

FCC SAR Test Report

APPLICANT : Relay, Inc.
EQUIPMENT : Relay
BRAND NAME : Relay
MODEL NAME : RY2268
FCC ID : 2AMBHRY2268
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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



Approved by: Si Zhang



Sporton International Inc. (Kunshan)

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA250507	Rev. 01	Initial issue of report.	May 31, 2024

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Relay, Inc., Relay, RY2268**, are as follows.

Highest 1g SAR Summary							
Equipment Class	Frequency Band		Head (Separation 0mm)	Face (Separation 25mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)				
Licensed	LTE	LTE Band 7	0.35	0.17	0.59	0.35	1.59
		LTE Band 12	0.80	0.15	0.75	0.75	
		LTE Band 13	0.63	0.16	0.68	0.68	
		LTE Band 14	0.71	0.13	0.69	0.69	
		LTE Band 25/2	0.70	0.26	0.99	0.33	
		LTE Band 26/5	0.74	0.13	0.65	0.65	
		LTE Band 30	0.76	0.16	0.74	0.51	
		LTE Band 66/4	0.58	0.20	0.69	0.55	
		LTE Band 71	0.79	0.28	0.79	0.79	
		LTE Band 41/38	0.22	<0.10	0.73	0.30	
		LTE Band 48	0.74	0.17	0.79	0.42	
	5G NR	FR1 n25/n2	0.89	0.23	1.02	0.46	
		FR1 n7	0.43	<0.10	0.67	0.30	
		FR1 n12	0.75	0.23	0.67	0.67	
		FR1 n13	0.39	0.21	0.63	0.63	
		FR1 n14	0.78	0.27	0.75	0.75	
		FR1 n26/n5	0.32	0.43	0.42	0.42	
		FR1 n30	0.71	<0.10	0.69	0.54	
		FR1 n66	0.66	0.39	0.69	0.44	
		FR1 n70	0.80	<0.10	0.71	0.59	
		FR1 n71	0.72	0.38	0.74	0.74	
		FR1 n41/n38	0.82	0.19	0.75	0.60	
		FR1 n48	0.62	0.32	0.77	0.39	
		FR1 n77/n78	0.68	0.71	1.03	0.73	
DTS	WLAN	2.4GHz WLAN	0.18	0.20*	0.52	0.20	1.58
NII		5GHz WLAN	0.54	0.49	0.53	0.71	1.59
DSS	Bluetooth	2.4GHz Bluetooth	<0.10	<0.10*	<0.10	<0.10	1.59
DTS	LoRa	LoRa	0.15	0.12*	0.12	0.12	1.59

Note: “*” means that this device has PTT (Push-To-Talk) function, so in-front-of the face SAR (head SAR) has been evaluated with 25mm distance using head liquid under the flat phantom. However, for WLAN2.4GHz/6GHz/BT/LoRa bands, the 5mm SAR at front of body worn can represent in-front-of the face SAR (head SAR) more conservatively.

Highest 10g SAR Summary			
Equipment Class	Frequency Band		Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	LTE	LTE Band 7	0.36
		LTE Band 25/2	0.79
		LTE Band 30	1.09
		LTE Band 66/4	0.71
		LTE Band 71	0.59
		LTE Band 41/38	0.38
		LTE Band 48	0.55
	5G NR	FR1 n25/n2	1.12
		FR1 n7	0.28
		FR1 n30	1.09
		FR1 n66	0.61
		FR1 n70	1.00
		FR1 n41/38	0.89
		FR1 n48	0.52
		FR1 n77/n78	1.01
NII	WLAN	5GHz WLAN	0.67
Date of Testing:		2024/2/27 ~ 2024/5/18	

Remark:

1. This device supports LTE B2 / B4 / B5 / B38 and B25 / B66 / B26 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B38 falls completely within the supports frequency span for LTE B25 / 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 B25 / B66 / B26 / B41.
2. This device supports 5GNR n2/n38/n5/n78 and n25/n41/n26/n77. Since the supported frequency span for 5GNR n2/n38/n5/n78 falls completely within the supports frequency span for n25/n41/n26/n77, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n25/n41/n26/n77.

Declaration of Conformity:

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

Comments and Explanations:

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

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

2. Administration Data

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR05-KS	CN1257	314309

Applicant	
Company Name	Relay, Inc.
Address	4200 Six Forks Rd, Suite 1800, Raleigh, NC 27609, USA

Manufacturer	
Company Name	Relay, Inc.
Address	4200 Six Forks Rd, Suite 1800, Raleigh, NC 27609, USA

3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01



4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Relay
Brand Name	Relay
Model Name	RY2268
FCC ID	2AMBHRY2268
IMEI Code	990007570009560
Wireless Technology and Frequency Range	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 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 n12: 699 MHz ~ 716 MHz 5G NR n13: 777 MHz ~ 787 MHz 5G NR n14: 788 MHz ~ 798 MHz 5G NR n25: 1850 MHz ~ 1915 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n30: 2305 MHz ~ 2315 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n48: 3550 MHz ~ 3700 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n70: 1695 MHz ~ 1710 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 ~ 5700 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 LoRa DTS: 904 MHz ~ 926 MHz UWB: 6489.6MHz & 7987.2MHz
Mode	LTE: QPSK, 16QAM, 64QAM, 256QAM ⁽⁹⁾ 5G NR : CP-OFDM / DFT-s-OFDM, PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac/ax VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160

	WLAN 6GHz 802.11a/ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK LoRa UWB: BPM-BPSK
HW Version	V01
EUT Stage	Identical Prototype
Remark: 1. This device supports VoIP in LTE and 5G NR (e.g. for 3rd-party VoIP), LTE does not support VoLTE operation. 2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications. 3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only). 4. The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO/MIMO antenna mode. 5. For LTE Band 41 support up to 256QAM, all other LTE bands support up to 64QAM. 6. The device implements Proximity sensors/receiver detect mechanism trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). Details about the power management decision and sensor detection are provided in the operational description. The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. 7. LTE Band 41 and 5G NR n41/77/n78 supports HPUE only, HPUE power and SAR testing performed separately. 8. For 5G NR n41/77/n78 HPUE, 5G NR n41/77/n78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM to perform SAR with default 100% transmission. 9. For LoRa, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing. 10. The UWB output power is -14.1dBm and it is less than 1mW and exempt from power density testing. 11. This device has NFC function and the NFC SAR report will be separately submitted. 12. SAR and Power density test report for WLAN 6GHz U-NII-5/6/7/8 will be separately submitted. About co-located SAR with WWAN/Bluetooth always chose higher SAR of WLAN 5GHz U-NII-1/2A/2C/3 and WLAN 6GHz U-NII-5/6/7/8. 13. This device has PTT (Push-To-Talk) function, so in-front-of the face SAR (head SAR) has been evaluated with 25mm distance using head liquid under the flat phantom. 14. 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
	n25	FDD	15	5, 10, 15, 20, 25, 30, 40
	n30	FDD	15	5, 10
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n71	FDD	15	5, 10, 15, 20
	n41	TDD	30	10, 15, 20, 30, 40, 50, 60, 80, 90, 100
	n77	TDD	30	10, 15, 20, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 25, 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
	n12	FDD	15	5, 10, 15
	n13	FDD	15	5, 10
	n14	FDD	15	5, 10
	n25	FDD	15	5, 10, 15, 20, 25, 30, 40
	n26	FDD	15	5, 10, 15, 20
	n30	FDD	15	5, 10
	n66	FDD	15	5, 10, 15, 20, 30, 40
	n70	FDD	15	5, 10, 15
	n71	FDD	15	5, 10, 15, 20
	n38	TDD	30	10, 15, 20, 30, 40

	n41	TDD	30	10, 15, 20, 30, 40, 50, 60, 80, 90, 100
	n48	TDD	30	10, 15, 20, 40
	n77	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100
	n78	TDD	30	10, 15, 20, 25, 30, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																													
FCC ID	2AMBHRY2268																																																																												
Equipment Name	Relay																																																																												
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 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 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 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	R12, Cat5																																																																												
CA Support	Not Supported																																																																												
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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256 QAM	≥ 1						≤ 5																																																																						
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																																												
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																																												
Power reduction applied to satisfy SAR compliance	Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body worn/hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 13.																																																																												



Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 14												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Channel #		Channel #		Freq.(MHz)					
L	23305		790.5		23330		793					
M	23330		793									
H	23355		795.5									
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26990	844	26965	841.5
LTE Band 30												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	27685		2307.5		27710		2310					
M	27710		2310									
H	27735		2312.5									
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)



	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 48												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560				
LM	55810	3607	55815	3607.5	55820	3608	55830	3609				
MH	56170	3643	56165	3642.5	56160	3642	56150	3641				
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690				
LTE Band 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)	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 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Antenna	Default	Head	Body-worn	Hotspot	Extremity
		Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit
LTE Band 2	Ant 1	24	24	17.5	17.5	17.5
LTE Band 2 NSA		24	21	14.5	14.5	14.5
LTE Band 25		24	24	17.5	17.5	17.5
LTE Band 2	Ant 2	24	17	17	17	17
LTE Band 25		24	17	17	17	17
LTE Band 5		25	25	25	25	25
LTE Band 5 NSA	Ant 1	25	22	22	22	22
LTE Band 26		25	25	25	25	25
LTE Band 4		24	19.5	16.5	16.5	16.5
LTE Band 66	Ant 1	24	19.5	16.5	16.5	16.5
LTE Band 38		24	24	18.5	18.5	18.5
LTE Band 41		26	26	20.5	20.5	20.5

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 n12: 699 MHz ~ 716 MHz 5G NR n13: 777 MHz ~ 787 MHz 5G NR n14: 788 MHz ~ 798 MHz 5G NR n25: 1850 MHz ~ 1915 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n30: 2305 MHz ~ 2315 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n48: 3550 MHz ~ 3700 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n70: 1695 MHz ~ 1710 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 5GNR FR1 bands table.
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B5/12/13/14/66/30
LTE Anchor Bands for n5	LTE B2/66/30
LTE Anchor Bands for n25	LTE B66
LTE Anchor Bands for n30	LTE B2/12/14/66
LTE Anchor Bands for n41	LTE B25/66
LTE Anchor Bands for n66	LTE B2/5/12/13/30
LTE Anchor Bands for n71	LTE B2/66
LTE Anchor Bands for n77	LTE B2/5/12/13/66
LTE Anchor Bands for n78	LTE B2/5/12/7/66

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

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

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

NR Band 12						
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	140300	701.5	140800	704	141300	706.5
M	141500	707.5	141500	707.5	141500	707.5
H	142700	713.5	142200	711	141700	708.5

NR Band 13				
	Bandwidth 5MHz		Bandwidth 10MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	155900	779.5	156400	782
M	156400	782		
H	156900	784.5		

NR Band 14				
	Bandwidth 5MHz		Bandwidth 10MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	158100	790.5	158600	793
M	158600	793		
H	159100	795.5		

NR Band 25														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	374000	1870
M	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5
H	382500	1912.5	382000	1910	381500	1907.5	381000	1905	380500	1902.5	380000	1900	379000	1895

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

NR Band 30				
	Bandwidth 5MHz		Bandwidth 10MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	461500	2307.5	462000	2310
M	462000	2310		
H	462500	2312.5		

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)
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 70						
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	339500	1697.5	340000	1700	340500	1702.5
M	340500	1702.5	340500	1702.5		
H	341500	1707.5	341000	1705		

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										
	Bandwidth10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515004	2575.02	515502	2577.51	516000	2580	517002	2585.01	518004	2590.02
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	522996	2614.98	522498	2612.49	522000	2610	520998	2604.99	519996	2599.98



NR Band 41													
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526
M 518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H 537000	2685	536498	2682.48	535998	2679.99	534998	2674.98	534000	2670	532998	2664.99	531998	2659.98

NR Band 48							
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 40MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 637000	3555	637168	3557.52	637334	3560.01	638000	3570
M 641666	3624.99	641666	3624.99	641666	3624.99	641666	3624.99
H 646332	3694.98	646166	3692.49	646000	3690	645332	3679.98

NR Band 77																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02
M 656000	3840	656000	3840	656000	3840	656000	3840.00	656000	3840.00	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H 665000	3975	664832	3972.48	664666	3969.99	664500	3967.50	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98

NR Band 78																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02
M 650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H 653000	3795	652834	3792.51	652668	3790.02	652500	3787.5	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 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 630334	3455.01	630500	3457.5	630668	3460.02	630834	3462.51	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495
M 633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H 636334	3545.01	636168	3542.52	636000	3540	635834	3537.51	635668	3535.02	635334	3530.01	635000	3525	634668	3520.02	634334	3515.01	634000	3510	633668	3505.02

NR Band 78																					
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 630334	3455.01	630500	3457.5	630668	3460.02	630834	3462.51	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495
M 633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01	633334	3500.01
H 636334	3545.01	636168	3542.52	636000	3540	635834	3537.51	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	5MHz	10 MHz	15 MHz	20 MHz	25 MHz	30 MHz	40 MHz	50 MHz	60 MHz	70 MHz	80 MHz	90 MHz	100 MHz
FR1 n2	Yes	Yes	Yes	Yes									
FR1 n25	Yes	Yes	Yes	Yes	Yes	Yes	Yes						
FR1 n5	Yes	Yes	Yes	Yes									
FR1 n26	Yes	Yes	Yes	Yes									
FR1 n38		Yes	Yes	Yes		Yes	Yes						
FR1 n41		Yes	Yes	Yes		Yes	Yes	Yes	Yes		Yes	Yes	Yes
FR1 n77		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FR1 n78		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: 5GNR does not support 25MHz Bandwidths in NSA mode.

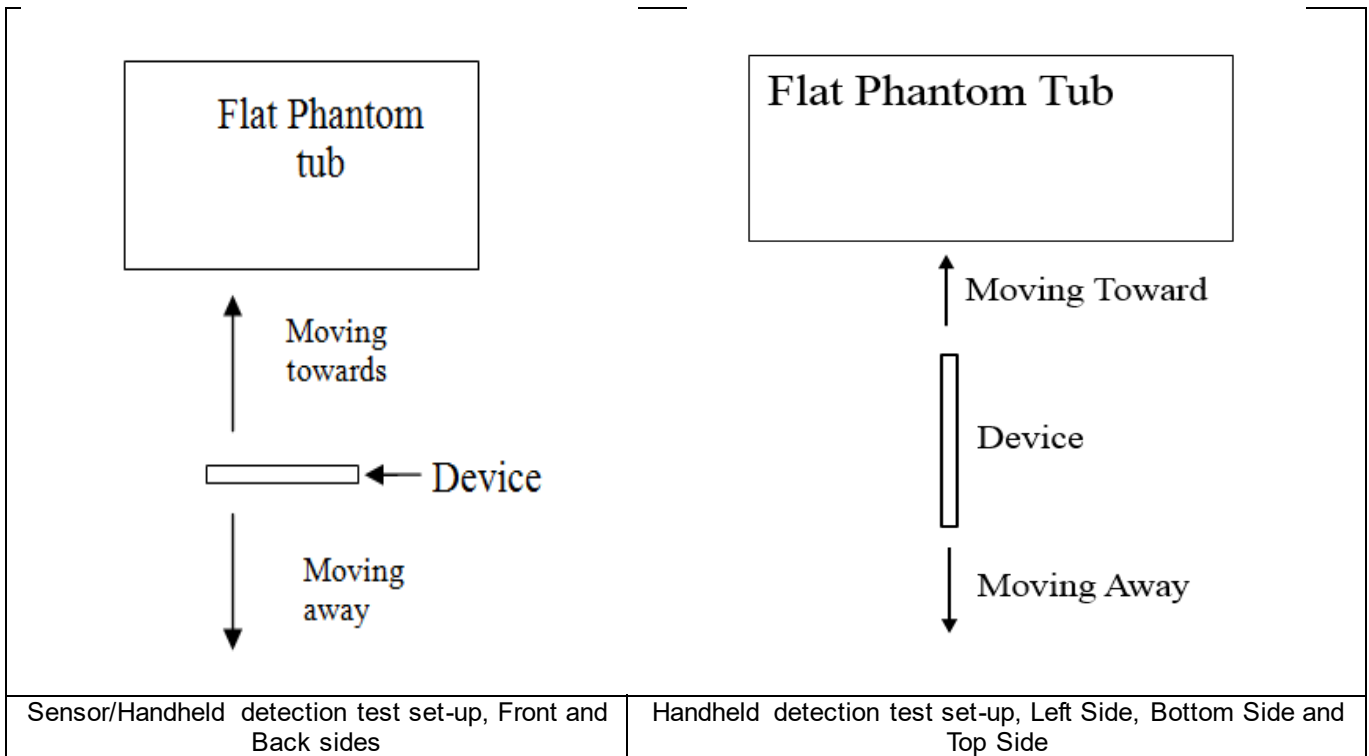
2) NR Bands tune up:

Band	Antenna	Default	Head	Body-worn	Hotspot	Extremity
		Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit	Tune up Limit
FR1 n2	Ant 1	24	23	18.5	18.5	18.5
FR1 n2 NSA		21	20	15.5	15.5	15.5
FR1 n25		24	23	18.5	18.5	18.5
FR1 n25 NSA		21	20	15.5	15.5	15.5
FR1 n5	Ant 1	24	24	24	24	24
FR1 n26		24	24	24	24	24
FR1 n38	Ant 1	24	24	15	15	15
FR1 n41		26	26	18	18	18
FR1 n41 NSA		26	23	15	15	15
FR1 n77 PC2	Ant 1	29	29	22	22	22
FR1 n78 PC2		29	29	22	22	22
FR1 n77 PC2	Ant 2	28	20.5	23	23	23
FR1 n78 PC2		28	20.5	23	23	23
FR1 n77 PC2	Ant 8	28	16	16	16	16
FR1 n78 PC2		28	16	16	16	16
FR1 n77 PC2	Ant 9	28	20	20	20	20
FR1 n78 PC2		28	20	20	20	20
FR1 n77 PC2 NSA	Ant 9	28	17	17	17	17
FR1 n78 PC2 NSA		28	17	17	17	17

5. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (3980MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the device are utilized to determine when the device comes in proximity of the user's body or finger or hand at the front or back or bottom or left or top side of the device. There is no need to do sensor coverage testing for the proximity sensor is designed to support sufficient detection range and sensitivity to cover regions of the sensors in all applicable directions since the proximity sensor entirely covers the antenna.
3. The sensors can use to detect the proximity of the user's body or handheld states at the front or back or bottom or left or top side of the device use a detection threshold distance. When front/back /left/top/bottom sides of body or handheld condition is detected reduced power will be active. The trigger distance shown in the sections below.
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



<Sensor for ANT 1&2&8&9>

Proximity Sensor Triggering Distance (mm)										
Position	Front		Back		Left Side		Top Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	25	28	18	22	20	25	25	28	20	27

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:

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

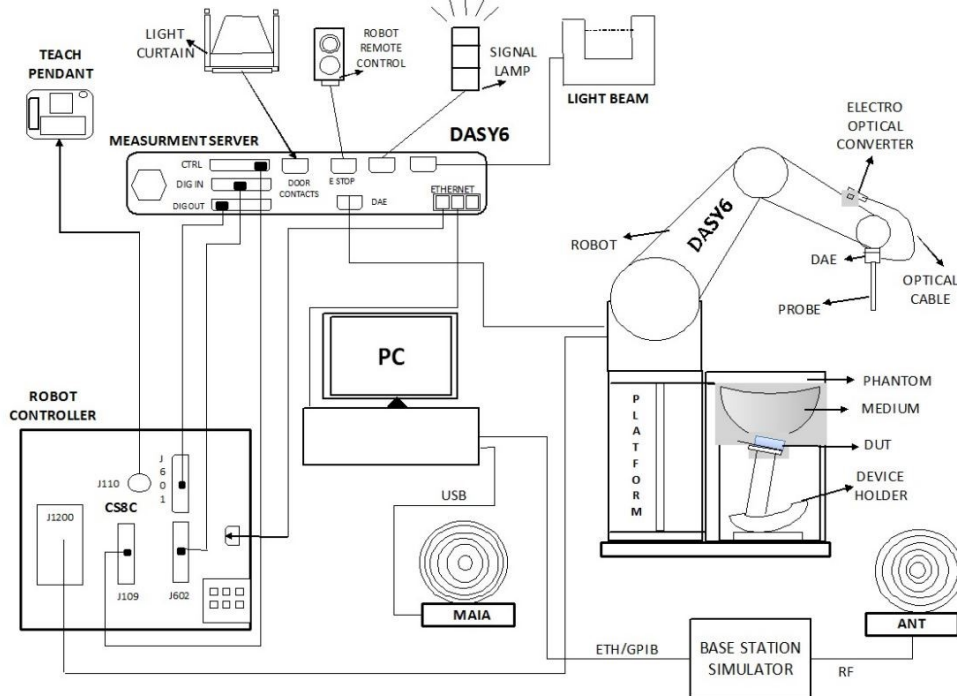
SAR is expressed in units of Watts per kilogram (W/kg)

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

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



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

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	10 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

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 D01 v01r04 SAR measurement 100 MHz to 6 GHz.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm *	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the <u>reported</u> SAR from the <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	2300MHz System Validation Kit	D2300V2	1055	2023/8/21	2024/8/20
SPEAG	2450MHz System Validation Kit	D2450V2	1040	2023/4/25	2024/4/24
SPEAG	2600MHz System Validation Kit	D2600V2	1070	2021/12/20	2024/12/18
SPEAG	3500MHz System Validation Kit	D3500V2	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	1279	2023/6/7	2024/6/6
SPEAG	Data Acquisition Electronics	DAE4	1338	2024/3/18	2025/3/17
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2024/1/22	2025/1/21
SPEAG	Dosimetric E-Field Probe	EX3DV4	7630	2023/6/2	2024/6/1
SPEAG	Dosimetric E-Field Probe	EX3DV4	7729	2024/1/22	2025/1/21
SPEAG	SAM Tw in Phantom	SAM Tw in	TP-1697	NCR	NCR
SPEAG	SAM Tw in Phantom	SAM Tw in	TP-2074	NCR	NCR
Testo	Thermo-Hygrometer	608-H1	1241332126	2023/7/10	2024/7/9
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Rohde & Schw arz	Signal Generator	SMB100A	100455	2024/1/2	2025/1/1
Keysight	Preamplifier	83017A	MY57280111	2023/7/5	2024/7/4
Anritsu	Radio Communication Analyzer	MT8821C	6262306175	2023/7/5	2024/7/4
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2023/7/5	2024/7/4
SPEAG	Dielectric Probe Kit	DAK-3.5	1144	2023/8/17	2024/8/16
Anritsu	Vector Signal Generator	MG3710A	6201682672	2024/1/2	2025/1/1
Rohde & Schw arz	Power Meter	NRVD	102081	2023/7/5	2024/7/4
Rohde & Schw arz	Power Sensor	NRV-Z5	100538	2023/7/5	2024/7/4
Rohde & Schw arz	Power Sensor	NRV-Z5	100539	2023/7/5	2024/7/4
Rohde & Schw arz	Power Sensor	NRP50S	101385	2023/10/11	2024/10/10
R&S	BLUETOOTH TESTER	CBT	101246	2023/5/15	2024/5/14
Rohde & Schw arz	Spectrum Analyzer	FSV7	101631	2023/10/11	2024/10/10
TES	DIGITAC THERMOMETER	1310	220305411	2023/7/8	2024/7/7
BONN	POWER AMPLIFIER	BLMA 0830-3	087193A	Note 1	
BONN	POWER AMPLIFIER	BLMA 2060-2	087193B	Note 1	
Agilent	Dual Directional Coupler	778D	20500	Note 1	
Agilent	Dual Directional Coupler	11691D	MY48151020	Note 1	
ARRA	Power Divider	A3200-2	N/A	Note 1	
MCL	Attenuation1	BW-S10W5+	N/A	Note 1	
MCL	Attenuation2	BW-S10W5+	N/A	Note 1	
MCL	Attenuation3	BW-S10W5+	N/A	Note 1	

Note:

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.

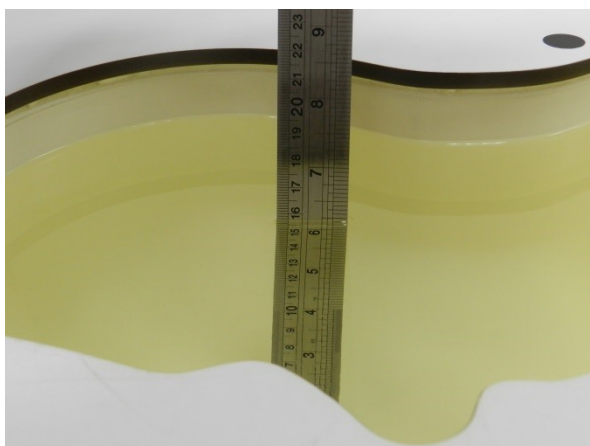


Fig 11.1 Photo of Liquid Height for Head SAR



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
2450	Head	22.8	1.805	38.547	1.80	39.20	0.28	-1.67	±5	2024/2/27
5250	Head	22.6	4.578	36.288	4.71	35.90	-2.80	1.08	±5	2024/2/27
5600	Head	22.6	4.950	35.713	5.07	35.50	-2.37	0.60	±5	2024/2/27
5750	Head	22.9	5.132	35.566	5.22	35.40	-1.69	0.47	±5	2024/2/27
750	Head	22.8	0.915	41.900	0.89	41.90	2.81	0.00	±5	2024/3/23
835	Head	22.8	0.930	40.900	0.90	41.50	3.33	-1.45	±5	2024/3/24
1750	Head	22.7	1.40	40.500	1.37	40.10	2.19	1.00	±5	2024/3/25
1900	Head	22.9	1.43	38.600	1.40	40.00	2.14	-3.50	±5	2024/3/26
2300	Head	22.6	1.72	39.400	1.67	39.50	2.99	-0.25	±5	2024/3/27
2600	Head	22.6	1.93	39.000	1.96	39.00	-1.53	0.00	±5	2024/3/28
3500	Head	22.7	2.79	39.600	2.91	37.90	-4.12	4.49	±5	2024/5/13
3700	Head	22.7	3.00	38.700	3.12	37.70	-3.85	2.65	±5	2024/5/14
3900	Head	22.8	3.19	38.400	3.32	37.50	-3.92	2.40	±5	2024/5/15
750	Head	22.7	0.888	42.300	0.89	41.90	-0.22	0.95	±5	2024/3/29
835	Head	22.6	0.911	41.900	0.90	41.50	1.22	0.96	±5	2024/3/30
1750	Head	22.7	1.32	40.200	1.37	40.10	-3.65	0.25	±5	2024/3/31
1900	Head	22.8	1.41	40.200	1.40	40.00	0.71	0.50	±5	2024/4/1
2300	Head	22.8	1.65	39.600	1.67	39.50	-1.20	0.25	±5	2024/4/2
2600	Head	22.6	1.87	39.200	1.96	39.00	-4.39	0.51	±5	2024/4/3
3500	Head	22.6	2.81	38.700	2.91	37.90	-3.44	2.11	±5	2024/5/16
3700	Head	22.8	2.99	38.400	3.12	37.70	-4.17	1.86	±5	2024/5/17
3900	Head	22.7	3.46	37.400	3.32	37.50	4.22	-0.27	±5	2024/5/18
2450	Head	22.6	1.740	39.300	1.80	39.20	-3.33	0.26	±5	2024/4/10
900	Head	22.7	0.951	40.800	0.97	41.50	-1.96	-1.69	±5	2024/4/12

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 (%)
2024/2/27	2450	Head	50	1040	3857	1279	2.440	52.70	48.8	-7.40
2024/2/27	5250	Head	50	1113	3857	1279	3.750	81.50	75	-7.98
2024/2/27	5600	Head	50	1113	3857	1279	3.890	82.60	77.8	-5.81
2024/2/27	5750	Head	50	1113	3857	1279	4.190	80.80	83.8	3.71
2024/3/23	750	Head	50	1087	7630	1338	0.435	8.58	8.7	1.40
2024/3/24	835	Head	50	4d091	7630	1338	0.501	9.45	10.02	6.03
2024/3/25	1750	Head	50	1090	7630	1338	1.900	37.00	38	2.70
2024/3/26	1900	Head	50	5d118	7630	1338	1.950	39.30	39	-0.76
2024/3/27	2300	Head	50	1055	7630	1338	2.590	48.40	51.8	7.02
2024/3/28	2600	Head	50	1070	7630	1338	2.790	56.20	55.8	-0.71
2024/5/13	3500	Head	50	1037	7630	1338	3.190	65.40	63.8	-2.45
2024/5/14	3700	Head	50	1008	7630	1338	3.300	67.20	66	-1.79
2024/5/15	3900	Head	50	1048	7729	1338	3.580	69.10	71.6	3.62
2024/3/29	750	Head	50	1087	7630	1338	0.414	8.58	8.28	-3.50
2024/3/30	835	Head	50	4d091	7630	1338	0.503	9.45	10.06	6.46
2024/3/31	1750	Head	50	1090	7630	1338	1.930	37.00	38.6	4.32
2024/4/1	1900	Head	50	5d118	7630	1338	2.090	39.30	41.8	6.36
2024/4/2	2300	Head	50	1055	7630	1338	2.300	48.40	46	-4.96
2024/4/3	2600	Head	50	1070	7630	1338	2.960	56.20	59.2	5.34
2024/5/16	3500	Head	50	1037	7630	1338	3.330	65.40	66.6	1.83
2024/5/17	3700	Head	50	1008	7630	1338	3.440	67.20	68.8	2.38
2024/5/18	3900	Head	50	1048	7729	1338	3.370	69.10	67.4	-2.46
2024/4/10	2450	Head	50	1040	7630	1338	2.820	52.70	56.4	7.02
2024/4/12	900	Head	50	1d186	7630	1338	0.522	10.90	10.44	-4.22

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2024/2/27	2450	Head	50	1040	3857	1279	1.140	24.60	22.8	-7.32
2024/2/27	5250	Head	50	1113	3857	1279	1.080	23.30	21.6	-7.30
2024/2/27	5600	Head	50	1113	3857	1279	1.190	23.70	23.8	0.42
2024/2/27	5750	Head	50	1113	3857	1279	1.220	23.00	24.4	6.09
2024/3/23	750	Head	50	1087	7630	1338	0.289	5.65	5.78	2.30
2024/3/24	835	Head	50	4d091	7630	1338	0.329	6.22	6.58	5.79
2024/3/25	1750	Head	50	1090	7630	1338	1.010	19.50	20.2	3.59
2024/3/26	1900	Head	50	5d118	7630	1338	1.040	20.40	20.8	1.96
2024/3/27	2300	Head	50	1055	7630	1338	1.270	23.70	25.4	7.17
2024/3/28	2600	Head	50	1070	7630	1338	1.260	24.60	25.2	2.44
2024/5/13	3500	Head	50	1037	7630	1338	1.240	24.70	24.8	0.40
2024/5/14	3700	Head	50	1008	7630	1338	1.250	24.40	25	2.46
2024/5/15	3900	Head	50	1048	7729	1338	1.290	24.10	25.8	7.05
2024/3/29	750	Head	50	1087	7630	1338	0.273	5.65	5.46	-3.36
2024/3/30	835	Head	50	4d091	7630	1338	0.330	6.22	6.6	6.11
2024/3/31	1750	Head	50	1090	7630	1338	1.040	19.50	20.8	6.67
2024/4/1	1900	Head	50	5d118	7630	1338	1.080	20.40	21.6	5.88

2024/4/2	2300	Head	50	1055	7630	1338	1.100	23.70	22	-7.17
2024/4/3	2600	Head	50	1070	7630	1338	1.310	24.60	26.2	6.50
2024/5/16	3500	Head	50	1037	7630	1338	1.300	24.70	26	5.26
2024/5/17	3700	Head	50	1008	7630	1338	1.310	24.40	26.2	7.38
2024/5/18	3900	Head	50	1048	7729	1338	1.220	24.10	24.4	1.24
2024/4/10	2450	Head	50	1040	7630	1338	1.320	24.60	26.4	7.32
2024/4/12	900	Head	50	1d186	7630	1338	0.340	7.02	6.8	-3.13

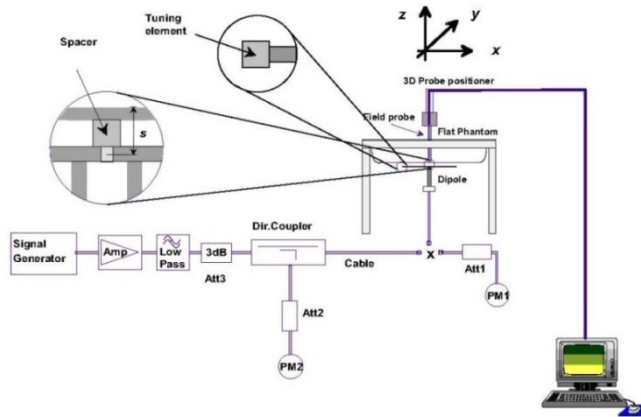


Fig 11.3.1 System Performance Check Setup



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.

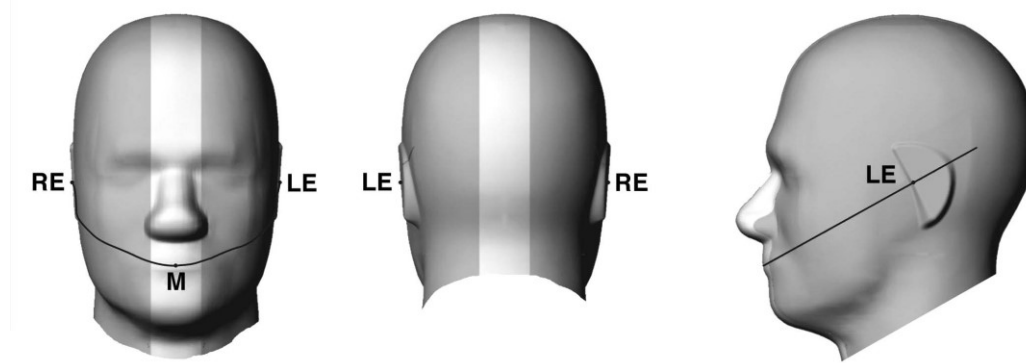


Fig 12.1.1 Front, back, and side views of SAM twin phantom

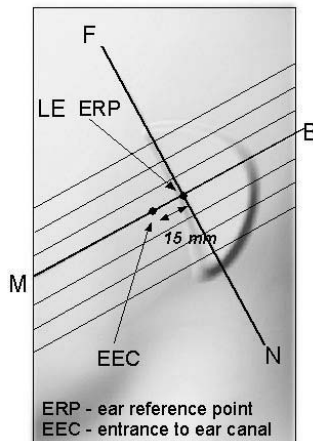


Fig 12.1.2 Close-up side view of phantom showing the ear region.

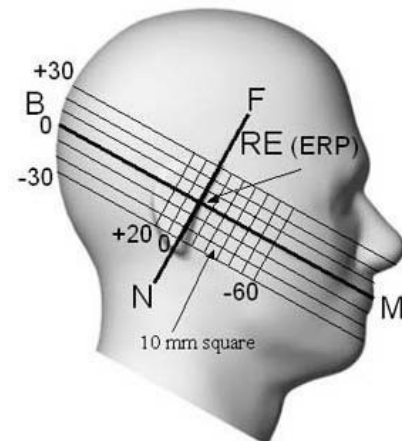


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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). 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.

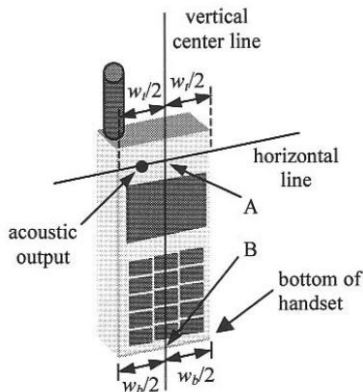


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

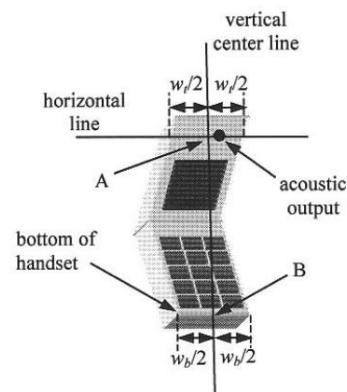


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

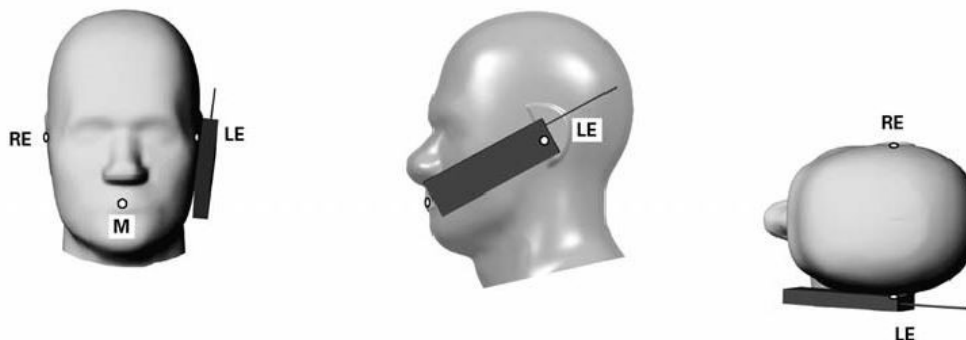


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

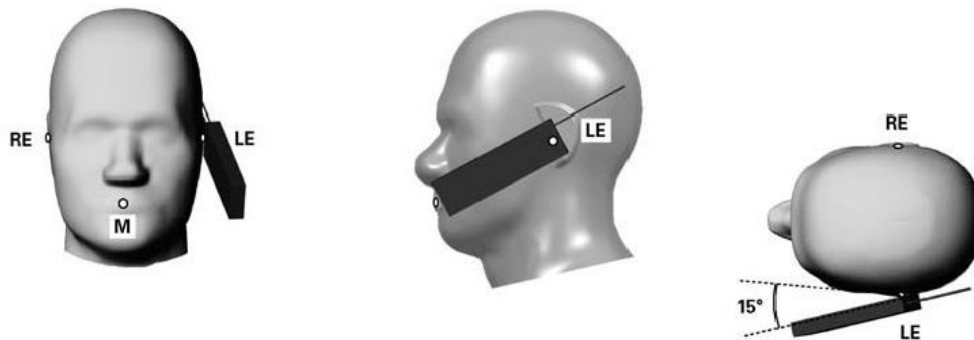


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

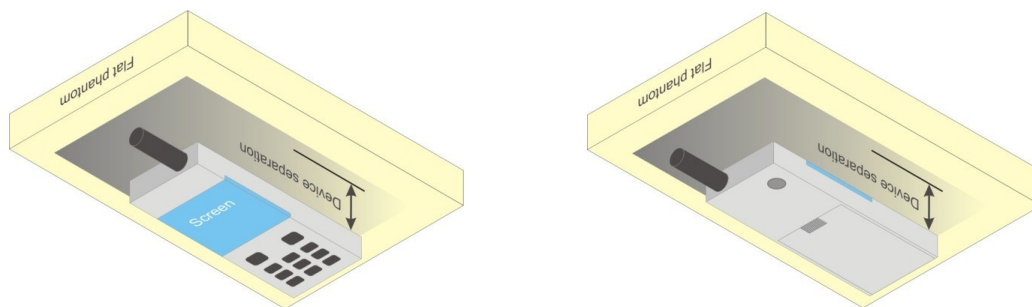


Fig 12.4 Body Worn Position

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 $\times$ 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)

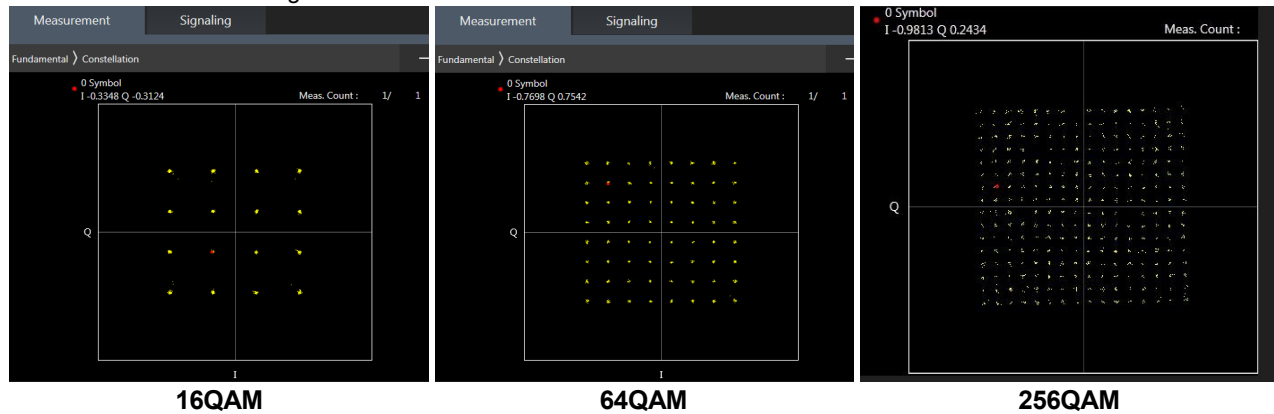
The detailed conducted power table can refer to Appendix E.

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B26 / B38/ B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B2 /B4 /B5 / B38 SAR test was covered by B25 / B66 / B26 / B41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

10. According to May 2017 TCB workshop, for 16QAM and 64QAM, 256QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 256QAM, 64QAM and 16QAM signal modulation are correct.



<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

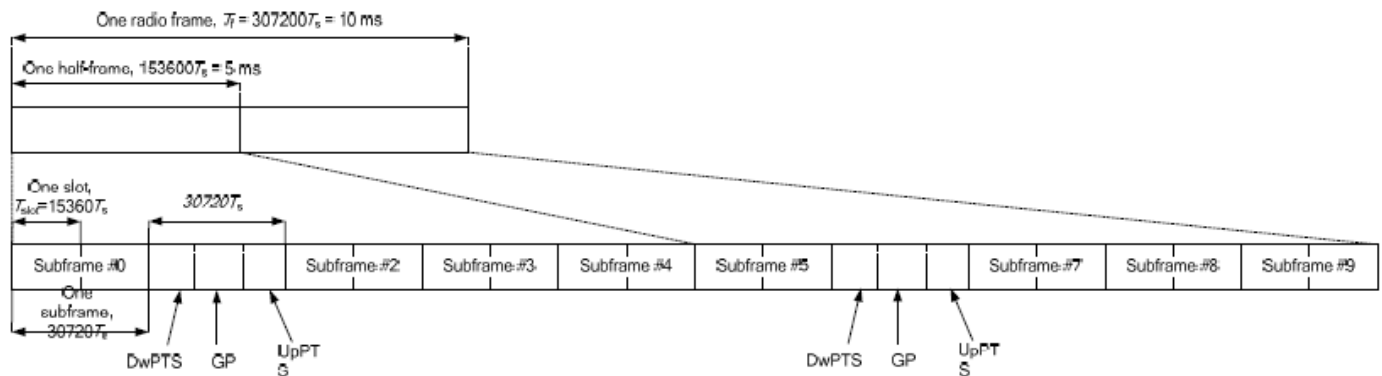


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

For LTE TDD Power class 2

- Uplink-downlink configuration: 1. In a half-frame consisted of 5 subframes, uplink operation is in 2 uplink subframes and 1 special subframe.
- special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink
- for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.167)/5 = 43.3\%$
- for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: $(2+0.143)/5 = 42.9\%$
- For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $43.3\%/42.9\% = 1.009$ is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

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

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

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n2/n5/n25/n30/n66/n71/n41/n77/n78 is NSA mode.
2. 5G NR n2/n5/n7/n12/n13/n14/n25/n26/n30/n66/n70/n71/n38/n41/n48/n77/n78 is SA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
 - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
 - d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
 - f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
4. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
5. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
6. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
7. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
8. 5G NR n41/77/n78 supports HPUE only, HPUE power and SAR testing performed separately.
9. For 5G NR n41/77/n78 HPUE, 5G NR n41/77/n78 PC2 Maximum Duty Cycle is 50%, using FTM (Factory Test Mode) with 50% duty cycle is considered during SAR testing. For 5G NR other bands, using FTM to perform SAR with default 100% transmission.
10. For 5G NR EN-DC mode, standalone SAR performed for 5G NR NSA band with the maximum power, EN-DC SAR summed EN-DC mode 5G NR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.

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

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

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

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

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

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

<EN-DC combination>

ENDC	LTETX	NR TX
DC_2A_n5A	ANT2	ANT1
DC_2A_n30A	ANT1	ANT9
DC_2A_n71A	ANT2	ANT1
DC_2A_n66A	ANT1	ANT2
DC_2A_n78A	ANT1	ANT9
DC_2A_n77A	ANT1	ANT9
DC_5A_n2A	ANT1	ANT2
DC_5A_n66A	ANT1	ANT2
DC_5A_n78A	ANT1	ANT9
DC_5A_n77A	ANT1	ANT9
DC_12A_n2A	ANT1	ANT2
DC_12A_n30A	ANT1	ANT9
DC_12A_n78A	ANT1	ANT9
DC_12A_n66A	ANT1	ANT2
DC_12A_n77A	ANT1	ANT9
DC_13A_n66A	ANT1	ANT2
DC_13A_n77A	ANT1	ANT9
DC_13A_n2A	ANT1	ANT2
DC_14A_n2A	ANT1	ANT2
DC_14A_n30A	ANT1	ANT9
DC_66A_n2A	ANT2	ANT1
DC_66A_n5A	ANT2	ANT1
DC_66A_n25A	ANT2	ANT1
DC_66A_n30A	ANT2	ANT9
DC_66A_n41A	ANT2	ANT1
DC_66A_n71A	ANT2	ANT1
DC_66A_n78A	ANT2	ANT8
DC_66A_n77A	ANT2	ANT8
DC_30A_n2A	ANT9	ANT1
DC_30A_n5A	ANT9	ANT1
DC_30A_n66A	ANT9	ANT1
DC_7A_n78A	ANT1	ANT9
DC_25A_n41A	ANT2	ANT8

<WLAN Conducted Power>

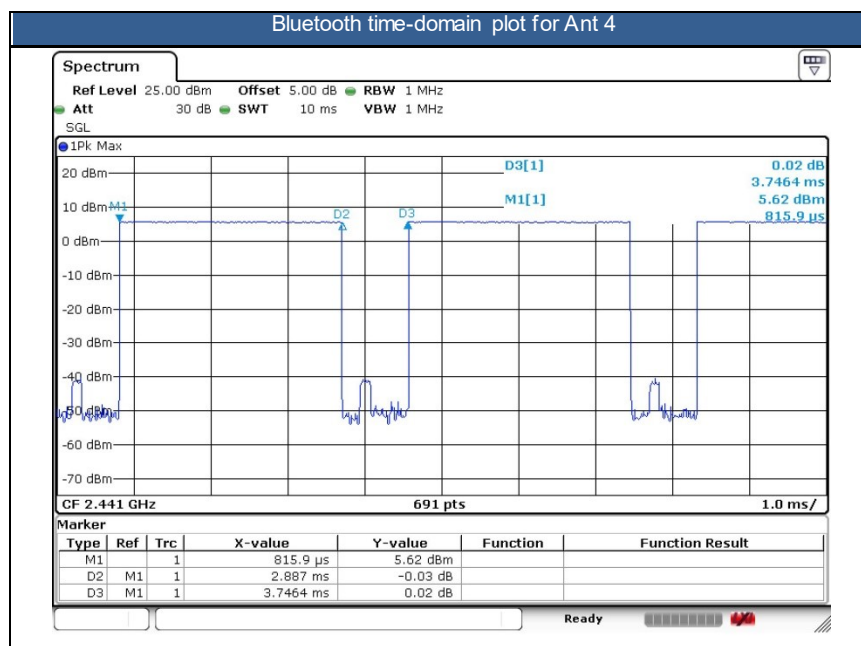
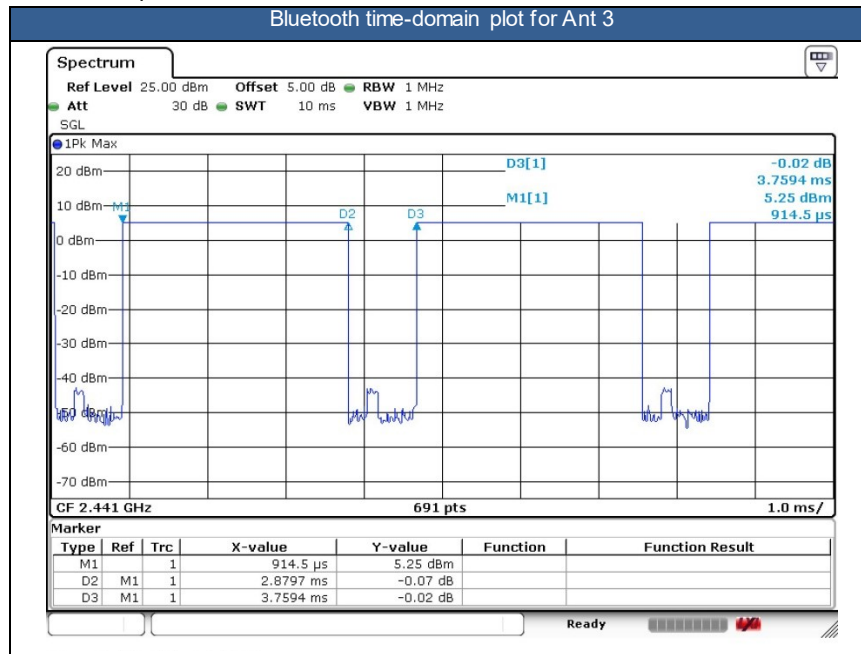
General Note:

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration. Additional output power measurements were not necessary.
2. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
3. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
4. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
5. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closest/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
6. 802.11 ax supports both full tone size mode and partial tone size mode, after verification on partial tone size mode that partial size tone mode power will not be higher than full tone size mode, therefore, full tone mode power was chosen to be measured in this report.
7. The 2.4GHz/5GHz WLAN can transmit in SISO/MIMO antenna mode and Tx beamforming mode, TX Beamforming mode is only supported in 2.4GHz WLAN 802.11n/ac/ax and 5GHz WLAN 802.11n/ac/ax.
8. SISO and MIMO all supported by WLAN 2.4GHz/WLAN 5GHz, 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.
9. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of two antennas respectively to calculate sum of the power for MIMO mode.
10. For WLAN SISO & MIMO (CDD) & TX Beamforming mode and WLAN TX Beamforming mode is not greater than WLAN SISO & MIMO(CDD) mode, so WLAN SISO & MIMO(CDD) mode SAR covers WLAN Tx Beamforming mode SAR.

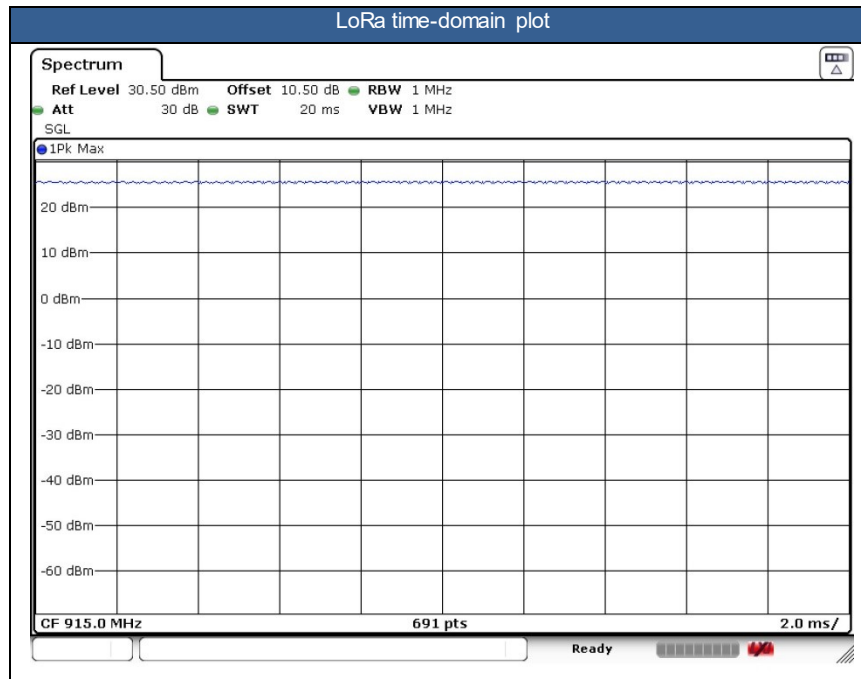
<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 76.6% for ant 3 and 77.06% for ant 4 as following figure, for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to 83.3% for Bluetooth reported SAR calculation



<LoRa>





14. Antenna Location

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

15. SAR Test Results

General Note:

- Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - 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.
 - For SAR testing of WLAN/LoRa 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)"
 - 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%".
 - For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - For LoRa: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor* Transmission duty cycle factor.
 - The transmission duty cycle for LoRa is 10.44% declared by Manufacturer.
 - For TDD LTE SAR measurement of power class 2, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
- 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
- Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
- The device implements Proximity sensors/receiver detect mechanism trigger reduced power for the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). Details about the power management decision and sensor detection are provided in the operational description. The device will invoke corresponding workscenarios power level base on frequency bands/antennas, which can refer to appendix E.
- This device has PTT (Push-To-Talk) function, so in-front-of the face SAR (head SAR) has been evaluated with 25mm distance using head liquid under the flat phantom. However, for WLAN2.4GHz/6GHz/BT/LoRa bands, the 5mm SAR at front of body worn can represent in-front-of the face SAR (head SAR) more conservatively.

LTE Note:

- 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.
- Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
- 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.
- Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is > not ½ 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.
- Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
- For LTE B4 / B5 / B12 / B26 / B38 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the

middle channel of the group of overlapping channels should be selected for testing.

7. LTE B2 /B4 /B5 / B38 SAR test was covered by B25 / 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. Per KDB 248227 D01v02r02, when SAR measurement is required for at least one of the two U-NII bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is < 1.2 W/kg, SAR is not required for the 160 MHz channel.
4. 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 closest/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.
5. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
6. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
7. 802.11ax supports full tone size and partial tone size, after verification for the partial tone size mode power level will not higher than full tone size power level, so chose full tone power to be measured in this report.
8. The 2.4GHz/5GHz WLAN can transmit in SISO/MIMO antenna mode.
9. SISO and MIMO all supported by WLAN 2.4GHz/WLAN 5GHz, 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.
10. 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.



15.1 Head SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
750MHz																				
01	LTE Band 12	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	23095	707.5	22.63	23.00	1.089	-	-	-0.01	0.731	0.796
	LTE Band 12	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	Receiver on	23095	707.5	22.32	23.00	1.169	-	-	0.08	0.567	0.663
	LTE Band 12_ENDC	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	23095	707.5	19.69	20.00	1.074	-	-	0.08	0.430	0.462
	LTE Band 12_ENDC	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	Receiver on	23095	707.5	19.60	20.00	1.096	-	-	0.01	0.412	0.452
	LTE Band 12	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	23095	707.5	22.63	23.00	1.089	-	-	0.03	0.302	0.329
	LTE Band 12	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	Receiver on	23095	707.5	22.32	23.00	1.169	-	-	-0.08	0.235	0.275
	LTE Band 12	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	23095	707.5	22.63	23.00	1.089	-	-	-0.08	0.698	0.760
	LTE Band 12	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	Receiver on	23095	707.5	22.32	23.00	1.169	-	-	0.1	0.535	0.626
	LTE Band 12_ENDC	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	23095	707.5	19.69	20.00	1.074	-	-	-0.08	0.411	0.441
	LTE Band 12_ENDC	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	Receiver on	23095	707.5	19.60	20.00	1.096	-	-	0.1	0.315	0.345
	LTE Band 12	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	23095	707.5	22.63	23.00	1.089	-	-	0.1	0.295	0.321
	LTE Band 12	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	Receiver on	23095	707.5	22.32	23.00	1.169	-	-	0.12	0.226	0.264
02	LTE Band 13	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	23230	782	23.32	24.00	1.169	-	-	0.02	0.539	0.630
	LTE Band 13	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	Receiver on	23230	782	22.28	23.00	1.180	-	-	0.08	0.446	0.526
	LTE Band 13_ENDC	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	23230	782	20.25	21.00	1.189	-	-	0.03	0.317	0.377
	LTE Band 13_ENDC	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	Receiver on	23230	782	20.10	21.00	1.230	-	-	-0.08	0.291	0.358
	LTE Band 13	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	23230	782	23.32	24.00	1.169	-	-	0.01	0.259	0.303
	LTE Band 13	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	Receiver on	23230	782	22.28	23.00	1.180	-	-	0.03	0.213	0.251
	LTE Band 13	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	23230	782	23.32	24.00	1.169	-	-	-0.08	0.516	0.603
	LTE Band 13	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	Receiver on	23230	782	22.28	23.00	1.180	-	-	-0.08	0.430	0.508
	LTE Band 13	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	23230	782	23.32	24.00	1.169	-	-	0.1	0.274	0.320
	LTE Band 13	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	Receiver on	23230	782	22.28	23.00	1.180	-	-	0.11	0.230	0.271
03	LTE Band 14	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	23330	793	23.27	24.00	1.183	-	-	-0.08	0.603	0.713
	LTE Band 14	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	Receiver on	23330	793	22.75	23.50	1.189	-	-	-0.18	0.507	0.603
	LTE Band 14_ENDC	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	23330	793	20.33	21.00	1.167	-	-	-0.08	0.355	0.414
	LTE Band 14_ENDC	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	Receiver on	23330	793	20.21	21.00	1.199	-	-	0.1	0.328	0.393
	LTE Band 14	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	23330	793	23.27	24.00	1.183	-	-	0.1	0.334	0.395
	LTE Band 14	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 1	Receiver on	23330	793	22.75	23.50	1.189	-	-	0.12	0.261	0.310
	LTE Band 14	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	23330	793	23.27	24.00	1.183	-	-	0.08	0.584	0.691
	LTE Band 14	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 1	Receiver on	23330	793	22.75	23.50	1.189	-	-	-0.17	0.485	0.576
	LTE Band 14	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	23330	793	23.27	24.00	1.183	-	-	-0.03	0.337	0.399
	LTE Band 14	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 1	Receiver on	23330	793	22.75	23.50	1.189	-	-	0.14	0.266	0.316
04	LTE Band 71	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	133322	683	21.10	22.00	1.230	-	-	-0.04	0.645	0.794
	LTE Band 71	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	133322	683	20.94	22.00	1.276	-	-	-0.05	0.520	0.664
	LTE Band 71	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	133322	683	21.10	22.00	1.230	-	-	0.18	0.302	0.372
	LTE Band 71	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	133322	683	20.94	22.00	1.276	-	-	0.14	0.235	0.300
	LTE Band 71	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	133322	683	21.10	22.00	1.230	-	-	-0.17	0.593	0.730
	LTE Band 71	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	133322	683	20.94	22.00	1.276	-	-	0.17	0.468	0.597
	LTE Band 71	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	133322	683	21.10	22.00	1.230	-	-	-0.05	0.263	0.324
	LTE Band 71	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	133322	683	20.94	22.00	1.276	-	-	0.01	0.210	0.268
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	141500	707.5	22.51	24.00	1.409	-	-	0.1	0.483	0.681
05	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	141500	707.5	22.46	24.00	1.426	-	-	-0.03	0.528	0.753
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	141500	707.5	22.51	24.00	1.409	-	-	-0.17	0.218	0.307
	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	141500	707.5	22.46	24.00	1.426	-	-	0.04	0.243	0.346
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	141500	707.5	22.51	24.00	1.409	-	-	-0.01	0.407	0.574
	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	141500	707.5	22.46	24.00	1.426	-	-	-0.08	0.466	0.664
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	141500	707.5	22.51	24.00	1.409	-	-	0.05	0.195	0.275
	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	141500	707.5	22.46	24.00	1.426	-	-	0.06	0.217	0.309



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06	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	156400	782	22.13	24.00	1.538	-	-	0.01	0.252	0.388
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	156400	782	22.13	24.00	1.538	-	-	-0.09	0.179	0.275
	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	156400	782	22.13	24.00	1.538	-	-	-0.08	0.132	0.203
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	156400	782	22.13	24.00	1.538	-	-	0.13	0.098	0.151
	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	156400	782	22.13	24.00	1.538	-	-	0.12	0.223	0.343
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	156400	782	22.13	24.00	1.538	-	-	0.03	0.166	0.255
	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	156400	782	22.13	24.00	1.538	-	-	0.18	0.127	0.195
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	156400	782	22.13	24.00	1.538	-	-	0.08	0.095	0.146
07	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	158600	793	23.94	25.00	1.276	-	-	-0.02	0.610	0.779
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	158600	793	23.89	25.00	1.291	-	-	0.16	0.357	0.461
	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	158600	793	23.94	25.00	1.276	-	-	-0.1	0.352	0.449
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	158600	793	23.89	25.00	1.291	-	-	0.07	0.211	0.272
	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	158600	793	23.94	25.00	1.276	-	-	0.18	0.577	0.737
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	158600	793	23.89	25.00	1.291	-	-	-0.1	0.329	0.425
	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	158600	793	23.94	25.00	1.276	-	-	0.01	0.347	0.443
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	158600	793	23.89	25.00	1.291	-	-	-0.15	0.209	0.270
08	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	136100	680.5	21.88	23.00	1.294	-	-	0.09	0.555	0.718
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	136100	680.5	21.76	23.00	1.330	-	-	0.19	0.465	0.619
	FR1 n71_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	136100	680.5	21.88	23.00	1.294	-	-	0.09	0.350	0.453
	FR1 n71_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	136100	680.5	21.76	23.00	1.330	-	-	0.19	0.338	0.450
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	136100	680.5	21.76	23.00	1.330	-	-	-0.18	0.250	0.333
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	136100	680.5	21.88	23.00	1.294	-	-	0.03	0.217	0.281
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	136100	680.5	21.76	23.00	1.330	-	-	-0.15	0.489	0.651
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	136100	680.5	21.88	23.00	1.294	-	-	-0.15	0.427	0.553
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	136100	680.5	21.88	23.00	1.294	-	-	-0.08	0.211	0.273
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	136100	680.5	21.76	23.00	1.330	-	-	-0.17	0.194	0.258
835MHz																				
09	LTE Band 26	15M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	26865	831.5	24.01	25.00	1.256	-	-	0.03	0.588	0.739
	LTE Band 26	15M	QPSK	36	0	-	Right Cheek	0mm	Ant 1	Receiver on	26865	831.5	23.02	24.00	1.253	-	-	0.08	0.480	0.602
	LTE Band 5_ENDC	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	20525	836.5	20.99	22.00	1.262	-	-	-0.15	0.346	0.437
	LTE Band 5_ENDC	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 1	Receiver on	20525	836.5	20.92	22.00	1.282	-	-	0.19	0.283	0.363
	LTE Band 26	15M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	26865	831.5	24.01	25.00	1.256	-	-	0.01	0.358	0.450
	LTE Band 26	15M	QPSK	36	0	-	Right Tilted	0mm	Ant 1	Receiver on	26865	831.5	23.02	24.00	1.253	-	-	0.03	0.283	0.355
	LTE Band 26	15M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	26865	831.5	24.01	25.00	1.256	-	-	-0.08	0.551	0.692
	LTE Band 26	15M	QPSK	36	0	-	Left Cheek	0mm	Ant 1	Receiver on	26865	831.5	23.02	24.00	1.253	-	-	-0.08	0.436	0.546
	LTE Band 26	15M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	26865	831.5	24.01	25.00	1.256	-	-	0.1	0.355	0.446
	LTE Band 26	15M	QPSK	36	0	-	Left Tilted	0mm	Ant 1	Receiver on	26865	831.5	23.02	24.00	1.253	-	-	-0.18	0.288	0.361
10	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	167800	839	23.66	24.00	1.081	-	-	0.01	0.300	0.324
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	167800	839	23.60	24.00	1.096	-	-	-0.08	0.280	0.307
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	167800	839	23.66	24.00	1.081	-	-	-0.04	0.185	0.200
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	167800	839	23.60	24.00	1.096	-	-	-0.08	0.166	0.182
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	167800	839	23.66	24.00	1.081	-	-	0.17	0.275	0.297
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	167800	839	23.60	24.00	1.096	-	-	0.18	0.260	0.285
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	167800	839	23.66	24.00	1.081	-	-	-0.04	0.191	0.207
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	167800	839	23.60	24.00	1.096	-	-	-0.08	0.167	0.183
1750MHz																				
11	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	132322	1745	19.21	19.50	1.069	-	-	0.1	0.546	0.584
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	132322	1745	19.12	19.50	1.091	-	-	0.12	0.521	0.569
	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	132322	1745	19.21	19.50	1.069	-	-	0.11	0.343	0.367
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	132322	1745	19.12	19.50	1.091	-	-	-0.05	0.313	0.342
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	132322	1745	19.21	19.50	1.069	-	-	0.18	0.531	0.568
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	132322	1745	19.12	19.50	1.091	-	-	0.14	0.512	0.559
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	132322	1745	19.21	19.50	1.069	-	-	-0.17	0.280	0.299
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	132322	1745	19.12	19.50	1.091	-	-	0.17	0.224	0.244
	LTE Band 66	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	Receiver on	132322	1745	13.77	14.00	1.054	-	-	-0.05	0.258	0.272
	LTE Band 66	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	Receiver on	132322	1745	13.73	14.00	1.064	-	-	0.01	0.232	0.247



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	LTE Band 66	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	Receiver on	132322	1745	13.77	14.00	1.054	-	-	0.1	0.195	0.206
	LTE Band 66	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	Receiver on	132322	1745	13.73	14.00	1.064	-	-	-0.17	0.178	0.189
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	Receiver on	132322	1745	13.77	14.00	1.054	-	-	0.04	0.369	0.389
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	Receiver on	132072	1720	13.51	14.00	1.119	-	-	-0.01	0.320	0.358
	LTE Band 66	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	Receiver on	132572	1770	13.63	14.00	1.089	-	-	0.04	0.360	0.392
	LTE Band 66	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	Receiver on	132322	1745	13.73	14.00	1.064	-	-	-0.08	0.323	0.344
	LTE Band 66	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	Receiver on	132322	1745	13.77	14.00	1.054	-	-	0.05	0.247	0.260
	LTE Band 66	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	Receiver on	132322	1745	13.73	14.00	1.064	-	-	0.06	0.236	0.251
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	349000	1745	20.05	21.00	1.245	-	-	0.08	0.496	0.617
12	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	349000	1745	19.96	21.00	1.271	-	-	0.06	0.522	0.663
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	349000	1745	20.05	21.00	1.245	-	-	0.01	0.316	0.393
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	349000	1745	19.96	21.00	1.271	-	-	0.03	0.326	0.414
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	349000	1745	20.05	21.00	1.245	-	-	-0.08	0.405	0.504
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	349000	1745	19.96	21.00	1.271	-	-	-0.08	0.430	0.546
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	349000	1745	20.05	21.00	1.245	-	-	0.1	0.228	0.284
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	349000	1745	19.96	21.00	1.271	-	-	-0.18	0.206	0.262
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	Receiver on	349000	1745	12.95	14.50	1.429	-	-	0.1	0.185	0.264
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	Receiver on	349000	1745	12.91	14.50	1.442	-	-	0.12	0.198	0.286
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	Receiver on	349000	1745	12.95	14.50	1.429	-	-	0.08	0.147	0.210
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	Receiver on	349000	1745	12.91	14.50	1.442	-	-	-0.17	0.151	0.218
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	Receiver on	349000	1745	12.95	14.50	1.429	-	-	-0.03	0.259	0.370
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	Receiver on	349000	1745	12.91	14.50	1.442	-	-	0.03	0.275	0.397
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	Receiver on	349000	1745	12.95	14.50	1.429	-	-	0.14	0.181	0.259
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	Receiver on	349000	1745	12.91	14.50	1.442	-	-	0.11	0.201	0.290
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	Receiver on	340500	1702.5	16.36	18.00	1.459	-	-	-0.05	0.422	0.616
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	Receiver on	340500	1702.5	16.34	18.00	1.466	-	-	0.18	0.467	0.684
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	Receiver on	340500	1702.5	16.36	18.00	1.459	-	-	0.14	0.327	0.477
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	Receiver on	340500	1702.5	16.34	18.00	1.466	-	-	-0.17	0.340	0.498
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	Receiver on	340500	1702.5	16.36	18.00	1.459	-	-	0.17	0.536	0.782
13	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	Receiver on	340500	1702.5	16.34	18.00	1.466	-	-	0.02	0.544	0.797
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	Receiver on	340500	1702.5	16.36	18.00	1.459	-	-	-0.05	0.384	0.560
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	Receiver on	340500	1702.5	16.34	18.00	1.466	-	-	0.01	0.426	0.624
1900MHz																				
14	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	26340	1880	23.35	24.00	1.161	-	-	0.09	0.599	0.696
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	26340	1880	22.35	24.00	1.462	-	-	-0.09	0.469	0.686
	LTE Band 2_ENDC	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	18900	1880	20.22	21.00	1.197	-	-	-0.08	0.337	0.403
	LTE Band 2_ENDC	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	18900	1880	20.21	21.00	1.199	-	-	-0.17	0.326	0.391
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	26340	1880	23.35	24.00	1.161	-	-	-0.08	0.322	0.374
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	26340	1880	22.35	24.00	1.462	-	-	0.13	0.233	0.341
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	26340	1880	23.35	24.00	1.161	-	-	0.12	0.502	0.583
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	26340	1880	22.35	24.00	1.462	-	-	0.03	0.389	0.569
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	26340	1880	23.35	24.00	1.161	-	-	0.18	0.202	0.235
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	26340	1880	22.35	24.00	1.462	-	-	0.16	0.144	0.211
	LTE Band 25	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 2	Receiver on	26340	1880	16.66	17.00	1.081	-	-	0.08	0.262	0.283
	LTE Band 25	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 2	Receiver on	26340	1880	16.60	17.00	1.096	-	-	-0.08	0.228	0.250
	LTE Band 25	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 2	Receiver on	26340	1880	16.66	17.00	1.081	-	-	0.1	0.286	0.309
	LTE Band 25	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 2	Receiver on	26340	1880	16.60	17.00	1.096	-	-	-0.17	0.242	0.265
	LTE Band 25	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 2	Receiver on	26340	1880	16.66	17.00	1.081	-	-	-0.05	0.374	0.404
	LTE Band 25	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 2	Receiver on	26340	1880	16.60	17.00	1.096	-	-	-0.17	0.330	0.362
	LTE Band 25	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 2	Receiver on	26340	1880	16.66	17.00	1.081	-	-	0.1	0.404	0.437
	LTE Band 25	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 2	Receiver on	26340	1880	16.60	17.00	1.096	-	-	0.04	0.376	0.412
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	376500	1882.5	21.66	23.00	1.361	-	-	0.12	0.632	0.860
15	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	376500	1882.5	21.55	23.00	1.396	-	-	0.01	0.639	0.892
	FR1 n25	40M	QPSK	216	0	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	376500	1882.5	21.39	23.00	1.449	-	-	0.01	0.612	0.887
	FR1 n25_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	376500	1882.5	18.73	20.00	1.340	-	-	0.08	0.360	0.482
	FR1 n25_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	376500	1882.5	18.63	20.00	1.371	-	-	0.01	0.363	0.498



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	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	376500	1882.5	21.66	23.00	1.361	-	-	0.08	0.167	0.227
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	376500	1882.5	21.55	23.00	1.396	-	-	-0.17	0.172	0.240
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	376500	1882.5	21.66	23.00	1.361	-	-	-0.03	0.349	0.475
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Left Cheek	0mm	Ant 1	Receiver on	376500	1882.5	21.55	23.00	1.396	-	-	0.14	0.375	0.524
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	376500	1882.5	21.66	23.00	1.361	-	-	0.11	0.102	0.139
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Left Tilted	0mm	Ant 1	Receiver on	376500	1882.5	21.55	23.00	1.396	-	-	-0.05	0.118	0.165
	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	Receiver on	376000	1880	17.30	18.50	1.318	-	-	-0.08	0.209	0.276
	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Right Cheek	0mm	Ant 2	Receiver on	376000	1880	17.17	18.50	1.358	-	-	0.13	0.213	0.289
	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	Receiver on	376000	1880	17.30	18.50	1.318	-	-	0.12	0.208	0.274
	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Right Tilted	0mm	Ant 2	Receiver on	376000	1880	17.17	18.50	1.358	-	-	0.03	0.209	0.284
	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	Receiver on	376000	1880	17.30	18.50	1.318	-	-	0.18	0.274	0.361
	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Left Cheek	0mm	Ant 2	Receiver on	376000	1880	17.17	18.50	1.358	-	-	0.16	0.274	0.372
16	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	Receiver on	376000	1880	17.30	18.50	1.318	-	-	0.04	0.301	0.397
	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Left Tilted	0mm	Ant 2	Receiver on	376000	1880	17.17	18.50	1.358	-	-	-0.1	0.286	0.388
2300MHz																				
17	LTE Band 30	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	Receiver on	27710	2310	15.65	16.50	1.216	-	-	-0.02	0.621	0.755
	LTE Band 30_ENDC	10M	QPSK	1	0	-	Right Cheek	0mm	Ant 9	Receiver on	27710	2310	12.69	13.50	1.205	-	-	-0.02	0.366	0.441
	LTE Band 30	10M	QPSK	25	0	-	Right Cheek	0mm	Ant 9	Receiver on	27710	2310	15.62	16.50	1.225	-	-	0.06	0.503	0.616
	LTE Band 30	10M	QPSK	1	0	-	Right Tilted	0mm	Ant 9	Receiver on	27710	2310	15.65	16.50	1.216	-	-	-0.09	0.158	0.192
	LTE Band 30	10M	QPSK	25	0	-	Right Tilted	0mm	Ant 9	Receiver on	27710	2310	15.62	16.50	1.225	-	-	-0.08	0.126	0.154
	LTE Band 30	10M	QPSK	1	0	-	Left Cheek	0mm	Ant 9	Receiver on	27710	2310	15.65	16.50	1.216	-	-	0.13	0.402	0.489
	LTE Band 30	10M	QPSK	25	0	-	Left Cheek	0mm	Ant 9	Receiver on	27710	2310	15.62	16.50	1.225	-	-	0.12	0.330	0.404
	LTE Band 30	10M	QPSK	1	0	-	Left Tilted	0mm	Ant 9	Receiver on	27710	2310	15.65	16.50	1.216	-	-	0.03	0.147	0.179
	LTE Band 30	10M	QPSK	25	0	-	Left Tilted	0mm	Ant 9	Receiver on	27710	2310	15.62	16.50	1.225	-	-	0.18	0.116	0.142
18	FR1 n30	10M	QPSK	1	1	-	Right Cheek	0mm	Ant 9	Receiver on	462000	2310	15.97	17.00	1.268	-	-	0.03	0.557	0.706
	FR1 n30_ENDC	10M	QPSK	1	1	-	Right Cheek	0mm	Ant 9	Receiver on	462000	2310	12.98	14.00	1.265	-	-	0.03	0.322	0.407
	FR1 n30	10M	QPSK	25	14	-	Right Cheek	0mm	Ant 9	Receiver on	462000	2310	15.93	17.00	1.279	-	-	0.07	0.510	0.652
	FR1 n30_ENDC	10M	QPSK	25	14	-	Right Cheek	0mm	Ant 9	Receiver on	462000	2310	12.93	14.00	1.279	-	-	0.07	0.311	0.398
	FR1 n30	10M	QPSK	1	1	-	Right Tilted	0mm	Ant 9	Receiver on	462000	2310	15.97	17.00	1.268	-	-	0.18	0.143	0.181
	FR1 n30	10M	QPSK	25	14	-	Right Tilted	0mm	Ant 9	Receiver on	462000	2310	15.93	17.00	1.279	-	-	-0.1	0.126	0.161
	FR1 n30	10M	QPSK	1	1	-	Left Cheek	0mm	Ant 9	Receiver on	462000	2310	15.97	17.00	1.268	-	-	0.01	0.399	0.506
	FR1 n30_ENDC	10M	QPSK	1	1	-	Left Cheek	0mm	Ant 9	Receiver on	462000	2310	12.98	14.00	1.265	-	-	0.01	0.268	0.339
	FR1 n30	10M	QPSK	25	14	-	Left Cheek	0mm	Ant 9	Receiver on	462000	2310	15.93	17.00	1.279	-	-	-0.15	0.353	0.452
	FR1 n30_ENDC	10M	QPSK	25	14	-	Left Cheek	0mm	Ant 9	Receiver on	462000	2310	12.93	14.00	1.279	-	-	-0.15	0.217	0.278
	FR1 n30	10M	QPSK	1	1	-	Left Tilted	0mm	Ant 9	Receiver on	462000	2310	15.97	17.00	1.268	-	-	0.19	0.132	0.167
	FR1 n30	10M	QPSK	25	14	-	Left Tilted	0mm	Ant 9	Receiver on	462000	2310	15.93	17.00	1.279	-	-	0.07	0.104	0.133
2600MHz																				
19	LTE Band 7	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	21100	2535	23.70	24.00	1.072	-	-	0.09	0.329	0.353
	LTE Band 7	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	21100	2535	22.69	24.00	1.352	-	-	0.08	0.256	0.346
	LTE Band 7	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	21100	2535	23.70	24.00	1.072	-	-	0.01	0.074	0.079
	LTE Band 7	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	21100	2535	22.69	24.00	1.352	-	-	0.03	0.058	0.078
	LTE Band 7	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	21100	2535	23.70	24.00	1.072	-	-	-0.08	0.190	0.204
	LTE Band 7	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	21100	2535	22.69	24.00	1.352	-	-	-0.08	0.155	0.210
	LTE Band 7	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	21100	2535	23.70	24.00	1.072	-	-	0.1	0.054	0.058
	LTE Band 7	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	21100	2535	22.69	24.00	1.352	-	-	-0.18	0.065	0.088
20	LTE Band 41	20M	QPSK	1	0	-	Right Cheek	0mm	Ant 1	Receiver on	40620	2593	25.33	26.00	1.167	42.9	1.009	-0.06	0.188	0.221
	LTE Band 41	20M	QPSK	50	0	-	Right Cheek	0mm	Ant 1	Receiver on	40620	2593	24.43	25.00	1.140	42.9	1.009	0.18	0.138	0.159
	LTE Band 41	20M	QPSK	1	0	-	Right Tilted	0mm	Ant 1	Receiver on	40620	2593	25.33	26.00	1.167	42.9	1.009	0.14	0.047	0.055
	LTE Band 41	20M	QPSK	50	0	-	Right Tilted	0mm	Ant 1	Receiver on	40620	2593	24.43	25.00	1.140	42.9	1.009	-0.17	0.039	0.045
	LTE Band 41	20M	QPSK	1	0	-	Left Cheek	0mm	Ant 1	Receiver on	40620	2593	25.33	26.00	1.167	42.9	1.009	0.17	0.103	0.121
	LTE Band 41	20M	QPSK	50	0	-	Left Cheek	0mm	Ant 1	Receiver on	40620	2593	24.43	25.00	1.140	42.9	1.009	-0.05	0.082	0.094
	LTE Band 41	20M	QPSK	1	0	-	Left Tilted	0mm	Ant 1	Receiver on	40620	2593	25.33	26.00	1.167	42.9	1.009	0.01	0.048	0.057
	LTE Band 41	20M	QPSK	50	0	-	Left Tilted	0mm	Ant 1	Receiver on	40620	2593	24.43	25.00	1.140	42.9	1.009	0.1	0.040	0.046
21	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	507000	2535	22.84	24.00	1.306	-	-	0.04	0.330	0.431
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Cheek	0mm	Ant 1	Receiver on	507000	2535	22.74	24.00	1.337	-	-	-0.08	0.315	0.421
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Tilted	0mm	Ant 1	Receiver on	507000	2535	22.84	24.00	1.306	-	-	0.05	0.064	0.084



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	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 8	Receiver on	633334	3500.01	14.77	16.00	1.327	50	1.000	-0.09	0.030	0.040
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	Receiver on	633334	3500.01	14.80	16.00	1.318	50	1.000	-0.08	0.418	0.551
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 8	Receiver on	633334	3500.01	14.77	16.00	1.327	50	1.000	-0.03	0.440	0.584
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	Receiver on	633334	3500.01	14.80	16.00	1.318	50	1.000	0.12	0.040	0.053
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 8	Receiver on	633334	3500.01	14.77	16.00	1.327	50	1.000	0.03	0.045	0.060
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	Receiver on	656000	3840	18.89	20.00	1.291	50	1.000	-0.13	0.411	0.531
	FR1 n77 Part 27Q_ENDC	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	Receiver on	656000	3840	16.67	17.00	1.079	50	1.000	0.06	0.308	0.332
	FR1 n77 Part 27Q_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	Receiver on	656000	3840	16.66	17.00	1.081	50	1.000	0.09	0.291	0.315
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	Receiver on	656000	3840	18.86	20.00	1.300	50	1.000	-0.08	0.368	0.478
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	Receiver on	656000	3840	18.89	20.00	1.291	50	1.000	-0.04	0.379	0.489
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	Receiver on	656000	3840	18.86	20.00	1.300	50	1.000	-0.08	0.307	0.399
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	Receiver on	656000	3840	18.89	20.00	1.291	50	1.000	0.17	0.261	0.337
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	Receiver on	656000	3840	18.86	20.00	1.300	50	1.000	0.18	0.215	0.280
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	Receiver on	656000	3840	18.89	20.00	1.291	50	1.000	-0.04	0.252	0.325
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	Receiver on	656000	3840	18.86	20.00	1.300	50	1.000	-0.08	0.203	0.264
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	Receiver on	633334	3500.01	18.60	20.00	1.380	50	1.000	0.08	0.468	0.646
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	Receiver on	633334	3500.01	18.54	20.00	1.400	50	1.000	-0.13	0.464	0.649
	FR1 n77 Part 27Q_ENDC	100M	QPSK	1	1	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	Receiver on	633334	3500.01	16.31	17.00	1.172	50	1.000	0.06	0.351	0.411
	FR1 n77 Part 27Q_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Right Cheek	0mm	Ant 9	Receiver on	633334	3500.01	16.28	17.00	1.180	50	1.000	0.06	0.241	0.284
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	Receiver on	633334	3500.01	18.60	20.00	1.380	50	1.000	-0.03	0.227	0.313
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Right Tilted	0mm	Ant 9	Receiver on	633334	3500.01	18.54	20.00	1.400	50	1.000	-0.03	0.277	0.388
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	Receiver on	633334	3500.01	18.60	20.00	1.380	50	1.000	-0.07	0.299	0.413
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Cheek	0mm	Ant 9	Receiver on	633334	3500.01	18.54	20.00	1.400	50	1.000	0.05	0.327	0.458
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	Receiver on	633334	3500.01	18.60	20.00	1.380	50	1.000	-0.12	0.205	0.283
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Left Tilted	0mm	Ant 9	Receiver on	633334	3500.01	18.54	20.00	1.400	50	1.000	0.03	0.240	0.336



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
900MHz																
	LoRa	DTS-500K	Right Cheek	0mm	Ant 8	Full Power		904	21.03	21.50	1.114	100	0.104	0.08	0.861	0.100
	LoRa	DTS-500K	Right Tilted	0mm	Ant 8	Full Power		904	21.03	21.50	1.114	100	0.104	-0.08	0.223	0.026
27	LoRa	DTS-500K	Left Cheek	0mm	Ant 8	Full Power		904	21.03	21.50	1.114	100	0.104	-0.18	1.270	0.147
	LoRa	DTS-500K	Left Tilted	0mm	Ant 8	Full Power		904	21.03	21.50	1.114	100	0.104	0.08	0.280	0.032
2450MHz																
28	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	-0.01	0.127	0.179
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	0.01	0.064	0.090
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	0.03	0.109	0.154
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	-0.08	0.067	0.094
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	0.08	0.001	0.001
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	0.01	0.001	0.001
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	0.03	0.001	0.001
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	-0.08	0.001	0.001
29	Bluetooth	1Mbps	Right Cheek	0mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	-0.08	0.026	0.033
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	0.1	0.001	0.001
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	-0.18	0.001	0.001
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	0.1	0.001	0.001
5000MHz																
30	WLAN5.3GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	0.01	0.363	0.536
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	0.08	0.043	0.063
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	0.01	0.208	0.307
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	0.03	0.032	0.047
31	WLAN5.5GHz	802.11n-HT40 MCS0	Right Cheek	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	-0.09	0.332	0.473
	WLAN5.5GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	-0.08	0.052	0.074
	WLAN5.5GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	-0.08	0.235	0.335
	WLAN5.5GHz	802.11n-HT40 MCS0	Left Tilted	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	0.1	0.061	0.087
32	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	-0.09	0.274	0.407
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.08	0.112	0.166
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.01	0.197	0.293
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.03	0.061	0.091



15.2 Face SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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																				
33	LTE Band 12	10M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	23095	707.5	23.41	24	1.146	-	-	-0.03	0.129	0.148
	LTE Band 12	10M	QPSK	25	0	-	Front	25mm	Ant 1	Full Power	23095	707.5	22.32	23	1.169	-	-	0.07	0.112	0.131
34	LTE Band 13	10M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	23230	782	23.32	24	1.169	-	-	-0.12	0.133	0.156
	LTE Band 13	10M	QPSK	25	0	-	Front	25mm	Ant 1	Full Power	23230	782	22.28	23	1.180	-	-	0.18	0.110	0.130
35	LTE Band 14	10M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	23330	793	23.78	24.5	1.180	-	-	-0.04	0.109	0.129
	LTE Band 14	10M	QPSK	25	0	-	Front	25mm	Ant 1	Full Power	23330	793	22.75	23.5	1.189	-	-	-0.1	0.090	0.107
36	LTE Band 71	20M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	133322	683	23.94	25	1.276	-	-	0.01	0.218	0.278
	LTE Band 71	20M	QPSK	50	0	-	Front	25mm	Ant 1	Full Power	133322	683	22.88	24	1.294	-	-	0.08	0.177	0.229
37	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	141500	707.5	22.51	24	1.409	-	-	-0.03	0.165	0.233
	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	141500	707.5	22.46	24	1.426	-	-	0.01	0.160	0.228
38	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	156400	782	22.13	24	1.538	-	-	0.02	0.134	0.206
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	156400	782	22.13	24	1.538	-	-	-0.15	0.131	0.201
39	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	158600	793	23.94	25	1.276	-	-	-0.04	0.209	0.267
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	158600	793	23.89	25	1.291	-	-	0.19	0.187	0.241
40	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	136100	680.5	22.82	24	1.312	-	-	-0.12	0.293	0.384
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	136100	680.5	22.74	24	1.337	-	-	0.01	0.287	0.384
835MHz																				
41	LTE Band 26	15M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	26865	831.5	24.01	25	1.256	-	-	0.03	0.103	0.129
	LTE Band 26	15M	QPSK	36	0	-	Front	25mm	Ant 1	Full Power	26865	831.5	23.02	24	1.253	-	-	0.07	0.085	0.107
42	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	167800	839	23.66	24	1.081	-	-	0.02	0.396	0.428
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	167800	839	23.6	24	1.096	-	-	-0.18	0.348	0.382
1750MHz																				
43	LTE Band 66	20M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	132322	1745	23.63	24	1.089	-	-	0.03	0.180	0.196
	LTE Band 66	20M	QPSK	50	0	-	Front	25mm	Ant 1	Full Power	132322	1745	22.62	23	1.091	-	-	0.02	0.162	0.177
	LTE Band 66	20M	QPSK	1	0	-	Front	25mm	Ant 2	Full Power	132322	1745	23.7	24	1.072	-	-	-0.15	0.144	0.154
	LTE Band 66	20M	QPSK	50	0	-	Front	25mm	Ant 2	Full Power	132322	1745	22.7	23	1.072	-	-	-0.15	0.132	0.141
44	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	349000	1745	22.95	24	1.274	-	-	0.02	0.303	0.386
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	349000	1745	22.84	24	1.306	-	-	0.11	0.295	0.385
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 2	Full Power	349000	1745	22.45	24	1.429	-	-	0.01	0.068	0.097
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	25mm	Ant 2	Full Power	349000	1745	22.31	24	1.476	-	-	-0.08	0.062	0.091
45	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 2	Full Power	340500	1702.5	22.34	24	1.466	-	-	0.02	0.030	0.044
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Front	25mm	Ant 2	Full Power	340500	1702.5	22.27	24	1.489	-	-	-0.17	0.023	0.034
1900MHz																				
	LTE Band 25	20M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	26340	1880	23.35	24	1.161	-	-	-0.09	0.105	0.122
	LTE Band 25	20M	QPSK	50	0	-	Front	25mm	Ant 1	Full Power	26340	1880	22.35	23	1.161	-	-	0.02	0.073	0.085
46	LTE Band 25	20M	QPSK	1	0	-	Front	25mm	Ant 2	Full Power	26340	1880	23.62	24	1.091	-	-	-0.09	0.242	0.264
	LTE Band 25	20M	QPSK	50	0	-	Front	25mm	Ant 2	Full Power	26340	1880	22.64	23	1.086	-	-	0.03	0.203	0.221
47	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	376500	1882.5	22.62	24	1.374	-	-	0.01	0.167	0.229
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	376500	1882.5	22.59	24	1.384	-	-	0.08	0.159	0.220
48	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 2	Full Power	376000	1880	22.69	24	1.352	-	-	0.06	0.160	0.216
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	25mm	Ant 2	Full Power	376000	1880	22.56	24	1.393	-	-	0.08	0.155	0.216
2300MHz																				
49	LTE Band 30	10M	QPSK	1	0	-	Front	25mm	Ant 9	Full Power	27710	2310	24.11	25	1.227	-	-	0.02	0.132	0.162
	LTE Band 30	10M	QPSK	25	0	-	Front	25mm	Ant 9	Full Power	27710	2310	23.13	24	1.222	-	-	0.18	0.109	0.133
	FR1 n30	10M	QPSK	1	1	-	Front	25mm	Ant 9	Full Power	462000	2310	22.95	24	1.274	-	-	0.14	0.038	0.048
50	FR1 n30	10M	QPSK	25	14	-	Front	25mm	Ant 9	Full Power	462000	2310	22.88	24	1.294	-	-	0.09	0.042	0.054
2600MHz																				
51	LTE Band 7	20M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	21100	2535	23.7	24	1.072	-	-	-0.17	0.156	0.167
	LTE Band 7	20M	QPSK	50	0	-	Front	25mm	Ant 1	Full Power	21100	2535	22.69	23	1.074	-	-	0.17	0.153	0.164



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52	LTE Band 41	20M	QPSK	1	0	-	Front	25mm	Ant 1	Full Power	40620	2593	25.33	26	1.167	42.9	1.009	0.01	0.018	0.021
	LTE Band 41	20M	QPSK	50	0	-	Front	25mm	Ant 1	Full Power	40620	2593	24.43	25	1.140	42.9	1.009	0.01	0.015	0.017
53	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	507000	2535	22.84	24	1.306	-	-	-0.05	0.070	0.091
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	25mm	Ant 1	Full Power	507000	2535	22.74	24	1.337	-	-	0.01	0.061	0.082
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 1	Full Power	518598	2592.99	25.11	26	1.227	50	1.000	0.1	0.088	0.108
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 1	Full Power	518598	2592.99	24.96	26	1.271	50	1.000	-0.17	0.098	0.125
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 2	Full Power	518598	2592.99	25.25	26	1.189	50	1.000	0.04	0.026	0.031
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 2	Full Power	518598	2592.99	25.22	26	1.197	50	1.000	-0.01	0.031	0.037
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	518598	2592.99	25.55	26	1.109	50	1.000	-0.08	0.165	0.183
54	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	518598	2592.99	25.51	26	1.119	50	1.000	0.05	0.169	0.189
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 9	Full Power	518598	2592.99	22.66	24	1.361	50	1.000	0.06	0.037	0.050
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 9	Full Power	518598	2592.99	22.55	24	1.396	50	1.000	-0.09	0.039	0.054
3500MHz																				
55	LTE Band 48	20M	QPSK	1	0	-	Front	25mm	Ant 8	Full Power	55830	3609	24.14	25	1.219	62.9	1.006	0.02	0.142	0.174
	LTE Band 48	20M	QPSK	50	0	-	Front	25mm	Ant 8	Full Power	55830	3609	23.29	24	1.178	62.9	1.006	0.08	0.112	0.133
	FR1 n48	40M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	641666	3624.99	24.06	25	1.242	-	-	-0.08	0.249	0.309
56	FR1 n48	40M	QPSK	50	28	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	641666	3624.99	23.97	25	1.268	-	-	-0.03	0.253	0.321
	FR1 n48	40M	QPSK	50	28	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	638000	3570	23.31	25	1.476	-	-	0.02	0.214	0.316
	FR1 n48	40M	QPSK	50	28	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	645332	3679.98	23.56	25	1.393	-	-	0.01	0.225	0.313
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 1	Full Power	656000	3840	28.16	29	1.213	50	1.000	0.02	0.406	0.493
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 1	Full Power	656000	3840	28.08	29	1.236	50	1.000	0.01	0.398	0.492
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 1	Full Power	633334	3500.01	27.88	29	1.294	50	1.000	0.1	0.157	0.203
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 1	Full Power	633334	3500.01	27.81	29	1.315	50	1.000	-0.17	0.247	0.325
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 2	Full Power	656000	3840	27.05	28	1.245	50	1.000	0.06	0.046	0.057
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 2	Full Power	656000	3840	27.02	28	1.253	50	1.000	-0.09	0.042	0.053
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 2	Full Power	633334	3500.01	26.67	28	1.358	50	1.000	0.02	0.038	0.052
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 2	Full Power	633334	3500.01	26.65	28	1.365	50	1.000	0.08	0.024	0.033
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	656000	3840	27.28	28	1.180	50	1.000	-0.05	0.474	0.559
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	656000	3840	27.24	28	1.191	50	1.000	0.18	0.452	0.538
57	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	633334	3500.01	26.72	28	1.343	50	1.000	0.02	0.531	0.713
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 8	Full Power	633334	3500.01	26.7	28	1.349	50	1.000	-0.08	0.508	0.685
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 9	Full Power	656000	3840	26.73	28	1.340	50	1.000	0.1	0.163	0.218
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 9	Full Power	656000	3840	26.72	28	1.343	50	1.000	0.12	0.159	0.213
	FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	25mm	Ant 9	Full Power	633334	3500.01	26.45	28	1.429	50	1.000	0.02	0.175	0.250
	FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	25mm	Ant 9	Full Power	633334	3500.01	26.41	28	1.442	50	1.000	0.08	0.181	0.261

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
5000MHz																
137	WLAN5.3GHz	802.11n-HT40 MCS0	Front	25mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1	0.01	0.278	0.410
138	WLAN5.5GHz	802.11n-HT40 MCS0	Front	25mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1	0.03	0.285	0.406
139	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	25mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1	-0.08	0.329	0.489



15.3 Hotspot SAR

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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																				
58	LTE Band 12	10M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	23095	707.5	22.63	23.00	1.089	-	-	0.08	0.620	0.675
	LTE Band 12	10M	QPSK	25	0	-	Front	5mm	Ant 1	Sensor on	23095	707.5	22.32	23.00	1.169	-	-	0.01	0.507	0.593
	LTE Band 12_ENDC	10M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	23095	707.5	19.69	20.00	1.074	-	-	0.08	0.349	0.375
	LTE Band 12_ENDC	10M	QPSK	25	0	-	Front	5mm	Ant 1	Sensor on	23095	707.5	19.60	20.00	1.096	-	-	0.01	0.311	0.341
	LTE Band 12	10M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	23095	707.5	22.63	23.00	1.089	-	-	0.02	0.692	0.754
	LTE Band 12	10M	QPSK	25	0	-	Back	5mm	Ant 1	Sensor on	23095	707.5	22.32	23.00	1.169	-	-	0.03	0.466	0.545
	LTE Band 12_ENDC	10M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	23095	707.5	19.69	20.00	1.074	-	-	0.08	0.394	0.423
	LTE Band 12_ENDC	10M	QPSK	25	0	-	Back	5mm	Ant 1	Sensor on	23095	707.5	19.60	20.00	1.096	-	-	0.01	0.352	0.386
	LTE Band 12	10M	QPSK	1	0	-	Left Side	5mm	Ant 1	Sensor on	23095	707.5	22.63	23.00	1.089	-	-	-0.08	0.318	0.346
	LTE Band 12	10M	QPSK	25	0	-	Left Side	5mm	Ant 1	Sensor on	23095	707.5	22.32	23.00	1.169	-	-	-0.08	0.193	0.226
	LTE Band 12	10M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	23095	707.5	23.41	24.00	1.146	-	-	0.1	0.001	0.001
	LTE Band 12	10M	QPSK	25	0	-	Right Side	5mm	Ant 1	Full Power	23095	707.5	22.32	23.00	1.169	-	-	-0.18	0.001	0.001
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	23095	707.5	22.63	23.00	1.089	-	-	0.1	0.223	0.243
	LTE Band 12	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 1	Sensor on	23095	707.5	22.32	23.00	1.169	-	-	0.12	0.231	0.270
	LTE Band 12	10M	QPSK	1	0	-	Front	24mm	Ant 1	Full Power	23095	707.5	23.41	24.00	1.146	-	-	0.08	0.246	0.282
	LTE Band 12	10M	QPSK	1	0	-	Back	17mm	Ant 1	Full Power	23095	707.5	23.41	24.00	1.146	-	-	-0.17	0.393	0.450
	LTE Band 12	10M	QPSK	1	0	-	Left Side	19mm	Ant 1	Full Power	23095	707.5	23.41	24.00	1.146	-	-	-0.03	0.146	0.167
	LTE Band 12	10M	QPSK	1	0	-	Bottom Side	19mm	Ant 1	Full Power	23095	707.5	23.41	24.00	1.146	-	-	0.14	0.056	0.064
	LTE Band 13	10M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	23230	782	22.83	23.50	1.167	-	-	-0.04	0.581	0.678
59	LTE Band 13	10M	QPSK	25	0	-	Front	5mm	Ant 1	Sensor on	23230	782	22.28	23.00	1.180	-	-	0.08	0.477	0.563
	LTE Band 13_ENDC	10M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	23230	782	19.69	20.50	1.205	-	-	0.03	0.327	0.394
	LTE Band 13_ENDC	10M	QPSK	25	0	-	Front	5mm	Ant 1	Sensor on	23230	782	19.62	20.50	1.225	-	-	-0.08	0.306	0.375
	LTE Band 13	10M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	23230	782	22.83	23.50	1.167	-	-	0.01	0.534	0.623
	LTE Band 13	10M	QPSK	25	0	-	Back	5mm	Ant 1	Sensor on	23230	782	22.28	23.00	1.180	-	-	0.03	0.430	0.508
	LTE Band 13_ENDC	10M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	23230	782	19.69	20.50	1.205	-	-	0.01	0.303	0.365
	LTE Band 13_ENDC	10M	QPSK	25	0	-	Back	5mm	Ant 1	Sensor on	23230	782	19.62	20.50	1.225	-	-	0.03	0.298	0.365
	LTE Band 13	10M	QPSK	1	0	-	Left Side	5mm	Ant 1	Sensor on	23230	782	22.83	23.50	1.167	-	-	0.05	0.226	0.264
	LTE Band 13	10M	QPSK	25	0	-	Left Side	5mm	Ant 1	Sensor on	23230	782	22.28	23.00	1.180	-	-	-0.08	0.168	0.198
	LTE Band 13	10M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	23230	782	23.32	24.00	1.169	-	-	0.1	0.000	0.000
	LTE Band 13	10M	QPSK	25	0	-	Right Side	5mm	Ant 1	Full Power	23230	782	22.28	23.00	1.180	-	-	-0.18	0.000	0.000
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	23230	782	22.83	23.50	1.167	-	-	0.1	0.114	0.133
	LTE Band 13	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 1	Sensor on	23230	782	22.28	23.00	1.180	-	-	0.12	0.109	0.129
	LTE Band 13	10M	QPSK	1	0	-	Front	24mm	Ant 1	Full Power	23230	782	23.32	24.00	1.169	-	-	0.11	0.180	0.211
	LTE Band 13	10M	QPSK	1	0	-	Back	17mm	Ant 1	Full Power	23230	782	23.32	24.00	1.169	-	-	-0.05	0.239	0.280
	LTE Band 13	10M	QPSK	1	0	-	Left Side	19mm	Ant 1	Full Power	23230	782	23.32	24.00	1.169	-	-	0.18	0.111	0.130
	LTE Band 13	10M	QPSK	1	0	-	Bottom Side	19mm	Ant 1	Full Power	23230	782	23.32	24.00	1.169	-	-	0.14	0.000	0.000
	LTE Band 14	10M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	23330	793	23.27	24.00	1.183	-	-	0.06	0.585	0.692
	LTE Band 14	10M	QPSK	25	0	-	Front	5mm	Ant 1	Sensor on	23330	793	22.75	23.50	1.189	-	-	0.08	0.478	0.568
60	LTE Band 14_ENDC	10M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	23330	793	20.33	21.00	1.167	-	-	-0.08	0.329	0.384
	LTE Band 14_ENDC	10M	QPSK	25	0	-	Front	5mm	Ant 1	Sensor on	23330	793	20.21	21.00	1.199	-	-	0.1	0.311	0.373
	LTE Band 14	10M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	23330	793	23.27	24.00	1.183	-	-	-0.17	0.455	0.538
	LTE Band 14	10M	QPSK	25	0	-	Back	5mm	Ant 1	Sensor on	23330	793	22.75	23.50	1.189	-	-	-0.03	0.408	0.485
	LTE Band 14_ENDC	10M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	23330	793	20.33	21.00	1.167	-	-	-0.17	0.281	0.328
	LTE Band 14_ENDC	10M	QPSK	25	0	-	Back	5mm	Ant 1	Sensor on	23330	793	20.21	21.00	1.199	-	-	-0.03	0.252	0.302
	LTE Band 14	10M	QPSK	1	0	-	Left Side	5mm	Ant 1	Sensor on	23330	793	23.27	24.00	1.183	-	-	0.14	0.156	0.185
	LTE Band 14	10M	QPSK	25	0	-	Left Side	5mm	Ant 1	Sensor on	23330	793	22.75	23.50	1.189	-	-	0.11	0.121	0.144
	LTE Band 14	10M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	23330	793	23.78	24.50	1.180	-	-	-0.05	0.143	0.169
	LTE Band 14	10M	QPSK	25	0	-	Right Side	5mm	Ant 1	Full Power	23330	793	22.75	23.50	1.189	-	-	0.18	0.165	0.196
	LTE Band 14	10M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	23330	793	23.27	24.00	1.183	-	-	0.14	0.317	0.375
	LTE Band 14	10M	QPSK	25	0	-	Bottom Side	5mm	Ant 1	Sensor on	23330	793	22.75	23.50	1.189	-	-	-0.17	0.234	0.278



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	LTE Band 14	10M	QPSK	1	0	-	Front	24mm	Ant 1	Full Power	23330	793	23.78	24.50	1.180	-	-	-0.17	0.183	0.216
	LTE Band 14	10M	QPSK	1	0	-	Back	17mm	Ant 1	Full Power	23330	793	23.78	24.50	1.180	-	-	0.17	0.252	0.297
	LTE Band 14	10M	QPSK	1	0	-	Left Side	19mm	Ant 1	Full Power	23330	793	23.78	24.50	1.180	-	-	-0.05	0.120	0.142
	LTE Band 14	10M	QPSK	1	0	-	Bottom Side	19mm	Ant 1	Full Power	23330	793	23.78	24.50	1.180	-	-	0.01	0.001	0.001
	LTE Band 71	20M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	133322	683	21.10	22.00	1.230	-	-	0.08	0.485	0.597
	LTE Band 71	20M	QPSK	50	0	-	Front	5mm	Ant 1	Sensor on	133322	683	20.94	22.00	1.276	-	-	0.01	0.455	0.581
61	LTE Band 71	20M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	133322	683	21.10	22.00	1.230	-	-	0.02	0.640	0.787
	LTE Band 71	20M	QPSK	50	0	-	Back	5mm	Ant 1	Sensor on	133322	683	20.94	22.00	1.276	-	-	0.03	0.583	0.744
	LTE Band 71	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	Sensor on	133322	683	21.10	22.00	1.230	-	-	-0.08	0.213	0.262
	LTE Band 71	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	Sensor on	133322	683	20.94	22.00	1.276	-	-	-0.08	0.226	0.288
	LTE Band 71	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	133322	683	23.94	25.00	1.276	-	-	0.1	0.243	0.310
	LTE Band 71	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Full Power	133322	683	22.88	24.00	1.294	-	-	-0.18	0.194	0.251
	LTE Band 71	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	133322	683	21.10	22.00	1.230	-	-	0.1	0.221	0.272
	LTE Band 71	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Sensor on	133322	683	20.94	22.00	1.276	-	-	0.12	0.181	0.231
	LTE Band 71	20M	QPSK	1	0	-	Front	24mm	Ant 1	Full Power	133322	683	23.94	25.00	1.276	-	-	-0.17	0.357	0.456
	LTE Band 71	20M	QPSK	1	0	-	Back	17mm	Ant 1	Full Power	133322	683	23.94	25.00	1.276	-	-	0.04	0.513	0.655
	LTE Band 71	20M	QPSK	1	0	-	Left Side	19mm	Ant 1	Full Power	133322	683	23.94	25.00	1.276	-	-	0.02	0.169	0.216
	LTE Band 71	20M	QPSK	1	0	-	Bottom Side	19mm	Ant 1	Full Power	133322	683	23.94	25.00	1.276	-	-	0.11	0.001	0.001
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Full Power	141500	707.5	22.51	24.00	1.409	-	-	0.17	0.379	0.534
	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Front	5mm	Ant 1	Full Power	141500	707.5	22.46	24.00	1.426	-	-	-0.05	0.459	0.654
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Full Power	141500	707.5	22.51	24.00	1.409	-	-	0.1	0.416	0.586
62	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Back	5mm	Ant 1	Full Power	141500	707.5	22.46	24.00	1.426	-	-	-0.05	0.467	0.666
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Full Power	141500	707.5	22.51	24.00	1.409	-	-	0.04	0.244	0.344
	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Full Power	141500	707.5	22.46	24.00	1.426	-	-	-0.01	0.331	0.472
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	141500	707.5	22.51	24.00	1.409	-	-	-0.08	0.291	0.410
	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	141500	707.5	22.46	24.00	1.426	-	-	0.05	0.346	0.493
	FR1 n12	15M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Full Power	141500	707.5	22.51	24.00	1.409	-	-	0.06	0.151	0.213
	FR1 n12	15M	QPSK	36	22	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Full Power	141500	707.5	22.46	24.00	1.426	-	-	-0.09	0.255	0.364
63	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Full Power	156400	782	22.13	24.00	1.538	-	-	0.04	0.408	0.628
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Front	5mm	Ant 1	Full Power	156400	782	22.08	24.00	1.556	-	-	-0.08	0.366	0.569
	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Full Power	156400	782	22.13	24.00	1.538	-	-	0.13	0.380	0.584
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Back	5mm	Ant 1	Full Power	156400	782	22.08	24.00	1.556	-	-	0.12	0.325	0.506
	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Full Power	156400	782	22.13	24.00	1.538	-	-	0.03	0.254	0.391
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Full Power	156400	782	22.08	24.00	1.556	-	-	0.18	0.218	0.339
	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	156400	782	22.13	24.00	1.538	-	-	-0.03	0.291	0.448
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	156400	782	22.08	24.00	1.556	-	-	-0.1	0.205	0.319
	FR1 n13	10M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Full Power	156400	782	22.13	24.00	1.538	-	-	0.07	0.213	0.328
	FR1 n13	10M	QPSK	25	14	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Full Power	156400	782	22.08	24.00	1.556	-	-	0.18	0.271	0.422
64	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Full Power	158600	793	23.94	25.00	1.276	-	-	0.07	0.590	0.753
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Front	5mm	Ant 1	Full Power	158600	793	23.89	25.00	1.291	-	-	-0.1	0.406	0.524
	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Full Power	158600	793	23.94	25.00	1.276	-	-	0.01	0.585	0.747
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Back	5mm	Ant 1	Full Power	158600	793	23.89	25.00	1.291	-	-	-0.15	0.364	0.470
	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Full Power	158600	793	23.94	25.00	1.276	-	-	0.19	0.281	0.359
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Full Power	158600	793	23.89	25.00	1.291	-	-	0.07	0.254	0.328
	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	158600	793	23.94	25.00	1.276	-	-	-0.18	0.365	0.466
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	158600	793	23.89	25.00	1.291	-	-	0.03	0.226	0.292
	FR1 n14	10M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Full Power	158600	793	23.94	25.00	1.276	-	-	-0.15	0.377	0.481
	FR1 n14	10M	QPSK	25	14	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Full Power	158600	793	23.89	25.00	1.291	-	-	-0.15	0.310	0.400
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	136100	680.5	21.88	23.00	1.294	-	-	-0.05	0.521	0.674
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	136100	680.5	21.76	23.00	1.330	-	-	0.18	0.456	0.607
	FR1 n71_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	136100	680.5	18.92	20.00	1.282	-	-	-0.05	0.284	0.364
	FR1 n71_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	136100	680.5	18.76	20.00	1.330	-	-	0.18	0.275	0.366
65	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Sensor on	136100	680.5	21.88	23.00	1.294	-	-	0.04	0.573	0.742
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	Sensor on	136100	680.5	21.76	23.00	1.330	-	-	0.14	0.492	0.655
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Sensor on	136100	680.5	21.88	23.00	1.294	-	-	-0.17	0.380	0.492
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Sensor on	136100	680.5	21.76	23.00	1.330	-	-	0.17	0.313	0.416



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	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	136100	680.5	22.82	24.00	1.312	-	-	-0.05	0.550	0.722
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	136100	680.5	22.74	24.00	1.337	-	-	0.01	0.458	0.612
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Sensor on	136100	680.5	21.88	23.00	1.294	-	-	0.1	0.208	0.269
	FR1 n71	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Sensor on	136100	680.5	21.76	23.00	1.330	-	-	-0.17	0.133	0.177
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Front	24mm	Ant 1	Full Power	136100	680.5	22.82	24.00	1.312	-	-	0.04	0.353	0.463
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 1	Full Power	136100	680.5	22.82	24.00	1.312	-	-	0.02	0.493	0.647
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	19mm	Ant 1	Full Power	136100	680.5	22.82	24.00	1.312	-	-	-0.08	0.176	0.231
	FR1 n71	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	19mm	Ant 1	Full Power	136100	680.5	22.82	24.00	1.312	-	-	0.05	0.000	0.000
835MHz																				
66	LTE Band 26	15M	QPSK	1	0	-	Front	5mm	Ant 1	Full Power	26865	831.5	24.01	25.00	1.256	-	-	0.07	0.516	0.648
	LTE Band 26	15M	QPSK	36	0	-	Front	5mm	Ant 1	Full Power	26865	831.5	23.02	24.00	1.253	-	-	0.06	0.410	0.514
	LTE Band 5_ENDC	10M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	20525	836.5	20.99	22.00	1.262	-	-	-0.18	0.304	0.384
	LTE Band 5_ENDC	10M	QPSK	25	0	-	Front	5mm	Ant 1	Sensor on	20525	836.5	20.92	22.00	1.282	-	-	0.1	0.299	0.383
	LTE Band 26	15M	QPSK	1	0	-	Back	5mm	Ant 1	Full Power	26865	831.5	24.01	25.00	1.256	-	-	-0.09	0.421	0.529
	LTE Band 26	15M	QPSK	36	0	-	Back	5mm	Ant 1	Full Power	26865	831.5	23.02	24.00	1.253	-	-	-0.08	0.291	0.365
	LTE Band 5_ENDC	10M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	20525	836.5	20.99	22.00	1.262	-	-	-0.09	0.266	0.336
	LTE Band 5_ENDC	10M	QPSK	25	0	-	Back	5mm	Ant 1	Sensor on	20525	836.5	20.92	22.00	1.282	-	-	-0.08	0.245	0.314
	LTE Band 26	15M	QPSK	1	0	-	Left Side	5mm	Ant 1	Full Power	26865	831.5	24.01	25.00	1.256	-	-	0.13	0.203	0.255
	LTE Band 26	15M	QPSK	36	0	-	Left Side	5mm	Ant 1	Full Power	26865	831.5	23.02	24.00	1.253	-	-	0.12	0.161	0.202
	LTE Band 26	15M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	26865	831.5	24.01	25.00	1.256	-	-	0.03	0.113	0.142
	LTE Band 26	15M	QPSK	36	0	-	Right Side	5mm	Ant 1	Full Power	26865	831.5	23.02	24.00	1.253	-	-	0.18	0.040	0.050
	LTE Band 26	15M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Full Power	26865	831.5	24.01	25.00	1.256	-	-	0.16	0.356	0.447
	LTE Band 26	15M	QPSK	36	0	-	Bottom Side	5mm	Ant 1	Full Power	26865	831.5	23.02	24.00	1.253	-	-	-0.1	0.328	0.411
67	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Full Power	167800	839	23.66	24.00	1.081	-	-	-0.1	0.391	0.423
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	Full Power	167800	839	23.60	24.00	1.096	-	-	0.01	0.378	0.414
	FR1 n5_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	167300	836.5	20.61	21.00	1.094	-	-	-0.1	0.247	0.270
	FR1 n5_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	167300	836.5	20.53	21.00	1.114	-	-	0.01	0.239	0.266
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Full Power	167800	839	23.66	24.00	1.081	-	-	-0.15	0.327	0.354
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 1	Full Power	167800	839	23.60	24.00	1.096	-	-	0.19	0.303	0.332
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Full Power	167800	839	23.66	24.00	1.081	-	-	0.07	0.165	0.178
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Full Power	167800	839	23.60	24.00	1.096	-	-	-0.18	0.155	0.170
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	167800	839	23.66	24.00	1.081	-	-	0.03	0.117	0.127
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	167800	839	23.60	24.00	1.096	-	-	-0.15	0.110	0.121
	FR1 n26	20M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Full Power	167800	839	23.66	24.00	1.081	-	-	-0.03	0.252	0.273
	FR1 n26	20M	QPSK	50	28	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Full Power	167800	839	23.60	24.00	1.096	-	-	-0.15	0.209	0.229
1750MHz																				
	LTE Band 66	20M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	132322	1745	16.16	16.50	1.081	-	-	0.08	0.285	0.308
	LTE Band 66	20M	QPSK	50	0	-	Front	5mm	Ant 1	Sensor on	132322	1745	16.11	16.50	1.094	-	-	0.01	0.227	0.248
	LTE Band 66	20M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	132322	1745	16.16	16.50	1.081	-	-	0.03	0.291	0.315
	LTE Band 66	20M	QPSK	50	0	-	Back	5mm	Ant 1	Sensor on	132322	1745	16.11	16.50	1.094	-	-	-0.08	0.228	0.249
	LTE Band 66	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	Sensor on	132322	1745	16.16	16.50	1.081	-	-	-0.08	0.044	0.048
	LTE Band 66	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	Sensor on	132322	1745	16.11	16.50	1.094	-	-	0.1	0.032	0.035
	LTE Band 66	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	132322	1745	23.63	24.00	1.089	-	-	-0.06	0.597	0.650
	LTE Band 66	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Full Power	132322	1745	22.62	23.00	1.091	-	-	0.1	0.530	0.578
68	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	132322	1745	16.16	16.50	1.081	-	-	-0.02	0.634	0.686
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	132072	1720	16.13	16.50	1.089	-	-	0.12	0.521	0.567
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	132572	1770	16.06	16.50	1.107	-	-	0.08	0.516	0.571
	LTE Band 66	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Sensor on	132322	1745	16.11	16.50	1.094	-	-	-0.17	0.514	0.562
	LTE Band 66	20M	QPSK	1	0	-	Front	24mm	Ant 1	Full Power	132322	1745	23.63	24.00	1.089	-	-	0.14	0.302	0.329
	LTE Band 66	20M	QPSK	1	0	-	Back	17mm	Ant 1	Full Power	132322	1745	23.63	24.00	1.089	-	-	-0.17	0.506	0.551
	LTE Band 66	20M	QPSK	1	0	-	Left Side	19mm	Ant 1	Full Power	132322	1745	23.63	24.00	1.089	-	-	-0.06	0.138	0.150
	LTE Band 66	20M	QPSK	1	0	-	Bottom Side	19mm	Ant 1	Full Power	132322	1745	23.63	24.00	1.089	-	-	-0.05	0.483	0.526
	LTE Band 66_ENDC	20M	QPSK	1	0	-	Front	5mm	Ant 2	Sensor on	132322	1745	13.77	14.00	1.054	-	-	0.07	0.363	0.383
	LTE Band 66_ENDC	20M	QPSK	50	0	-	Front	5mm	Ant 2	Sensor on	132322	1745	13.73	14.00	1.064	-	-	0.01	0.318	0.338
	LTE Band 66_ENDC	20M	QPSK	1	0	-	Back	5mm	Ant 2	Sensor on	132322	1745	13.77	14.00	1.054	-	-	-0.15	0.177	0.187
	LTE Band 66_ENDC	20M	QPSK	50	0	-	Back	5mm	Ant 2	Sensor on	132322	1745	13.73	14.00	1.064	-	-	0.19	0.170	0.181



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	LTE Band 66_ENDC	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	Sensor on	132322	1745	13.77	14.00	1.054	-	-	0.07	0.198	0.209
	LTE Band 66_ENDC	20M	QPSK	50	0	-	Left Side	5mm	Ant 2	Sensor on	132322	1745	13.73	14.00	1.064	-	-	-0.18	0.121	0.129
	LTE Band 66_ENDC	20M	QPSK	1	0	-	Right Side	5mm	Ant 2	Sensor on	132322	1745	13.77	14.00	1.054	-	-	0.03	0.056	0.059
	LTE Band 66_ENDC	20M	QPSK	50	0	-	Right Side	5mm	Ant 2	Sensor on	132322	1745	13.73	14.00	1.064	-	-	-0.15	0.070	0.074
	LTE Band 66_ENDC	20M	QPSK	1	0	-	Top Side	5mm	Ant 2	Sensor on	132322	1745	13.77	14.00	1.054	-	-	-0.15	0.150	0.158
	LTE Band 66_ENDC	20M	QPSK	50	0	-	Top Side	5mm	Ant 2	Sensor on	132322	1745	13.73	14.00	1.064	-	-	0.11	0.156	0.166
	LTE Band 66	20M	QPSK	1	0	-	Front	24mm	Ant 2	Full Power	132322	1745	23.70	24.00	1.072	-	-	0.08	0.156	0.167
	LTE Band 66	20M	QPSK	1	0	-	Back	17mm	Ant 2	Full Power	132322	1745	23.70	24.00	1.072	-	-	0.01	0.153	0.164
	LTE Band 66	20M	QPSK	1	0	-	Left Side	19mm	Ant 2	Full Power	132322	1745	23.70	24.00	1.072	-	-	0.03	0.088	0.094
	LTE Band 66	20M	QPSK	1	0	-	Top Side	24mm	Ant 2	Full Power	132322	1745	23.70	24.00	1.072	-	-	-0.08	0.045	0.048
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	349000	1745	15.51	16.50	1.256	-	-	0.01	0.258	0.324
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	349000	1745	15.49	16.50	1.262	-	-	0.1	0.268	0.338
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Sensor on	349000	1745	15.51	16.50	1.256	-	-	-0.17	0.260	0.327
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	Sensor on	349000	1745	15.49	16.50	1.262	-	-	0.04	0.287	0.362
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Sensor on	349000	1745	15.51	16.50	1.256	-	-	-0.01	0.047	0.059
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Sensor on	349000	1745	15.49	16.50	1.262	-	-	-0.08	0.034	0.043
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	349000	1745	22.95	24.00	1.274	-	-	0.05	0.532	0.678
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	349000	1745	22.84	24.00	1.306	-	-	0.06	0.474	0.619
69	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Sensor on	349000	1745	15.51	16.50	1.256	-	-	0.01	0.547	0.687
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Sensor on	349000	1745	15.49	16.50	1.262	-	-	-0.08	0.492	0.621
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	24mm	Ant 1	Full Power	349000	1745	22.95	24.00	1.274	-	-	-0.1	0.195	0.248
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 1	Full Power	349000	1745	22.95	24.00	1.274	-	-	0.07	0.348	0.443
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	19mm	Ant 1	Full Power	349000	1745	22.95	24.00	1.274	-	-	0.18	0.088	0.112
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	19mm	Ant 1	Full Power	349000	1745	22.95	24.00	1.274	-	-	-0.1	0.318	0.405
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 2	Sensor on	349000	1745	12.95	14.50	1.429	-	-	-0.13	0.252	0.360
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 2	Sensor on	349000	1745	12.91	14.50	1.442	-	-	0.03	0.251	0.362
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 2	Sensor on	349000	1745	12.95	14.50	1.429	-	-	0.06	0.133	0.190
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 2	Sensor on	349000	1745	12.91	14.50	1.442	-	-	-0.03	0.150	0.216
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 2	Sensor on	349000	1745	12.95	14.50	1.429	-	-	-0.03	0.139	0.199
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 2	Sensor on	349000	1745	12.91	14.50	1.442	-	-	0.08	0.160	0.231
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 2	Sensor on	349000	1745	12.95	14.50	1.429	-	-	-0.07	0.033	0.047
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 2	Sensor on	349000	1745	12.91	14.50	1.442	-	-	0.05	0.045	0.065
	FR1 n66_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 2	Sensor on	349000	1745	12.95	14.50	1.429	-	-	-0.11	0.169	0.241
	FR1 n66_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	5mm	Ant 2	Sensor on	349000	1745	12.91	14.50	1.442	-	-	-0.12	0.182	0.262
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Front	24mm	Ant 2	Full Power	349000	1745	22.45	24.00	1.429	-	-	-0.08	0.109	0.156
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 2	Full Power	349000	1745	22.45	24.00	1.429	-	-	0.1	0.112	0.160
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	19mm	Ant 2	Full Power	349000	1745	22.45	24.00	1.429	-	-	-0.18	0.060	0.086
	FR1 n66	40M	QPSK	1	1	DFT-SCS-15KHz	Top Side	24mm	Ant 2	Full Power	349000	1745	22.45	24.00	1.429	-	-	0.1	0.001	0.001
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Front	24mm	Ant 2	Full Power	349000	1745	22.31	24.00	1.476	-	-	0.12	0.136	0.201
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Back	17mm	Ant 2	Full Power	349000	1745	22.31	24.00	1.476	-	-	0.08	0.147	0.217
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	19mm	Ant 2	Full Power	349000	1745	22.31	24.00	1.476	-	-	-0.17	0.089	0.131
	FR1 n66	40M	QPSK	108	54	DFT-SCS-15KHz	Top Side	24mm	Ant 2	Full Power	349000	1745	22.31	24.00	1.476	-	-	-0.03	0.001	0.001
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 2	Sensor on	340500	1702.5	18.91	20.50	1.442	-	-	-0.16	0.409	0.590
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Front	5mm	Ant 2	Sensor on	340500	1702.5	18.83	20.50	1.469	-	-	-0.02	0.398	0.585
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 2	Sensor on	340500	1702.5	18.91	20.50	1.442	-	-	0.15	0.180	0.260
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Back	5mm	Ant 2	Sensor on	340500	1702.5	18.83	20.50	1.469	-	-	-0.09	0.155	0.228
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 2	Sensor on	340500	1702.5	18.91	20.50	1.442	-	-	0.11	0.201	0.290
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Left Side	5mm	Ant 2	Sensor on	340500	1702.5	18.83	20.50	1.469	-	-	-0.05	0.183	0.269
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 2	Full Power	340500	1702.5	22.34	24.00	1.466	-	-	-0.08	0.097	0.142
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Right Side	5mm	Ant 2	Full Power	340500	1702.5	22.24	24.00	1.500	-	-	0.16	0.117	0.175
70	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 2	Sensor on	340500	1702.5	18.91	20.50	1.442	-	-	0.06	0.491	0.708
	FR1 n70	15M	QPSK	36	22	DFT-SCS-15KHz	Top Side	5mm	Ant 2	Sensor on	340500	1702.5	18.83	20.50	1.469	-	-	0.05	0.363	0.533
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Front	24mm	Ant 2	Full Power	340500	1702.5	22.34	24.00	1.466	-	-	-0.03	0.074	0.108
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 2	Full Power	340500	1702.5	22.34	24.00	1.466	-	-	-0.15	0.059	0.086
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Left Side	19mm	Ant 2	Full Power	340500	1702.5	22.34	24.00	1.466	-	-	0.02	0.001	0.001
	FR1 n70	15M	QPSK	1	1	DFT-SCS-15KHz	Top Side	24mm	Ant 2	Full Power	340500	1702.5	22.34	24.00	1.466	-	-	0.07	0.044	0.064



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1900MHz																				
	LTE Band 25	20M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	26340	1880	16.88	17.50	1.153	-	-	0.11	0.276	0.318
	LTE Band 25	20M	QPSK	50	0	-	Front	5mm	Ant 1	Sensor on	26340	1880	16.85	17.50	1.161	-	-	-0.17	0.216	0.251
	LTE Band 25_ENDC	20M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	18900	1880	13.95	14.50	1.135	-	-	0.12	0.166	0.188
	LTE Band 25_ENDC	20M	QPSK	50	0	-	Front	5mm	Ant 1	Sensor on	18900	1880	13.88	14.50	1.153	-	-	0.08	0.130	0.150
	LTE Band 25	20M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	26340	1880	16.88	17.50	1.153	-	-	0.17	0.274	0.316
	LTE Band 25	20M	QPSK	50	0	-	Back	5mm	Ant 1	Sensor on	26340	1880	16.85	17.50	1.161	-	-	-0.08	0.212	0.246
	LTE Band 25	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	Sensor on	26340	1880	16.88	17.50	1.153	-	-	-0.03	0.055	0.063
	LTE Band 25	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	Sensor on	26340	1880	16.85	17.50	1.161	-	-	-0.03	0.028	0.033
71	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	26340	1880	23.35	24.00	1.161	-	-	0.02	0.851	0.988
	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	26140	1860	23.26	24.00	1.186	-	-	0.01	0.782	0.927
	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	26590	1905	23.29	24.00	1.178	-	-	0.02	0.798	0.940
	LTE Band 25	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Full Power	26340	1880	22.34	23.00	1.164	-	-	-0.11	0.686	0.799
	LTE Band 25	20M	QPSK	100	0	-	Right Side	5mm	Ant 1	Full Power	26340	1880	22.28	23.00	1.180	-	-	0.04	0.671	0.792
	LTE Band 25_ENDC	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Sensor on	18900	1880	20.22	21.00	1.197	-	-	0.02	0.476	0.570
	LTE Band 25_ENDC	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Sensor on	18900	1880	20.21	21.00	1.199	-	-	-0.11	0.438	0.525
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	26340	1880	16.88	17.50	1.153	-	-	-0.02	0.624	0.720
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	26140	1860	16.77	17.50	1.183	-	-	-0.03	0.645	0.763
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	26590	1905	16.76	17.50	1.186	-	-	0.15	0.611	0.725
	LTE Band 25	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Sensor on	26340	1880	16.85	17.50	1.161	-	-	-0.09	0.455	0.528
	LTE Band 25	20M	QPSK	1	0	-	Front	24mm	Ant 1	Full Power	26340	1880	23.35	24.00	1.161	-	-	0.16	0.131	0.152
	LTE Band 25	20M	QPSK	1	0	-	Back	17mm	Ant 1	Full Power	26340	1880	23.35	24.00	1.161	-	-	0.13	0.262	0.304
	LTE Band 25	20M	QPSK	1	0	-	Left Side	19mm	Ant 1	Full Power	26340	1880	23.35	24.00	1.161	-	-	0.02	0.053	0.062
	LTE Band 25	20M	QPSK	1	0	-	Bottom Side	19mm	Ant 1	Full Power	26340	1880	23.35	24.00	1.161	-	-	-0.18	0.261	0.303
	LTE Band 25_ENDC	20M	QPSK	1	0	-	Front	5mm	Ant 2	Sensor on	26340	1880	16.66	17.00	1.081	-	-	0.12	0.309	0.334
	LTE Band 25_ENDC	20M	QPSK	50	0	-	Front	5mm	Ant 2	Sensor on	26340	1880	16.60	17.00	1.096	-	-	-0.08	0.255	0.280
	LTE Band 25_ENDC	20M	QPSK	1	0	-	Back	5mm	Ant 2	Sensor on	26340	1880	16.66	17.00	1.081	-	-	0.1	0.169	0.183
	LTE Band 25_ENDC	20M	QPSK	50	0	-	Back	5mm	Ant 2	Sensor on	26340	1880	16.60	17.00	1.096	-	-	-0.18	0.138	0.151
	LTE Band 25_ENDC	20M	QPSK	1	0	-	Left Side	5mm	Ant 2	Sensor on	26340	1880	16.66	17.00	1.081	-	-	0.1	0.124	0.134
	LTE Band 25_ENDC	20M	QPSK	50	0	-	Left Side	5mm	Ant 2	Sensor on	26340	1880	16.60	17.00	1.096	-	-	0.12	0.116	0.127
	LTE Band 25_ENDC	20M	QPSK	1	0	-	Right Side	5mm	Ant 2	Sensor on	26340	1880	16.66	17.00	1.081	-	-	0.08	0.083	0.090
	LTE Band 25_ENDC	20M	QPSK	50	0	-	Right Side	5mm	Ant 2	Sensor on	26340	1880	16.60	17.00	1.096	-	-	-0.17	0.074	0.081
	LTE Band 25_ENDC	20M	QPSK	1	0	-	Top Side	5mm	Ant 2	Sensor on	26340	1880	16.66	17.00	1.081	-	-	-0.03	0.297	0.321
	LTE Band 25_ENDC	20M	QPSK	50	0	-	Top Side	5mm	Ant 2	Sensor on	26340	1880	16.60	17.00	1.096	-	-	0.14	0.241	0.264
	LTE Band 25	20M	QPSK	1	0	-	Front	24mm	Ant 2	Full Power	26340	1880	23.62	24.00	1.091	-	-	0.14	0.221	0.241
	LTE Band 25	20M	QPSK	1	0	-	Back	17mm	Ant 2	Full Power	26340	1880	23.62	24.00	1.091	-	-	0.11	0.243	0.265
	LTE Band 25	20M	QPSK	1	0	-	Left Side	19mm	Ant 2	Full Power	26340	1880	23.62	24.00	1.091	-	-	-0.05	0.178	0.194
	LTE Band 25	20M	QPSK	1	0	-	Top Side	24mm	Ant 2	Full Power	26340	1880	23.62	24.00	1.091	-	-	0.18	0.111	0.121
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	376500	1882.5	17.17	18.50	1.358	-	-	-0.06	0.338	0.459
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	376500	1882.5	17.14	18.50	1.368	-	-	0.01	0.300	0.410
	FR1 n25_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	376500	1882.5	14.20	15.50	1.349	-	-	-0.06	0.208	0.281
	FR1 n25_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	376500	1882.5	14.09	15.50	1.384	-	-	0.01	0.185	0.256
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Sensor on	376500	1882.5	17.17	18.50	1.358	-	-	0.03	0.313	0.425
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	Sensor on	376500	1882.5	17.14	18.50	1.368	-	-	-0.08	0.302	0.413
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Sensor on	376500	1882.5	17.17	18.50	1.358	-	-	-0.08	0.021	0.029
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Sensor on	376500	1882.5	17.14	18.50	1.368	-	-	0.1	0.013	0.018
72	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	376500	1882.5	22.62	24.00	1.374	-	-	0.03	0.745	1.024
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	374000	1870	22.50	24.00	1.413	-	-	0.01	0.706	0.997
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	379000	1895	22.52	24.00	1.406	-	-	0.04	0.710	0.998
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	376500	1882.5	22.59	24.00	1.384	-	-	0.06	0.650	0.899
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	374000	1870	22.41	24.00	1.442	-	-	0.02	0.602	0.868
	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	379000	1895	22.43	24.00	1.435	-	-	0.07	0.609	0.874
	FR1 n25	40M	QPSK	216	0	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	376500	1882.5	21.63	23.00	1.371	-	-	0.08	0.544	0.746
	FR1 n25_ENDC	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Sensor on	376500	1882.5	19.82	21.00	1.312	-	-	0.03	0.431	0.566
	FR1 n25_ENDC	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Sensor on	376500	1882.5	19.73	21.00	1.340	-	-	0.06	0.421	0.564
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Sensor on	376500	1882.5	17.17	18.50	1.358	-	-	-0.02	0.588	0.799



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	FR1 n25	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Sensor on	376500	1882.5	17.14	18.50	1.368	-	-	0.12	0.539	0.737
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Front	24mm	Ant 1	Full Power	376500	1882.5	22.62	24.00	1.374	-	-	-0.05	0.102	0.140
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 1	Full Power	376500	1882.5	22.62	24.00	1.374	-	-	-0.12	0.199	0.273
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	19mm	Ant 1	Full Power	376500	1882.5	22.62	24.00	1.374	-	-	0.14	0.044	0.060
	FR1 n25	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	19mm	Ant 1	Full Power	376500	1882.5	22.62	24.00	1.374	-	-	-0.17	0.155	0.213
	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 2	Sensor on	376000	1880	17.30	18.50	1.318	-	-	0.08	0.227	0.299
	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Front	5mm	Ant 2	Sensor on	376000	1880	17.17	18.50	1.358	-	-	0.01	0.232	0.315
	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 2	Sensor on	376000	1880	17.30	18.50	1.318	-	-	0.03	0.221	0.291
	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Back	5mm	Ant 2	Sensor on	376000	1880	17.17	18.50	1.358	-	-	-0.08	0.210	0.285
	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 2	Sensor on	376000	1880	17.30	18.50	1.318	-	-	-0.08	0.092	0.121
	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	5mm	Ant 2	Sensor on	376000	1880	17.17	18.50	1.358	-	-	0.1	0.060	0.081
	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 2	Sensor on	376000	1880	17.30	18.50	1.318	-	-	-0.18	0.109	0.144
	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Right Side	5mm	Ant 2	Sensor on	376000	1880	17.17	18.50	1.358	-	-	0.1	0.101	0.137
	FR1 n2_ENDC	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	5mm	Ant 2	Sensor on	376000	1880	17.30	18.50	1.318	-	-	0.12	0.224	0.295
73	FR1 n2_ENDC	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	5mm	Ant 2	Sensor on	376000	1880	17.17	18.50	1.358	-	-	0.03	0.295	0.401
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Front	24mm	Ant 2	Full Power	376000	1880	22.69	24.00	1.352	-	-	0.14	0.190	0.257
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 2	Full Power	376000	1880	22.69	24.00	1.352	-	-	-0.17	0.202	0.273
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Left Side	19mm	Ant 2	Full Power	376000	1880	22.69	24.00	1.352	-	-	0.17	0.149	0.201
	FR1 n2	20M	QPSK	1	1	DFT-SCS-15KHz	Top Side	24mm	Ant 2	Full Power	376000	1880	22.69	24.00	1.352	-	-	-0.05	0.090	0.122
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Front	24mm	Ant 2	Full Power	376000	1880	22.56	24.00	1.393	-	-	0.01	0.193	0.269
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Back	17mm	Ant 2	Full Power	376000	1880	22.56	24.00	1.393	-	-	0.1	0.206	0.287
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Left Side	19mm	Ant 2	Full Power	376000	1880	22.56	24.00	1.393	-	-	-0.17	0.137	0.191
	FR1 n2	20M	QPSK	50	28	DFT-SCS-15KHz	Top Side	24mm	Ant 2	Full Power	376000	1880	22.56	24.00	1.393	-	-	0.04	0.087	0.121
2300MHz																				
	LTE Band 30	10M	QPSK	1	0	-	Front	5mm	Ant 9	Sensor on	27710	2310	17.62	18.50	1.225	-	-	0.07	0.420	0.514
	LTE Band 30	10M	QPSK	25	0	-	Front	5mm	Ant 9	Sensor on	27710	2310	17.49	18.50	1.262	-	-	0.08	0.387	0.488
	LTE Band 30_ENDC	10M	QPSK	1	0	-	Front	5mm	Ant 9	Sensor on	27710	2310	14.57	15.50	1.239	-	-	0.07	0.240	0.297
	LTE Band 30_ENDC	10M	QPSK	25	0	-	Front	5mm	Ant 9	Sensor on	27710	2310	14.56	15.50	1.242	-	-	0.08	0.221	0.274
	LTE Band 30	10M	QPSK	1	0	-	Back	5mm	Ant 9	Sensor on	27710	2310	17.62	18.50	1.225	-	-	0.01	0.350	0.429
	LTE Band 30	10M	QPSK	25	0	-	Back	5mm	Ant 9	Sensor on	27710	2310	17.49	18.50	1.262	-	-	0.03	0.336	0.424
74	LTE Band 30	10M	QPSK	1	0	-	Left Side	5mm	Ant 9	Sensor on	27710	2310	17.62	18.50	1.225	-	-	-0.07	0.604	0.740
	LTE Band 30	10M	QPSK	25	0	-	Left Side	5mm	Ant 9	Sensor on	27710	2310	17.49	18.50	1.262	-	-	-0.08	0.564	0.712
	LTE Band 30	10M	QPSK	1	0	-	Right Side	5mm	Ant 9	Full Power	27710	2310	24.11	25.00	1.227	-	-	-0.08	0.130	0.160
	LTE Band 30	10M	QPSK	25	0	-	Right Side	5mm	Ant 9	Full Power	27710	2310	23.13	25.00	1.538	-	-	0.1	0.111	0.171
	LTE Band 30	10M	QPSK	1	0	-	Top Side	5mm	Ant 9	Sensor on	27710	2310	17.62	18.50	1.225	-	-	-0.18	0.200	0.245
	LTE Band 30	10M	QPSK	25	0	-	Top Side	5mm	Ant 9	Sensor on	27710	2310	17.49	18.50	1.262	-	-	0.1	0.179	0.226
	LTE Band 30	10M	QPSK	1	0	-	Front	24mm	Ant 9	Full Power	27710	2310	24.11	25.00	1.227	-	-	-0.01	0.135	0.166
	LTE Band 30	10M	QPSK	1	0	-	Back	17mm	Ant 9	Full Power	27710	2310	24.11	25.00	1.227	-	-	-0.08	0.193	0.237
	LTE Band 30	10M	QPSK	1	0	-	Left Side	19mm	Ant 9	Full Power	27710	2310	24.11	25.00	1.227	-	-	0.05	0.237	0.291
	LTE Band 30	10M	QPSK	1	0	-	Top Side	24mm	Ant 9	Full Power	27710	2310	24.11	25.00	1.227	-	-	0.06	0.123	0.151
	FR1 n30	10M	QPSK	1	1	-	Front	5mm	Ant 9	Sensor on	462000	2310	18.53	19.50	1.250	-	-	-0.14	0.434	0.543
	FR1 n30	10M	QPSK	25	14	-	Front	5mm	Ant 9	Sensor on	462000	2310	18.43	19.50	1.279	-	-	-0.08	0.379	0.485
	FR1 n30_ENDC	10M	QPSK	1	1	-	Front	5mm	Ant 9	Sensor on	462000	2310	15.52	16.50	1.253	-	-	-0.05	0.244	0.306
	FR1 n30_ENDC	10M	QPSK	25	14	-	Front	5mm	Ant 9	Sensor on	462000	2310	15.40	16.50	1.288	-	-	0.18	0.213	0.274
	FR1 n30	10M	QPSK	1	1	-	Back	5mm	Ant 9	Sensor on	462000	2310	18.53	19.50	1.250	-	-	0.16	0.290	0.363
	FR1 n30	10M	QPSK	25	14	-	Back	5mm	Ant 9	Sensor on	462000	2310	18.43	19.50	1.279	-	-	0.05	0.292	0.374
75	FR1 n30	10M	QPSK	1	1	-	Left Side	5mm	Ant 9	Sensor on	462000	2310	18.53	19.50	1.250	-	-	0.04	0.553	0.691
	FR1 n30	10M	QPSK	25	14	-	Left Side	5mm	Ant 9	Sensor on	462000	2310	18.43	19.50	1.279	-	-	0.05	0.496	0.635
	FR1 n30	10M	QPSK	1	1	-	Right Side	5mm	Ant 9	Full Power	462000	2310	22.95	24.00	1.274	-	-	-0.03	0.038	0.048
	FR1 n30	10M	QPSK	25	14	-	Right Side	5mm	Ant 9	Full Power	462000	2310	22.88	24.00	1.294	-	-	-0.15	0.000	0.000
	FR1 n30	10M	QPSK	1	1	-	Top Side	5mm	Ant 9	Sensor on	462000	2310	18.53	19.50	1.250	-	-	0.02	0.140	0.175
	FR1 n30	10M	QPSK	25	14	-	Top Side	5mm	Ant 9	Sensor on	462000	2310	18.43	19.50	1.279	-	-	0.07	0.124	0.159
	FR1 n30	10M	QPSK	1	1	-	Front	24mm	Ant 9	Full Power	462000	2310	22.95	24.00	1.274	-	-	-0.09	0.093	0.118
	FR1 n30	10M	QPSK	1	1	-	Back	17mm	Ant 9	Sensor on	462000	2310	22.95	24.00	1.274	-	-	-0.08	0.148	0.188
	FR1 n30	10M	QPSK	1	1	-	Left Side	19mm	Ant 9	Full Power	462000	2310	22.95	24.00	1.274	-	-	0.13	0.191	0.243
	FR1 n30	10M	QPSK	1	1	-	Top Side	24mm	Ant 9	Sensor on	462000	2310	22.95	24.00	1.274	-	-	0.12	0.085	0.108



2600MHz																				
	LTE Band 7	20M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	21100	2535	14.25	14.50	1.059	-	-	0.18	0.134	0.142
	LTE Band 7	20M	QPSK	50	0	-	Front	5mm	Ant 1	Sensor on	21100	2535	14.20	14.50	1.072	-	-	0.14	0.108	0.116
	LTE Band 7_ENDC	20M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	21100	2535	11.26	11.50	1.057	-	-	-0.17	0.085	0.090
	LTE Band 7_ENDC	20M	QPSK	50	0	-	Front	5mm	Ant 1	Sensor on	21100	2535	11.19	11.50	1.074	-	-	-0.03	0.078	0.084
	LTE Band 7	20M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	21100	2535	14.25	14.50	1.059	-	-	0.02	0.184	0.195
	LTE Band 7	20M	QPSK	50	0	-	Back	5mm	Ant 1	Sensor on	21100	2535	14.20	14.50	1.072	-	-	-0.17	0.067	0.072
	LTE Band 7	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	Sensor on	21100	2535	14.25	14.50	1.059	-	-	0.17	0.044	0.047
	LTE Band 7	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	Sensor on	21100	2535	14.20	14.50	1.072	-	-	-0.05	0.046	0.049
	LTE Band 7	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	21100	2535	23.70	24.00	1.072	-	-	0.01	0.264	0.283
	LTE Band 7	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Full Power	21100	2535	22.64	23.00	1.086	-	-	0.1	0.091	0.099
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	21100	2535	14.25	14.50	1.059	-	-	-0.17	0.546	0.578
76	LTE Band 7	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Sensor on	21100	2535	14.20	14.50	1.072	-	-	0.06	0.553	0.593
	LTE Band 7	20M	QPSK	1	0	-	Front	24mm	Ant 1	Full Power	21100	2535	23.70	24.00	1.072	-	-	0.03	0.093	0.100
	LTE Band 7	20M	QPSK	1	0	-	Back	17mm	Ant 1	Full Power	21100	2535	23.70	24.00	1.072	-	-	0.18	0.324	0.347
	LTE Band 7	20M	QPSK	1	0	-	Left Side	19mm	Ant 1	Full Power	21100	2535	23.70	24.00	1.072	-	-	0.16	0.106	0.114
	LTE Band 7	20M	QPSK	1	0	-	Bottom Side	19mm	Ant 1	Full Power	21100	2535	23.70	24.00	1.072	-	-	-0.1	0.293	0.314
	LTE Band 41	20M	QPSK	1	0	-	Front	5mm	Ant 1	Sensor on	40620	2593	20.13	20.50	1.089	42.9	1.009	0.08	0.167	0.183
	LTE Band 41	20M	QPSK	50	0	-	Front	5mm	Ant 1	Sensor on	40620	2593	20.11	20.50	1.094	42.9	1.009	0.01	0.134	0.148
	LTE Band 41	20M	QPSK	1	0	-	Back	5mm	Ant 1	Sensor on	40620	2593	20.13	20.50	1.089	42.9	1.009	-0.07	0.273	0.300
	LTE Band 41	20M	QPSK	50	0	-	Back	5mm	Ant 1	Sensor on	40620	2593	20.11	20.50	1.094	42.9	1.009	-0.08	0.207	0.228
	LTE Band 41	20M	QPSK	1	0	-	Left Side	5mm	Ant 1	Sensor on	40620	2593	20.13	20.50	1.089	42.9	1.009	0.1	0.043	0.047
	LTE Band 41	20M	QPSK	50	0	-	Left Side	5mm	Ant 1	Sensor on	40620	2593	20.11	20.50	1.094	42.9	1.009	-0.18	0.066	0.073
	LTE Band 41	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	40620	2593	25.33	26.00	1.167	42.9	1.009	0.1	0.125	0.147
	LTE Band 41	20M	QPSK	50	0	-	Right Side	5mm	Ant 1	Full Power	40620	2593	24.43	25.00	1.140	42.9	1.009	0.12	0.107	0.123
77	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	40620	2593	20.13	20.50	1.089	42.9	1.009	-0.06	0.668	0.734
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	39750	2506	19.73	20.50	1.194	42.9	1.009	-0.17	0.424	0.511
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	40185	2549.5	20.02	20.50	1.117	42.9	1.009	-0.03	0.515	0.580
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	41055	2636.5	20.07	20.50	1.104	42.9	1.009	0.14	0.650	0.724
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	5mm	Ant 1	Sensor on	41490	2680	19.83	20.50	1.167	42.9	1.009	0.11	0.510	0.600
	LTE Band 41	20M	QPSK	50	0	-	Bottom Side	5mm	Ant 1	Sensor on	40620	2593	20.11	20.50	1.094	42.9	1.009	-0.05	0.450	0.497
	LTE Band 41	20M	QPSK	100	0	-	Bottom Side	5mm	Ant 1	Sensor on	40620	2593	20.04	20.50	1.112	42.9	1.009	0.04	0.443	0.497
	LTE Band 41	20M	QPSK	1	0	-	Front	24mm	Ant 1	Full Power	40620	2593	25.33	26.00	1.167	42.9	1.009	0.07	0.001	0.001
	LTE Band 41	20M	QPSK	1	0	-	Back	17mm	Ant 1	Full Power	40620	2593	25.33	26.00	1.167	42.9	1.009	0.18	0.139	0.164
	LTE Band 41	20M	QPSK	1	0	-	Left Side	19mm	Ant 1	Full Power	40620	2593	25.33	26.00	1.167	42.9	1.009	-0.1	0.054	0.064
	LTE Band 41	20M	QPSK	1	0	-	Bottom Side	19mm	Ant 1	Full Power	40620	2593	25.33	26.00	1.167	42.9	1.009	0.01	0.126	0.148
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	507000	2535	13.35	14.50	1.303	-	-	-0.09	0.114	0.149
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Front	5mm	Ant 1	Sensor on	507000	2535	13.30	14.50	1.318	-	-	-0.08	0.145	0.191
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	5mm	Ant 1	Sensor on	507000	2535	13.35	14.50	1.303	-	-	0.13	0.132	0.172
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Back	5mm	Ant 1	Sensor on	507000	2535	13.30	14.50	1.318	-	-	0.12	0.169	0.223
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Sensor on	507000	2535	13.35	14.50	1.303	-	-	0.03	0.006	0.008
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Left Side	5mm	Ant 1	Sensor on	507000	2535	13.30	14.50	1.318	-	-	0.18	0.036	0.047
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	507000	2535	22.84	24.00	1.306	-	-	0.16	0.178	0.232
	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Right Side	5mm	Ant 1	Full Power	507000	2535	22.74	24.00	1.337	-	-	-0.1	0.187	0.250
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Sensor on	507000	2535	13.35	14.50	1.303	-	-	0.07	0.450	0.586
78	FR1 n7	40M	QPSK	108	54	DFT-SCS-15KHz	Bottom Side	5mm	Ant 1	Sensor on	507000	2535	13.30	14.50	1.318	-	-	-0.06	0.509	0.671
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Front	24mm	Ant 1	Full Power	507000	2535	22.84	24.00	1.306	-	-	-0.15	0.062	0.081
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Back	17mm	Ant 1	Full Power	507000	2535	22.84	24.00	1.306	-	-	0.19	0.233	0.304
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Left Side	19mm	Ant 1	Full Power	507000	2535	22.84	24.00	1.306	-	-	0.07	0.068	0.089
	FR1 n7	40M	QPSK	1	1	DFT-SCS-15KHz	Bottom Side	19mm	Ant 1	Full Power	507000	2535	22.84	24.00	1.306	-	-	-0.18	0.332	0.434
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 1	Sensor on	518598	2592.99	17.12	18.00	1.225	50	1.000	0.07	0.144	0.176
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 1	Sensor on	518598	2592.99	17.05	18.00	1.245	50	1.000	-0.18	0.154	0.192
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 1	Sensor on	518598	2592.99	17.12	18.00	1.225	50	1.000	0.03	0.216	0.265
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 1	Sensor on	518598	2592.99	17.05	18.00	1.245	50	1.000	-0.15	0.254	0.316
	FR1 n41	100M	QPSK	1	1	DFT-SCS-30KHz	Left Side	5mm	Ant 1	Sensor on	518598	2592.99	17.12	18.00	1.225	50	1.000	-0.15	0.038	0.047
	FR1 n41	100M	QPSK	135	69	DFT-SCS-30KHz	Left Side	5mm	Ant 1	Sensor on	518598	2592.99	17.05	18.00	1.245	50	1.000	0.11	0.032	0.040



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
900MHz																
83	LoRa	DTS-500K	Front	5mm	Ant 8	Full Power	-	904	21.03	21.50	1.114	100	0.104	-0.05	1.020	0.118
	LoRa	DTS-500K	Back	5mm	Ant 8	Full Power	-	904	21.03	21.50	1.114	100	0.104	0.01	0.653	0.076
	LoRa	DTS-500K	Left Side	5mm	Ant 8	Full Power	-	904	21.03	21.50	1.114	100	0.104	0.1	0.496	0.057
	LoRa	DTS-500K	Right Side	5mm	Ant 8	Full Power	-	904	21.03	21.50	1.114	100	0.104	-0.17	0.039	0.005
	LoRa	DTS-500K	Top Side	5mm	Ant 8	Full Power	-	904	21.03	21.50	1.114	100	0.104	0.04	0.022	0.003
	LoRa	DTS-500K	Bottom Side	5mm	Ant 8	Full Power	-	904	21.03	21.50	1.114	100	0.104	-0.01	0.023	0.003
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	-0.08	0.111	0.156
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	-0.08	0.142	0.200
	WLAN2.4GHz	802.11b 1Mbps	Left Side	5mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	0.1	0.042	0.059
84	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	0.03	0.370	0.521
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	-0.18	0.074	0.104
	WLAN2.4GHz	802.11b 1Mbps	Bottom Side	5mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.50	1.409	100	1.000	0.1	0.045	0.063
	Bluetooth	1Mbps	Front	5mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	0.01	0.001	0.001
	Bluetooth	1Mbps	Back	5mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	-0.15	0.006	0.007
	Bluetooth	1Mbps	Left Side	5mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	0.19	0.001	0.001
85	Bluetooth	1Mbps	Right Side	5mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	0.07	0.017	0.020
	Bluetooth	1Mbps	Top Side	5mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	-0.18	0.001	0.001
	Bluetooth	1Mbps	Bottom Side	5mm	Ant 3	Full Power	0	2402	7.60	8.00	1.096	76.6	1.087	0.03	0.001	0.001
	Bluetooth	1Mbps	Front	5mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	0.18	0.001	0.001
	Bluetooth	1Mbps	Back	5mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	0.16	0.004	0.005
	Bluetooth	1Mbps	Left Side	5mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	-0.1	0.001	0.001
	Bluetooth	1Mbps	Right Side	5mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	0.07	0.010	0.013
	Bluetooth	1Mbps	Top Side	5mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	0.18	0.001	0.001
	Bluetooth	1Mbps	Bottom Side	5mm	Ant 4	Full Power	0	2402	7.34	8.00	1.164	77.06	1.081	-0.1	0.001	0.001
5000MHz																
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+4(4)	Full Power	42	5210	6.75	8.50	1.496	100	1.000	0.08	0.212	0.317
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+4(4)	Full Power	42	5210	6.75	8.50	1.496	100	1.000	0.01	0.053	0.079
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 3+4(4)	Full Power	42	5210	6.75	8.50	1.496	100	1.000	0.03	0.040	0.060
86	WLAN5.2GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 3+4(4)	Full Power	42	5210	6.75	8.50	1.496	100	1.000	-0.09	0.357	0.534
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 3+4(4)	Full Power	42	5210	6.75	8.50	1.496	100	1.000	-0.08	0.028	0.042
	WLAN5.2GHz	802.11ac-VHT80 MCS0	Bottom Side	5mm	Ant 3+4(4)	Full Power	42	5210	6.75	8.50	1.496	100	1.000	-0.08	0.037	0.055
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.07	0.197	0.293
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.18	0.143	0.212
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	-0.1	0.209	0.311
87	WLAN5.8GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	-0.09	0.225	0.334
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.01	0.189	0.281
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Bottom Side	5mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.13	0.175	0.260



FCC SAR Test Report

Report No. : FA250507

FR1 n77 Part 27Q_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 1	Sensor on	633334	3500.01	17.94	19	1.276	50	1.000	0.1	0.26	0.332
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 1	Sensor on	633334	3500.01	20.94	22	1.276	50	1.000	0.01	0.151	0.193
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 1	Sensor on	633334	3500.01	20.87	22	1.297	50	1.000	0.03	0.167	0.217
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	24mm	Ant 1	Full Power	633334	3500.01	27.88	29	1.294	50	1.000	0.11	0.051	0.066
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 1	Full Power	633334	3500.01	27.88	29	1.294	50	1.000	-0.05	0.062	0.080
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	24mm	Ant 1	Full Power	633334	3500.01	27.81	29	1.315	50	1.000	0.05	0.105	0.138
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	17mm	Ant 1	Full Power	633334	3500.01	27.81	29	1.315	50	1.000	0.05	0.071	0.093
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 2	Sensor on	656000	3840	22.18	23	1.208	50	1.000	0.08	0.133	0.161
FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 2	Sensor on	656000	3840	22.1	23	1.230	50	1.000	0.01	0.114	0.140
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 2	Sensor on	656000	3840	22.18	23	1.208	50	1.000	0.03	0.269	0.325
FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 2	Sensor on	656000	3840	22.1	23	1.230	50	1.000	-0.08	0.245	0.301
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	24mm	Ant 2	Full Power	656000	3840	27.05	28	1.245	50	1.000	-0.01	0.053	0.066
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 2	Full Power	656000	3840	27.05	28	1.245	50	1.000	-0.06	0.161	0.200
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 2	Sensor on	633334	3500.01	21.83	23	1.309	50	1.000	0.01	0.556	0.728
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 2	Sensor on	633334	3500.01	21.7	23	1.349	50	1.000	0.1	0.522	0.704
FR1 n77 Part 27Q_ENDC	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 2	Sensor on	633334	3500.01	18.84	20	1.306	50	1.000	0.14	0.278	0.363
FR1 n77 Part 27Q_ENDC	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 2	Sensor on	633334	3500.01	18.79	20	1.321	50	1.000	0.11	0.271	0.358
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 2	Sensor on	633334	3500.01	21.83	23	1.309	50	1.000	0.12	0.529	0.693
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 2	Sensor on	633334	3500.01	21.7	23	1.349	50	1.000	0.08	0.464	0.626
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	24mm	Ant 2	Full Power	633334	3500.01	26.67	28	1.358	50	1.000	-0.17	0.037	0.050
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 2	Full Power	633334	3500.01	26.67	28	1.358	50	1.000	-0.1	0.131	0.178
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 8	Sensor on	656000	3840	15.37	16	1.156	50	1.000	-0.17	0.157	0.182
FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 8	Sensor on	656000	3840	15.32	16	1.169	50	1.000	0.06	0.179	0.209
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 8	Sensor on	656000	3840	15.37	16	1.156	50	1.000	0.17	0.102	0.118
FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 8	Sensor on	656000	3840	15.32	16	1.169	50	1.000	-0.05	0.087	0.102
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	24mm	Ant 8	Full Power	656000	3840	27.28	28	1.180	50	1.000	0.14	0.127	0.150
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 8	Full Power	656000	3840	27.28	28	1.180	50	1.000	0.11	0.166	0.196
FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Front	24mm	Ant 8	Full Power	656000	3840	27.24	28	1.191	50	1.000	0.14	0.147	0.175
FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Back	17mm	Ant 8	Full Power	656000	3840	27.24	28	1.191	50	1.000	-0.17	0.189	0.225
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 8	Sensor on	633334	3500.01	14.8	16	1.318	50	1.000	-0.04	0.246	0.324
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 8	Sensor on	633334	3500.01	14.77	16	1.327	50	1.000	0.06	0.217	0.288
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 8	Sensor on	633334	3500.01	14.8	16	1.318	50	1.000	-0.09	0.143	0.189
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 8	Sensor on	633334	3500.01	14.77	16	1.327	50	1.000	-0.08	0.153	0.203
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	24mm	Ant 8	Full Power	633334	3500.01	26.72	28	1.343	50	1.000	0.01	0.326	0.438
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 8	Full Power	633334	3500.01	26.72	28	1.343	50	1.000	0.1	0.362	0.486
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 9	Sensor on	656000	3840	18.89	20	1.291	50	1.000	-0.04	0.185	0.239
FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 9	Sensor on	656000	3840	18.86	20	1.300	50	1.000	0.18	0.169	0.220
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 9	Sensor on	656000	3840	18.89	20	1.291	50	1.000	0.16	0.147	0.190
FR1 n77 Part 27O	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 9	Sensor on	656000	3840	18.86	20	1.300	50	1.000	-0.1	0.133	0.173
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Front	24mm	Ant 9	Full Power	656000	3840	26.73	28	1.340	50	1.000	0.07	0.175	0.234
FR1 n77 Part 27O	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 9	Full Power	656000	3840	26.73	28	1.340	50	1.000	0.18	0.203	0.272
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	5mm	Ant 9	Sensor on	633334	3500.01	18.6	20	1.380	50	1.000	0.1	0.205	0.283
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Front	5mm	Ant 9	Sensor on	633334	3500.01	18.54	20	1.400	50	1.000	-0.18	0.236	0.330
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	5mm	Ant 9	Sensor on	633334	3500.01	18.6	20	1.380	50	1.000	0.1	0.189	0.261
FR1 n77 Part 27Q	100M	QPSK	135	69	DFT-SCS-30KHz	Back	5mm	Ant 9	Sensor on	633334	3500.01	18.54	20	1.400	50	1.000	0.12	0.179	0.251
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Front	24mm	Ant 9	Full Power	633334	3500.01	26.45	28	1.429	50	1.000	-0.15	0.125	0.179
FR1 n77 Part 27Q	100M	QPSK	1	1	DFT-SCS-30KHz	Back	17mm	Ant 9	Full Power	633334	3500.01	26.45	28	1.429	50	1.000	0.19	0.208	0.297

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
900MHz																
113	LoRa	DTS-500K	Front	5mm	Ant 1	Full Power	-	904	21.03	21.5	1.114	100	0.104	-0.05	1.02	0.118
	LoRa	DTS-500K	Back	5mm	Ant 1	Full Power	-	904	21.03	21.5	1.114	100	0.104	0.01	0.653	0.076
2450MHz																
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.5	1.409	100	1.000	-0.08	0.111	0.156
114	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 3+4(3)	Full Power	6	2437	12.01	13.5	1.409	100	1.000	-0.08	0.142	0.200
	Bluetooth	1Mbps	Front	5mm	Ant 3	Full Power	0	2402	7.6	8	1.096	76.6	1.087	0.01	0.001	0.001
115	Bluetooth	1Mbps	Back	5mm	Ant 3	Full Power	0	2402	7.6	8	1.096	76.6	1.087	-0.15	0.006	0.007
	Bluetooth	1Mbps	Front	5mm	Ant 4	Full Power	0	2402	7.34	8	1.164	77.06	1.081	0.18	0.001	0.001
	Bluetooth	1Mbps	Back	5mm	Ant 4	Full Power	0	2402	7.34	8	1.164	77.06	1.081	0.16	0.004	0.005
5000MHz																
116	WLAN5.3GHz	802.11n-HT40 MCS0	Front	5mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	-0.05	0.373	0.550
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	5mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	-0.08	0.087	0.128
117	WLAN5.5GHz	802.11n-HT40 MCS0	Front	5mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	0.01	0.501	0.714
	WLAN5.5GHz	802.11n-HT40 MCS0	Back	5mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	0.12	0.156	0.222
	WLAN5.5GHz	802.11n-HT40 MCS0	Front	5mm	Ant 3+4(3)	Full Power	110	5550	10.96	12.50	1.426	100	1.000	0.02	0.465	0.663
	WLAN5.5GHz	802.11n-HT40 MCS0	Front	5mm	Ant 3+4(3)	Full Power	134	5670	10.28	12.00	1.486	100	1.000	0.02	0.439	0.652
118	WLAN5.8GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.07	0.197	0.293
	WLAN5.8GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+4(4)	Full Power	155	5775	9.28	11.00	1.486	100	1.000	0.18	0.143	0.212



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power Reduction	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)
5000MHz																
135	WLAN5.3GHz	802.11n-HT40 MCS0	Front	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	-0.09	0.451	0.666
	WLAN5.3GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	0.05	0.127	0.187
	WLAN5.3GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	0.06	0.033	0.049
	WLAN5.3GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	-0.09	0.347	0.512
	WLAN5.3GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	-0.08	0.018	0.027
	WLAN5.3GHz	802.11n-HT40 MCS0	Bottom Side	0mm	Ant 3+4(4)	Full Power	62	5310	7.31	9.00	1.476	100	1.000	0.13	0.050	0.074
	WLAN5.5GHz	802.11n-HT40 MCS0	Front	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	-0.05	0.364	0.519
	WLAN5.5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	0.03	0.152	0.217
	WLAN5.5GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	0.18	0.032	0.046
136	WLAN5.5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	-0.1	0.384	0.547
	WLAN5.5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	0.16	0.015	0.021
	WLAN5.5GHz	802.11n-HT40 MCS0	Bottom Side	0mm	Ant 3+4(4)	Full Power	102	5510	5.96	7.50	1.426	100	1.000	-0.1	0.036	0.051

15.6 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	LoRa	-	-	-	-	DTS-500K	Left Cheek	0mm	Ant 8	Full Power	-	904	21.03	21.50	1.114	100	0.104	-0.18	1.270	1	0.147
2nd	LoRa	-	-	-	-	DTS-500K	Left Cheek	0mm	Ant 8	Full Power	-	904	21.03	21.50	1.114	100	0.104	-0.18	1.190	1.067	0.138
1st	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	26340	1880	23.35	24.00	1.161	-	-	0.02	0.851	1	0.988
2nd	LTE Band 25	20M	QPSK	1	0	-	Right Side	5mm	Ant 1	Full Power	26340	1880	23.35	24.00	1.161	-	-	0.04	0.815	1.044	0.947

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/kg}$.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45\text{W/kg}$, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. 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	Face	Body-worn	Hotspot	Product specific 10g SAR
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes	Yes	Yes
2.	WWAN + WLAN5GHz	Yes	Yes	Yes	Yes	Yes
3.	WWAN + WLAN6GHz	Yes	Yes	Yes	Yes	Yes
4.	WWAN + WLAN2.4GHz+ Bluetooth	Yes	Yes	Yes	Yes	Yes
5.	WWAN + WLAN5GHz+ Bluetooth	Yes	Yes	Yes	Yes	Yes
6.	WWAN + WLAN6GHz+ Bluetooth	Yes	Yes	Yes	Yes	Yes
7.	WWAN + WLAN2.4GHz+ LoRa	Yes	Yes	Yes	Yes	Yes
8.	WWAN + WLAN5GHz+ LoRa	Yes	Yes	Yes	Yes	Yes
9.	WWAN + WLAN6GHz+ LoRa	Yes	Yes	Yes	Yes	Yes
10.	WWAN + WLAN2.4GHz+ NFC					Yes
11.	WWAN + WLAN5GHz+ NFC					Yes
12.	WWAN + WLAN6GHz+ NFC					Yes
13.	WWAN + WLAN2.4GHz+ Bluetooth+ NFC					Yes
14.	WWAN + WLAN5GHz+ Bluetooth+ NFC					Yes
15.	WWAN + WLAN6GHz+ Bluetooth+ NFC					Yes
16.	WWAN + WLAN2.4GHz+ LoRa+ NFC					Yes
17.	WWAN + WLAN5GHz+ LoRa+ NFC					Yes
18.	WWAN + WLAN6GHz+ LoRa+ NFC					Yes

General Note:

- This device supports VoIP in LTE and 5G NR (e.g. for 3rd-party VoIP), LTE does not support 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 LTE and 5G NR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
- This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
- This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only). WLAN6GHz has no hotspot function.
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- According to the EUT characteristic, WLAN 5GHz/6GHz and Bluetooth can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz/6GHz and LoRa can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz/6GHz and WLAN 2.4GHz can't transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz and WLAN 6GHz can't transmit simultaneously.
- According to the EUT characteristic, WLAN 2.4GHz and Bluetooth can transmit simultaneously.
- According to the EUT characteristic, Bluetooth only supports SISO mode and BT standalone SAR summed together do co-located analysis more conservatively.
- NFC can transmit simultaneously with other Radios in extremity exposure condition.
- The worst case 5 GHz WLAN SAR for each configuration was used for SAR summation.
- The maximum SAR summation is calculated based on the same configuration and test position.
- For 5G NR EN-DC mode, standalone SAR performed for 5G NR NSA band with the maximum power, EN-DC SAR summed EN-DC mode 5G NR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.
- When stand-alone SAR is not required for a transmitter or antenna, its SAR is considered zero in the SAR summing process to assess Multi-band transmission SAR compliance.
- For standalone WWAN, always choose the highest SAR among all WWAN bands within the selected antenna to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each band.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation $< 1.6\text{W/kg}$ and 10g Scalar SAR summation $< 4.0\text{W/kg}$.
 - $\text{SPLSR} = (\text{SAR}_1 + \text{SAR}_2)^{1.5} / (\min.\text{separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the

- coordinates of the extrapolated peak SAR locations in the zoom scan.
- iii) If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
21. 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.
22. The simultaneous transmission analysis, considering UWB power is very smaller and no risk, the contribution of UWB to the total TER can be neglected.

16.1 Head Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	7	1+4+5+6	1+7+5+6	1+3+5+6	1+2+3	1+2+4	1+2+7
		WWAN 1g SAR (W/kg)	LoRa Ant 8 1g SAR (W/kg)	WLAN2.4GHz Ant 3+4 1g SAR (W/kg)	WLAN5GHz Ant 3+4 1g SAR (W/kg)	Bluetooth Ant 3 1g SAR (W/kg)	Bluetooth Ant 4 1g SAR (W/kg)	WLAN6GHz Ant 3+4 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 Ant 1	Right Cheek	0.892	0.100	0.179	0.536	0.001	0.033	0.260	1.46	1.19	1.11	1.17	1.53	1.25
	Right Tilted	0.450	0.026	0.090	0.166	0.001	0.001	0.068	0.62	0.52	0.54	0.57	0.64	0.54
	Left Cheek	0.760	0.147	0.154	0.335	0.001	0.001	0.061	1.10	0.82	0.92	1.06	1.24	0.97
	Left Tilted	0.446	0.032	0.094	0.091	0.001	0.001	0.077	0.54	0.53	0.54	0.57	0.57	0.56
All Bands Ant 2	Right Cheek	0.684	0.100	0.179	0.536	0.001	0.033	0.260	1.25	0.98	0.90	0.96	1.32	1.04
	Right Tilted	0.668	0.026	0.090	0.166	0.001	0.001	0.068	0.84	0.74	0.76	0.78	0.86	0.76
	Left Cheek	0.797	0.147	0.154	0.335	0.001	0.001	0.061	1.13	0.86	0.95	1.10	1.28	1.01
	Left Tilted	0.776	0.032	0.094	0.091	0.001	0.001	0.077	0.87	0.86	0.87	0.90	0.90	0.89
All Bands Ant 8	Right Cheek	0.534	0.100	0.179	0.536	0.001	0.033	0.260	1.10	0.83	0.75	0.81	1.17	0.89
	Right Tilted	0.135	0.026	0.090	0.166	0.001	0.001	0.068	0.30	0.21	0.23	0.25	0.33	0.23
	Left Cheek	0.823	0.147	0.154	0.335	0.001	0.001	0.061	1.16	0.89	0.98	1.12	1.31	1.03
	Left Tilted	0.124	0.032	0.094	0.091	0.001	0.001	0.077	0.22	0.20	0.22	0.25	0.25	0.23
All Bands Ant 9	Right Cheek	0.757	0.100	0.179	0.536	0.001	0.033	0.260	1.33	1.05	0.97	1.04	1.39	1.12
	Right Tilted	0.489	0.026	0.090	0.166	0.001	0.001	0.068	0.66	0.56	0.58	0.61	0.68	0.58
	Left Cheek	0.526	0.147	0.154	0.335	0.001	0.001	0.061	0.86	0.59	0.68	0.83	1.01	0.73
	Left Tilted	0.336	0.032	0.094	0.091	0.001	0.001	0.077	0.43	0.42	0.43	0.46	0.46	0.45



WWAN Band	FR1 Band	Exposure Position	1	9	2	3	4	5	6	7	1+4+5+6+9	1+7+5+6+9	1+3+5+6+9	1+2+3+9	1+2+4+9	1+2+7+9
			WWAN 1g SAR (W/kg)	FR1 1g SAR (W/kg)	LORA Ant 8 1g SAR (W/kg)	WLAN2.4GHz Ant 3+4 1g SAR (W/kg)	WLAN5GHz Ant 3+4 1g SAR (W/kg)	Bluetooth Ant 3 1g SAR (W/kg)	Bluetooth Ant 4 1g SAR (W/kg)	WLAN6GHz Ant 3+4 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 Ant 1(B2,B5,B12,B13,B14)	All Bands Ant 2(N66,N2)	Right Cheek	0.462	0.289	0.100	0.179	0.536	0.001	0.033	0.260	1.32	1.05	0.96	1.03	1.39	1.11
		Right Tilted	0.450	0.284	0.026	0.090	0.166	0.001	0.001	0.068	0.90	0.80	0.83	0.85	0.93	0.83
		Left Cheek	0.692	0.397	0.147	0.154	0.335	0.001	0.001	0.061	1.43	1.15	1.25	1.39	1.57	1.30
		Left Tilted	0.446	0.397	0.032	0.094	0.091	0.001	0.001	0.077	0.94	0.92	0.94	0.97	0.97	0.95
All Bands Ant 1(B2,5,B12,13,B14,7)	All Bands Ant 9(N30,N77,N78)	Right Cheek	0.462	0.411	0.100	0.179	0.536	0.001	0.033	0.260	1.44	1.17	1.09	1.15	1.51	1.23
		Right Tilted	0.450	0.411	0.026	0.090	0.166	0.001	0.001	0.068	1.03	0.93	0.95	0.98	1.05	0.96
		Left Cheek	0.692	0.411	0.147	0.154	0.335	0.001	0.001	0.061	1.44	1.17	1.26	1.40	1.59	1.31
		Left Tilted	0.446	0.411	0.032	0.094	0.091	0.001	0.001	0.077	0.95	0.94	0.95	0.98	0.98	0.97
All Bands Ant 2(B2,B66)	All Bands Ant 1(N5,71,2,25,41)	Right Cheek	0.283	0.498	0.100	0.179	0.536	0.001	0.033	0.260	1.35	1.08	0.99	1.06	1.42	1.14
		Right Tilted	0.309	0.498	0.026	0.090	0.166	0.001	0.001	0.068	0.98	0.88	0.90	0.92	1.00	0.90
		Left Cheek	0.404	0.498	0.147	0.154	0.335	0.001	0.001	0.061	1.24	0.97	1.06	1.20	1.38	1.11
		Left Tilted	0.437	0.498	0.032	0.094	0.091	0.001	0.001	0.077	1.03	1.01	1.03	1.06	1.06	1.04
All Bands Ant 2(B66)	All Bands Ant 9(N30)	Right Cheek	0.272	0.407	0.100	0.179	0.536	0.001	0.033	0.260	1.25	0.97	0.89	0.96	1.32	1.04
		Right Tilted	0.206	0.181	0.026	0.090	0.166	0.001	0.001	0.068	0.56	0.46	0.48	0.50	0.58	0.48
		Left Cheek	0.392	0.339	0.147	0.154	0.335	0.001	0.001	0.061	1.07	0.79	0.89	1.03	1.21	0.94
		Left Tilted	0.260	0.167	0.032	0.094	0.091	0.001	0.001	0.077	0.52	0.51	0.52	0.55	0.55	0.54
All Bands Ant 2(B25,66)	All Bands Ant 8(N41,N77,N78)	Right Cheek	0.283	0.534	0.100	0.179	0.536	0.001	0.033	0.260	1.39	1.11	1.03	1.10	1.45	1.18
		Right Tilted	0.309	0.135	0.026	0.090	0.166	0.001	0.001	0.068	0.61	0.51	0.54	0.56	0.64	0.54
		Left Cheek	0.404	0.584	0.147	0.154	0.335	0.001	0.001	0.061	1.33	1.05	1.14	1.29	1.47	1.20
		Left Tilted	0.437	0.124	0.032	0.094	0.091	0.001	0.001	0.077	0.65	0.64	0.66	0.69	0.68	0.67
All Bands Ant 9(B30)	All Bands Ant 1(N2,5,66)	Right Cheek	0.616	0.324	0.100	0.179	0.536	0.001	0.033	0.260	1.51	1.23	1.15	1.22	1.58	1.30
		Right Tilted	0.192	0.414	0.026	0.090	0.166	0.001	0.001	0.068	0.77	0.68	0.70	0.72	0.80	0.70
		Left Cheek	0.489	0.546	0.147	0.154	0.335	0.001	0.001	0.061	1.37	1.10	1.19	1.34	1.52	1.24
		Left Tilted	0.179	0.284	0.032	0.094	0.091	0.001	0.001	0.077	0.56	0.54	0.56	0.59	0.59	0.57



16.2 Face Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	7	1+4+5+6	1+7+5+6	1+3+5+6	1+2+3	1+2+4	1+2+7
		WWAN	LORA Ant 1	WLAN2.4GHz Ant 3+4	WLAN5GHz Ant 3+4	Bluetooth Ant 3	Bluetooth Ant 4	WLAN6GHz Ant 3+4	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)
All Bands Ant 1	Front	0.493	0.118	0.156	0.489	0.001	0.001	0.160	0.98	0.66	0.65	0.77	1.10	0.77
All Bands Ant 2	Front	0.264	0.118	0.156	0.489	0.001	0.001	0.160	0.76	0.43	0.42	0.54	0.87	0.54
All Bands Ant 8	Front	0.713	0.118	0.156	0.489	0.001	0.001	0.160	1.20	0.88	0.87	0.99	1.32	0.99
All Bands Ant 9	Front	0.417	0.118	0.156	0.489	0.001	0.001	0.160	0.91	0.58	0.58	0.69	1.02	0.70

WWAN Band	FR1 Band	Exposure Position	1	9	2	3	4	5	6	7	1+4+5+6+9	1+7+5+6+9	1+3+5+6+9	1+2+3+9	1+2+4+9	1+2+7+9
			WWAN	FR1	LORA Ant 1	WLAN2.4GHz Ant 3+4	WLAN5GHz Ant 3+4	Bluetooth Ant 3	Bluetooth Ant 4	WLAN6GHz Ant 3+4	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)
All Bands Ant 1(B2,B5,B12,B13,B14)	All Bands Ant 2(N66,N2)	Front	0.156	0.216	0.118	0.156	0.489	0.001	0.001	0.16	0.86	0.53	0.53	0.65	0.98	0.65
All Bands Ant 1(B2,5,B12,13,B14,7)	All Bands Ant 9(N30,N77,N78)	Front	0.167	0.261	0.118	0.156	0.489	0.001	0.001	0.16	0.92	0.59	0.59	0.70	1.04	0.71
All Bands Ant 2(B2,B66)	All Bands Ant 1(N5,71,2,25,41)	Front	0.264	0.428	0.118	0.156	0.489	0.001	0.001	0.16	1.18	0.85	0.85	0.97	1.30	0.97
All Bands Ant 2(B66)	All Bands Ant 9(N30)	Front	0.154	0.054	0.118	0.156	0.489	0.001	0.001	0.16	0.70	0.37	0.37	0.48	0.82	0.49
All Bands Ant 2(B25,(B66))	All Bands Ant 8(N41,N77,N78)	Front	0.264	0.713	0.118	0.156	0.489	0.001	0.001	0.16	1.47	1.14	1.14	1.25	1.58	1.26
All Bands Ant 9(B30)	All Bands Ant 1(N2,5,66)	Front	0.162	0.428	0.118	0.156	0.489	0.001	0.001	0.16	1.08	0.75	0.75	0.86	1.20	0.87

16.3 Hotspot Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	1+4+5+6	1+3+5+6	1+2+3	1+2+4
		WWAN	LoRa Ant 1	WLAN2.4GHz Ant 3+4	WLAN5GHz Ant 3+4	Bluetooth Ant 3	Bluetooth Ant 4	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 Ant 1	Front	0.753	0.118	0.156	0.317	0.001	0.001	1.07	0.91	1.03	1.19
	Back	0.787	0.076	0.200	0.212	0.007	0.005	1.01	1.00	1.06	1.08
	Left side	0.492	0.057	0.059	0.311	0.001	0.001	0.81	0.55	0.61	0.86
	Right side	1.024	0.005	0.521	0.534	0.020	0.013	1.59	1.58	1.55	1.56
	Top side		0.003	0.104	0.281	0.001	0.001	0.28	0.11	0.11	0.28
	Bottom side	0.799	0.003	0.063	0.260	0.001	0.001	1.06	0.86	0.87	1.06
All Bands Ant 2	Front	0.728	0.118	0.156	0.317	0.001	0.001	1.05	0.89	1.00	1.16
	Back	0.693	0.076	0.200	0.212	0.007	0.005	0.92	0.91	0.97	0.98
	Left side	0.290	0.057	0.059	0.311	0.001	0.001	0.60	0.35	0.41	0.66
	Right side	0.175	0.005	0.521	0.534	0.020	0.013	0.74	0.73	0.70	0.71
	Top side	0.974	0.003	0.104	0.281	0.001	0.001	1.26	1.08	1.08	1.26
	Bottom side		0.003	0.063	0.260	0.001	0.001	0.26	0.07	0.07	0.26
All Bands Ant 8	Front	0.598	0.118	0.156	0.317	0.001	0.001	0.92	0.76	0.87	1.03
	Back	0.287	0.076	0.200	0.212	0.007	0.005	0.51	0.50	0.56	0.58
	Left side	0.789	0.057	0.059	0.311	0.001	0.001	1.10	0.85	0.91	1.16
	Right side	0.230	0.005	0.521	0.534	0.020	0.013	0.80	0.78	0.76	0.77
	Top side	0.003	0.003	0.104	0.281	0.001	0.001	0.29	0.11	0.11	0.29
	Bottom side	0.050	0.003	0.063	0.260	0.001	0.001	0.31	0.12	0.12	0.31
All Bands Ant 9	Front	0.543	0.118	0.156	0.317	0.001	0.001	0.86	0.70	0.82	0.98
	Back	0.429	0.076	0.200	0.212	0.007	0.005	0.65	0.64	0.71	0.72
	Left side	0.799	0.057	0.059	0.311	0.001	0.001	1.11	0.86	0.92	1.17
	Right side	0.223	0.005	0.521	0.534	0.020	0.013	0.79	0.78	0.75	0.76
	Top side	0.245	0.003	0.104	0.281	0.001	0.001	0.53	0.35	0.35	0.53
	Bottom side		0.003	0.063	0.260	0.001	0.001	0.26	0.07	0.07	0.26

WWAN Band	FR1 Band	Exposure Position	1	9	2	3	4	5	6	1+4+5+6+9	1+3+5+6+9	1+2+3+9	1+2+4+9
			WWAN	FR1	LORA	WLAN2.4GHz	WLAN5GHz	Bluetooth	Bluetooth	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)
All Bands Ant 1(B2,B5,B12,B13,B14)	All Bands Ant 2(N66,N2)	Front	0.394	0.362	0.118	0.156	0.317	0.001	0.001	1.08	0.91	1.03	1.19
		Back	0.423	0.291	0.076	0.200	0.212	0.007	0.005	0.94	0.93	0.99	1.00
		Left side	0.346	0.231	0.057	0.059	0.311	0.001	0.001	0.89	0.64	0.69	0.95
		Right side	0.570	0.144	0.005	0.521	0.534	0.020	0.013	1.28	1.27	1.24	1.25
		Top side		0.401	0.003	0.104	0.281	0.001	0.001	0.68	0.51	0.51	0.69
		Bottom side	0.763		0.003	0.063	0.260	0.001	0.001	1.03	0.83	0.83	1.03
All Bands Ant 1(B2,B5,B12,13,B14,7)	All Bands Ant 9(N30,N77,N78)	Front	0.384	0.330	0.118	0.156	0.317	0.001	0.001	1.03	0.87	0.99	1.15
		Back	0.423	0.374	0.076	0.200	0.212	0.007	0.005	1.02	1.01	1.07	1.09
		Left side	0.346	0.799	0.057	0.059	0.311	0.001	0.001	1.46	1.21	1.26	1.51
		Right side	0.570	0.110	0.005	0.521	0.534	0.020	0.013	1.25	1.23	1.21	1.22
		Top side		0.175	0.003	0.104	0.281	0.001	0.001	0.46	0.28	0.28	0.46
		Bottom side	0.763		0.003	0.063	0.260	0.001	0.001	1.03	0.83	0.83	1.03
All Bands Ant 2(B2,B66)	All Bands Ant 1(N5,71,2,25,41)	Front	0.383	0.366	0.118	0.156	0.317	0.001	0.001	1.07	0.91	1.02	1.18
		Back	0.187	0.742	0.076	0.200	0.212	0.007	0.005	1.15	1.14	1.21	1.22
		Left side	0.209	0.492	0.057	0.059	0.311	0.001	0.001	1.01	0.76	0.82	1.07
		Right side	0.090	0.722	0.005	0.521	0.534	0.020	0.013	1.38	1.37	1.34	1.35
		Top side	0.321		0.003	0.104	0.281	0.001	0.001	0.60	0.43	0.43	0.61
		Bottom side		0.799	0.003	0.063	0.260	0.001	0.001	1.06	0.86	0.87	1.06
All Bands Ant 2(B66)	All Bands Ant 9(N30)	Front	0.383	0.306	0.118	0.156	0.317	0.001	0.001	1.01	0.85	0.96	1.12
		Back	0.187	0.374	0.076	0.200	0.212	0.007	0.005	0.79	0.77	0.84	0.85
		Left side	0.209	0.691	0.057	0.059	0.311	0.001	0.001	1.21	0.96	1.02	1.27
		Right side	0.074	0.048	0.005	0.521	0.534	0.020	0.013	0.69	0.68	0.65	0.66
		Top side	0.166	0.175	0.003	0.104	0.281	0.001	0.001	0.62	0.45	0.45	0.63
		Bottom side			0.003	0.063	0.260	0.001	0.001	0.26	0.07	0.07	0.26
All Bands Ant 2(B25,B66)	All Bands Ant 8(N41,N77,N78)	Front	0.383	0.364	0.118	0.156	0.317	0.001	0.001	1.07	0.91	1.02	1.18
		Back	0.187	0.266	0.076	0.200	0.212	0.007	0.005	0.68	0.67	0.73	0.74
		Left side	0.209	0.703	0.057	0.059	0.311	0.001	0.001	1.23	0.97	1.03	1.28
		Right side	0.090	0.216	0.005	0.521	0.534	0.020	0.013	0.87	0.86	0.83	0.85
		Top side	0.321		0.003	0.104	0.281	0.001	0.001	0.60	0.43	0.43	0.61
		Bottom side		0.030	0.003	0.063	0.260	0.001	0.001	0.29	0.10	0.10	0.29
All Bands Ant 9(B30)	All Bands Ant 1(N2,5,66)	Front	0.297	0.459	0.118	0.156	0.317	0.001	0.001	1.08	0.91	1.03	1.19
		Back	0.429	0.425	0.076	0.200	0.212	0.007	0.005	1.08	1.07	1.13	1.14
		Left side	0.740	0.178	0.057	0.059	0.311	0.001	0.001	1.23	0.98	1.03	1.29
		Right side	0.171	0.678	0.005	0.521	0.534	0.020	0.013	1.42	1.40	1.38	1.39
		Top side	0.245		0.003	0.104	0.281	0.001	0.001	0.53	0.35	0.35	0.53
		Bottom side		0.799	0.003	0.063	0.260	0.001	0.001	1.06	0.86	0.87	1.06



<Sensor off>

WWAN Band	Exposure Position	1	2	3	4	5	6	1+4+5+6	1+3+5+6	1+2+3	1+2+4
		WWAN	LoRa Ant 1	WLAN2.4GHz Ant 3+4	WLAN5GHz Ant 3+4	Bluetooth Ant 3	Bluetooth Ant 4	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 Ant 1	Front	0.463	0.118	0.156	0.317	0.001	0.001	0.78	0.62	0.74	0.90
	Back	0.655	0.076	0.200	0.212	0.007	0.005	0.88	0.87	0.93	0.94
	Left side	0.231	0.057	0.059	0.311	0.001	0.001	0.54	0.29	0.35	0.60
	Right side		0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
	Top side		0.003	0.104	0.281	0.001	0.001	0.28	0.11	0.11	0.28
	Bottom side	0.526	0.003	0.063	0.260	0.001	0.001	0.79	0.59	0.59	0.79
All Bands Ant 2	Front	0.269	0.118	0.156	0.317	0.001	0.001	0.59	0.43	0.54	0.70
	Back	0.390	0.076	0.200	0.212	0.007	0.005	0.61	0.60	0.67	0.68
	Left side	0.201	0.057	0.059	0.311	0.001	0.001	0.51	0.26	0.32	0.57
	Right side		0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
	Top side	0.449	0.003	0.104	0.281	0.001	0.001	0.73	0.56	0.56	0.73
	Bottom side		0.003	0.063	0.260	0.001	0.001	0.26	0.07	0.07	0.26
All Bands Ant 8	Front	0.438	0.118	0.156	0.317	0.001	0.001	0.76	0.60	0.71	0.87
	Back	0.486	0.076	0.200	0.212	0.007	0.005	0.71	0.70	0.76	0.77
	Left side	1.030	0.057	0.059	0.311	0.001	0.001	1.34	1.09	1.15	1.40
	Right side		0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
	Top side		0.003	0.104	0.281	0.001	0.001	0.28	0.11	0.11	0.28
	Bottom side	0.120	0.003	0.063	0.260	0.001	0.001	0.38	0.19	0.19	0.38
All Bands Ant 9	Front	0.570	0.118	0.156	0.317	0.001	0.001	0.89	0.73	0.84	1.01
	Back	0.490	0.076	0.200	0.212	0.007	0.005	0.71	0.70	0.77	0.78
	Left side	1.158	0.057	0.059	0.311	0.001	0.001	1.47	1.22	1.27	1.53
	Right side		0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
	Top side	0.261	0.003	0.104	0.281	0.001	0.001	0.54	0.37	0.37	0.55
	Bottom side		0.003	0.063	0.260	0.001	0.001	0.26	0.07	0.07	0.26

WWAN Band	FR1 Band	Exposure Position	1	9	2	3	4	5	6	1+4+5+6+9	1+3+5+6+9	1+2+3+9	1+2+4+9
			WWAN 1g SAR (W/kg)	FR1 1g SAR (W/kg)	LORA Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 3+4 1g SAR (W/kg)	WLAN5GHz Ant 3+4 1g SAR (W/kg)	Bluetooth Ant 3 1g SAR (W/kg)	Bluetooth Ant 4 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 Ant 1(B2,B5,B12,B13,B14)	All Bands Ant 2(N66,N2)	Front	0.282	0.269	0.118	0.156	0.317	0.001	0.001	0.87	0.71	0.83	0.99
		Back	0.450	0.390	0.076	0.200	0.212	0.007	0.005	1.06	1.05	1.12	1.13
		Left side	0.167	0.201	0.057	0.059	0.311	0.001	0.001	0.68	0.43	0.48	0.74
		Right side			0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
		Top side		0.449	0.003	0.104	0.281	0.001	0.001	0.73	0.56	0.56	0.73
		Bottom side	0.064		0.003	0.063	0.260	0.001	0.001	0.33	0.13	0.13	0.33
All Bands Ant 1(B2,B5,B12,B13,B14,B7)	All Bands Ant 9(N30,N77,N78)	Front	0.282	0.234	0.118	0.156	0.317	0.001	0.001	0.84	0.67	0.79	0.95
		Back	0.450	0.272	0.076	0.200	0.212	0.007	0.005	0.95	0.93	1.00	1.01
		Left side	0.167	0.602	0.057	0.059	0.311	0.001	0.001	1.08	0.83	0.89	1.14
		Right side			0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
		Top side		0.151	0.003	0.104	0.281	0.001	0.001	0.43	0.26	0.26	0.44
		Bottom side	0.314		0.003	0.063	0.260	0.001	0.001	0.58	0.38	0.38	0.58
All Bands Ant 2(B2,B66)	All Bands Ant 1(N5,71,2,25,41)	Front	0.241	0.463	0.118	0.156	0.317	0.001	0.001	1.02	0.86	0.98	1.14
		Back	0.265	0.647	0.076	0.200	0.212	0.007	0.005	1.14	1.12	1.19	1.20
		Left side	0.194	0.231	0.057	0.059	0.311	0.001	0.001	0.74	0.49	0.54	0.79
		Right side			0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
		Top side	0.121		0.003	0.104	0.281	0.001	0.001	0.40	0.23	0.23	0.41
		Bottom side		0.311	0.003	0.063	0.260	0.001	0.001	0.57	0.38	0.38	0.57
All Bands Ant 2(B66)	All Bands Ant 9(N30)	Front	0.167	0.118	0.118	0.156	0.317	0.001	0.001	0.60	0.44	0.56	0.72
		Back	0.164	0.188	0.076	0.200	0.212	0.007	0.005	0.58	0.56	0.63	0.64
		Left side	0.094	0.243	0.057	0.059	0.311	0.001	0.001	0.65	0.40	0.45	0.71
		Right side			0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
		Top side	0.048	0.108	0.003	0.104	0.281	0.001	0.001	0.44	0.26	0.26	0.44
		Bottom side			0.003	0.063	0.260	0.001	0.001	0.26	0.07	0.07	0.26
All Bands Ant 2(B25,B66)	All Bands Ant 8(N41,N77,N78)	Front	0.241	0.438	0.118	0.156	0.317	0.001	0.001	1.00	0.84	0.95	1.11
		Back	0.265	0.486	0.076	0.200	0.212	0.007	0.005	0.98	0.96	1.03	1.04
		Left side	0.194	1.030	0.057	0.059	0.311	0.001	0.001	1.54	1.29	1.34	1.59
		Right side			0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
		Top side	0.121		0.003	0.104	0.281	0.001	0.001	0.40	0.23	0.23	0.41
		Bottom side		0.120	0.003	0.063	0.260	0.001	0.001	0.38	0.19	0.19	0.38
All Bands Ant 9(B30)	All Bands Ant 1(N2,5,66)	Front	0.166	0.140	0.118	0.156	0.317	0.001	0.001	0.63	0.46	0.58	0.74
		Back	0.237	0.273	0.076	0.200	0.212	0.007	0.005	0.73	0.72	0.79	0.80
		Left side	0.291	0.060	0.057	0.059	0.311	0.001	0.001	0.66	0.41	0.47	0.72
		Right side			0.005	0.521	0.534	0.020	0.013	0.57	0.55	0.53	0.54
		Top side	0.151		0.003	0.104	0.281	0.001	0.001	0.43	0.26	0.26	0.44
		Bottom side		0.213	0.003	0.063	0.260	0.001	0.001	0.48	0.28	0.28	0.48



16.4 Body-Worn Accessory Exposure Conditions

WWAN Band	Exposure Position	1	2	3	4	5	6	7	1+4+5+6	1+7+5+6	1+3+5+6	1+2+3	1+2+4	1+2+7
		WWAN 1g SAR (W/kg)	LoRa Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 3+4 1g SAR (W/kg)	WLAN5GHz Ant 3+4 1g SAR (W/kg)	Bluetooth Ant 3 1g SAR (W/kg)	Bluetooth Ant 4 1g SAR (W/kg)	WLAN6GHz Ant 3+4 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 Ant 1	Front	0.753	0.118	0.156	0.714	0.001	0.001	0.160	1.47	0.92	0.91	1.03	1.59	1.03
	Back	0.787	0.076	0.200	0.222	0.007	0.005	0.127	1.02	0.93	1.00	1.06	1.09	0.99
All Bands Ant 2	Front	0.728	0.118	0.156	0.714	0.001	0.001	0.160	1.44	0.89	0.89	1.00	1.56	1.01
	Back	0.693	0.118	0.200	0.222	0.007	0.005	0.127	0.93	0.83	0.91	1.01	1.03	0.94
All Bands Ant 8	Front	0.598	0.118	0.156	0.714	0.001	0.001	0.160	1.31	0.76	0.76	0.87	1.43	0.88
	Back	0.287	0.118	0.200	0.222	0.007	0.005	0.127	0.52	0.43	0.50	0.61	0.63	0.53
All Bands Ant 9	Front	0.543	0.118	0.156	0.714	0.001	0.001	0.160	1.26	0.71	0.70	0.82	1.38	0.82
	Back	0.429	0.118	0.200	0.222	0.007	0.005	0.127	0.66	0.57	0.64	0.75	0.77	0.67

WWAN Band	FR1 Band	Exposure Position	1	9	2	3	4	5	6	7	1+4+5+6+9	1+7+5+6+9	1+3+5+6+9	1+2+3+9	1+2+4+9	1+2+7+9
			WWAN 1g SAR (W/kg)	FR1 1g SAR (W/kg)	LORA Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 3+4 1g SAR (W/kg)	WLAN5GHz Ant 3+4 1g SAR (W/kg)	Bluetooth Ant 3 1g SAR (W/kg)	Bluetooth Ant 4 1g SAR (W/kg)	WLAN6GHz Ant 3+4 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 Ant 1(B2,B5,B12,B13,B14)	All Bands Ant 2(N66,N2)	Front	0.394	0.362	0.118	0.156	0.714	0.001	0.001	0.160	1.47	0.92	0.91	1.03	1.59	1.03
		Back	0.423	0.291	0.076	0.200	0.222	0.007	0.005	0.127	0.95	0.85	0.93	0.99	1.01	0.92
All Bands Ant 1(B2,5,B12,13,B14,7)	All Bands Ant 9(N30,N77,N78)	Front	0.384	0.330	0.118	0.156	0.714	0.001	0.001	0.160	1.43	0.88	0.87	0.99	1.55	0.99
		Back	0.423	0.374	0.076	0.200	0.222	0.007	0.005	0.127	1.03	0.94	1.01	1.07	1.10	1.00
All Bands Ant 2(B2,B66)	All Bands Ant 1(N5,71,2,25,41)	Front	0.383	0.366	0.118	0.156	0.714	0.001	0.001	0.160	1.47	0.91	0.91	1.02	1.58	1.03
		Back	0.187	0.742	0.076	0.200	0.222	0.007	0.005	0.127	1.16	1.07	1.14	1.21	1.23	1.13
All Bands Ant 2(B66)	All Bands Ant 9(N30)	Front	0.383	0.306	0.118	0.156	0.714	0.001	0.001	0.160	1.41	0.85	0.85	0.96	1.52	0.97
		Back	0.187	0.374	0.076	0.200	0.222	0.007	0.005	0.127	0.80	0.70	0.77	0.84	0.86	0.76
All Bands Ant 2(B25,B66)	All Bands Ant 8(N41,N77,N78)	Front	0.383	0.364	0.118	0.156	0.714	0.001	0.001	0.160	1.46	0.91	0.91	1.02	1.58	1.03
		Back	0.187	0.266	0.076	0.200	0.222	0.007	0.005	0.127	0.69	0.59	0.67	0.73	0.75	0.66
All Bands Ant 9(B30)	All Bands Ant 1(N2,5,66)	Front	0.297	0.459	0.118	0.156	0.714	0.001	0.001	0.160	1.47	0.92	0.91	1.03	1.59	1.03
		Back	0.429	0.425	0.076	0.200	0.222	0.007	0.005	0.127	1.09	0.99	1.07	1.13	1.15	1.06

**<Sensor off>**

WWAN Band	Exposure Position	1	2	3	4	5	6	7	1+4+5+6	1+7+5+6	1+3+5+6	1+2+3	1+2+4	1+2+7
		WWAN 1g SAR (W/kg)	LoRa Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 3+4 1g SAR (W/kg)	WLAN5GHz Ant 3+4 1g SAR (W/kg)	Bluetooth Ant 3 1g SAR (W/kg)	Bluetooth Ant 4 1g SAR (W/kg)	WLAN6GHz Ant 3+4 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 Ant 1	Front	0.463	0.118	0.156	0.714	0.001	0.001	0.160	1.18	0.63	0.62	0.74	1.30	0.74
	Back	0.655	0.076	0.200	0.222	0.007	0.005	0.127	0.89	0.79	0.87	0.93	0.95	0.86
All Bands Ant 2	Front	0.269	0.118	0.156	0.714	0.001	0.001	0.160	0.99	0.43	0.43	0.54	1.10	0.55
	Back	0.390	0.118	0.200	0.222	0.007	0.005	0.127	0.62	0.53	0.60	0.71	0.73	0.64
All Bands Ant 8	Front	0.438	0.118	0.156	0.714	0.001	0.001	0.160	1.15	0.60	0.60	0.71	1.27	0.72
	Back	0.486	0.118	0.200	0.222	0.007	0.005	0.127	0.72	0.63	0.70	0.80	0.83	0.73
All Bands Ant 9	Front	0.570	0.118	0.156	0.714	0.001	0.001	0.160	1.29	0.73	0.73	0.84	1.40	0.85
	Back	0.490	0.118	0.200	0.222	0.007	0.005	0.127	0.72	0.63	0.70	0.81	0.83	0.74

WWAN Band	FR1 Band	Exposure Position	1	9	2	3	4	5	6	7	1+4+5+6+9	1+7+5+6+9	1+3+5+6+9	1+2+3+9	1+2+4+9	1+2+7+9
			WWAN 1g SAR (W/kg)	FR1 1g SAR (W/kg)	LORA Ant 1 1g SAR (W/kg)	WLAN2.4GHz Ant 3+4 1g SAR (W/kg)	WLAN5GHz Ant 3+4 1g SAR (W/kg)	Bluetooth Ant 3 1g SAR (W/kg)	Bluetooth Ant 4 1g SAR (W/kg)	WLAN6GHz Ant 3+4 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 Ant 1(B2,B5,B12,B13,B14)	All Bands Ant 2(N66,N2)	Front	0.282	0.269	0.118	0.156	0.714	0.001	0.001	0.160	1.27	0.71	0.71	0.83	1.38	0.83
		Back	0.450	0.390	0.076	0.200	0.222	0.007	0.005	0.127	1.07	0.98	1.05	1.12	1.14	1.04
All Bands Ant 1(B2,B5,B12,B13,B14,B7)	All Bands Ant 9(N30,N77,N78)	Front	0.282	0.234	0.118	0.156	0.714	0.001	0.001	0.160	1.23	0.68	0.67	0.79	1.35	0.79
		Back	0.450	0.272	0.076	0.200	0.222	0.007	0.005	0.127	0.96	0.86	0.93	1.00	1.02	0.93
All Bands Ant 2(B2,B66)	All Bands Ant 1(N5,71,2,25,41)	Front	0.241	0.463	0.118	0.156	0.714	0.001	0.001	0.160	1.42	0.87	0.86	0.98	1.54	0.98
		Back	0.265	0.647	0.076	0.200	0.222	0.007	0.005	0.127	1.15	1.05	1.12	1.19	1.21	1.12
All Bands Ant 2(B66)	All Bands Ant 9(N30)	Front	0.167	0.118	0.118	0.156	0.714	0.001	0.001	0.160	1.00	0.45	0.44	0.56	1.12	0.56
		Back	0.164	0.188	0.076	0.200	0.222	0.007	0.005	0.127	0.59	0.49	0.56	0.63	0.65	0.56
All Bands Ant 2(B25,B66)	All Bands Ant 8(N41,N77,N78)	Front	0.241	0.438	0.118	0.156	0.714	0.001	0.001	0.160	1.40	0.84	0.84	0.95	1.51	0.96
		Back	0.265	0.486	0.076	0.200	0.222	0.007	0.005	0.127	0.99	0.89	0.96	1.03	1.05	0.95
All Bands Ant 9(B30)	All Bands Ant 1(N2,5,66)	Front	0.166	0.140	0.118	0.156	0.714	0.001	0.001	0.160	1.02	0.47	0.46	0.58	1.14	0.58
		Back	0.237	0.273	0.076	0.200	0.222	0.007	0.005	0.127	0.74	0.65	0.72	0.79	0.81	0.71

16.5 Product specific 10g SAR Exposure Conditions

Remark:

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

WWAN Band	Exposure Position	1	4	7	9	1+4+9	1+7+9
		WWAN	WLAN5GHz Ant 3+4	WLAN6GHz Ant 3+4	NFC	Summed	Summed
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
All Bands Ant 1	Front	0.670	0.666	0.153	0.001	1.34	0.82
	Back	0.586	0.217	0.106	0.001	0.80	0.69
	Left side		0.049	0.010	0.001	0.05	0.01
	Right side		0.547	0.650	0.001	0.55	0.65
	Top side		0.027	0.006	0.001	0.03	0.01
	Bottom side	0.799	0.074	0.016	0.001	0.87	0.82
All Bands Ant 2	Front	0.459	0.666	0.153	0.001	1.13	0.61
	Back	0.435	0.217	0.106	0.001	0.65	0.54
	Left side		0.049	0.010	0.001	0.05	0.01
	Right side		0.547	0.594	0.001	0.55	0.60
	Top side	1.485	0.027	0.006	0.001	1.51	1.49
	Bottom side		0.074	0.016	0.001	0.08	0.02
All Bands Ant 8	Front	0.506	0.666	0.153	0.001	1.17	0.66
	Back	0.306	0.217	0.106	0.001	0.52	0.41
	Left side	0.725	0.049	0.010	0.001	0.78	0.74
	Right side		0.547	0.594	0.001	0.55	0.60
	Top side		0.027	0.006	0.001	0.03	0.01
	Bottom side		0.074	0.016	0.001	0.08	0.02
All Bands Ant 9	Front	0.827	0.666	0.153	0.001	1.49	0.98
	Back	0.753	0.217	0.106	0.001	0.97	0.86
	Left side	1.089	0.049	0.010	0.001	1.14	1.10
	Right side		0.547	0.594	0.001	0.55	0.60
	Top side	0.268	0.027	0.006	0.001	0.30	0.28
	Bottom side		0.074	0.016	0.001	0.08	0.02

WWAN Band	FR1 Band	Exposure Position	1	9	4	7	10	1+9+4+10	1+9+7+10
			WWAN	FR1	WLAN5GHz Ant 3+4	WLAN6GHz Ant 3+4	NFC	Summed	Summed
			10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
All Bands Ant 1(B2,B5,B12,B13,B14)	All Bands Ant 2(N66,N2)	Front	0.415	0.459	0.666	0.153	0.001	1.54	1.03
		Back	0.370	0.435	0.217	0.106	0.001	1.02	0.91
		Left side			0.049	0.010	0.001	0.05	0.01
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side		1.485	0.027	0.006	0.001	1.51	1.49
		Bottom side	0.787		0.074	0.016	0.001	0.86	0.80
All Bands Ant 1(B2,5,B12,13,B14,7)	All Bands Ant 9(N30,N77,N78)	Front	0.415	0.780	0.666	0.153	0.001	1.86	1.35
		Back	0.370	0.285	0.217	0.106	0.001	0.87	0.76
		Left side		1.088	0.049	0.010	0.001	1.14	1.10
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side			0.027	0.006	0.001	0.03	0.01
		Bottom side	0.787		0.074	0.016	0.001	0.86	0.80
All Bands Ant 2(B2,B66)	All Bands Ant 1(N5,71,2,25,41)	Front	0.253	0.670	0.666	0.153	0.001	1.59	1.08
		Back		0.416	0.217	0.106	0.001	0.63	0.52
		Left side			0.049	0.010	0.001	0.05	0.01
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side	0.394		0.027	0.006	0.001	0.42	0.40
		Bottom side		0.799	0.074	0.016	0.001	0.87	0.82
All Bands Ant 2(B66)	All Bands Ant 9(N30)	Front	0.151	0.780	0.666	0.153	0.001	1.60	1.09
		Back			0.217	0.106	0.001	0.22	0.11
		Left side		1.088	0.049	0.010	0.001	1.14	1.10
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side			0.027	0.006	0.001	0.03	0.01
		Bottom side			0.074	0.016	0.001	0.08	0.02
All Bands Ant 2(B25,(B66))	All Bands Ant 8(N41,N77,N78)	Front	0.253	0.424	0.666	0.153	0.001	1.34	0.83
		Back		0.301	0.217	0.106	0.001	0.52	0.41
		Left side		0.605	0.049	0.010	0.001	0.66	0.62
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side	0.394		0.027	0.006	0.001	0.42	0.40
		Bottom side			0.074	0.016	0.001	0.08	0.02
All Bands Ant 9(B30)	All Bands Ant 1(N2,5,66)	Front	0.827	0.452	0.666	0.153	0.001	1.95	1.43
		Back	0.753	0.416	0.217	0.106	0.001	1.39	1.28
		Left side	1.089		0.049	0.010	0.001	1.14	1.10
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side	0.268		0.027	0.006	0.001	0.30	0.28
		Bottom side		0.799	0.074	0.016	0.001	0.87	0.82

<Sensor off>

WWAN Band	Exposure Position	1	4	7	9	1+4+9	1+7+9
		WWAN	WLAN5GHz Ant 3+4	WLAN6GHz Ant 3+4	NFC	Summed	Summed
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
All Bands Ant 1	Front	0.209	0.666	0.153	0.001	0.88	0.36
	Back	0.447	0.217	0.106	0.001	0.67	0.55
	Left side		0.049	0.010	0.001	0.05	0.01
	Right side		0.547	0.594	0.001	0.55	0.60
	Top side		0.027	0.006	0.001	0.03	0.01
	Bottom side	0.303	0.074	0.016	0.001	0.38	0.32
All Bands Ant 2	Front	0.153	0.666	0.153	0.001	0.82	0.31
	Back	0.083	0.217	0.106	0.001	0.30	0.19
	Left side		0.049	0.010	0.001	0.05	0.01
	Right side		0.547	0.594	0.001	0.55	0.60
	Top side	0.217	0.027	0.006	0.001	0.25	0.22
	Bottom side		0.074	0.016	0.001	0.08	0.02
All Bands Ant 8	Front	0.211	0.666	0.153	0.001	0.88	0.37
	Back	0.244	0.217	0.106	0.001	0.46	0.35
	Left side	0.494	0.049	0.010	0.001	0.54	0.51
	Right side		0.547	0.594	0.001	0.55	0.60
	Top side		0.027	0.006	0.001	0.03	0.01
	Bottom side		0.074	0.016	0.001	0.08	0.02
All Bands Ant 9	Front	0.257	0.666	0.153	0.001	0.92	0.41
	Back	0.226	0.217	0.106	0.001	0.44	0.33
	Left side	0.506	0.049	0.010	0.001	0.56	0.52
	Right side		0.547	0.594	0.001	0.55	0.60
	Top side	0.091	0.027	0.006	0.001	0.12	0.10
	Bottom side		0.074	0.016	0.001	0.08	0.02

WWAN Band	FR1 Band	Exposure Position	1	9	4	7	10	1+9+4+10	1+9+7+10
			WWAN	FR1	WLAN5GHz Ant 3+4	WLAN6GHz Ant 3+4	NFC	Summed	Summed
			10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)
All Bands Ant 1(B2,B5,B12,B13,B14)	All Bands Ant 2(N66,N2)	Front	0.100	0.127	0.666	0.153	0.001	0.89	0.38
		Back	0.197	0.083	0.217	0.106	0.001	0.50	0.39
		Left side			0.049	0.010	0.001	0.05	0.01
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side		0.217	0.027	0.006	0.001	0.25	0.22
		Bottom side	0.170		0.074	0.016	0.001	0.25	0.19
All Bands Ant 1(B2,B5,B12,13,B14,7)	All Bands Ant 9(N30,N77,N78)	Front	0.100	0.107	0.666	0.153	0.001	0.87	0.36
		Back	0.197		0.217	0.106	0.001	0.42	0.30
		Left side		0.131	0.049	0.010	0.001	0.18	0.14
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side			0.027	0.006	0.001	0.03	0.01
		Bottom side	0.170		0.074	0.016	0.001	0.25	0.19
All Bands Ant 2(B2,B66)	All Bands Ant 1(N5,71,2,25,41)	Front	0.153	0.089	0.666	0.153	0.001	0.91	0.40
		Back		0.176	0.217	0.106	0.001	0.39	0.28
		Left side			0.049	0.010	0.001	0.05	0.01
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side	0.075		0.027	0.006	0.001	0.10	0.08
		Bottom side		0.155	0.074	0.016	0.001	0.23	0.17
All Bands Ant 2(B66)	All Bands Ant 9(N30)	Front	0.105	0.069	0.666	0.153	0.001	0.84	0.33
		Back			0.217	0.106	0.001	0.22	0.11
		Left side		0.131	0.049	0.010	0.001	0.18	0.14
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side			0.027	0.006	0.001	0.03	0.01
		Bottom side			0.074	0.016	0.001	0.08	0.02
All Bands Ant 2(B25,(B66))	All Bands Ant 8(N41,N77,N78)	Front	0.153	0.211	0.666	0.153	0.001	1.03	0.52
		Back		0.244	0.217	0.106	0.001	0.46	0.35
		Left side		0.494	0.049	0.010	0.001	0.54	0.51
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side	0.075		0.027	0.006	0.001	0.10	0.08
		Bottom side			0.074	0.016	0.001	0.08	0.02
All Bands Ant 9(B30)	All Bands Ant 1(N2,5,66)	Front	0.093	0.089	0.666	0.153	0.001	0.85	0.34
		Back	0.141	0.176	0.217	0.106	0.001	0.54	0.42
		Left side	0.155		0.049	0.010	0.001	0.21	0.17
		Right side			0.547	0.594	0.001	0.55	0.60
		Top side	0.091		0.027	0.006	0.001	0.12	0.10
		Bottom side		0.120	0.074	0.016	0.001	0.20	0.14

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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 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [10] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [11] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.
- [12] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015

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