99	15.30	16.40	1.288	-	-	0.12	0.226	0.291
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 2	518598	2592.99	15.26	16.40	1.300	-	-	0.02	0.157	0.204
	FR1 n38 Other PA	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	519000	2595	15.27	16.40	1.297	-	-	-0.07	0.777	1.008
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 2	518598	2592.99	15.72	17.00	1.343	-	-	-0.03	0.762	1.023
19	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 2	518598	2592.99	15.70	17.00	1.349	-	-	0.15	0.798	1.076
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 0	DSI 2	518598	2592.99	15.38	17.00	1.452	-	-	-0.1	0.670	0.973
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 2	518598	2592.99	15.72	17.00	1.343	-	-	0.05	0.545	0.732
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 0	DSI 2	518598	2592.99	15.70	17.00	1.349	-	-	0.04	0.517	0.697
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 2	518598	2592.99	15.72	17.00	1.343	-	-	0.07	0.385	0.517
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 0	DSI 2	518598	2592.99	15.70	17.00	1.349	-	-	0.15	0.378	0.510
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 2	518598	2592.99	15.72	17.00	1.343	-	-	-0.05	0.244	0.328
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 0	DSI 2	518598	2592.99	15.70	17.00	1.349	-	-	-0.08	0.244	0.329
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 2	518598	2592.99	21.23	22.00	1.194	-	-	-0.13	0.040	0.048
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 5	DSI 2	518598	2592.99	21.02	22.00	1.253	-	-	0.01	0.032	0.040
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 2	518598	2592.99	21.23	22.00	1.194	-	-	-0.11	0.001	0.001
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 5	DSI 2	518598	2592.99	21.02	22.00	1.253	-	-	0.03	0.001	0.001
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 2	518598	2592.99	21.23	22.00	1.194	-	-	0.08	0.068	0.081
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 5	DSI 2	518598	2592.99	21.02	22.00	1.253	-	-	-0.05	0.050	0.063
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 2	518598	2592.99	21.23	22.00	1.194	-	-	0.14	0.001	0.001
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 5	DSI 2	518598	2592.99	21.02	22.00	1.253	-	-	-0.01	0.001	0.001
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	518598	2592.99	21.28	22.00	1.180	-	-	0.07	0.231	0.273
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	518598	2592.99	21.12	22.00	1.225	-	-	0.09	0.160	0.196
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	518598	2592.99	21.28	22.00	1.180	-	-	0.04	0.104	0.123
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	518598	2592.99	21.12	22.00	1.225	-	-	0.11	0.072	0.088
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	518598	2592.99	21.28	22.00	1.180	-	-	0.08	0.424	0.500
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	518598	2592.99	21.12	22.00	1.225	-	-	-0.13	0.328	0.402
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	518598	2592.99	21.28	22.00	1.180	-	-	0.12	0.067	0.079
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	518598	2592.99	21.12	22.00	1.225	-	-	-0.11	0.057	0.070
3500MHz																				
	LTE Band 42	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 4	DSI 2	42590	3500	16.20	17.00	1.202	62.9	1.006	0.17	0.295	0.357
	LTE Band 42	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 4	DSI 2	42590	3500	16.11	17.00	1.227	62.9	1.006	-0.16	0.245	0.303
	LTE Band 42	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 4	DSI 2	42590	3500	16.20	17.00	1.202	62.9	1.006	-0.17	0.090	0.109
	LTE Band 42	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 4	DSI 2	42590	3500	16.11	17.00	1.227	62.9	1.006	0.11	0.076	0.094
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	42590	3500	16.20	17.00	1.202	62.9	1.006	-0.05	0.864	1.045
	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	42190	3460	16.16	17.00	1.213	62.9	1.006	-0.01	0.803	0.980
20	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	42990	3540	16.18	17.00	1.208	62.9	1.006	0.02	0.894	1.086
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	42590	3500	16.11	17.00	1.227	62.9	1.006	-0.14	0.720	0.889
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	42190	3460	16.02	17.00	1.253	62.9	1.006	-0.15	0.670	0.845
	LTE Band 42	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 4	DSI 2	42990	3540	16.06	17.00	1.242	62.9	1.006	-0.12	0.761	0.951
	LTE Band 42	20M	QPSK	100	0	-	Left Cheek	0mm	Ant 4	DSI 2	42590	3500	16.04	17.00	1.247	62.9	1.006	-0.17	0.720	0.904
	LTE Band 42	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 4	DSI 2	42590	3500	16.20	17.00	1.202	62.9	1.006	0.08	0.179	0.216
	LTE Band 42	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 4	DSI 2	42590	3500	16.11	17.00	1.227	62.9	1.006	0.01	0.150	0.185
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	656000	3840	15.78	17.10	1.355	-	-	-0.06	0.799	1.083
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	656000	3840	15.74	17.10	1.368	-	-	-0.11	0.534	0.730
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	656000	3840	15.69	17.10	1.384	-	-	-0.01	0.474	0.656
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	656000	3840	15.78	17.10	1.355	-	-	0.09	0.114	0.154
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	656000	3840	15.74	17.10	1.368	-	-	0.1	0.079	0.108
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	656000	3840	15.78	17.10	1.355	-	-	-0.04	0.728	0.987
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	656000	3840	15.74	17.10	1.368	-	-	0.15	0.535	0.732
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	656000	3840	15.69	17.10	1.384	-	-	0.09	0.432	0.598



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	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	656000	3840	15.78	17.10	1.355	-	-	-0.16	0.103	0.140
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	656000	3840	15.74	17.10	1.368	-	-	0.05	0.069	0.094
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	633334	3500.01	15.70	17.10	1.380	-	-	-0.18	0.579	0.799
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	633334	3500.01	15.69	17.10	1.384	-	-	0.06	0.676	0.935
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 2	DSI 2	633334	3500.01	15.53	17.10	1.435	-	-	-0.03	0.518	0.744
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	633334	3500.01	15.70	17.10	1.380	-	-	-0.04	0.090	0.124
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 2	DSI 2	633334	3500.01	15.69	17.10	1.384	-	-	-0.09	0.105	0.145
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	633334	3500.01	15.70	17.10	1.380	-	-	0.18	0.502	0.693
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	633334	3500.01	15.69	17.10	1.384	-	-	0.11	0.588	0.814
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 2	DSI 2	633334	3500.01	15.53	17.10	1.435	-	-	0.07	0.460	0.660
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	633334	3500.01	15.70	17.10	1.380	-	-	-0.03	0.076	0.105
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 2	DSI 2	633334	3500.01	15.69	17.10	1.384	-	-	0.09	0.087	0.120
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	656000	3840	17.85	18.90	1.274	-	-	-0.09	0.648	0.825
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	656000	3840	17.55	18.90	1.365	-	-	-0.05	0.519	0.708
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	656000	3840	17.40	18.90	1.413	-	-	-0.03	0.396	0.559
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 2	656000	3840	17.85	18.90	1.274	-	-	0.17	0.135	0.172
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 2	656000	3840	17.55	18.90	1.365	-	-	-0.14	0.090	0.123
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 2	656000	3840	17.85	18.90	1.274	-	-	0.06	0.140	0.178
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 2	656000	3840	17.55	18.90	1.365	-	-	-0.06	0.112	0.153
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 2	656000	3840	17.85	18.90	1.274	-	-	-0.15	0.043	0.055
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 2	656000	3840	17.55	18.90	1.365	-	-	-0.12	0.033	0.045
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	633334	3500.01	17.82	18.90	1.282	-	-	-0.09	0.846	1.085
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	633334	3500.01	17.59	18.90	1.352	-	-	-0.03	0.721	0.975
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Right Cheek	0mm	Ant 3	DSI 2	633334	3500.01	17.04	18.90	1.535	-	-	0.17	0.593	0.910
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 2	633334	3500.01	17.82	18.90	1.282	-	-	0.02	0.274	0.351
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 3	DSI 2	633334	3500.01	17.59	18.90	1.352	-	-	-0.06	0.218	0.295
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 2	633334	3500.01	17.82	18.90	1.282	-	-	0.18	0.204	0.262
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 3	DSI 2	633334	3500.01	17.59	18.90	1.352	-	-	-0.11	0.158	0.214
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 2	633334	3500.01	17.82	18.90	1.282	-	-	-0.05	0.116	0.149
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 3	DSI 2	633334	3500.01	17.59	18.90	1.352	-	-	-0.04	0.093	0.126
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	15.20	16.20	1.259	-	-	-0.08	0.333	0.419
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	15.16	16.20	1.271	-	-	-0.14	0.302	0.384
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	15.20	16.20	1.259	-	-	0.01	0.117	0.147
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	15.16	16.20	1.271	-	-	0.18	0.104	0.132
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	15.20	16.20	1.259	-	-	-0.02	0.862	1.085
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	15.16	16.20	1.271	-	-	0.02	0.746	0.948
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	15.06	16.20	1.300	-	-	0.16	0.667	0.867
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	15.20	16.20	1.259	-	-	0.06	0.212	0.267
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	15.16	16.20	1.271	-	-	-0.02	0.184	0.234
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	633334	3500.01	15.23	16.20	1.250	-	-	-0.17	0.098	0.123
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 4	DSI 2	633334	3500.01	15.22	16.20	1.253	-	-	0.1	0.119	0.149
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	633334	3500.01	15.23	16.20	1.250	-	-	0.08	0.026	0.033
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 4	DSI 2	633334	3500.01	15.22	16.20	1.253	-	-	0.07	0.033	0.041
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	633334	3500.01	15.23	16.20	1.250	-	-	-0.13	0.263	0.329
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	633334	3500.01	15.22	16.20	1.253	-	-	-0.04	0.353	0.442
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	633334	3500.01	15.23	16.20	1.250	-	-	-0.1	0.051	0.064
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 4	DSI 2	633334	3500.01	15.22	16.20	1.253	-	-	-0.07	0.066	0.083
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	24.08	25.40	1.355	-	-	-0.17	0.413	0.560
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	24.05	25.40	1.365	-	-	0.01	0.299	0.408
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	656000	3840	24.08	25.40	1.355	-	-	0.1	0.314	0.426
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	656000	3840	24.05	25.40	1.365	-	-	0.11	0.229	0.312
21	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	656000	3840	24.08	25.40	1.355	-	-	-0.06	0.807	1.094
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	656000	3840	24.05	25.40	1.365	-	-	-0.07	0.555	0.757
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	656000	3840	24.01	25.40	1.377	-	-	0.18	0.562	0.774
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	656000	3840	24.08	25.40	1.355	-	-	0.12	0.258	0.350
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	656000	3840	24.05	25.40	1.365	-	-	0.07	0.185	0.252



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	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	24.14	25.40	1.337	-	-	0.14	0.203	0.271
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 6	DSI 2	633334	3500.01	24.03	25.40	1.371	-	-	-0.03	0.249	0.341
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	633334	3500.01	24.14	25.40	1.337	-	-	-0.14	0.133	0.178
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 6	DSI 2	633334	3500.01	24.03	25.40	1.371	-	-	0.17	0.186	0.255
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	633334	3500.01	24.14	25.40	1.337	-	-	0.11	0.399	0.533
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 6	DSI 2	633334	3500.01	24.03	25.40	1.371	-	-	-0.03	0.515	0.706
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	633334	3500.01	24.14	25.40	1.337	-	-	0.07	0.001	0.001
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 6	DSI 2	633334	3500.01	24.03	25.40	1.371	-	-	-0.04	0.001	0.001



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
22	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9(7)	Standalone Non DBS	6	2437	15.79	17.50	1.483	98.35	1.017	-0.09	0.783	1.181
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9(7)	Standalone Non DBS	11	2462	15.83	17.50	1.469	98.35	1.017	0.08	0.740	1.105
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9(7)	Standalone Non DBS	6	2437	15.79	17.50	1.483	98.35	1.017	0.01	0.588	0.887
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 7+9(7)	Standalone Non DBS	11	2462	15.83	17.50	1.469	98.35	1.017	0.03	0.546	0.816
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9(7)	Standalone Non DBS	6	2437	15.79	17.50	1.483	98.35	1.017	-0.08	0.650	0.980
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 7+9(7)	Standalone Non DBS	11	2462	15.83	17.50	1.469	98.35	1.017	-0.08	0.669	0.999
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 7+9(7)	Standalone Non DBS	6	2437	15.79	17.50	1.483	98.35	1.017	0.1	0.636	0.959
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 7+9(7)	Standalone Non DBS	11	2462	15.83	17.50	1.469	98.35	1.017	-0.18	0.660	0.986
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9(7)	Standalone DBS only	6	2437	12.92	14.50	1.439	98.35	1.017	-0.01	0.389	0.569
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9(7)	Simultaneous Non DBS	6	2437	11.83	13.50	1.469	98.35	1.017	0.09	0.261	0.390
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 7+9(9)	Simultaneous DBS	6	2437	8.99	10.50	1.416	98.35	1.017	-0.08	0.129	0.186
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 9	Standalone Non DBS	11	2462	16.60	18.00	1.380	98.35	1.017	0.1	0.712	1.000
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 9	Standalone Non DBS	1	2412	16.40	18.00	1.445	98.35	1.017	0.01	0.766	1.126
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 9	Standalone Non DBS	11	2462	16.60	18.00	1.380	98.35	1.017	0.08	0.061	0.086
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 9	Standalone Non DBS	11	2462	16.60	18.00	1.380	98.35	1.017	-0.17	0.332	0.466
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 9	Standalone Non DBS	11	2462	16.60	18.00	1.380	98.35	1.017	0.11	0.082	0.115
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 9	Standalone DBS only	1	2412	14.00	15.50	1.413	98.35	1.017	0.14	0.365	0.524
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 9	Simultaneous Non DBS	1	2412	10.05	11.50	1.396	98.35	1.017	0.11	0.269	0.382
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 9	Simultaneous DBS	1	2412	8.90	10.50	1.445	98.35	1.017	-0.05	0.134	0.197
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	-0.05	0.039	0.064
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	0.18	0.043	0.070
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	0.14	0.066	0.108
23	Bluetooth	1Mbps	Left Tilted	0mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	-0.17	0.071	0.116
5000MHz																
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 8+10(10)	Standalone Non DBS	50	5250	13.56	15.00	1.393	100	1.000	0.17	0.319	0.444
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Ant 8+10(10)	Standalone Non DBS	50	5250	13.56	15.00	1.393	100	1.000	-0.05	0.297	0.414
24	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 8+10(10)	Standalone Non DBS	50	5250	13.56	15.00	1.393	100	1.000	0.09	0.783	1.091
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Tilted	0mm	Ant 8+10(10)	Standalone Non DBS	50	5250	13.56	15.00	1.393	100	1.000	0.01	0.512	0.713
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 8+10(10)	Standalone DBS only	50	5250	10.63	12.50	1.538	100	1.000	0.08	0.365	0.561
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 8+10(10)	Simultaneous Non DBS	42	5210	9.85	11.50	1.462	100	1.000	-0.17	0.211	0.309
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 8+10(10)	Simultaneous DBS	42	5210	6.90	8.50	1.445	100	1.000	-0.03	0.126	0.182
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 8+10(10)	Standalone Non DBS	114	5570	13.41	15.00	1.442	100	1.000	0.1	0.288	0.415
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Ant 8+10(10)	Standalone Non DBS	114	5570	13.41	15.00	1.442	100	1.000	-0.17	0.259	0.374
25	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 8+10(10)	Standalone Non DBS	114	5570	13.41	15.00	1.442	100	1.000	0.06	0.763	1.100
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Tilted	0mm	Ant 8+10(10)	Standalone Non DBS	114	5570	13.41	15.00	1.442	100	1.000	0.04	0.495	0.714
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 8+10(10)	Standalone DBS only	114	5570	12.46	14.00	1.426	100	1.000	-0.18	0.376	0.536
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 8+10(8)	Simultaneous Non DBS	114	5570	11.89	13.50	1.449	100	1.000	0.1	0.224	0.325
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 8+10(8)	Simultaneous DBS	114	5570	8.75	10.50	1.496	100	1.000	0.12	0.124	0.186
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 8+10(8)	Standalone Non DBS	155	5775	15.15	16.50	1.365	100	1.000	-0.01	0.320	0.437
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 8+10(8)	Standalone Non DBS	155	5775	15.15	16.50	1.365	100	1.000	-0.08	0.278	0.379
26	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 8+10(8)	Standalone Non DBS	155	5775	15.15	16.50	1.365	100	1.000	0.06	0.732	0.999
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 8+10(8)	Standalone Non DBS	155	5775	15.15	16.50	1.365	100	1.000	0.05	0.574	0.783
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 8+10(8)	Standalone DBS only	155	5775	12.14	13.50	1.368	100	1.000	-0.08	0.386	0.528
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 8+10(10)	Simultaneous Non DBS	155	5775	9.84	11.50	1.466	100	1.000	-0.08	0.229	0.336
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 8+10(8)	Simultaneous DBS	155	5775	7.44	9.00	1.432	100	1.000	0.1	0.131	0.188



15.2 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																				
	LTE Band 71	20M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 1	133322	683	22.98	24.00	1.265	-	-	-0.02	0.277	0.350
	LTE Band 71	20M	QPSK	50	0	-	Front	10mm	Ant 0	DSI 1	133322	683	22.22	23.00	1.197	-	-	0.1	0.245	0.293
27	LTE Band 71	20M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 1	133322	683	22.98	24.00	1.265	-	-	-0.02	0.293	0.371
	LTE Band 71	20M	QPSK	50	0	-	Back	10mm	Ant 0	DSI 1	133322	683	22.22	23.00	1.197	-	-	0.04	0.262	0.314
	LTE Band 71	20M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 1	133322	683	22.98	24.00	1.265	-	-	0.13	0.196	0.248
	LTE Band 71	20M	QPSK	50	0	-	Left Side	10mm	Ant 0	DSI 1	133322	683	22.22	23.00	1.197	-	-	-0.18	0.181	0.217
	LTE Band 71	20M	QPSK	1	0	-	Top Side	10mm	Ant 0	DSI 1	133322	683	22.98	24.00	1.265	-	-	-0.11	0.281	0.355
	LTE Band 71	20M	QPSK	50	0	-	Top Side	10mm	Ant 0	DSI 1	133322	683	22.22	23.00	1.197	-	-	-0.16	0.236	0.282
	LTE Band 71	20M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 4	133322	683	21.87	23.00	1.297	-	-	0.12	0.173	0.224
	LTE Band 71	20M	QPSK	50	0	-	Front	10mm	Ant 1	DSI 4	133322	683	20.82	22.00	1.312	-	-	0.03	0.140	0.184
	LTE Band 71	20M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 4	133322	683	21.87	23.00	1.297	-	-	0.18	0.206	0.267
	LTE Band 71	20M	QPSK	50	0	-	Back	10mm	Ant 1	DSI 4	133322	683	20.82	22.00	1.312	-	-	0.16	0.157	0.206
	LTE Band 71	20M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 4	133322	683	21.87	23.00	1.297	-	-	-0.1	0.083	0.108
	LTE Band 71	20M	QPSK	50	0	-	Left Side	10mm	Ant 1	DSI 4	133322	683	20.82	22.00	1.312	-	-	0.07	0.057	0.075
	LTE Band 71	20M	QPSK	1	0	-	Right Side	10mm	Ant 1	DSI 4	133322	683	21.87	23.00	1.297	-	-	0.18	0.224	0.291
	LTE Band 71	20M	QPSK	50	0	-	Right Side	10mm	Ant 1	DSI 4	133322	683	20.82	22.00	1.312	-	-	-0.1	0.182	0.239
	LTE Band 71	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 4	133322	683	21.87	23.00	1.297	-	-	0.01	0.136	0.176
	LTE Band 71	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 1	DSI 4	133322	683	20.82	22.00	1.312	-	-	-0.15	0.104	0.136
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 1	23230	782	22.78	24.00	1.324	-	-	-0.06	0.284	0.376
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 0	DSI 1	23230	782	22.03	23.00	1.250	-	-	-0.14	0.238	0.298
28	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 1	23230	782	22.78	24.00	1.324	-	-	-0.01	0.296	0.392
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 0	DSI 1	23230	782	22.03	23.00	1.250	-	-	-0.19	0.248	0.310
	LTE Band 13	10M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 1	23230	782	22.78	24.00	1.324	-	-	0.01	0.195	0.258
	LTE Band 13	10M	QPSK	25	0	-	Left Side	10mm	Ant 0	DSI 1	23230	782	22.03	23.00	1.250	-	-	0.06	0.167	0.209
	LTE Band 13	10M	QPSK	1	0	-	Top Side	10mm	Ant 0	DSI 1	23230	782	22.78	24.00	1.324	-	-	0.02	0.290	0.384
	LTE Band 13	10M	QPSK	25	0	-	Top Side	10mm	Ant 0	DSI 1	23230	782	22.03	23.00	1.250	-	-	0.12	0.248	0.310
	LTE Band 13	10M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 4	23230	782	21.77	23.00	1.327	-	-	0.07	0.210	0.279
	LTE Band 13	10M	QPSK	25	0	-	Front	10mm	Ant 1	DSI 4	23230	782	20.75	22.00	1.334	-	-	-0.18	0.168	0.224
	LTE Band 13	10M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 4	23230	782	21.77	23.00	1.327	-	-	0.03	0.244	0.324
	LTE Band 13	10M	QPSK	25	0	-	Back	10mm	Ant 1	DSI 4	23230	782	20.75	22.00	1.334	-	-	-0.15	0.192	0.256
	LTE Band 13	10M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 4	23230	782	21.77	23.00	1.327	-	-	-0.15	0.002	0.003
	LTE Band 13	10M	QPSK	25	0	-	Left Side	10mm	Ant 1	DSI 4	23230	782	20.75	22.00	1.334	-	-	0.11	0.001	0.001
	LTE Band 13	10M	QPSK	1	0	-	Right Side	10mm	Ant 1	DSI 4	23230	782	21.77	23.00	1.327	-	-	-0.08	0.169	0.224
	LTE Band 13	10M	QPSK	25	0	-	Right Side	10mm	Ant 1	DSI 4	23230	782	20.75	22.00	1.334	-	-	-0.17	0.138	0.184
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 4	23230	782	21.77	23.00	1.327	-	-	-0.08	0.185	0.246
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 1	DSI 4	23230	782	20.75	22.00	1.334	-	-	-0.04	0.143	0.191
	LTE Band 17	10M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 1	23790	710	22.75	24.00	1.334	-	-	-0.12	0.263	0.351
	LTE Band 17	10M	QPSK	25	0	-	Front	10mm	Ant 0	DSI 1	23790	710	21.94	23.00	1.276	-	-	0.07	0.227	0.290
29	LTE Band 17	10M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 1	23790	710	22.75	24.00	1.334	-	-	-0.02	0.293	0.391
	LTE Band 17	10M	QPSK	25	0	-	Back	10mm	Ant 0	DSI 1	23790	710	21.94	23.00	1.276	-	-	-0.02	0.251	0.320
	LTE Band 17	10M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 1	23790	710	22.75	24.00	1.334	-	-	-0.05	0.205	0.273
	LTE Band 17	10M	QPSK	25	0	-	Left Side	10mm	Ant 0	DSI 1	23790	710	21.94	23.00	1.276	-	-	-0.13	0.170	0.217
	LTE Band 17	10M	QPSK	1	0	-	Top Side	10mm	Ant 0	DSI 1	23790	710	22.75	24.00	1.334	-	-	0.08	0.284	0.379
	LTE Band 17	10M	QPSK	25	0	-	Top Side	10mm	Ant 0	DSI 1	23790	710	21.94	23.00	1.276	-	-	0.16	0.247	0.315
	LTE Band 17	10M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 4	23790	710	21.78	23.00	1.324	-	-	0.17	0.205	0.271
	LTE Band 17	10M	QPSK	25	0	-	Front	10mm	Ant 1	DSI 4	23790	710	20.85	22.00	1.303	-	-	0.18	0.172	0.224
	LTE Band 17	10M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 4	23790	710	21.78	23.00	1.324	-	-	-0.04	0.245	0.324
	LTE Band 17	10M	QPSK	25	0	-	Back	10mm	Ant 1	DSI 4	23790	710	20.85	22.00	1.303	-	-	-0.08	0.193	0.252
	LTE Band 17	10M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 4	23790	710	21.78	23.00	1.324	-	-	-0.13	0.060	0.079
	LTE Band 17	10M	QPSK	25	0	-	Left Side	10mm	Ant 1	DSI 4	23790	710	20.85	22.00	1.303	-	-	-0.13	0.050	0.065



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	LTE Band 17	10M	QPSK	1	0	-	Right Side	10mm	Ant 1	DSI 4	23790	710	21.78	23.00	1.324	-	-	0.06	0.229	0.303
	LTE Band 17	10M	QPSK	25	0	-	Right Side	10mm	Ant 1	DSI 4	23790	710	20.85	22.00	1.303	-	-	-0.03	0.184	0.240
	LTE Band 17	10M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 4	23790	710	21.78	23.00	1.324	-	-	-0.03	0.174	0.230
	LTE Band 17	10M	QPSK	25	0	-	Bottom Side	10mm	Ant 1	DSI 4	23790	710	20.85	22.00	1.303	-	-	0.08	0.138	0.180
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 0	DSI 1	136100	680.5	23.34	24.00	1.164	-	-	-0.16	0.378	0.440
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Front	10mm	Ant 0	DSI 1	136100	680.5	23.07	24.00	1.239	-	-	0.1	0.399	0.494
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 0	DSI 1	136100	680.5	23.34	24.00	1.164	-	-	-0.04	0.397	0.462
30	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Back	10mm	Ant 0	DSI 1	136100	680.5	23.07	24.00	1.239	-	-	0.03	0.429	0.531
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 0	DSI 1	136100	680.5	23.34	24.00	1.164	-	-	-0.01	0.262	0.305
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	10mm	Ant 0	DSI 1	136100	680.5	23.07	24.00	1.239	-	-	0.01	0.309	0.383
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	10mm	Ant 0	DSI 1	136100	680.5	23.34	24.00	1.164	-	-	-0.11	0.363	0.423
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	10mm	Ant 0	DSI 1	136100	680.5	23.07	24.00	1.239	-	-	-0.06	0.397	0.492
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 1	DSI 4	136100	680.5	22.37	23.00	1.156	-	-	0.05	0.195	0.225
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Front	10mm	Ant 1	DSI 4	136100	680.5	22.07	23.00	1.239	-	-	-0.11	0.171	0.212
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 1	DSI 4	136100	680.5	22.37	23.00	1.156	-	-	-0.12	0.236	0.273
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Back	10mm	Ant 1	DSI 4	136100	680.5	22.07	23.00	1.239	-	-	0.03	0.212	0.263
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 1	DSI 4	136100	680.5	22.37	23.00	1.156	-	-	-0.16	0.128	0.148
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	10mm	Ant 1	DSI 4	136100	680.5	22.07	23.00	1.239	-	-	-0.02	0.106	0.131
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	10mm	Ant 1	DSI 4	136100	680.5	22.37	23.00	1.156	-	-	0.15	0.275	0.318
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	10mm	Ant 1	DSI 4	136100	680.5	22.07	23.00	1.239	-	-	-0.09	0.261	0.323
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	10mm	Ant 1	DSI 4	136100	680.5	22.37	23.00	1.156	-	-	0.11	0.151	0.175
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	10mm	Ant 1	DSI 4	136100	680.5	22.07	23.00	1.239	-	-	-0.05	0.133	0.165
835MHz																				
	GSM850	-	-	-	-	GPRS (2 Tx slots)	Front	10mm	Ant 0	DSI 1	189	836.4	29.70	31.00	1.349	-	-	-0.15	0.333	0.449
	GSM850	-	-	-	-	GPRS (2 Tx slots)	Back	10mm	Ant 0	DSI 1	189	836.4	29.70	31.00	1.349	-	-	0.03	0.349	0.471
	GSM850	-	-	-	-	GPRS (2 Tx slots)	Left Side	10mm	Ant 0	DSI 1	189	836.4	29.70	31.00	1.349	-	-	-0.13	0.172	0.232
31	GSM850	-	-	-	-	GPRS (2 Tx slots)	Top Side	10mm	Ant 0	DSI 1	189	836.4	29.70	31.00	1.349	-	-	-0.01	0.372	0.502
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Front	10mm	Ant 1	DSI 4	189	836.4	26.32	27.50	1.312	-	-	0.08	0.190	0.249
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	10mm	Ant 1	DSI 4	189	836.4	26.32	27.50	1.312	-	-	-0.07	0.217	0.285
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Left Side	10mm	Ant 1	DSI 4	189	836.4	26.32	27.50	1.312	-	-	0.05	0.044	0.058
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Right Side	10mm	Ant 1	DSI 4	189	836.4	26.32	27.50	1.312	-	-	-0.11	0.118	0.155
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Bottom Side	10mm	Ant 1	DSI 4	189	836.4	26.32	27.50	1.312	-	-	-0.12	0.129	0.169
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 0	DSI 1	4182	836.4	23.02	24.00	1.253	-	-	-0.15	0.305	0.382
32	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 0	DSI 1	4182	836.4	23.02	24.00	1.253	-	-	-0.02	0.330	0.414
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 0	DSI 1	4182	836.4	23.02	24.00	1.253	-	-	-0.02	0.186	0.233
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 0	DSI 1	4182	836.4	23.02	24.00	1.253	-	-	-0.09	0.323	0.405
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 1	DSI 4	4182	836.4	22.06	23.00	1.242	-	-	-0.08	0.158	0.196
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 1	DSI 4	4182	836.4	22.06	23.00	1.242	-	-	0.16	0.179	0.222
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 1	DSI 4	4182	836.4	22.06	23.00	1.242	-	-	0.05	0.043	0.053
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Right Side	10mm	Ant 1	DSI 4	4182	836.4	22.06	23.00	1.242	-	-	0.05	0.099	0.123
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Side	10mm	Ant 1	DSI 4	4182	836.4	22.06	23.00	1.242	-	-	-0.03	0.108	0.134
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 0	DSI 1	26865	831.5	23.04	24.00	1.247	-	-	0.1	0.247	0.308
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 0	DSI 1	26865	831.5	22.24	23.00	1.191	-	-	-0.09	0.220	0.262
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 0	DSI 1	26865	831.5	23.04	24.00	1.247	-	-	0.07	0.090	0.112
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 0	DSI 1	26865	831.5	22.24	23.00	1.191	-	-	-0.09	0.080	0.095
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 0	DSI 1	26865	831.5	23.04	24.00	1.247	-	-	-0.16	0.153	0.191
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 0	DSI 1	26865	831.5	22.24	23.00	1.191	-	-	-0.18	0.135	0.161
33	LTE Band 26	15M	QPSK	1	0	-	Top Side	10mm	Ant 0	DSI 1	26865	831.5	23.04	24.00	1.247	-	-	-0.02	0.274	0.342
	LTE Band 26	15M	QPSK	36	0	-	Top Side	10mm	Ant 0	DSI 1	26865	831.5	22.24	23.00	1.191	-	-	-0.07	0.246	0.293
	LTE Band 5B	10M	QPSK	1	49	-	Top Side	10mm	Ant 0	DSI 1	20476+ 20575	826.6+ 836.5	22.65	24.00	1.365	-	-	0.09	0.234	0.319
	LTE Band 26	15M	QPSK	1	0	-	Front	10mm	Ant 1	DSI 4	26865	831.5	21.64	23.00	1.368	-	-	0.02	0.187	0.256
	LTE Band 26	15M	QPSK	36	0	-	Front	10mm	Ant 1	DSI 4	26865	831.5	20.68	22.00	1.355	-	-	0.07	0.159	0.215
	LTE Band 26	15M	QPSK	1	0	-	Back	10mm	Ant 1	DSI 4	26865	831.5	21.64	23.00	1.368	-	-	0.16	0.224	0.306
	LTE Band 26	15M	QPSK	36	0	-	Back	10mm	Ant 1	DSI 4	26865	831.5	20.68	22.00	1.355	-	-	0.13	0.187	0.253
	LTE Band 26	15M	QPSK	1	0	-	Left Side	10mm	Ant 1	DSI 4	26865	831.5	21.64	23.00	1.368	-	-	-0.18	0.001	0.001
	LTE Band 26	15M	QPSK	36	0	-	Left Side	10mm	Ant 1	DSI 4	26865	831.5	20.68	22.00	1.355	-	-	0.02	0.001	0.001



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	LTE Band 26	15M	QPSK	1	0	-	Right Side	10mm	Ant 1	DSI 4	26865	831.5	21.64	23.00	1.368	-	-	0.16	0.113	0.155
	LTE Band 26	15M	QPSK	36	0	-	Right Side	10mm	Ant 1	DSI 4	26865	831.5	20.68	22.00	1.355	-	-	-0.03	0.096	0.130
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	10mm	Ant 1	DSI 4	26865	831.5	21.64	23.00	1.368	-	-	0.07	0.144	0.197
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	10mm	Ant 1	DSI 4	26865	831.5	20.68	22.00	1.355	-	-	0.01	0.118	0.160
	LTE Band 5B	10M	QPSK	1	49	-	Back	10mm	Ant 1	DSI 4	20476+ 20575	826.6+ 836.5	21.50	23.00	1.413	-	-	-0.02	0.211	0.298
	FR1 n26	20M	QPSK	1	1	-	Front	10mm	Ant 0	DSI 1	166300	831.5	22.95	24.00	1.274	-	-	-0.08	0.281	0.358
	FR1 n26	20M	QPSK	50	28	-	Front	10mm	Ant 0	DSI 1	166300	831.5	22.78	24.00	1.324	-	-	-0.1	0.334	0.442
	FR1 n26	20M	QPSK	1	1	-	Back	10mm	Ant 0	DSI 1	166300	831.5	22.95	24.00	1.274	-	-	-0.01	0.292	0.372
34	FR1 n26	20M	QPSK	50	28	-	Back	10mm	Ant 0	DSI 1	166300	831.5	22.78	24.00	1.324	-	-	0.01	0.365	0.483
	FR1 n26	20M	QPSK	1	1	-	Left Side	10mm	Ant 0	DSI 1	166300	831.5	22.95	24.00	1.274	-	-	-0.09	0.153	0.195
	FR1 n26	20M	QPSK	50	28	-	Left Side	10mm	Ant 0	DSI 1	166300	831.5	22.78	24.00	1.324	-	-	-0.06	0.194	0.257
	FR1 n26	20M	QPSK	1	1	-	Top Side	10mm	Ant 0	DSI 1	166300	831.5	22.95	24.00	1.274	-	-	-0.17	0.286	0.364
	FR1 n26	20M	QPSK	50	28	-	Top Side	10mm	Ant 0	DSI 1	166300	831.5	22.78	24.00	1.324	-	-	-0.01	0.364	0.482
	FR1 n26	20M	QPSK	1	1	-	Front	10mm	Ant 1	DSI 4	166300	831.5	22.11	23.00	1.227	-	-	-0.01	0.195	0.239
	FR1 n26	20M	QPSK	50	28	-	Front	10mm	Ant 1	DSI 4	166300	831.5	22.03	23.00	1.250	-	-	-0.06	0.219	0.274
	FR1 n26	20M	QPSK	1	1	-	Back	10mm	Ant 1	DSI 4	166300	831.5	22.11	23.00	1.227	-	-	-0.04	0.219	0.269
	FR1 n26	20M	QPSK	50	28	-	Back	10mm	Ant 1	DSI 4	166300	831.5	22.03	23.00	1.250	-	-	-0.09	0.244	0.305
	FR1 n26	20M	QPSK	1	1	-	Left Side	10mm	Ant 1	DSI 4	166300	831.5	22.11	23.00	1.227	-	-	-0.17	0.001	0.001
	FR1 n26	20M	QPSK	50	28	-	Left Side	10mm	Ant 1	DSI 4	166300	831.5	22.03	23.00	1.250	-	-	-0.1	0.001	0.001
	FR1 n26	20M	QPSK	1	1	-	Right Side	10mm	Ant 1	DSI 4	166300	831.5	22.11	23.00	1.227	-	-	0.18	0.123	0.151
	FR1 n26	20M	QPSK	50	28	-	Right Side	10mm	Ant 1	DSI 4	166300	831.5	22.03	23.00	1.250	-	-	-0.17	0.136	0.170
	FR1 n26	20M	QPSK	1	1	-	Bottom Side	10mm	Ant 1	DSI 4	166300	831.5	22.11	23.00	1.227	-	-	-0.04	0.147	0.180
	FR1 n26	20M	QPSK	50	28	-	Bottom Side	10mm	Ant 1	DSI 4	166300	831.5	22.03	23.00	1.250	-	-	-0.05	0.171	0.214
900MHz																				
35	RFID	-	-	-	-	-	Front	10mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	-0.08	0.363	0.163
	RFID	-	-	-	-	-	Back	10mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	0.08	0.220	0.099
	RFID	-	-	-	-	-	Left Side	10mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	0.01	0.113	0.051
	RFID	-	-	-	-	-	Right Side	10mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	0.03	0.041	0.018
	RFID	-	-	-	-	-	Top Side	10mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	-0.08	0.292	0.131
	RFID	-	-	-	-	-	Bottom Side	10mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	-0.08	0.000	0.000
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 2	DSI 1	1413	1732.6	22.20	23.10	1.230	-	-	-0.11	0.571	0.702
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 1	1413	1732.6	22.20	23.10	1.230	-	-	0.14	0.758	0.933
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 1	1312	1712.4	22.02	23.10	1.282	-	-	0.03	0.751	0.963
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 1	1513	1752.6	22.18	23.10	1.236	-	-	0.1	0.717	0.886
36	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 1	1413	1732.6	22.20	23.10	1.230	-	-	0.02	0.886	1.090
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 4	1413	1732.6	20.82	21.70	1.225	-	-	0.01	0.611	0.748
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 1	1312	1712.4	22.02	23.10	1.282	-	-	0.16	0.813	1.043
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 1	1513	1752.6	22.18	23.10	1.236	-	-	-0.06	0.862	1.065
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 2	DSI 1	1413	1732.6	22.20	23.10	1.230	-	-	0.02	0.216	0.266
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI 1	132322	1745	21.85	22.70	1.216	-	-	0.05	0.616	0.749
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI 1	132322	1745	21.50	22.70	1.318	-	-	-0.06	0.494	0.651
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 1	132322	1745	21.85	22.70	1.216	-	-	-0.13	0.745	0.906
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 1	132072	1720	21.64	22.70	1.276	-	-	-0.01	0.727	0.928
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 1	132572	1770	21.69	22.70	1.262	-	-	-0.11	0.720	0.909
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 1	132322	1745	21.50	22.70	1.318	-	-	0.19	0.615	0.811
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 1	132072	1720	21.42	22.70	1.343	-	-	-0.14	0.572	0.768
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 1	132572	1770	21.30	22.70	1.380	-	-	-0.18	0.574	0.792
	LTE Band 66	20M	QPSK	100	0	-	Back	10mm	Ant 2	DSI 1	132322	1745	21.46	22.70	1.330	-	-	-0.06	0.587	0.781
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	132322	1745	21.85	22.70	1.216	-	-	0.02	0.884	1.075
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	132072	1720	21.64	22.70	1.276	-	-	0.16	0.849	1.084
37	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	132572	1770	21.69	22.70	1.262	-	-	0.01	0.935	1.180
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 4	132572	1770	20.41	21.30	1.227	-	-	-0.09	0.632	0.776
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI 1	132322	1745	21.50	22.70	1.318	-	-	0.01	0.722	0.952
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI 1	132072	1720	21.42	22.70	1.343	-	-	-0.04	0.694	0.932
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI 1	132572	1770	21.30	22.70	1.380	-	-	0.13	0.725	1.001



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	LTE Band 66	20M	QPSK	100	0	-	Left Side	10mm	Ant 2	DSI 1	132322	1745	21.46	22.70	1.330	-	-	0.12	0.748	0.995
	LTE Band 66	20M	QPSK	1	0	-	Top Side	10mm	Ant 2	DSI 1	132322	1745	21.85	22.70	1.216	-	-	0.07	0.226	0.275
	LTE Band 66	20M	QPSK	50	0	-	Top Side	10mm	Ant 2	DSI 1	132322	1745	21.50	22.70	1.318	-	-	0.08	0.178	0.235
	LTE Band 66C	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	132572+ 132374	1770+ 1750.2	21.45	22.70	1.334	-	-	-0.02	0.711	0.948
	LTE Band 66_Other PA	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	132572	1770	21.69	22.70	1.262	-	-	0.02	0.815	1.028
	LTE Band 66	20M	QPSK	1	0	-	Front	10mm	Ant 5	DSI 1	132322	1745	22.89	23.80	1.233	-	-	0.02	0.566	0.698
	LTE Band 66	20M	QPSK	50	0	-	Front	10mm	Ant 5	DSI 1	132322	1745	21.90	23.00	1.288	-	-	0.12	0.458	0.590
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 1	132322	1745	22.89	23.80	1.233	-	-	0.02	0.664	0.819
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 1	132072	1720	22.72	23.80	1.282	-	-	-0.03	0.576	0.739
	LTE Band 66	20M	QPSK	1	0	-	Back	10mm	Ant 5	DSI 1	132572	1770	22.78	23.80	1.265	-	-	-0.03	0.706	0.893
	LTE Band 66	20M	QPSK	50	0	-	Back	10mm	Ant 5	DSI 1	132322	1745	21.90	23.00	1.288	-	-	-0.1	0.506	0.652
	LTE Band 66	20M	QPSK	100	0	-	Back	10mm	Ant 5	DSI 1	132322	1745	21.86	23.00	1.300	-	-	0.05	0.669	0.870
	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 5	DSI 1	132322	1745	22.89	23.80	1.233	-	-	-0.11	0.395	0.487
	LTE Band 66	20M	QPSK	50	0	-	Left Side	10mm	Ant 5	DSI 1	132322	1745	21.90	23.00	1.288	-	-	0.07	0.282	0.363
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 5	DSI 1	132322	1745	22.89	23.80	1.233	-	-	0.15	0.824	1.016
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 5	DSI 1	132072	1720	22.72	23.80	1.282	-	-	-0.05	0.805	1.032
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 5	DSI 1	132572	1770	22.78	23.80	1.265	-	-	0.01	0.860	1.088
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	10mm	Ant 5	DSI 4	132572	1770	21.36	22.40	1.271	-	-	-0.01	0.589	0.748
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 5	DSI 1	132322	1745	21.90	23.00	1.288	-	-	-0.08	0.658	0.848
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 5	DSI 1	132072	1720	21.82	23.00	1.312	-	-	-0.08	0.780	1.024
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	10mm	Ant 5	DSI 1	132572	1770	21.70	23.00	1.349	-	-	-0.13	0.694	0.936
	LTE Band 66	20M	QPSK	100	0	-	Bottom Side	10mm	Ant 5	DSI 1	132322	1745	21.86	23.00	1.300	-	-	0.01	0.679	0.883
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 2	DSI 1	349000	1745	21.51	22.50	1.256	-	-	0.03	0.563	0.707
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	10mm	Ant 2	DSI 1	349000	1745	21.47	22.50	1.268	-	-	-0.05	0.557	0.706
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 2	DSI 1	349000	1745	21.51	22.50	1.256	-	-	0.14	0.748	0.940
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	10mm	Ant 2	DSI 1	349000	1745	21.47	22.50	1.268	-	-	-0.01	0.745	0.944
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Back	10mm	Ant 2	DSI 1	349000	1745	21.23	22.50	1.340	-	-	-0.12	0.570	0.764
38	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	349000	1745	21.51	22.50	1.256	-	-	0.03	0.860	1.080
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 4	349000	1745	19.91	21.10	1.315	-	-	0.01	0.602	0.792
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	349000	1745	21.47	22.50	1.268	-	-	0.07	0.844	1.070
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	349000	1745	21.23	22.50	1.340	-	-	0.09	0.725	0.971
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	10mm	Ant 2	DSI 1	349000	1745	21.51	22.50	1.256	-	-	0.04	0.213	0.268
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	10mm	Ant 2	DSI 1	349000	1745	21.47	22.50	1.268	-	-	0.11	0.220	0.279
1900MHz																				
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	10mm	Ant 2	DSI 1	661	1880	26.76	28.00	1.330	-	-	-0.16	0.372	0.495
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	10mm	Ant 2	DSI 1	661	1880	26.76	28.00	1.330	-	-	-0.17	0.424	0.564
39	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Left Side	10mm	Ant 2	DSI 1	661	1880	26.76	28.00	1.330	-	-	0.03	0.563	0.749
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Top Side	10mm	Ant 2	DSI 1	661	1880	26.76	28.00	1.330	-	-	0.11	0.143	0.190
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	10mm	Ant 2	DSI 1	9400	1880	20.98	22.10	1.294	-	-	-0.01	0.451	0.584
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	10mm	Ant 2	DSI 1	9400	1880	20.98	22.10	1.294	-	-	-0.14	0.558	0.722
40	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 1	9400	1880	20.98	22.10	1.294	-	-	0.03	0.834	1.079
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 4	9400	1880	19.36	20.70	1.361	-	-	0.01	0.571	0.777
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 1	9262	1852.4	20.74	22.10	1.368	-	-	-0.15	0.783	1.071
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	10mm	Ant 2	DSI 1	9538	1907.6	20.87	22.10	1.327	-	-	-0.12	0.638	0.847
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Top Side	10mm	Ant 2	DSI 1	9400	1880	20.98	22.10	1.294	-	-	-0.17	0.174	0.225
	LTE Band 2	20M	QPSK	1	0	-	Front	10mm	Ant 2	DSI 1	18900	1880	20.84	21.70	1.219	-	-	-0.11	0.487	0.594
	LTE Band 2	20M	QPSK	50	0	-	Front	10mm	Ant 2	DSI 1	18900	1880	20.57	21.70	1.297	-	-	-0.01	0.399	0.518
	LTE Band 2	20M	QPSK	1	0	-	Back	10mm	Ant 2	DSI 1	18900	1880	20.84	21.70	1.219	-	-	0.09	0.619	0.755
	LTE Band 2	20M	QPSK	50	0	-	Back	10mm	Ant 2	DSI 1	18900	1880	20.57	21.70	1.297	-	-	0.1	0.510	0.662
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	18900	1880	20.84	21.70	1.219	-	-	-0.04	0.833	1.015
41	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	18700	1860	20.82	21.70	1.225	-	-	0.01	0.894	1.095
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 4	18700	1860	19.42	20.30	1.225	-	-	-0.05	0.623	0.763
	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	19100	1900	20.79	21.70	1.233	-	-	0.15	0.791	0.975
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI 1	18900	1880	20.57	21.70	1.297	-	-	0.09	0.689	0.894
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI 1	18700	1860	20.32	21.70	1.374	-	-	-0.16	0.740	1.017
	LTE Band 2	20M	QPSK	50	0	-	Left Side	10mm	Ant 2	DSI 1	19100	1900	20.34	21.70	1.368	-	-	0.05	0.653	0.893



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	LTE Band 2	20M	QPSK	100	0	-	Left Side	10mm	Ant 2	DSI 1	18900	1880	20.48	21.70	1.324	-	-	0.08	0.675	0.894
	LTE Band 2	20M	QPSK	1	0	-	Top Side	10mm	Ant 2	DSI 1	18900	1880	20.84	21.70	1.219	-	-	-0.18	0.200	0.244
	LTE Band 2	20M	QPSK	50	0	-	Top Side	10mm	Ant 2	DSI 1	18900	1880	20.57	21.70	1.297	-	-	-0.03	0.154	0.200
	LTE Band 2_Other PA	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	18700	1860	20.82	21.70	1.225	-	-	0.02	0.815	0.998
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 2	DSI 1	376000	1880	21.08	21.80	1.180	-	-	0.11	0.425	0.502
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	10mm	Ant 2	DSI 1	376000	1880	20.99	21.80	1.205	-	-	0.07	0.414	0.499
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 2	DSI 1	376000	1880	21.08	21.80	1.180	-	-	-0.03	0.525	0.620
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	10mm	Ant 2	DSI 1	376000	1880	20.99	21.80	1.205	-	-	0.09	0.518	0.624
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	376000	1880	21.08	21.80	1.180	-	-	-0.08	0.744	0.878
42	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	372000	1860	20.85	21.80	1.245	-	-	0.01	0.875	1.089
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 4	372000	1860	18.98	20.40	1.387	-	-	-0.09	0.555	0.770
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	380000	1900	20.81	21.80	1.256	-	-	-0.05	0.653	0.820
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	376000	1880	20.99	21.80	1.205	-	-	-0.03	0.707	0.852
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	372000	1860	20.79	21.80	1.262	-	-	0.17	0.758	0.956
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	380000	1900	20.84	21.80	1.247	-	-	-0.14	0.642	0.801
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Left Side	10mm	Ant 2	DSI 1	376000	1880	20.78	21.80	1.265	-	-	0.06	0.582	0.736
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	10mm	Ant 2	DSI 1	376000	1880	21.08	21.80	1.180	-	-	-0.06	0.170	0.201
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	10mm	Ant 2	DSI 1	376000	1880	20.99	21.80	1.205	-	-	-0.15	0.151	0.182
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 1	21100	2535	20.38	20.90	1.127	-	-	0.18	0.471	0.531
	LTE Band 7	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 1	21100	2535	19.96	20.90	1.242	-	-	-0.11	0.385	0.478
	LTE Band 7	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 1	21100	2535	20.38	20.90	1.127	-	-	-0.05	0.566	0.638
	LTE Band 7	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 1	21100	2535	19.96	20.90	1.242	-	-	-0.04	0.458	0.569
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	21100	2535	20.38	20.90	1.127	-	-	-0.08	0.839	0.946
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	20850	2510	20.25	20.90	1.161	-	-	0.05	0.899	1.044
43	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	21350	2560	20.15	20.90	1.189	-	-	-0.03	0.921	1.095
	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 4	21350	2560	18.86	19.50	1.159	-	-	0.07	0.629	0.729
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 1	21100	2535	19.96	20.90	1.242	-	-	-0.14	0.700	0.869
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 1	20850	2510	19.90	20.90	1.259	-	-	0.01	0.688	0.866
	LTE Band 7	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 1	21350	2560	19.89	20.90	1.262	-	-	0.18	0.718	0.906
	LTE Band 7	20M	QPSK	100	0	-	Left Side	10mm	Ant 3	DSI 1	21100	2535	19.94	20.90	1.247	-	-	0.02	0.692	0.863
	LTE Band 7	20M	QPSK	1	0	-	Top Side	10mm	Ant 3	DSI 1	21100	2535	20.38	20.90	1.127	-	-	0.16	0.391	0.441
	LTE Band 7	20M	QPSK	50	0	-	Top Side	10mm	Ant 3	DSI 1	21100	2535	19.96	20.90	1.242	-	-	0.06	0.312	0.387
	LTE Band 7C	20M	QPSK	1	99	-	Left Side	10mm	Ant 3	DSI 1	21350+ 21152	2560+ 2540.2	20.04	20.90	1.219	-	-	-0.05	0.801	0.976
	LTE Band 7_Other PA	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	21350	2560	20.15	20.90	1.189	-	-	0.01	0.826	0.982
	LTE Band 41	20M	QPSK	1	0	-	Front	10mm	Ant 3	DSI 1	40620	2593	21.43	22.20	1.194	62.9	1.006	0.15	0.360	0.432
	LTE Band 41	20M	QPSK	50	0	-	Front	10mm	Ant 3	DSI 1	40620	2593	21.25	22.20	1.245	62.9	1.006	0.14	0.284	0.356
	LTE Band 41	20M	QPSK	1	0	-	Back	10mm	Ant 3	DSI 1	40620	2593	21.43	22.20	1.194	62.9	1.006	-0.03	0.425	0.510
	LTE Band 41	20M	QPSK	50	0	-	Back	10mm	Ant 3	DSI 1	40620	2593	21.25	22.20	1.245	62.9	1.006	-0.14	0.356	0.446
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	40620	2593	21.43	22.20	1.194	62.9	1.006	0.17	0.743	0.892
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	39750	2506	21.35	22.20	1.216	62.9	1.006	0.11	0.624	0.763
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	40185	2549.5	21.09	22.20	1.291	62.9	1.006	0.07	0.661	0.859
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	41055	2636.5	21.40	22.20	1.202	62.9	1.006	-0.04	0.762	0.922
44	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	41490	2680	21.13	22.20	1.279	62.9	1.006	-0.02	0.844	1.086
	LTE Band 41	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 4	41490	2680	19.87	20.80	1.239	62.9	1.006	0.02	0.616	0.768
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 1	40620	2593	21.25	22.20	1.245	62.9	1.006	-0.18	0.612	0.766
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 1	39750	2506	21.03	22.20	1.309	62.9	1.006	-0.13	0.533	0.702
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 1	40185	2549.5	21.04	22.20	1.306	62.9	1.006	-0.13	0.558	0.733
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 1	41055	2636.5	21.05	22.20	1.303	62.9	1.006	0.08	0.630	0.826
	LTE Band 41	20M	QPSK	50	0	-	Left Side	10mm	Ant 3	DSI 1	41490	2680	20.98	22.20	1.324	62.9	1.006	-0.04	0.705	0.939
	LTE Band 41	20M	QPSK	100	0	-	Left Side	10mm	Ant 3	DSI 1	40620	2593	21.07	22.20	1.297	62.9	1.006	-0.15	0.608	0.793
	LTE Band 41	20M	QPSK	1	0	-	Top Side	10mm	Ant 3	DSI 1	40620	2593	21.43	22.20	1.194	62.9	1.006	-0.09	0.197	0.237
	LTE Band 41	20M	QPSK	50	0	-	Top Side	10mm	Ant 3	DSI 1	40620	2593	21.25	22.20	1.245	62.9	1.006	0.05	0.157	0.197
	LTE Band 41C	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	41490+ 41292	2680+ 2660.2	21.21	22.20	1.256	62.9	1.006	0.02	0.755	0.954
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	10mm	Ant 3	DSI 1	507000	2535	19.23	20.20	1.250	-	-	0.04	0.499	0.624



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	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	10mm	Ant 3	DSI 1	507000	2535	19.21	20.20	1.256	-	-	-0.05	0.468	0.588
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	10mm	Ant 3	DSI 1	507000	2535	19.23	20.20	1.250	-	-	-0.04	0.591	0.739
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	10mm	Ant 3	DSI 1	507000	2535	19.21	20.20	1.256	-	-	0.14	0.551	0.692
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 1	507000	2535	19.23	20.20	1.250	-	-	0.03	0.870	1.088
45	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 1	507000	2535	19.21	20.20	1.256	-	-	-0.01	0.872	1.095
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 4	507000	2535	17.88	18.80	1.236	-	-	0.08	0.621	0.768
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 1	507000	2535	19.02	20.20	1.312	-	-	0.16	0.757	0.993
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	10mm	Ant 3	DSI 1	507000	2535	19.23	20.20	1.250	-	-	0.01	0.436	0.545
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	10mm	Ant 3	DSI 1	507000	2535	19.21	20.20	1.256	-	-	-0.06	0.389	0.489
	FR1 n7_Other PA	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	10mm	Ant 3	DSI 1	507000	2535	19.21	20.20	1.256	-	-	0.02	0.815	1.024
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 1	518598	2592.99	19.90	21.20	1.349	-	-	-0.04	0.350	0.472
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 1	518598	2592.99	19.86	21.20	1.361	-	-	0.12	0.326	0.444
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 1	518598	2592.99	19.90	21.20	1.349	-	-	0.09	0.429	0.579
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 1	518598	2592.99	19.86	21.20	1.361	-	-	-0.02	0.422	0.575
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	518598	2592.99	19.90	21.20	1.349	-	-	-0.16	0.780	1.052
46	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	518598	2592.99	19.86	21.20	1.361	-	-	-0.04	0.793	1.080
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 4	518598	2592.99	18.33	19.80	1.403	-	-	0.01	0.564	0.791
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	518598	2592.99	19.82	21.20	1.374	-	-	-0.03	0.621	0.853
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 1	518598	2592.99	19.90	21.20	1.349	-	-	-0.06	0.283	0.382
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 1	518598	2592.99	19.86	21.20	1.361	-	-	0.08	0.198	0.270
	FR1 n38 Other PA	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	519000	2595	19.64	21.20	1.432	-	-	-0.08	0.701	1.004
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 1	518598	2592.99	22.59	24.00	1.384	-	-	-0.1	0.322	0.446
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 0	DSI 1	518598	2592.99	22.42	24.00	1.439	-	-	0.17	0.345	0.496
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 1	518598	2592.99	22.59	24.00	1.384	-	-	-0.15	0.452	0.625
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 0	DSI 1	518598	2592.99	22.42	24.00	1.439	-	-	-0.16	0.475	0.683
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 0	DSI 1	518598	2592.99	22.59	24.00	1.384	-	-	0.18	0.063	0.087
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 0	DSI 1	518598	2592.99	22.42	24.00	1.439	-	-	0.05	0.146	0.210
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 0	DSI 1	518598	2592.99	22.59	24.00	1.384	-	-	0.04	0.063	0.087
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 0	DSI 1	518598	2592.99	22.42	24.00	1.439	-	-	0.15	0.067	0.096
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI 1	518598	2592.99	21.23	22.00	1.194	-	-	-0.1	0.417	0.498
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 5	DSI 1	518598	2592.99	21.02	22.00	1.253	-	-	0.14	0.339	0.425
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 1	518598	2592.99	21.23	22.00	1.194	-	-	-0.16	0.545	0.651
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 5	DSI 1	518598	2592.99	21.02	22.00	1.253	-	-	-0.02	0.521	0.653
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 5	DSI 1	518598	2592.99	21.23	22.00	1.194	-	-	0.1	0.092	0.110
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 5	DSI 1	518598	2592.99	21.02	22.00	1.253	-	-	-0.1	0.079	0.099
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 5	DSI 1	518598	2592.99	21.23	22.00	1.194	-	-	0.09	0.896	1.070
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 5	DSI 4	518598	2592.99	19.98	20.70	1.180	-	-	0.01	0.645	0.761
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 5	DSI 1	518598	2592.99	21.02	22.00	1.253	-	-	-0.05	0.825	1.034
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	10mm	Ant 5	DSI 1	518598	2592.99	19.59	21.00	1.384	-	-	-0.04	0.619	0.856
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 1	518598	2592.99	20.81	21.70	1.227	-	-	-0.11	0.319	0.392
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 1	518598	2592.99	20.60	21.70	1.288	-	-	-0.16	0.258	0.332
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 1	518598	2592.99	20.81	21.70	1.227	-	-	0.15	0.490	0.601
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 1	518598	2592.99	20.60	21.70	1.288	-	-	-0.15	0.375	0.483
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	518598	2592.99	20.81	21.70	1.227	-	-	0.03	0.873	1.072
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 4	518598	2592.99	19.52	20.30	1.197	-	-	-0.02	0.633	0.758
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	518598	2592.99	20.60	21.70	1.288	-	-	0.06	0.702	0.904
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	518598	2592.99	19.59	21.70	1.626	-	-	0.15	0.586	0.953
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 1	518598	2592.99	20.81	21.70	1.227	-	-	-0.1	0.156	0.191
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 1	518598	2592.99	20.60	21.70	1.288	-	-	0.17	0.209	0.269
3500MHz																				
47	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 1	42590	3500	22.64	24.00	1.368	62.9	1.006	-0.13	0.602	0.828
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 1	42190	3460	22.54	24.00	1.400	62.9	1.006	0.01	0.402	0.566
	LTE Band 42	20M	QPSK	1	0	-	Front	10mm	Ant 4	DSI 1	42990	3540	22.59	24.00	1.384	62.9	1.006	0.1	0.507	0.706
	LTE Band 42	20M	QPSK	50	0	-	Front	10mm	Ant 4	DSI 1	42590	3500	21.84	23.00	1.306	62.9	1.006	0.13	0.489	0.643
	LTE Band 42	20M	QPSK	100	0	-	Front	10mm	Ant 4	DSI 1	42590	3500	21.76	23.00	1.330	62.9	1.006	-0.04	0.412	0.551
	LTE Band 42	20M	QPSK	1	0	-	Back	10mm	Ant 4	DSI 1	42590	3500	22.64	24.00	1.368	62.9	1.006	-0.12	0.501	0.689



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	LTE Band 42	20M	QPSK	50	0	-	Back	10mm	Ant 4	DSI 1	42590	3500	21.84	23.00	1.306	62.9	1.006	-0.07	0.424	0.557
	LTE Band 42	20M	QPSK	1	0	-	Right Side	10mm	Ant 4	DSI 1	42590	3500	22.64	24.00	1.368	62.9	1.006	-0.03	0.246	0.338
	LTE Band 42	20M	QPSK	50	0	-	Right Side	10mm	Ant 4	DSI 1	42590	3500	21.84	23.00	1.306	62.9	1.006	-0.13	0.189	0.248
	LTE Band 42	20M	QPSK	1	0	-	Top Side	10mm	Ant 4	DSI 1	42590	3500	22.64	24.00	1.368	62.9	1.006	0.05	0.114	0.157
	LTE Band 42	20M	QPSK	50	0	-	Top Side	10mm	Ant 4	DSI 1	42590	3500	21.84	23.00	1.306	62.9	1.006	-0.15	0.092	0.121
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 1	656000	3840	21.63	23.00	1.371	-	-	0.06	0.781	1.071
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	656000	3840	20.23	21.60	1.371	-	-	-0.01	0.567	0.777
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 1	656000	3840	21.43	23.00	1.435	-	-	0.07	0.609	0.874
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 1	656000	3840	21.38	23.00	1.452	-	-	0.05	0.466	0.677
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 1	656000	3840	21.63	23.00	1.371	-	-	-0.12	0.578	0.792
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 1	656000	3840	21.43	23.00	1.435	-	-	0.19	0.397	0.570
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 1	656000	3840	21.63	23.00	1.371	-	-	-0.01	0.343	0.470
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 1	656000	3840	21.43	23.00	1.435	-	-	-0.19	0.305	0.438
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 1	656000	3840	21.63	23.00	1.371	-	-	-0.03	0.049	0.067
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 1	656000	3840	21.43	23.00	1.435	-	-	-0.08	0.040	0.057
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 1	633334	3500.01	21.55	23.00	1.396	-	-	-0.13	0.599	0.836
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 1	633334	3500.01	21.36	23.00	1.459	-	-	0.01	0.663	0.967
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 4	633334	3500.01	20.19	21.60	1.384	-	-	-0.09	0.541	0.749
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Front	10mm	Ant 2	DSI 1	633334	3500.01	21.31	23.00	1.476	-	-	-0.05	0.563	0.831
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 1	633334	3500.01	21.55	23.00	1.396	-	-	-0.12	0.602	0.841
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 1	633334	3500.01	21.36	23.00	1.459	-	-	0.18	0.635	0.926
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 2	DSI 1	633334	3500.01	21.31	23.00	1.476	-	-	0.14	0.527	0.778
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 1	633334	3500.01	21.55	23.00	1.396	-	-	0.03	0.607	0.848
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 1	633334	3500.01	21.36	23.00	1.459	-	-	0.09	0.564	0.823
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 2	DSI 1	633334	3500.01	21.31	23.00	1.476	-	-	-0.13	0.558	0.823
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 1	633334	3500.01	21.55	23.00	1.396	-	-	-0.09	0.039	0.054
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 2	DSI 1	633334	3500.01	21.36	23.00	1.459	-	-	-0.18	0.042	0.061
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 1	656000	3840	19.38	20.60	1.324	-	-	0.11	0.307	0.407
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 1	656000	3840	19.34	20.60	1.337	-	-	0.11	0.203	0.271
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 1	656000	3840	19.38	20.60	1.324	-	-	-0.06	0.647	0.857
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 1	656000	3840	19.34	20.60	1.337	-	-	-0.02	0.619	0.827
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 1	656000	3840	19.30	20.60	1.349	-	-	0.02	0.511	0.689
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	656000	3840	19.38	20.60	1.324	-	-	-0.09	0.815	1.079
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 4	656000	3840	18.00	19.20	1.318	-	-	-0.01	0.592	0.780
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	656000	3840	19.34	20.60	1.337	-	-	0.12	0.516	0.690
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	656000	3840	19.30	20.60	1.349	-	-	0.02	0.495	0.668
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 1	656000	3840	19.38	20.60	1.324	-	-	-0.11	0.094	0.124
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 1	656000	3840	19.34	20.60	1.337	-	-	-0.11	0.092	0.123
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 1	633334	3500.01	19.22	20.60	1.374	-	-	0.03	0.288	0.396
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 3	DSI 1	633334	3500.01	19.18	20.60	1.387	-	-	-0.17	0.263	0.365
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 1	633334	3500.01	19.22	20.60	1.374	-	-	0.02	0.476	0.654
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 3	DSI 1	633334	3500.01	19.18	20.60	1.387	-	-	-0.11	0.421	0.584
48	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	633334	3500.01	19.22	20.60	1.374	-	-	0.02	0.799	1.098
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 4	633334	3500.01	17.98	19.20	1.324	-	-	-0.02	0.595	0.788
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	633334	3500.01	19.18	20.60	1.387	-	-	0.18	0.750	1.040
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 3	DSI 1	633334	3500.01	19.14	20.60	1.400	-	-	0.16	0.559	0.782
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 1	633334	3500.01	19.22	20.60	1.374	-	-	0.19	0.104	0.143
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 3	DSI 1	633334	3500.01	19.18	20.60	1.387	-	-	0.13	0.091	0.126
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 1	656000	3840	22.10	23.20	1.288	-	-	-0.05	0.845	1.089
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 4	656000	3840	21.15	21.80	1.161	-	-	-0.09	0.632	0.734
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 1	656000	3840	21.86	23.20	1.361	-	-	-0.09	0.750	1.021
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 1	656000	3840	21.37	23.20	1.524	-	-	-0.12	0.709	1.081
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 1	656000	3840	22.10	23.20	1.288	-	-	0.07	0.840	1.082
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 1	656000	3840	21.86	23.20	1.361	-	-	-0.18	0.737	1.003
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 1	656000	3840	21.37	23.20	1.524	-	-	-0.06	0.617	0.940
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Right Side	10mm	Ant 4	DSI 1	656000	3840	22.10	23.20	1.288	-	-	0.07	0.381	0.491



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	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Right Side	10mm	Ant 4	DSI 1	656000	3840	21.86	23.20	1.361	-	-	-0.15	0.392	0.534
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 1	656000	3840	22.10	23.20	1.288	-	-	-0.15	0.128	0.165
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 1	656000	3840	21.86	23.20	1.361	-	-	-0.08	0.113	0.154
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 1	633334	3500.01	21.97	23.20	1.327	-	-	-0.07	0.417	0.554
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 4	DSI 1	633334	3500.01	21.79	23.20	1.384	-	-	0.05	0.577	0.798
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 1	633334	3500.01	21.97	23.20	1.327	-	-	-0.05	0.369	0.490
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 4	DSI 1	633334	3500.01	21.79	23.20	1.384	-	-	-0.04	0.574	0.794
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 1	633334	3500.01	21.97	23.20	1.327	-	-	0.13	0.157	0.208
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 4	DSI 1	633334	3500.01	21.79	23.20	1.384	-	-	-0.03	0.236	0.327
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 1	633334	3500.01	21.97	23.20	1.327	-	-	0.09	0.088	0.117
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Top Side	10mm	Ant 4	DSI 1	633334	3500.01	21.79	23.20	1.384	-	-	0.06	0.134	0.185
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 1	656000	3840	19.51	20.70	1.315	-	-	0.17	0.381	0.501
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 1	656000	3840	19.45	20.70	1.334	-	-	0.06	0.245	0.327
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 1	656000	3840	19.51	20.70	1.315	-	-	0.01	0.496	0.652
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 1	656000	3840	19.45	20.70	1.334	-	-	-0.11	0.394	0.525
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	656000	3840	19.51	20.70	1.315	-	-	0.01	0.822	1.081
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 4	656000	3840	17.95	19.30	1.365	-	-	-0.09	0.581	0.793
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	656000	3840	19.45	20.70	1.334	-	-	0.03	0.600	0.800
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	656000	3840	18.78	20.70	1.556	-	-	0.09	0.568	0.884
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 1	656000	3840	19.51	20.70	1.315	-	-	-0.02	0.177	0.233
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 1	656000	3840	19.45	20.70	1.334	-	-	0.15	0.138	0.184
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 1	633334	3500.01	19.54	20.70	1.306	-	-	-0.08	0.258	0.337
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	10mm	Ant 6	DSI 1	633334	3500.01	19.36	20.70	1.361	-	-	-0.05	0.318	0.433
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 1	633334	3500.01	19.54	20.70	1.306	-	-	-0.18	0.369	0.482
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	10mm	Ant 6	DSI 1	633334	3500.01	19.36	20.70	1.361	-	-	-0.08	0.403	0.549
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	633334	3500.01	19.54	20.70	1.306	-	-	0.18	0.663	0.866
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	633334	3500.01	19.36	20.70	1.361	-	-	0.01	0.761	1.036
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 4	633334	3500.01	17.73	19.30	1.435	-	-	-0.06	0.532	0.764
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	10mm	Ant 6	DSI 1	633334	3500.01	19.32	20.70	1.374	-	-	0.05	0.722	0.992
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 1	633334	3500.01	19.54	20.70	1.306	-	-	0.1	0.189	0.247
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	10mm	Ant 6	DSI 1	633334	3500.01	19.36	20.70	1.361	-	-	0.03	0.207	0.282



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 7+9(9)	Standalone Non DBS	11	2462	18.44	20.00	1.432	98.35	1.017	0.06	0.277	0.403
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 7+9(9)	Standalone Non DBS	11	2462	18.44	20.00	1.432	98.35	1.017	-0.09	0.357	0.520
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 7+9(9)	Standalone Non DBS	11	2462	18.44	20.00	1.432	98.35	1.017	-0.08	0.109	0.159
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 7+9(9)	Standalone Non DBS	11	2462	18.44	20.00	1.432	98.35	1.017	0.13	0.449	0.654
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 7+9(9)	Standalone Non DBS	11	2462	18.44	20.00	1.432	98.35	1.017	0.12	0.608	0.886
49	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 7+9(9)	Standalone Non DBS	1	2412	18.25	20.00	1.496	98.35	1.017	-0.03	0.752	1.144
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 7+9(9)	Standalone DBS only	1	2412	15.28	17.00	1.486	98.35	1.017	0.08	0.369	0.558
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 7+9(7)	Simultaneous Non DBS	1	2412	13.31	15.00	1.476	98.35	1.017	0.01	0.250	0.375
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant 7+9(9)	Simultaneous DBS	1	2412	11.28	13.00	1.486	98.35	1.017	0.03	0.119	0.180
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant 9	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	0.03	0.380	0.586
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant 9	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	0.18	0.449	0.693
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant 9	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	0.16	0.000	0.000
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 9	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	0.01	0.518	0.799
	WLAN2.4GHz	802.11b 1Mbps	Bottom Side	10mm	Ant 9	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	-0.1	0.063	0.097
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 9	Simultaneous Non DBS	11	2462	17.13	18.50	1.371	98.35	1.017	0.17	0.266	0.371
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant 9	Simultaneous DBS	11	2462	14.29	15.50	1.321	98.35	1.017	-0.05	0.125	0.168
	Bluetooth	1Mbps	Front	10mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	0.07	0.001	0.002
	Bluetooth	1Mbps	Back	10mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	0.18	0.015	0.024
	Bluetooth	1Mbps	Left Side	10mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	-0.1	0.001	0.002
	Bluetooth	1Mbps	Right Side	10mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	0.01	0.001	0.002
50	Bluetooth	1Mbps	Top Side	10mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.083	-0.15	0.021	0.034
5000MHz																
	WLAN5.2GHz	802.11a 6Mbps	Front	10mm	Ant 8+10(8)	Standalone Non DBS	36	5180	18.47	20.00	1.422	99.32	1.007	0.19	0.526	0.753
	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 8+10(8)	Standalone Non DBS	36	5180	18.47	20.00	1.422	99.32	1.007	-0.18	0.627	0.898
51	WLAN5.2GHz	802.11a 6Mbps	Back	10mm	Ant 8+10(8)	Standalone Non DBS	48	5240	18.41	20.00	1.442	99.32	1.007	-0.05	0.728	1.057
	WLAN5.2GHz	802.11a 6Mbps	Left Side	10mm	Ant 8+10(8)	Standalone Non DBS	36	5180	18.47	20.00	1.422	99.32	1.007	0.03	0.168	0.241
	WLAN5.2GHz	802.11a 6Mbps	Right Side	10mm	Ant 8+10(8)	Standalone Non DBS	36	5180	18.47	20.00	1.422	99.32	1.007	-0.15	0.495	0.709
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 8+10(8)	Standalone Non DBS	36	5180	18.47	20.00	1.422	99.32	1.007	-0.15	0.602	0.862
	WLAN5.2GHz	802.11a 6Mbps	Top Side	10mm	Ant 8+10(8)	Standalone Non DBS	48	5240	18.41	20.00	1.442	99.32	1.007	0.11	0.640	0.929
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 8+10(10)	DBS only	42	5210	14.51	16.00	1.409	100	1.000	0.18	0.376	0.530
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 8+10(8)	Simultaneous Non DBS	42	5210	13.48	15.00	1.419	100	1.000	0.14	0.267	0.379
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 8+10(10)	Simultaneous DBS	42	5210	9.97	11.50	1.422	100	1.000	-0.17	0.136	0.193
	WLAN5.8GHz	802.11a 6Mbps	Front	10mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	0.18	0.376	0.554
	WLAN5.8GHz	802.11a 6Mbps	Back	10mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	-0.04	0.727	1.071
52	WLAN5.8GHz	802.11a 6Mbps	Back	10mm	Ant 8+10(8)	Standalone Non DBS	165	5825	18.94	20.50	1.432	99.32	1.007	-0.06	0.754	1.088
	WLAN5.8GHz	802.11a 6Mbps	Left Side	10mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	-0.08	0.131	0.193
	WLAN5.8GHz	802.11a 6Mbps	Right Side	10mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	-0.13	0.430	0.633
	WLAN5.8GHz	802.11a 6Mbps	Top Side	10mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	-0.13	0.505	0.744
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 8+10(10)	Standalone DBS only	155	5775	14.33	16.00	1.469	100	1.000	-0.08	0.371	0.545
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 8+10(8)	Simultaneous Non DBS	155	5775	12.14	13.50	1.368	100	1.000	0.02	0.278	0.380
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant 8+10(8)	Simultaneous DBS	155	5775	10.64	12.00	1.368	100	1.000	0.01	0.136	0.186



15.3 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)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																				
	LTE Band 71	20M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 0	133322	683	22.98	24.00	1.265	-	-	0.08	0.146	0.185
	LTE Band 71	20M	QPSK	50	0	-	Front	15mm	Ant 0	DSI 0	133322	683	22.22	23.00	1.197	-	-	0.01	0.126	0.151
53	LTE Band 71	20M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 0	133322	683	22.98	24.00	1.265	-	-	-0.05	0.167	0.211
	LTE Band 71	20M	QPSK	50	0	-	Back	15mm	Ant 0	DSI 0	133322	683	22.22	23.00	1.197	-	-	0.03	0.146	0.175
	LTE Band 71	20M	QPSK	1	0	-	Front	15mm	Ant 1	DSI 5	133322	683	21.87	23.00	1.297	-	-	0.08	0.135	0.175
	LTE Band 71	20M	QPSK	50	0	-	Front	15mm	Ant 1	DSI 5	133322	683	20.82	22.00	1.312	-	-	0.01	0.103	0.135
	LTE Band 71	20M	QPSK	1	0	-	Back	15mm	Ant 1	DSI 5	133322	683	21.87	23.00	1.297	-	-	0.03	0.143	0.185
	LTE Band 71	20M	QPSK	50	0	-	Back	15mm	Ant 1	DSI 5	133322	683	20.82	22.00	1.312	-	-	-0.08	0.109	0.143
	LTE Band 13	10M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 0	23230	782	22.78	24.00	1.324	-	-	-0.08	0.143	0.189
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant 0	DSI 0	23230	782	22.03	23.00	1.250	-	-	0.1	0.122	0.153
54	LTE Band 13	10M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 0	23230	782	22.78	24.00	1.324	-	-	-0.17	0.157	0.208
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant 0	DSI 0	23230	782	22.03	23.00	1.250	-	-	-0.18	0.133	0.166
	LTE Band 13	10M	QPSK	1	0	-	Front	15mm	Ant 1	DSI 5	23230	782	21.77	23.00	1.327	-	-	0.1	0.140	0.186
	LTE Band 13	10M	QPSK	25	0	-	Front	15mm	Ant 1	DSI 5	23230	782	20.75	22.00	1.334	-	-	-0.18	0.105	0.140
	LTE Band 13	10M	QPSK	1	0	-	Back	15mm	Ant 1	DSI 5	23230	782	21.77	23.00	1.327	-	-	0.1	0.151	0.200
	LTE Band 13	10M	QPSK	25	0	-	Back	15mm	Ant 1	DSI 5	23230	782	20.75	22.00	1.334	-	-	0.12	0.123	0.164
	LTE Band 17	10M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 0	23790	710	22.75	24.00	1.334	-	-	0.12	0.136	0.181
	LTE Band 17	10M	QPSK	25	0	-	Front	15mm	Ant 0	DSI 0	23790	710	21.94	23.00	1.276	-	-	0.08	0.113	0.144
55	LTE Band 17	10M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 0	23790	710	22.75	24.00	1.334	-	-	-0.16	0.146	0.195
	LTE Band 17	10M	QPSK	25	0	-	Back	15mm	Ant 0	DSI 0	23790	710	21.94	23.00	1.276	-	-	-0.17	0.126	0.161
	LTE Band 17	10M	QPSK	1	0	-	Front	15mm	Ant 1	DSI 5	23790	710	21.78	23.00	1.324	-	-	-0.17	0.137	0.181
	LTE Band 17	10M	QPSK	25	0	-	Front	15mm	Ant 1	DSI 5	23790	710	20.85	22.00	1.303	-	-	-0.03	0.108	0.141
	LTE Band 17	10M	QPSK	1	0	-	Back	15mm	Ant 1	DSI 5	23790	710	21.78	23.00	1.324	-	-	0.14	0.146	0.193
	LTE Band 17	10M	QPSK	25	0	-	Back	15mm	Ant 1	DSI 5	23790	710	20.85	22.00	1.303	-	-	0.11	0.126	0.164
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 0	DSI 0	136100	680.5	23.34	24.00	1.164	-	-	0.14	0.202	0.235
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Front	15mm	Ant 0	DSI 0	136100	680.5	23.07	24.00	1.239	-	-	0.11	0.225	0.279
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 0	DSI 0	136100	680.5	23.34	24.00	1.164	-	-	-0.05	0.225	0.262
56	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Back	15mm	Ant 0	DSI 0	136100	680.5	23.07	24.00	1.239	-	-	-0.07	0.259	0.321
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 1	DSI 5	136100	680.5	22.37	23.00	1.156	-	-	0.18	0.188	0.217
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Front	15mm	Ant 1	DSI 5	136100	680.5	22.07	23.00	1.239	-	-	0.14	0.166	0.206
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 1	DSI 5	136100	680.5	22.37	23.00	1.156	-	-	-0.17	0.191	0.221
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Back	15mm	Ant 1	DSI 5	136100	680.5	22.07	23.00	1.239	-	-	0.17	0.174	0.216
835MHz																				
	GSM850	-	-	-	-	GPRS (2 Tx slots)	Front	15mm	Ant 0	DSI 0	189	836.4	29.70	31.00	1.349	-	-	0.18	0.179	0.241
57	GSM850	-	-	-	-	GPRS (2 Tx slots)	Back	15mm	Ant 0	DSI 0	189	836.4	29.70	31.00	1.349	-	-	-0.07	0.200	0.270
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Front	15mm	Ant 1	DSI 5	189	836.4	26.32	27.50	1.312	-	-	0.03	0.174	0.228
	GSM850	-	-	-	-	GPRS (3 Tx slots)	Back	15mm	Ant 1	DSI 5	189	836.4	26.32	27.50	1.312	-	-	-0.16	0.189	0.248
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 0	DSI 0	4182	836.4	23.02	24.00	1.253	-	-	-0.17	0.193	0.242
58	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 0	DSI 0	4182	836.4	23.02	24.00	1.253	-	-	-0.03	0.215	0.269
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 1	DSI 5	4182	836.4	22.06	23.00	1.242	-	-	-0.05	0.098	0.122
	WCDMA V	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 1	DSI 5	4182	836.4	22.06	23.00	1.242	-	-	0.01	0.110	0.137
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant 0	DSI 0	26865	831.5	23.04	24.00	1.247	-	-	-0.05	0.118	0.147
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 0	DSI 0	26865	831.5	22.24	23.00	1.191	-	-	-0.05	0.100	0.119
59	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant 0	DSI 0	26865	831.5	23.04	24.00	1.247	-	-	0.01	0.171	0.213
	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 0	DSI 0	26865	831.5	22.24	23.00	1.191	-	-	0.1	0.134	0.160
	LTE Band 5B	10M	QPSK	1	49	-	Back	15mm	Ant 0	DSI 0	20476+20575	826.6+836.5	22.65	24.00	1.365	-	-	-0.08	0.151	0.206
	LTE Band 26	15M	QPSK	1	0	-	Front	15mm	Ant 1	DSI 5	26865	831.5	21.64	23.00	1.368	-	-	-0.17	0.117	0.160
	LTE Band 26	15M	QPSK	36	0	-	Front	15mm	Ant 1	DSI 5	26865	831.5	20.68	22.00	1.355	-	-	0.04	0.100	0.136
	LTE Band 26	15M	QPSK	1	0	-	Back	15mm	Ant 1	DSI 5	26865	831.5	21.64	23.00	1.368	-	-	-0.01	0.134	0.183



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	LTE Band 26	15M	QPSK	36	0	-	Back	15mm	Ant 1	DSI 5	26865	831.5	20.68	22.00	1.355	-	-	-0.08	0.115	0.156
	LTE Band 5B	10M	QPSK	1	49	-	Back	15mm	Ant 1	DSI 5	20476+ 20575	826.6+ 836.5	21.50	23.00	1.413	-	-	0.05	0.111	0.157
	FR1 n26	20M	QPSK	1	1	-	Front	15mm	Ant 0	DSI 0	166300	831.5	22.95	24.00	1.274	-	-	0.04	0.120	0.153
	FR1 n26	20M	QPSK	50	28	-	Front	15mm	Ant 0	DSI 0	166300	831.5	22.78	24.00	1.324	-	-	-0.01	0.164	0.217
	FR1 n26	20M	QPSK	1	1	-	Back	15mm	Ant 0	DSI 0	166300	831.5	22.95	24.00	1.274	-	-	-0.08	0.134	0.171
60	FR1 n26	20M	QPSK	50	28	-	Back	15mm	Ant 0	DSI 0	166300	831.5	22.78	24.00	1.324	-	-	-0.03	0.172	0.228
	FR1 n26	20M	QPSK	1	1	-	Front	15mm	Ant 1	DSI 5	166300	831.5	22.11	23.00	1.227	-	-	0.06	0.121	0.149
	FR1 n26	20M	QPSK	50	28	-	Front	15mm	Ant 1	DSI 5	166300	831.5	22.03	23.00	1.250	-	-	-0.09	0.130	0.163
	FR1 n26	20M	QPSK	1	1	-	Back	15mm	Ant 1	DSI 5	166300	831.5	22.11	23.00	1.227	-	-	-0.08	0.136	0.167
	FR1 n26	20M	QPSK	50	28	-	Back	15mm	Ant 1	DSI 5	166300	831.5	22.03	23.00	1.250	-	-	0.13	0.157	0.196
835MHz																				
61	RFID	-	-	-	-	-	Front	15mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	-0.05	0.233	0.104
	RFID	-	-	-	-	-	Back	15mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	0.18	0.164	0.073
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 2	DSI 0	1413	1732.6	22.79	24.00	1.321	-	-	0.05	0.387	0.511
62	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 2	DSI 0	1413	1732.6	22.79	24.00	1.321	-	-	0.01	0.508	0.671
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 2	DSI 0	132322	1745	22.85	24.00	1.303	-	-	-0.09	0.362	0.472
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 2	DSI 0	132322	1745	21.90	23.00	1.288	-	-	-0.08	0.289	0.372
63	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI 0	132322	1745	22.85	24.00	1.303	-	-	0.01	0.452	0.589
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 2	DSI 0	132322	1745	21.90	23.00	1.288	-	-	0.13	0.365	0.470
	LTE Band 66C	20M	QPSK	1	99	-	Back	15mm	Ant 2	DSI 0	132322+ 132520	1745+ 1764.8	22.66	24.00	1.361	-	-	-0.09	0.411	0.560
	LTE Band 66_Other PA	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI 0	132322	1745	22.85	24.00	1.303	-	-	0.05	0.413	0.538
	LTE Band 66	20M	QPSK	1	0	-	Front	15mm	Ant 5	DSI 0	132322	1745	22.89	24.00	1.291	-	-	0.03	0.343	0.443
	LTE Band 66	20M	QPSK	50	0	-	Front	15mm	Ant 5	DSI 0	132322	1745	21.90	23.00	1.288	-	-	0.18	0.262	0.338
	LTE Band 66	20M	QPSK	1	0	-	Back	15mm	Ant 5	DSI 0	132322	1745	22.89	24.00	1.291	-	-	-0.07	0.396	0.511
	LTE Band 66	20M	QPSK	50	0	-	Back	15mm	Ant 5	DSI 0	132322	1745	21.90	23.00	1.288	-	-	0.16	0.307	0.395
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 2	DSI 0	349000	1745	22.81	24.00	1.315	-	-	0.07	0.381	0.501
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	15mm	Ant 2	DSI 0	349000	1745	22.77	24.00	1.327	-	-	0.18	0.297	0.394
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 2	DSI 0	349000	1745	22.81	24.00	1.315	-	-	-0.1	0.450	0.592
64	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	15mm	Ant 2	DSI 0	349000	1745	22.77	24.00	1.327	-	-	-0.05	0.459	0.609
1900MHz																				
	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Front	15mm	Ant 2	DSI 0	661	1880	26.76	28.00	1.330	-	-	0.01	0.150	0.200
65	GSM1900	-	-	-	-	GPRS (2 Tx slots)	Back	15mm	Ant 2	DSI 0	661	1880	26.76	28.00	1.330	-	-	0.01	0.187	0.249
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Front	15mm	Ant 2	DSI 0	9400	1880	22.46	24.00	1.426	-	-	0.19	0.313	0.446
66	WCDMA II	-	-	-	-	RMC 12.2Kbps	Back	15mm	Ant 2	DSI 0	9400	1880	22.46	24.00	1.426	-	-	-0.03	0.404	0.576
	LTE Band 2	20M	QPSK	1	0	-	Front	15mm	Ant 2	DSI 0	18900	1880	22.84	24.00	1.306	-	-	-0.18	0.300	0.392
	LTE Band 2	20M	QPSK	50	0	-	Front	15mm	Ant 2	DSI 0	18900	1880	22.04	23.00	1.247	-	-	0.03	0.243	0.303
67	LTE Band 2	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI 0	18900	1880	22.84	24.00	1.306	-	-	-0.02	0.404	0.528
	LTE Band 2	20M	QPSK	50	0	-	Back	15mm	Ant 2	DSI 0	18900	1880	22.04	23.00	1.247	-	-	-0.15	0.336	0.419
	LTE Band 2_Other PA	20M	QPSK	1	0	-	Back	15mm	Ant 2	DSI 0	18900	1880	22.84	24.00	1.306	-	-	0.03	0.301	0.393
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 2	DSI 0	376000	1880	22.80	23.70	1.230	-	-	0.11	0.337	0.415
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	15mm	Ant 2	DSI 0	376000	1880	22.65	23.70	1.274	-	-	-0.08	0.342	0.436
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 2	DSI 0	376000	1880	22.80	23.70	1.230	-	-	-0.05	0.431	0.530
68	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	15mm	Ant 2	DSI 0	376000	1880	22.65	23.70	1.274	-	-	-0.17	0.421	0.536
2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 0	21100	2535	21.12	22.40	1.343	-	-	-0.08	0.328	0.440
	LTE Band 7	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 0	21100	2535	20.70	22.40	1.479	-	-	-0.04	0.267	0.395
69	LTE Band 7	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 0	21100	2535	21.12	22.40	1.343	-	-	-0.05	0.422	0.567
	LTE Band 7	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 0	21100	2535	20.70	22.40	1.479	-	-	-0.08	0.315	0.466
	LTE Band 7C	20M	QPSK	1	99	-	Back	15mm	Ant 3	DSI 0	21100+ 21298	2535+ 2554.8	20.92	22.40	1.406	-	-	0.04	0.394	0.554
	LTE Band 7_Other PA	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 0	21100	2535	21.12	22.40	1.343	-	-	0.02	0.401	0.538
	LTE Band 41	20M	QPSK	1	0	-	Front	15mm	Ant 3	DSI 0	40620	2593	22.06	23.60	1.426	62.9	1.006	0.18	0.269	0.386
	LTE Band 41	20M	QPSK	50	0	-	Front	15mm	Ant 3	DSI 0	40620	2593	21.35	23.00	1.462	62.9	1.006	-0.04	0.219	0.322
70	LTE Band 41	20M	QPSK	1	0	-	Back	15mm	Ant 3	DSI 0	40620	2593	22.06	23.60	1.426	62.9	1.006	-0.01	0.349	0.501



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	LTE Band 41	20M	QPSK	50	0	-	Back	15mm	Ant 3	DSI 0	40620	2593	21.35	23.00	1.462	62.9	1.006	-0.08	0.294	0.432
	LTE Band 41C	20M	QPSK	1	99	-	Back	15mm	Ant 3	DSI 0	40620+40818	2593+2612.8	21.94	23.60	1.466	62.9	1.006	0.09	0.311	0.459
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	15mm	Ant 3	DSI 0	507000	2535	20.55	21.50	1.245	-	-	-0.13	0.691	0.860
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	15mm	Ant 3	DSI 0	507000	2535	20.50	21.50	1.259	-	-	0.06	0.605	0.762
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Front	15mm	Ant 3	DSI 0	507000	2535	20.54	21.50	1.247	-	-	-0.03	0.496	0.619
71	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 3	DSI 0	507000	2535	20.55	21.50	1.245	-	-	-0.03	0.799	0.994
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	15mm	Ant 3	DSI 0	507000	2535	20.50	21.50	1.259	-	-	0.06	0.724	0.911
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Back	15mm	Ant 3	DSI 0	507000	2535	20.54	21.50	1.247	-	-	0.08	0.596	0.743
	FR1 n7_Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Back	15mm	Ant 3	DSI 0	507000	2535	20.55	21.50	1.245	-	-	0.02	0.751	0.935
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 0	518598	2592.99	19.85	21.10	1.334	-	-	0.05	0.451	0.601
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 0	518598	2592.99	19.68	21.10	1.387	-	-	-0.11	0.433	0.600
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 0	518598	2592.99	19.85	21.10	1.334	-	-	-0.12	0.553	0.737
72	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 0	518598	2592.99	19.68	21.10	1.387	-	-	0.02	0.561	0.778
	FR1 n38_Other PA	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 0	519000	2595	19.64	21.20	1.432	-	-	0.09	0.433	0.620
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 0	518598	2592.99	22.59	24.00	1.384	-	-	-0.16	0.150	0.208
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 0	DSI 0	518598	2592.99	22.42	24.00	1.439	-	-	-0.02	0.150	0.216
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 0	518598	2592.99	22.59	24.00	1.384	-	-	0.15	0.198	0.274
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 0	DSI 0	518598	2592.99	22.42	24.00	1.439	-	-	-0.07	0.198	0.285
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI 0	518598	2592.99	20.55	21.30	1.189	-	-	0.11	0.203	0.241
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 5	DSI 0	518598	2592.99	20.34	21.30	1.247	-	-	-0.05	0.162	0.202
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 0	518598	2592.99	20.55	21.30	1.189	-	-	0.09	0.258	0.307
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 5	DSI 0	518598	2592.99	20.34	21.30	1.247	-	-	-0.08	0.248	0.309
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 0	518598	2592.99	20.81	21.80	1.256	-	-	0.05	0.151	0.190
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 0	518598	2592.99	20.65	21.80	1.303	-	-	0.05	0.106	0.138
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 0	518598	2592.99	20.81	21.80	1.256	-	-	0.08	0.264	0.332
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 0	518598	2592.99	20.65	21.80	1.303	-	-	-0.03	0.211	0.275
3500MHz																				
73	LTE Band 42	20M	QPSK	1	0	-	Front	15mm	Ant 4	DSI 0	42590	3500	22.64	24.00	1.368	62.9	1.006	-0.05	0.367	0.505
	LTE Band 42	20M	QPSK	50	0	-	Front	15mm	Ant 4	DSI 0	42590	3500	21.84	23.00	1.306	62.9	1.006	-0.15	0.275	0.361
	LTE Band 42	20M	QPSK	1	0	-	Back	15mm	Ant 4	DSI 0	42590	3500	22.64	24.00	1.368	62.9	1.006	0.02	0.311	0.428
	LTE Band 42	20M	QPSK	50	0	-	Back	15mm	Ant 4	DSI 0	42590	3500	21.84	23.00	1.306	62.9	1.006	0.07	0.255	0.335
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 0	656000	3840	22.73	23.80	1.279	-	-	-0.05	0.496	0.635
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 0	656000	3840	22.65	23.80	1.303	-	-	0.13	0.370	0.482
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 0	656000	3840	22.73	23.80	1.279	-	-	-0.18	0.376	0.481
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 0	656000	3840	22.65	23.80	1.303	-	-	0.02	0.270	0.352
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 0	633334	3500.01	22.82	23.80	1.253	-	-	-0.03	0.246	0.308
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 2	DSI 0	633334	3500.01	22.81	23.80	1.256	-	-	-0.05	0.285	0.358
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 0	633334	3500.01	22.82	23.80	1.253	-	-	0.07	0.271	0.340
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 2	DSI 0	633334	3500.01	22.81	23.80	1.256	-	-	0.01	0.276	0.347
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 0	656000	3840	19.38	20.60	1.324	-	-	-0.01	0.115	0.152
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 0	656000	3840	19.27	20.60	1.358	-	-	-0.06	0.074	0.101
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 0	656000	3840	19.38	20.60	1.324	-	-	0.09	0.236	0.313
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 0	656000	3840	19.27	20.60	1.358	-	-	-0.04	0.225	0.306
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 0	633334	3500.01	19.27	20.60	1.358	-	-	-0.17	0.149	0.202
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 3	DSI 0	633334	3500.01	19.21	20.60	1.377	-	-	-0.1	0.142	0.196
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 0	633334	3500.01	19.27	20.60	1.358	-	-	-0.07	0.273	0.371
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 3	DSI 0	633334	3500.01	19.21	20.60	1.377	-	-	0.18	0.242	0.333
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 0	656000	3840	23.66	24.90	1.330	-	-	-0.02	0.443	0.589
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 0	656000	3840	23.32	24.90	1.439	-	-	-0.04	0.345	0.496
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 0	656000	3840	23.66	24.90	1.330	-	-	-0.05	0.387	0.515
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 0	656000	3840	23.32	24.90	1.439	-	-	-0.13	0.322	0.463
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 0	633334	3500.01	23.53	24.90	1.371	-	-	-0.01	0.351	0.481
74	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 4	DSI 0	633334	3500.01	23.48	24.90	1.387	-	-	-0.05	0.515	0.714
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 0	633334	3500.01	23.53	24.90	1.371	-	-	-0.09	0.305	0.418
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 4	DSI 0	633334	3500.01	23.48	24.90	1.387	-	-	0.05	0.442	0.613
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 0	656000	3840	19.51	20.50	1.256	-	-	-0.13	0.159	0.200



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	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 0	656000	3840	19.32	20.50	1.312	-	-	0.17	0.131	0.172
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 0	656000	3840	19.51	20.50	1.256	-	-	0.13	0.242	0.304
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 0	656000	3840	19.32	20.50	1.312	-	-	0.06	0.192	0.252
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 0	633334	3500.01	19.54	20.50	1.247	-	-	-0.04	0.097	0.121
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	15mm	Ant 6	DSI 0	633334	3500.01	19.39	20.50	1.291	-	-	-0.15	0.121	0.156
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 0	633334	3500.01	19.54	20.50	1.247	-	-	0.11	0.138	0.172
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	15mm	Ant 6	DSI 0	633334	3500.01	19.39	20.50	1.291	-	-	-0.03	0.181	0.234

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 7+9(9)	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	0.06	0.266	0.410
75	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 7+9(9)	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	0.01	0.317	0.489
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 7+9(7)	Standalone DBS only	11	2462	15.83	17.50	1.469	98.35	1.017	0.08	0.131	0.196
	WLAN2.4GHz	802.11b 1Mbps	Front	15mm	Ant 9	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	-0.03	0.203	0.313
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 9	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	0.06	0.229	0.353
	WLAN2.4GHz	802.11b 1Mbps	Back	15mm	Ant 9	Simultaneous DBS	11	2462	16.60	18.00	1.380	98.35	1.017	-0.08	0.111	0.156
	Bluetooth	1Mbps	Front	15mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.300	0.01	0.001	0.002
76	Bluetooth	1Mbps	Back	15mm	Ant 7	Full Power	39	2441	9.23	11.00	1.504	76.93	1.300	-0.08	0.011	0.022
5000MHz																
	WLAN5.3GHz	802.11a 6Mbps	Front	15mm	Ant 8+10(10)	Standalone Non DBS	64	5320	19.81	21.50	1.476	99.32	1.007	-0.07	0.307	0.456
77	WLAN5.3GHz	802.11a 6Mbps	Back	15mm	Ant 8+10(10)	Standalone Non DBS	64	5320	19.81	21.50	1.476	99.32	1.007	-0.08	0.473	0.703
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Back	15mm	Ant 8+10(8)	Standalone DBS only	50	5250	15.90	17.50	1.445	100	1.000	0.01	0.324	0.468
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Back	15mm	Ant 8+10(10)	Simultaneous Non DBS	50	5250	13.56	15.00	1.393	100	1.000	-0.05	0.131	0.183
	WLAN5.5GHz	802.11a 6Mbps	Front	15mm	Ant 8+10(10)	Standalone Non DBS	116	5580	18.81	20.50	1.476	99.32	1.007	0.05	0.316	0.470
78	WLAN5.5GHz	802.11a 6Mbps	Back	15mm	Ant 8+10(10)	Standalone Non DBS	116	5580	18.81	20.50	1.476	99.32	1.007	0.01	0.742	1.103
	WLAN5.5GHz	802.11a 6Mbps	Back	15mm	Ant 8+10(10)	Standalone Non DBS	124	5620	18.72	20.50	1.507	99.32	1.007	-0.11	0.671	1.018
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Back	15mm	Ant 8+10(10)	Standalone DBS only	124	5620	14.92	16.50	1.439	100	1.000	-0.09	0.342	0.492
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Back	15mm	Ant 8+10(10)	Simultaneous Non DBS	124	5620	13.53	15.00	1.403	100	1.000	0.04	0.278	0.390
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Back	15mm	Ant 8+10(8)	Simultaneous DBS	124	5620	11.35	13.00	1.462	100	1.000	0.07	0.124	0.181
	WLAN5.8GHz	802.11a 6Mbps	Front	15mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	-0.12	0.306	0.451
79	WLAN5.8GHz	802.11a 6Mbps	Back	15mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	-0.03	0.801	1.180
	WLAN5.8GHz	802.11a 6Mbps	Back	15mm	Ant 8+10(8)	Standalone Non DBS	165	5825	18.94	20.50	1.432	99.32	1.007	0.03	0.678	0.978
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 8+10(8)	Standalone DBS only	155	5775	15.15	16.50	1.365	100	1.000	-0.01	0.401	0.547
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 8+10(10)	Simultaneous Non DBS	155	5775	14.33	16.00	1.469	100	1.000	0.03	0.271	0.398
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	15mm	Ant 8+10(10)	Simultaneous DBS	155	5775	9.84	11.50	1.466	100	1.000	0.09	0.111	0.163



15.4 Product specific 10g SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
900MHz																				
80	RFID	-	-	-	-	-	Front	0mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	0.1	0.575	0.258
	RFID	-	-	-	-	-	Back	0mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	0.12	0.481	0.215
	RFID	-	-	-	-	-	Left Side	0mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	0.08	0.451	0.202
	RFID	-	-	-	-	-	Right Side	0mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	-0.17	0.024	0.011
	RFID	-	-	-	-	-	Top Side	0mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	-0.03	0.363	0.163
	RFID	-	-	-	-	-	Bottom Side	0mm	-	-	-	902.75	23.88	25.00	1.295	86.73	0.346	0.14	0.015	0.007
1750MHz																				
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 2	DSI 0	1413	1732.6	22.79	24.00	1.321	-	-	-0.16	1.930	2.550
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 2	DSI 0	1312	1712.4	22.61	24.00	1.377	-	-	0.05	1.860	2.562
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Back	0mm	Ant 2	DSI 0	1513	1752.6	22.77	24.00	1.327	-	-	-0.03	1.940	2.575
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 0	1413	1732.6	22.79	24.00	1.321	-	-	0.01	2.190	2.894
81	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 0	1312	1712.4	22.61	24.00	1.377	-	-	0.17	2.170	2.989
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 5	1312	1712.4	21.12	22.20	1.282	-	-	-0.09	1.510	1.936
	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 0	1513	1752.6	22.77	24.00	1.327	-	-	-0.15	2.110	2.801
	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 0	132322	1745	22.85	24.00	1.303	-	-	-0.01	2.120	2.763
82	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 0	132072	1720	22.64	24.00	1.368	-	-	0.19	2.060	2.818
	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 5	132072	1720	20.97	22.40	1.390	-	-	0.09	1.410	1.960
	LTE Band 66	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 0	132572	1770	22.69	24.00	1.352	-	-	-0.06	1.990	2.691
	LTE Band 66	20M	QPSK	50	0	-	Left Side	0mm	Ant 2	DSI 0	132322	1745	21.90	23.00	1.288	-	-	0.16	1.700	2.190
	LTE Band 66	20M	QPSK	50	0	-	Left Side	0mm	Ant 2	DSI 0	132072	1720	21.82	23.00	1.312	-	-	-0.03	1.680	2.204
	LTE Band 66	20M	QPSK	50	0	-	Left Side	0mm	Ant 2	DSI 0	132572	1770	21.70	23.00	1.349	-	-	0.07	1.620	2.185
	LTE Band 66	20M	QPSK	100	0	-	Left Side	0mm	Ant 2	DSI 0	132322	1745	21.86	23.00	1.300	-	-	-0.12	1.690	2.197
	LTE Band 66C	20M	QPSK	1	99	-	Left Side	0mm	Ant 2	DSI 0	132072+132270	1720+1739.8	22.64	24.00	1.368	-	-	0.04	1.950	2.667
	LTE Band 66_Other PA	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 0	132072	1720	22.64	24.00	1.368	-	-	0.02	1.950	2.667
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 2	DSI 0	349000	1745	22.81	24.00	1.315	-	-	-0.13	1.980	2.604
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 2	DSI 0	349000	1745	22.77	24.00	1.327	-	-	0.12	2.010	2.668
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Back	0mm	Ant 2	DSI 0	349000	1745	21.73	23.00	1.340	-	-	-0.13	1.580	2.117
83	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	349000	1745	22.81	24.00	1.315	-	-	0.04	2.300	3.025
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 5	349000	1745	20.91	22.10	1.315	-	-	-0.02	1.510	1.986
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	349000	1745	22.77	24.00	1.327	-	-	-0.11	2.230	2.960
	FR1 n66	40M	QPSK	216	0	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	349000	1745	21.73	23.00	1.340	-	-	0.17	1.750	2.344
1900MHz																				
84	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 0	9400	1880	22.46	24.00	1.426	-	-	-0.02	2.150	3.065
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 5	9400	1880	20.98	22.00	1.265	-	-	0.01	1.450	1.834
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 0	9262	1852.4	22.22	24.00	1.507	-	-	0.08	1.900	2.863
	WCDMA II	-	-	-	-	RMC 12.2Kbps	Left Side	0mm	Ant 2	DSI 0	9538	1907.6	22.38	24.00	1.452	-	-	0.01	2.050	2.977
	LTE Band 2	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 0	18900	1880	22.84	24.00	1.306	-	-	-0.04	2.010	2.625
	LTE Band 2	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 0	18700	1860	22.74	24.00	1.337	-	-	-0.09	1.920	2.566
85	LTE Band 2	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 0	19100	1900	22.79	24.00	1.321	-	-	0.01	2.180	2.880
	LTE Band 2	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 5	19100	1900	21.10	22.30	1.318	-	-	-0.08	1.470	1.938
	LTE Band 2_Other PA	20M	QPSK	1	0	-	Left Side	0mm	Ant 2	DSI 0	19100	1900	22.79	24.00	1.321	-	-	0.01	2.050	2.709
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	376000	1880	22.80	23.70	1.230	-	-	-0.12	2.220	2.731
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	372000	1860	22.58	23.70	1.294	-	-	-0.16	2.280	2.951
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	380000	1900	22.60	23.70	1.288	-	-	0.03	2.380	3.066
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	376000	1880	22.65	23.70	1.274	-	-	-0.03	2.270	2.891
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	372000	1860	22.49	23.70	1.321	-	-	0.17	2.320	3.065
86	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	380000	1900	22.41	23.70	1.346	-	-	0.02	2.290	3.082
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 5	380000	1900	20.99	21.70	1.178	-	-	0.01	1.630	1.919
	FR1 n2	20M	QPSK	100	0	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	376000	1880	21.70	23.00	1.349	-	-	0.18	1.770	2.388
2600MHz																				



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87	LTE Band 7	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 0	21100	2535	21.12	22.40	1.343	-	-	-0.02	2.100	2.820
	LTE Band 7	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 0	20850	2510	20.99	22.40	1.384	-	-	0.07	2.130	2.947
	LTE Band 7	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 0	21350	2560	20.89	22.40	1.416	-	-	-0.17	2.210	3.129
	LTE Band 7	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 5	21350	2560	19.65	20.40	1.189	-	-	-0.04	1.620	1.925
	LTE Band 7	20M	QPSK	50	0	-	Front	0mm	Ant 3	DSI 0	21100	2535	20.70	22.40	1.479	-	-	0.1	1.710	2.529
	LTE Band 7	20M	QPSK	50	0	-	Front	0mm	Ant 3	DSI 0	20850	2510	20.64	22.40	1.500	-	-	0.08	1.960	2.939
	LTE Band 7	20M	QPSK	50	0	-	Front	0mm	Ant 3	DSI 0	21350	2560	20.63	22.40	1.503	-	-	0.07	1.840	2.766
	LTE Band 7	20M	QPSK	100	0	-	Front	0mm	Ant 3	DSI 0	21100	2535	20.68	22.40	1.486	-	-	-0.13	1.830	2.719
	LTE Band 7	20M	QPSK	1	0	-	Back	0mm	Ant 3	DSI 0	21100	2535	21.12	22.40	1.343	-	-	-0.1	1.270	1.705
	LTE Band 7	20M	QPSK	50	0	-	Back	0mm	Ant 3	DSI 0	21100	2535	20.70	22.40	1.479	-	-	-0.07	1.080	1.597
	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 0	21100	2535	21.12	22.40	1.343	-	-	-0.17	2.290	3.075
	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 0	20850	2510	20.99	22.40	1.384	-	-	0.11	2.260	3.127
	LTE Band 7	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 0	21350	2560	20.89	22.40	1.416	-	-	-0.17	2.140	3.030
	LTE Band 7	20M	QPSK	50	0	-	Left Side	0mm	Ant 3	DSI 0	21100	2535	20.70	22.40	1.479	-	-	0.01	1.910	2.825
	LTE Band 7	20M	QPSK	50	0	-	Left Side	0mm	Ant 3	DSI 0	20850	2510	20.64	22.40	1.500	-	-	0.1	1.950	2.924
	LTE Band 7	20M	QPSK	50	0	-	Left Side	0mm	Ant 3	DSI 0	21350	2560	20.63	22.40	1.503	-	-	0.11	1.900	2.856
	LTE Band 7	20M	QPSK	100	0	-	Left Side	0mm	Ant 3	DSI 0	21100	2535	20.68	22.40	1.486	-	-	-0.07	1.960	2.912
	LTE Band 7	20M	QPSK	1	0	-	Top Side	0mm	Ant 3	DSI 0	21100	2535	21.12	22.40	1.343	-	-	0.18	0.891	1.196
	LTE Band 7	20M	QPSK	50	0	-	Top Side	0mm	Ant 3	DSI 0	21100	2535	20.70	22.40	1.479	-	-	0.12	0.759	1.123
	LTE Band 7C	20M	QPSK	1	99	-	Front	0mm	Ant 3	DSI 0	21350+ 21152	2560+ 2540.2	20.79	22.40	1.449	-	-	0.06	2.050	2.970
	LTE Band 7_Other PA	20M	QPSK	1	0	-	Front	0mm	Ant 3	DSI 0	21350	2560	20.89	22.40	1.416	-	-	0.01	2.110	2.987
	LTE Band 41	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 0	40620	2593	22.06	23.60	1.426	62.9	1.006	0.13	1.740	2.495
	LTE Band 41	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 0	39750	2506	21.99	23.60	1.449	62.9	1.006	-0.15	1.690	2.463
	LTE Band 41	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 0	40185	2549.5	21.71	23.60	1.545	62.9	1.006	-0.12	1.590	2.472
	LTE Band 41	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 0	41055	2636.5	21.99	23.60	1.449	62.9	1.006	0.15	1.850	2.696
	LTE Band 41	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 0	41490	2680	21.74	23.60	1.535	62.9	1.006	0.01	2.050	3.165
	LTE Band 41	20M	QPSK	1	0	-	Left Side	0mm	Ant 3	DSI 5	41490	2680	20.07	21.60	1.422	62.9	1.006	-0.01	1.390	1.989
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 3	DSI 0	40620	2593	21.35	23.00	1.462	62.9	1.006	-0.05	1.440	2.118
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 3	DSI 0	39750	2506	21.33	23.00	1.469	62.9	1.006	-0.07	1.350	1.995
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 3	DSI 0	40185	2549.5	21.34	23.00	1.466	62.9	1.006	0.1	1.300	1.917
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 3	DSI 0	41055	2636.5	21.35	23.00	1.462	62.9	1.006	-0.11	1.480	2.177
	LTE Band 41	20M	QPSK	50	0	-	Left Side	0mm	Ant 3	DSI 0	41490	2680	21.28	23.00	1.486	62.9	1.006	-0.02	1.760	2.631
	LTE Band 41	20M	QPSK	100	0	-	Left Side	0mm	Ant 3	DSI 0	40620	2593	21.37	23.00	1.455	62.9	1.006	-0.1	1.430	2.094
	LTE Band 41C	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 0	41490+ 41292	2680+ 2660.2	21.77	23.60	1.524	62.9	1.006	-0.04	1.920	2.944
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	0mm	Ant 3	DSI 0	507000	2535	20.55	21.50	1.245	-	-	0.14	2.440	3.037
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	0mm	Ant 3	DSI 0	507000	2535	20.50	21.50	1.259	-	-	-0.09	2.300	2.896
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Front	0mm	Ant 3	DSI 0	507000	2535	20.54	21.50	1.247	-	-	-0.09	1.900	2.370
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	0mm	Ant 3	DSI 0	507000	2535	20.55	21.50	1.245	-	-	-0.12	1.400	1.742
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	0mm	Ant 3	DSI 0	507000	2535	20.50	21.50	1.259	-	-	-0.06	1.450	1.825
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 3	DSI 0	507000	2535	20.55	21.50	1.245	-	-	0.01	2.480	3.086
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 3	DSI 5	507000	2535	18.64	19.50	1.219	-	-	-0.02	1.550	1.889
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	0mm	Ant 3	DSI 0	507000	2535	20.50	21.50	1.259	-	-	-0.19	2.170	2.732
	FR1 n7	40M	QPSK	216	0	DFT-SCS-15KHz	Left Side	0mm	Ant 3	DSI 0	507000	2535	20.54	21.50	1.247	-	-	0.09	1.930	2.407
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	0mm	Ant 3	DSI 0	507000	2535	20.55	21.50	1.245	-	-	0.13	1.120	1.394
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	0mm	Ant 3	DSI 0	507000	2535	20.50	21.50	1.259	-	-	-0.08	1.070	1.347
	FR1 n7_Other PA	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 3	DSI 0	507000	2535	20.55	21.50	1.245	-	-	0.02	2.310	2.875
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 3	DSI 0	518598	2592.99	19.85	21.10	1.334	-	-	-0.07	1.230	1.640
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 3	DSI 0	518598	2592.99	19.68	21.10	1.387	-	-	0.11	1.280	1.775
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	518598	2592.99	19.85	21.10	1.334	-	-	-0.13	2.150	2.867
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	518598	2592.99	19.68	21.10	1.387	-	-	0.03	2.290	3.176
90	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 5	518598	2592.99	17.97	19.10	1.297	-	-	-0.02	1.470	1.907
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	518598	2592.99	19.65	21.10	1.396	-	-	0.04	1.880	2.625
	FR1 n38_Other PA	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	519000	2595	19.64	21.20	1.432	-	-	0.05	1.960	2.807
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 5	DSI 0	518598	2592.99	20.55	21.30	1.189	-	-	0.05	2.550	3.031
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 5	DSI 5	518598	2592.99	18.46	19.30	1.213	-	-	-0.02	1.590	1.929



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	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Bottom Side	0mm	Ant 5	DSI 0	518598	2592.99	20.34	21.30	1.247	-	-	0.01	2.390	2.981
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Bottom Side	0mm	Ant 5	DSI 0	518598	2592.99	19.59	21.00	1.384	-	-	-0.09	1.900	2.629
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	518598	2592.99	20.81	21.80	1.256	-	-	0.04	2.440	3.065
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 5	518598	2592.99	19.15	19.80	1.161	-	-	-0.02	1.660	1.928
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	518598	2592.99	20.65	21.80	1.303	-	-	0.13	2.080	2.711
	FR1 n41	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	518598	2592.99	19.59	21.80	1.663	-	-	-0.02	1.790	2.978
3500MHz																				
91	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 2	DSI 0	656000	3840	22.73	23.80	1.279	-	-	0.01	2.410	3.083
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 2	DSI 5	656000	3840	20.68	21.80	1.294	-	-	-0.02	1.510	1.954
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	0mm	Ant 2	DSI 0	656000	3840	22.65	23.80	1.303	-	-	0.1	1.730	2.254
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Front	0mm	Ant 2	DSI 0	656000	3840	21.82	23.50	1.472	-	-	0.15	1.510	2.223
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 0	656000	3840	22.73	23.80	1.279	-	-	0.12	1.700	2.175
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 0	656000	3840	22.65	23.80	1.303	-	-	-0.12	1.300	1.694
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Back	0mm	Ant 2	DSI 0	656000	3840	21.82	23.50	1.472	-	-	-0.15	1.060	1.561
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 3	DSI 0	656000	3840	19.38	20.60	1.324	-	-	-0.05	1.060	1.404
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 3	DSI 0	656000	3840	19.27	20.60	1.358	-	-	0.03	1.070	1.453
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	656000	3840	19.38	20.60	1.324	-	-	0.02	1.620	2.145
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 5	656000	3840	17.38	18.60	1.324	-	-	-0.09	0.989	1.310
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	656000	3840	19.27	20.60	1.358	-	-	-0.06	1.160	1.576
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	656000	3840	19.24	20.60	1.368	-	-	0.01	1.010	1.381
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	633334	3500.01	19.27	20.60	1.358	-	-	0.09	2.270	3.083
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 5	633334	3500.01	17.31	18.60	1.346	-	-	-0.02	1.410	1.898
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	633334	3500.01	19.21	20.60	1.377	-	-	-0.03	1.900	2.617
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 3	DSI 0	633334	3500.01	19.24	20.60	1.368	-	-	0.12	1.650	2.257
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 4	DSI 0	656000	3840	23.66	24.90	1.330	-	-	-0.09	1.860	2.475
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 4	DSI 5	656000	3840	22.10	22.90	1.202	-	-	0.02	1.310	1.575
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Front	0mm	Ant 4	DSI 0	656000	3840	23.32	24.90	1.439	-	-	-0.04	1.550	2.230
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Front	0mm	Ant 4	DSI 0	656000	3840	22.87	24.90	1.596	-	-	0.02	1.370	2.186
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Back	0mm	Ant 4	DSI 0	656000	3840	23.66	24.90	1.330	-	-	-0.07	1.370	1.823
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Back	0mm	Ant 4	DSI 0	656000	3840	23.32	24.90	1.439	-	-	-0.08	1.200	1.727
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	656000	3840	19.51	20.50	1.256	-	-	0.03	2.040	2.562
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 5	656000	3840	17.39	18.50	1.291	-	-	0.01	1.210	1.562
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	656000	3840	19.32	20.50	1.312	-	-	-0.08	1.640	2.152
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	656000	3840	19.31	20.50	1.315	-	-	0.06	1.320	1.736
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	633334	3500.01	19.54	20.50	1.247	-	-	0.03	2.430	3.031
	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 5	633334	3500.01	17.29	18.50	1.321	-	-	-0.03	1.450	1.916
	FR1 n77	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	633334	3500.01	19.39	20.50	1.291	-	-	0.04	1.950	2.518
	FR1 n77	100M	QPSK	270	0	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	633334	3500.01	19.37	20.50	1.297	-	-	-0.09	1.570	2.037



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
2450MHz																
92	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 7+9(9)	Standalone Non DBS	11	2462	19.69	21.50	1.517	98.35	1.017	0.04	2.030	3.132
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 7+9(7)	Standalone Non DBS	1	2412	19.52	21.00	1.406	98.35	1.017	0.01	2.210	3.160
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 7+9(9)	Standalone Non DBS	6	2437	19.50	21.00	1.413	98.35	1.017	-0.01	2.150	3.089
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 7+9(7)	Standalone DBS only	1	2412	15.75	17.50	1.496	98.35	1.017	-0.08	0.981	1.493
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 7+9(7)	Simultaneous Non DBS	1	2412	13.31	15.00	1.476	98.35	1.017	-0.09	0.539	0.809
	WLAN2.4GHz	802.11b 1Mbps	Top Side	0mm	Ant 7+9(9)	Simultaneous DBS	1	2412	11.28	13.00	1.486	98.35	1.017	0.03	0.231	0.349
5000MHz																
93	WLAN5.3GHz	802.11a 6Mbps	Front	0mm	Ant 8+10(8)	Standalone Non DBS	64	5320	19.81	21.50	1.476	99.32	1.007	0.01	0.707	1.051
	WLAN5.3GHz	802.11a 6Mbps	Back	0mm	Ant 8+10(8)	Standalone Non DBS	64	5320	19.81	21.50	1.476	99.32	1.007	0.1	1.320	1.962
	WLAN5.3GHz	802.11a 6Mbps	Left Side	0mm	Ant 8+10(8)	Standalone Non DBS	64	5320	19.81	21.50	1.476	99.32	1.007	-0.08	0.143	0.213
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 8+10(8)	Standalone Non DBS	64	5320	19.81	21.50	1.476	99.32	1.007	-0.02	1.790	2.660
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0mm	Ant 8+10(8)	Standalone Non DBS	56	5280	19.66	21.50	1.528	99.32	1.007	0.05	1.310	2.015
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0mm	Ant 8+10(8)	Standalone Non DBS	64	5320	19.81	21.50	1.476	99.32	1.007	-0.08	1.190	1.769
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Side	0mm	Ant 8+10(8)	Standalone DBS only	50	5250	15.90	17.50	1.445	100	1.000	-0.05	0.955	1.380
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Side	0mm	Ant 8+10(10)	Simultaneous Non DBS	50	5250	13.56	15.00	1.393	100	1.000	-0.08	0.565	0.787
	WLAN5.3GHz	802.11ac-VHT160 MCS0	Right Side	0mm	Ant 8+10(8)	Simultaneous DBS	50	5250	10.63	12.50	1.538	100	1.000	0.16	0.302	0.465
	WLAN5.5GHz	802.11a 6Mbps	Front	0mm	Ant 8+10(10)	Standalone Non DBS	116	5580	18.81	20.50	1.476	99.32	1.007	-0.08	0.899	1.336
94	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 8+10(10)	Standalone Non DBS	116	5580	18.81	20.50	1.476	99.32	1.007	-0.17	1.630	2.422
	WLAN5.5GHz	802.11a 6Mbps	Back	0mm	Ant 8+10(10)	Standalone Non DBS	124	5620	18.72	20.50	1.507	99.32	1.007	-0.08	1.760	2.670
	WLAN5.5GHz	802.11a 6Mbps	Left Side	0mm	Ant 8+10(10)	Standalone Non DBS	116	5580	18.81	20.50	1.476	99.32	1.007	-0.04	0.267	0.397
	WLAN5.5GHz	802.11a 6Mbps	Right Side	0mm	Ant 8+10(10)	Standalone Non DBS	116	5580	18.81	20.50	1.476	99.32	1.007	-0.08	0.877	1.303
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 8+10(10)	Standalone Non DBS	116	5580	18.81	20.50	1.476	99.32	1.007	0.17	1.880	2.794
	WLAN5.5GHz	802.11a 6Mbps	Top Side	0mm	Ant 8+10(10)	Standalone Non DBS	124	5620	18.72	20.50	1.507	99.32	1.007	0.02	1.950	2.959
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Top Side	0mm	Ant 8+10(10)	Standalone DBS only	114	5570	14.92	16.50	1.439	100	1.000	0.01	1.050	1.511
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Top Side	0mm	Ant 8+10(10)	Simultaneous Non DBS	114	5570	13.53	15.00	1.403	100	1.000	0.1	0.578	0.811
	WLAN5.5GHz	802.11ac-VHT160 MCS0	Top Side	0mm	Ant 8+10(8)	Simultaneous DBS	114	5570	11.35	13.00	1.462	100	1.000	-0.17	0.311	0.455
	WLAN5.8GHz	802.11a 6Mbps	Back	0mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	0.11	1.270	1.870
95	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 8+10(8)	Standalone DBS only	155	5775	15.15	16.50	1.365	100	1.000	-0.02	0.795	1.085
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 8+10(10)	Simultaneous Non DBS	155	5775	14.33	16.00	1.469	100	1.000	0.01	0.553	0.812
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 8+10(10)	Simultaneous DBS	155	5775	9.84	11.50	1.466	100	1.000	0.09	0.316	0.463
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 8+10(10)	Simultaneous DBS	155	5775	9.84	11.50	1.466	100	1.000	0.09	0.316	0.463



15.5 Repeated SAR Measurement

<1g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	21.84	22.70	1.219	-	-	-0.01	0.888	1	1.082
2nd	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	21.84	22.70	1.219	-	-	0.03	0.875	1.015	1.067
1st	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	251	848.8	25.24	26.10	1.219	-	-	0.02	0.877	1	1.069
2nd	GSM850	-	-	-	-	GPRS (4 Tx slots)	Right Cheek	0mm	Ant 0	DSI 2	251	848.8	25.24	26.10	1.219	-	-	0.01	0.868	1.010	1.058
1st	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	42990	3540	16.18	17.00	1.208	62.9	1.006	0.02	0.894	1	1.086
2nd	LTE Band 42	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 4	DSI 2	42990	3540	16.18	17.00	1.208	62.9	1.006	0.05	0.875	1.022	1.063
1st	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	15.20	16.20	1.259	-	-	-0.02	0.862	1	1.085
2nd	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	15.20	16.20	1.259	-	-	0.03	0.845	1.020	1.064
1st	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	132572	1770	21.69	22.70	1.262	-	-	0.01	0.935	1	1.180
2nd	LTE Band 66	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	132572	1770	21.69	22.70	1.262	-	-	0.02	0.922	1.014	1.163
1st	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	18700	1860	20.82	21.70	1.225	-	-	0.01	0.894	1	1.095
2nd	LTE Band 2	20M	QPSK	1	0	-	Left Side	10mm	Ant 2	DSI 1	18700	1860	20.82	21.70	1.225	-	-	0.02	0.886	1.009	1.085
1st	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	21350	2560	20.15	20.90	1.189	-	-	-0.03	0.921	1	1.095
2nd	LTE Band 7	20M	QPSK	1	0	-	Left Side	10mm	Ant 3	DSI 1	21350	2560	20.15	20.90	1.189	-	-	0.01	0.916	1.005	1.089
1st	WLAN5.8GHz	-	-	-	-	802.11a 6Mbps	Back	15mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	-0.03	0.801	1	1.180
2nd	WLAN5.8GHz	-	-	-	-	802.11a 6Mbps	Back	15mm	Ant 8+10(10)	Standalone Non DBS	149	5745	18.35	20.00	1.462	99.32	1.007	0.01	0.795	1.008	1.171

<10g>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	349000	1745	22.81	24.00	1.315	-	-	0.04	2.300	1	3.025
2nd	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	349000	1745	22.81	24.00	1.315	-	-	0.02	2.250	1.022	2.959
1st	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	380000	1900	22.60	23.70	1.288	-	-	0.03	2.380	1	3.066
2nd	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	0mm	Ant 2	DSI 0	380000	1900	22.60	23.70	1.288	-	-	0.01	2.330	1.021	3.002
1st	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 5	DSI 0	518598	2592.99	20.55	21.30	1.189	-	-	0.05	2.550	1	3.031
2nd	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Bottom Side	0mm	Ant 5	DSI 0	518598	2592.99	20.55	21.30	1.189	-	-	0.01	2.510	1.016	2.983
1st	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 2	DSI 0	656000	3840	22.73	23.80	1.279	-	-	0.01	2.410	1	3.083
2nd	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Front	0mm	Ant 2	DSI 0	656000	3840	22.73	23.80	1.279	-	-	0.05	2.380	1.013	3.045
1st	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	633334	3500.01	19.54	20.50	1.247	-	-	0.03	2.430	1	3.031
2nd	FR1 n77	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	0mm	Ant 6	DSI 0	633334	3500.01	19.54	20.50	1.247	-	-	0.06	2.400	1.013	2.994
1st	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Top Side	0mm	Ant 7+9(7)	Standalone Non DBS	1	2412	19.52	21.00	1.406	98.35	1.017	0.01	2.210	1	3.160
2nd	WLAN2.4GHz	-	-	-	-	802.11b 1Mbps	Top Side	0mm	Ant 7+9(7)	Standalone Non DBS	1	2412	19.52	21.00	1.406	98.35	1.017	0.06	2.180	1.014	3.117

General Note:

- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
- Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR < 1.45 W/kg, only one repeated measurement is required.
- Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
- The ratio is the difference in percentage between original and repeated *measured SAR*.
- All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

16. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset			
		Head	Body-worn	Hotspot	Product specific 10g SAR
1.	WLAN2.4GHz+ Bluetooth	Yes	Yes	Yes	Yes
2.	WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
3.	WLAN6GHz+ Bluetooth	Yes	Yes	Yes	Yes
4.	WLAN2.4GHz+ WLAN5GHz	Yes	Yes	Yes	Yes
5.	WLAN2.4GHz+ WLAN6GHz	Yes	Yes		Yes
6.	WLAN2.4GHz+ WLAN5GHz + Bluetooth	Yes	Yes	Yes	Yes
7.	WLAN2.4GHz+ WLAN6GHz + Bluetooth	Yes	Yes		Yes
8.	WWAN + WLAN2.4GHz+ Bluetooth	Yes	Yes	Yes	Yes
9.	WWAN + WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes
10.	WWAN + WLAN6GHz+ Bluetooth	Yes	Yes		Yes
11.	WWAN + WLAN2.4GHz+ WLAN5GHz	Yes	Yes	Yes	Yes
12.	WWAN + WLAN2.4GHz+ WLAN6GHz	Yes	Yes		Yes
13.	WWAN + WLAN2.4GHz+ WLAN5GHz + Bluetooth	Yes	Yes	Yes	Yes
14.	WWAN + WLAN2.4GHz+ WLAN6GHz + Bluetooth	Yes	Yes		Yes
15.	RFID + WLAN2.4GHz+ Bluetooth		Yes	Yes	Yes
16.	RFID + WLAN5GHz+ Bluetooth		Yes	Yes	Yes
17.	RFID + WLAN6GHz+ Bluetooth		Yes		Yes
18.	RFID + WLAN2.4GHz+ WLAN5GHz		Yes	Yes	Yes
19.	RFID + WLAN2.4GHz+ WLAN6GHz		Yes	Yes	Yes
20.	RFID + WLAN2.4GHz+ WLAN5GHz + Bluetooth		Yes	Yes	Yes
21.	RFID + WWAN + Bluetooth		Yes	Yes	Yes
22.	WWAN + WLAN2.4GHz + RFID		Yes	Yes	Yes
23.	WWAN + WLAN5GHz + RFID		Yes	Yes	Yes
24.	WWAN + WLAN6GHz + RFID		Yes		Yes
25.	WWAN + WLAN2.4GHz+ Bluetooth + RFID		Yes	Yes	Yes
26.	WWAN + WLAN5GHz+ Bluetooth + RFID		Yes	Yes	Yes
27.	WWAN + WLAN6GHz+ Bluetooth + RFID		Yes		Yes
28.	WWAN + WLAN2.4GHz + WLAN5GHz + RFID		Yes	Yes	Yes
29.	WWAN + WLAN2.4GHz + WLAN6GHz + RFID		Yes		Yes
30.	WWAN + WLAN5GHz + WLAN2.4GHz + Bluetooth + RFID		Yes	Yes	Yes
31.	WWAN + WLAN6GHz + WLAN2.4GHz + Bluetooth + RFID		Yes		Yes
32.	WLAN2.4GHz+ Bluetooth+ NFC				Yes
33.	WLAN5GHz+ Bluetooth+ NFC				Yes
34.	WLAN6GHz+ Bluetooth+ NFC				Yes
35.	WLAN2.4GHz+ WLAN5GHz+ NFC				Yes
36.	WLAN2.4GHz+ WLAN6GHz+ NFC				Yes
37.	WLAN2.4GHz+ WLAN5GHz + Bluetooth+ NFC				Yes
38.	WLAN2.4GHz+ WLAN6GHz + Bluetooth+ NFC				Yes
39.	WWAN + WLAN2.4GHz+ Bluetooth+ NFC				Yes
40.	WWAN + WLAN5GHz+ Bluetooth+ NFC				Yes
41.	WWAN + WLAN6GHz+ Bluetooth+ NFC				Yes
42.	WWAN + WLAN2.4GHz+ WLAN5GHz+ NFC				Yes
43.	WWAN + WLAN2.4GHz+ WLAN6GHz+ NFC				Yes
44.	WWAN + WLAN2.4GHz+ WLAN5GHz + Bluetooth+ NFC				Yes
45.	WWAN + WLAN2.4GHz+ WLAN6GHz + Bluetooth+ NFC				Yes
46.	RFID + WLAN2.4GHz+ Bluetooth+ NFC				Yes
47.	RFID + WLAN5GHz+ Bluetooth+ NFC				Yes
48.	RFID + WLAN6GHz+ Bluetooth+ NFC				Yes
49.	RFID + WLAN2.4GHz+ WLAN5GHz+ NFC				Yes
50.	RFID + WLAN2.4GHz+ WLAN6GHz+ NFC				Yes

51.	RFID + WLAN2.4GHz+ WLAN5GHz + Bluetooth+ NFC				Yes
52.	RFID + WWAN + Bluetooth+ NFC				Yes
53.	WWAN + WLAN2.4GHz + RFID+ NFC				Yes
54.	WWAN + WLAN5GHz + RFID+ NFC				Yes
55.	WWAN + WLAN6GHz + RFID+ NFC				Yes
56.	WWAN + WLAN2.4GHz+ Bluetooth + RFID+ NFC				Yes
57.	WWAN + WLAN5GHz+ Bluetooth + RFID+ NFC				Yes
58.	WWAN + WLAN6GHz+ Bluetooth + RFID				Yes
59.	WWAN + WLAN2.4GHz + WLAN5GHz + RFID+ NFC				Yes
60.	WWAN + WLAN2.4GHz + WLAN6GHz + RFID+ NFC				Yes
61.	WWAN + WLAN5GHz + WLAN2.4GHz + Bluetooth + RFID+ NFC				Yes
62.	WWAN + WLAN6GHz + WLAN2.4GHz + Bluetooth + RFID+ NFC				Yes

General Note:

- This device supports VoIP in GPRS, EGPRS, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
- WWAN above includes 5G NR bands and EN-DC combination.
- The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO/MIMO antenna mode and MIMO SAR can represent SISO SAR.
- EUT will choose each GSM, WCDMA, LTE and 5GNR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
- 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.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz WLAN supports WLAN Direct (GC only).
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- According to the EUT characteristic, WLAN 2.4GHz Chain 0 and Bluetooth share the same antenna path and cannot transmit simultaneously, WLAN 2.4GHz Chain 1 and Bluetooth can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz/6GHz and Bluetooth can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz/6GHz and WLAN 2.4GHz can transmit simultaneously.
- NFC can transmit simultaneously with other Radios in extremity exposure condition.
- For standalone WWAN, always choose the highest SAR among the selected WWAN bands within the selected antenna for head each exposure position to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each bands.
- The maximum SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{ separation distance, mm})$, 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.
 - If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
- The WLAN6GHz Sim-Tx analysis guidance with other transmitters was based on SAR test results. The simultaneous transmission and test exemption analysis were compliant with KDB 447498 D01. For the device does not support FR2 or other MPE field measurement, therefore section 16 in the SAR report has no TER analysis according to KDB 987594 requirement.

16.1 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.

16.2 MIMO SAR Test condition and verification

General Note:

- Smart Transmit EFS v20 (or lower) uses SISO Plimit to calculate RF exposure from MIMO transmission scenario. Therefore, if MIMO is supported for WWAN technologies (including 5G sub6 NR), below procedure should be performed for validity of Smart Transmit operation:
 - Below procedure should also be performed for Smart Transmit EFS v21 (or higher) if MIMO Plimit is not populated in the EFS but MIMO operation is supported for antennas belonging to the same antenna group (refer to Section 4.2.5 of Qualcomm's document 80-W2112-4).
- Measure SAR for supported MIMO scenarios in FTM mode with each of the MIMO antennas set to transmit continuously at $P_{test} = \text{minimum } \{P_{limit}(i), P_{max}(i); i=1 \text{ to } n \text{ MIMO antennas}\}$, where $P_{limit}(i)$ is the power level entered in the Smart Transmit EFS for antenna i under the corresponding tech/band/DSI. For Smart Transmit to ensure the compliance in MIMO transmission scenario, the below criteria should be met for measured MIMO SAR (i.e., highest peak spatial-average SAR from the measurement):

$$\text{reported SAR}_{MIMO} = \text{Measured MIMO SAR}_{MIMO} \text{ at } (P_{test} + \text{device total uncertainty}) \leq \text{calc.SAR}$$

$$\text{Where } \text{calc.SAR} = \sum_{i=1}^n \left[\text{SAR}_{design_target} * 10^{\left(\frac{\text{total uncertainty} + P_{test} - P_{limit}(i) - \text{backoff}(i)}{10} \right)} \right]$$

Here,

- n is number of MIMO antennas (in case of 2x2MIMO, $n=2$).
 - $P_{limit}(i)$ is EFS P_{limit} for antenna $i \in$ MIMO for a given tech/band/DSI. P_{limit} corresponds to $\text{SAR}_{design_target}$.
 - $\text{backoff}(i)$ is backoff from $\text{SAR}_{design_target}$ used for the i th antenna's P_{limit} to meet TER with external radios (i.e., radios outside of Smart Transmit control). If EFS P_{limit} of antenna i corresponds to $\text{SAR}_{design_target}$, then $\text{backoff}(i) = 0$ in the above equation.
 - P_{test} (i.e., power level used for MIMO SAR measurement, $\text{MIMO.SAR} @ P_{test}$) = $\min \{P_{limit}(i), P_{max}(i), i = 1 \text{ to } n \text{ MIMO antenna}\}$. To further clarify, $P_{test} = \min \{P_{limit}(i), \text{SISO.P}_{max}(i), \text{MIMO.P}_{max}, i = 1 \text{ to } n \text{ antenna} \in \text{MIMO}\}$, where, P_{limit} corresponds to $\text{SAR}_{design_target}$; SISO.P_{max} and MIMO.P_{max} correspond to the maximum output power (nominal levels without device uncertainty) that device is capable; here, P_{test} is nominal power level, not measured level.
- If the $\text{reported SAR}_{MIMO} \neq 0$ does not meet the above condition, then $P_{limit}(i)$ for each of the MIMO antenna in the Smart Transmit EFS should be reduced by $10 * \log_{10}[\text{reported SAR}_{MIMO} / \text{calc.SAR}]$ dB.
 - Per Qualcomm's document guideline, 5GNR FR1 MIMO Plimit is not populated in the EFS file, but MIMO operation is supported for antennas belonging to the same antenna group, the detail 5GNR FR1 MIMO analysis results please referred to appendix H.



16.3 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
		WWAN Ant 9 Standalone Non DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 9 Standalone DBS only 1g SAR (W/kg)	WLAN2.4GHz Ant 9 Standalone DBS only 1g SAR (W/kg)	WLAN2.4GHz Ant 9 Simultaneous Non DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 9 Simultaneous DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 7+9 Standalone Non DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 7+9 Standalone DBS only 1g SAR (W/kg)	WLAN2.4GHz Ant 7+9 Simultaneous Non DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 7+9 Simultaneous DBS 1g SAR (W/kg)	WLAN5GHz Ant 8+10 Standalone Non DBS 1g SAR (W/kg)	WLAN5GHz Ant 8+10 Standalone DBS only 1g SAR (W/kg)	WLAN5GHz Ant 8+10 Simultaneous Non DBS 1g SAR (W/kg)	WLAN5GHz Ant 8+10 Simultaneous DBS 1g SAR (W/kg)	Bluetooth Ant 7 1g SAR (W/kg)	WLAN6GHz Ant 8+10 Standalone Non DBS 1g SAR (W/kg)	WLAN6GHz Ant 8+10 Standalone DBS only 1g SAR (W/kg)	WLAN6GHz Ant 8+10 Simultaneous Non DBS 1g SAR (W/kg)	WLAN6GHz Ant 8+10 Simultaneous DBS 1g SAR (W/kg)
All Bands	Right Cheek	1.094	1.126	0.524	0.382	0.197	1.181	0.569	0.390	0.186	0.444	0.561	0.336	0.188	0.064	0.484	0.552	0.331	0.180
	Right Tilted	1.037	0.086	0.524	0.382	0.197	0.887	0.569	0.390	0.186	0.414	0.561	0.336	0.188	0.070	0.614	0.552	0.331	0.180
	Left Cheek	1.096	0.466	0.524	0.382	0.197	0.999	0.569	0.390	0.186	1.100	0.561	0.336	0.188	0.108	0.819	0.552	0.331	0.180
	Left Tilted	0.737	0.115	0.524	0.382	0.197	0.986	0.569	0.390	0.186	0.783	0.561	0.336	0.188	0.116	0.718	0.552	0.331	0.180

WWAN Band	Exposure Position	2+14	10+14	15+14	7+11	7+16	3+11+14	3+16+14	1+8	1+12+14	1+17+14	1+4+14	1+9+13	1+9+18	1+5+13+14	1+5+18+14
		Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
All Bands	Right Cheek	1.19	0.51	0.55	1.13	1.12	1.15	1.14	1.48	1.49	1.49	1.54	1.47	1.46	1.54	1.54
	Right Tilted	0.16	0.48	0.68	1.13	1.12	1.16	1.15	1.43	1.44	1.44	1.49	1.41	1.40	1.49	1.48
	Left Cheek	0.57	1.21	0.93	1.13	1.12	1.19	1.18	1.49	1.54	1.54	1.59	1.47	1.46	1.59	1.58
	Left Tilted	0.23	0.90	0.83	1.13	1.12	1.20	1.19	1.13	1.19	1.18	1.24	1.11	1.10	1.24	1.23

16.4 Hotspot Exposure Conditions

<RFID on>

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		WWAN Ant 9 Standalone Non DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 9 Standalone DBS only 1g SAR (W/kg)	WLAN2.4GHz Ant 9 Standalone DBS only 1g SAR (W/kg)	WLAN2.4GHz Ant 9 Simultaneous Non DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 9 Simultaneous DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 7+9 Standalone Non DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 7+9 Standalone DBS only 1g SAR (W/kg)	WLAN2.4GHz Ant 7+9 Simultaneous Non DBS 1g SAR (W/kg)	WLAN2.4GHz Ant 7+9 Simultaneous DBS 1g SAR (W/kg)	WLAN5GHz Ant 8+10 Standalone Non DBS 1g SAR (W/kg)	WLAN5GHz Ant 8+10 Standalone DBS only 1g SAR (W/kg)	WLAN5GHz Ant 8+10 Simultaneous Non DBS 1g SAR (W/kg)	WLAN5GHz Ant 8+10 Simultaneous DBS 1g SAR (W/kg)	Bluetooth Ant 7 1g SAR (W/kg)	RFID 1g SAR (W/kg)
All Bands	Front	0.793	0.586	0.586	0.371	0.168	0.403	0.558	0.375	0.180	0.753	0.545	0.380	0.193	0.002	0.163
	Back	0.793	0.693	0.693	0.371	0.168	0.520	0.558	0.375	0.180	1.088	0.545	0.380	0.193	0.024	0.099
	Left side	0.793			0.371	0.168	0.159	0.558	0.375	0.180	0.241	0.545	0.380	0.193	0.002	0.051
	Right side	0.793	0.799	0.799	0.371	0.168	0.654	0.558	0.375	0.180	0.709	0.545	0.380	0.193	0.002	0.018
	Top side	0.793			0.371	0.168	1.144	0.558	0.375	0.180	0.929	0.545	0.380	0.193	0.034	0.131
	Bottom side	0.793	0.097	0.097	0.371	0.168										

WWAN Band	Exposure Position	2+14+15	10+14+15	7+11+15	3+11+14+15	1+8+15	1+12+14+15	1+4+14+15	1+9+13+15	1+5+13+14+15	6+15	1+14+15
		Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)	Summed 1g SAR (W/kg)
All Bands	Front	0.75	0.92	1.27	1.30	1.33	1.34	1.33	1.33	1.32	0.57	0.96
	Back	0.82	1.21	1.20	1.36	1.27	1.30	1.29	1.27	1.28	0.62	0.92
	Left side	0.05	0.29	1.15	0.60	1.22	1.23	1.22	1.22	1.21	0.21	0.85
	Right side	0.82	0.73	1.12	1.36	1.19	1.19	1.18	1.18	1.17	0.67	0.81
	Top side	0.17	1.09	1.23	0.71	1.30	1.34	1.33	1.30	1.32	1.28	0.96
	Bottom side	0.10	0.00	0.00	0.10	0.79	0.79	1.16	0.79	0.96	0.00	0.79



<RFID off>

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14
		WWAN	WLAN2.4GHz Ant 9 Standalone Non DBS	WLAN2.4GHz Ant 9 Standalone DBS only	WLAN2.4GHz Ant 9 Simultaneous Non DBS	WLAN2.4GHz Ant 9 Simultaneous DBS	WLAN2.4GHz Ant 7+9 Standalone Non DBS	WLAN2.4GHz Ant 7+9 Standalone DBS only	WLAN2.4GHz Ant 7+9 Simultaneous Non DBS	WLAN2.4GHz Ant 7+9 Simultaneous DBS	WLAN5GHz Ant 8+10 Standalone Non DBS	WLAN5GHz Ant 8+10 Standalone DBS only	WLAN5GHz Ant 8+10 Simultaneous Non DBS	WLAN5GHz Ant 8+10 Simultaneous DBS	Bluetooth Ant 7
		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)	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)
All Bands	Front	1.089	0.586	0.586	0.371	0.168	0.403	0.558	0.375	0.180	0.753	0.545	0.380	0.193	0.002
	Back	1.088	0.693	0.693	0.371	0.168	0.520	0.558	0.375	0.180	1.088	0.545	0.380	0.193	0.024
	Left side	1.180			0.371	0.168	0.159	0.558	0.375	0.180	0.241	0.545	0.380	0.193	0.002
	Right side	0.799	0.799	0.799	0.371	0.168	0.654	0.558	0.375	0.180	0.709	0.545	0.380	0.193	0.002
	Top side	1.144			0.371	0.168	1.144	0.558	0.375	0.180	0.929	0.545	0.380	0.193	0.034
	Bottom side	1.088	0.097	0.097	0.371	0.168									

WWAN Band	Exposure Position	2+14	10+14	7+11	3+11+14	1+8	1+12+14	1+4+14	1+9+13	1+5+13+14	1+14
		Summed	Summed	Summed	Summed	Summed	Summed	Summed	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)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
All Bands	Front	0.59	0.76	1.10	1.13	1.46	1.47	1.46	1.46	1.45	1.09
	Back	0.72	1.11	1.10	1.26	1.46	1.49	1.48	1.46	1.47	1.11
	Left side	0.00	0.24	1.10	0.55	1.56	1.56	1.55	1.55	1.54	1.18
	Right side	0.80	0.71	1.10	1.35	1.17	1.18	1.17	1.17	1.16	0.80
	Top side	0.03	0.96	1.10	0.58	1.52	1.56	1.55	1.52	1.54	1.18
	Bottom side	0.10	0.00	0.00	0.10	1.09	1.09	1.46	1.09	1.26	1.09

16.5 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
		WWAN	WLAN2.4GHz Ant 9 Standalone Non DBS	WLAN2.4GHz Ant 9 Standalone DBS only	WLAN2.4GHz Ant 9 Simultaneous Non DBS	WLAN2.4GHz Ant 9 Simultaneous DBS	WLAN2.4GHz Ant 7+9 Standalone Non DBS	WLAN2.4GHz Ant 7+9 Standalone DBS only	WLAN2.4GHz Ant 7+9 Simultaneous Non DBS	WLAN2.4GHz Ant 7+9 Simultaneous DBS	WLAN5GHz Ant 8+10 Standalone Non DBS	WLAN5GHz Ant 8+10 Standalone DBS only	WLAN5GHz Ant 8+10 Simultaneous Non DBS	WLAN5GHz Ant 8+10 Simultaneous DBS	Bluetooth Ant 7	WLAN6GHz Ant 8+10 Standalone Non DBS	WLAN6GHz Ant 8+10 Standalone DBS only	WLAN6GHz Ant 8+10 Simultaneous Non DBS	WLAN6GHz Ant 8+10 Simultaneous DBS	RFID
		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)	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)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
All Bands	Front	0.953	0.313	0.156	0.156	0.156	0.410	0.196	0.196	0.196	0.470	0.547	0.398	0.183	0.002	0.072	0.072	0.072	0.072	0.104
	Back	0.989	0.353	0.156	0.156	0.156	0.489	0.196	0.196	0.196	1.180	0.547	0.398	0.183	0.022	0.238	0.238	0.238	0.238	0.073

WWAN Band	Exposure Position	2+14+19	10+14+19	15+14+19	7+11+19	7+16+19	3+11+14+19	3+16+14+19	1+8+19	1+12+14+19	1+17+14+19	1+4+14+19	1+9+13+19	1+9+18+19	1+5+13+14+19	1+5+18+14	6+19	10+19	15+19	1+14+19	1+5+18+19
		Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	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)	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)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)
All Bands	Front	0.42	0.58	0.18	0.85	0.37	0.81	0.33	1.25	1.46	1.13	1.22	1.44	1.33	1.40	1.18	0.51	0.57	0.18	1.06	1.29
	Back	0.45	1.28	0.33	0.82	0.51	0.80	0.49	1.26	1.48	1.32	1.24	1.44	1.50	1.42	1.41	0.56	1.25	0.31	1.08	1.46

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

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

<RFID on>

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
		WWAN	WLAN2.4GHz Ant 7+9 Standalone Non DBS	WLAN2.4GHz Ant 7+9 Standalone DBS only	WLAN2.4GHz Ant 7+9 Simultaneous Non DBS	WLAN2.4GHz Ant 7+9 Simultaneous DBS	WLAN5GHz Ant 8+10 Standalone Non DBS	WLAN5GHz Ant 8+10 Standalone DBS only	WLAN5GHz Ant 8+10 Simultaneous Non DBS	WLAN5GHz Ant 8+10 Simultaneous DBS	WLAN6GHz Ant 8+10 Standalone Non DBS	WLAN6GHz Ant 8+10 Standalone DBS only	WLAN6GHz Ant 8+10 Simultaneous Non DBS	WLAN6GHz Ant 8+10 Simultaneous DBS	RFID	NFC
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
All Bands	Front	1.989	3.160	1.493	0.809	0.349	1.336	1.511	0.812	0.465	0.172	0.172	0.172	0.172	0.258	0.002
	Back	1.989	3.160	1.493	0.809	0.349	2.670	1.511	0.812	0.465	0.434	0.434	0.434	0.434	0.215	0.076
	Left side	1.989	3.160	1.493	0.809	0.349	0.397	1.511	0.812	0.465	0.049	0.049	0.049	0.049	0.202	0.001
	Right side	1.989	3.160	1.493	0.809	0.349	2.660	1.511	0.812	0.465	0.121	0.121	0.121	0.049	0.011	0.001
	Top side	1.989	3.160	1.493	0.809	0.349	2.959	1.511	0.812	0.465	0.311	0.311	0.311	0.311	0.163	0.001
	Bottom side	1.989													0.007	0.001

WWAN Band	Exposure Position	6+14+15	3+7+14+15	3+11+14+15	1+4+14+15	1+8+14+15	1+12+14+15	1+5+9+14+15	1+5+13+14+15	2+14+15	10+14+15
		Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	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)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
All Bands	Front	1.60	3.26	1.93	3.06	3.06	2.42	3.06	2.77	3.42	0.43
	Back	2.96	3.30	2.22	3.09	3.09	2.71	3.09	3.06	3.45	0.73
	Left side	0.60	3.21	1.75	3.00	3.00	2.24	3.01	2.59	3.36	0.25
	Right side	2.67	3.02	1.63	2.81	2.81	2.12	2.82	2.40	3.17	0.13
	Top side	3.12	3.17	1.97	2.96	2.97	2.46	2.97	2.81	3.32	0.48
	Bottom side	0.01	0.01	0.01	2.00	2.00	2.00	2.00	2.00	0.01	0.01

<RFID off>

WWAN Band	Exposure Position	1	2	3	4	5	6	7	8	9	10	11	12	13	15
		WWAN	WLAN2.4GHz Ant 7+9 Standalone Non DBS	WLAN2.4GHz Ant 7+9 Standalone DBS only	WLAN2.4GHz Ant 7+9 Simultaneous Non DBS	WLAN2.4GHz Ant 7+9 Simultaneous DBS	WLAN5GHz Ant 8+10 Standalone Non DBS	WLAN5GHz Ant 8+10 Standalone DBS only	WLAN5GHz Ant 8+10 Simultaneous Non DBS	WLAN5GHz Ant 8+10 Simultaneous DBS	WLAN6GHz Ant 8+10 Standalone Non DBS	WLAN6GHz Ant 8+10 Standalone DBS only	WLAN6GHz Ant 8+10 Simultaneous Non DBS	WLAN6GHz Ant 8+10 Simultaneous DBS	NFC
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
All Bands	Front	3.129	3.160	1.493	0.809	0.349	1.336	1.511	0.812	0.465	0.172	0.172	0.172	0.172	0.002
	Back	2.670	3.160	1.493	0.809	0.349	2.670	1.511	0.812	0.465	0.434	0.434	0.434	0.434	0.076
	Left side	3.176	3.160	1.493	0.809	0.349	0.397	1.511	0.812	0.465	0.049	0.049	0.049	0.049	0.001
	Right side	2.660	3.160	1.493	0.809	0.349	2.660	1.511	0.812	0.465	0.121	0.121	0.121	0.049	0.001
	Top side	3.160	3.160	1.493	0.809	0.349	2.959	1.511	0.812	0.465	0.311	0.311	0.311	0.311	0.001
	Bottom side	3.031													0.001

WWAN Band	Exposure Position	6+15	3+7+15	3+11+15	1+4+15	1+8+15	1+12+15	1+5+9+15	1+5+13+15	2+15	10+15
		Summed	Summed	Summed	Summed	Summed	Summed	Summed	Summed	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)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
All Bands	Front	1.34	3.01	1.67	3.94	3.94	3.30	3.95	3.65	3.16	0.17
	Back	2.75	3.08	2.00	3.56	3.56	3.18	3.56	3.53	3.24	0.51
	Left side	0.40	3.01	1.54	3.99	3.99	3.23	3.99	3.58	3.16	0.05
	Right side	2.66	3.01	1.62	3.47	3.47	2.78	3.48	3.06	3.16	0.12
	Top side	2.96	3.01	1.81	3.97	3.97	3.47	3.98	3.82	3.16	0.31
	Bottom side	0.00	0.00	0.00	3.03	3.03	3.03	3.03	3.03	0.00	0.00

Test Engineer : Martin Li, Varus Wang, Ricky Gu, Light Wang

17. 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.

18. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [6] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.
- [7] FCC KDB 648474 D04 v01r03, "SAR Evaluation Considerations for Wireless Handsets", Oct 2015.
- [8] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [9] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [10] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [11] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [12] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.
- [13] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015

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