

FCC SAR Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2601-2, XT2601-3
FCC ID : IHDT56AW2
STANDARD : FCC 47 CFR Part 2 (2.1093)

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

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



Approved by: Si Zhang



Sporton International Inc. (Kunshan)

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



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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA572502	Rev. 01	Initial issue of report.	Sep. 23, 2025
FA572502	Rev. 02	Updated WLAN5.5GHz for Head and WLAN5.8GHz for Hotspot relevant data. This report is an updated version, replacing the report issued on Sep. 23, 2025.	Sep. 28, 2025

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone, XT2601-2, XT2601-3**, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.18	0.69	0.69	1.57
		GSM1900	<0.10	1.13	1.12	
	WCDMA	WCDMA V	0.99	0.99	1.00	
		WCDMA II	0.76	1.12	1.10	
		WCDMA IV	0.77	1.10	1.12	
	LTE	LTE Band 2	0.77	1.11	1.11	
		LTE Band 7	0.76	1.11	1.10	
		LTE Band 12/17	0.96	0.99	0.99	
		LTE Band 13	0.99	0.99	0.99	
		LTE Band 26/5	0.99	1.00	0.99	
		LTE Band 41/38	0.99	1.13	1.05	
		LTE Band 66/4	0.77	1.10	1.07	
		LTE Band 71	0.79	0.99	0.81	
		LTE Band 42	0.78	0.55	0.78	
	5G NR	FR1 n2	0.76	1.11	1.12	
		FR1 n7	0.77	1.12	1.10	
		FR1 n26/n5	0.99	0.99	0.99	
		FR1 n41/n38	0.99	1.11	1.12	
		FR1 n66	0.76	1.12	1.10	
		FR1 n71	0.66	0.99	0.74	
		FR1 n77/n78	0.78	0.54	0.80	
DTS	WLAN	2.4GHz WLAN	1.39	0.63	1.37	1.57
NII		5GHz WLAN	1.19	0.63	1.13	1.57
6XD		WLAN 6GHz	0.55		0.27	1.57
DSS	Bluetooth	2.4GHz Bluetooth	0.27	0.29	0.29	1.57

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	1.39	3.74
	WCDMA	WCDMA V	2.76	
		WCDMA II	2.73	
		WCDMA IV	2.79	
	LTE	LTE Band 2	2.75	
		LTE Band 7	2.78	
		LTE Band 12/17	2.21	
		LTE Band 13	2.29	
		LTE Band 26/5	2.63	
		LTE Band 41/38	2.72	
		LTE Band 66/4	2.56	
		LTE Band 71	1.55	



	5G NR	LTE Band 42	2.18	
		FR1 n2	2.74	
		FR1 n7	2.75	
		FR1 n26/n5	1.71	
		FR1 n41/n38	2.78	
		FR1 n66	2.73	
		FR1 n77/n78	2.18	
DTS	WLAN	2.4GHz WLAN	1.93	3.74
NII		5GHz WLAN	2.00	3.74
6XD		WLAN 6GHz	0.32	3.74
DSS	Bluetooth	2.4GHz Bluetooth	1.43	3.74

Equipment Class	Frequency Band	Measured APD			Reported PD
		Head (W/m ²)	Body Worn (W/m ²)	Phablet (W/m ²)	psPD (W/m ²)
6XD	6GHz WLAN	2.46	1.34	5.35	4.50
Date of Testing:		2025/8/15 ~ 2025/9/26			

Remark:

1. This device supports LTE B4/5/17/38 and B66/26/12/41. Since the supported frequency span for LTE B4/5/17/38 falls completely within the support's frequency span for LTE B66/26/12/41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66/26/12/41.
2. This device supports 5GNR n5/n38/n78 and n26/n41/n77. Since the supported frequency span for 5GNR n5 falls completely within the support's frequency span for n26, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n26/n41/n77.

Declaration of Conformity:

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

Comments and Explanations:

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

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093), and Human Exposure to RF Radiation Limits (1.0 mW/cm²=10 W/m²) specified in FCC 47 CFR part 1.1310 and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.



2. Administration Data

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

Testing Laboratory			
Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	SAR04-KS SAR07-KS	CN1257	314309

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- IEC/IEEE 62209-1528:2020
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- IEC TR 63170:2018
- IEC 62479:2010
- SPEAG DASY6 Application Note (Interim Procedure for Device Operation at 6GHz-10GHz)



4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2601-2, XT2601-3
FCC ID	IHDT56AW2
IMEI Code	Sample 1: 352803330014037/352803330014045, 352803330013815/352803330013823 Sample 2: 352803330014433/352803330014441
Wireless Technology and Frequency Range	GSM850: 824 MHz ~ 849 MHz GSM1900: 1850 MHz ~ 1910 MHz WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN U-NII 5: 5925 MHz ~ 6425 MHz WLAN U-NII 6: 6425 MHz ~ 6525 MHz WLAN U-NII 7: 6525 MHz ~ 6875 MHz WLAN U-NII 8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA/HSUPA DC-HSDPA HSPA+(16QAM uplink is not supported) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 2.4GHz 802.11ax HE20/HE40

	WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 WLAN 6GHz 802.11a/ax HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC: ASK
HW Version	DVT2
SW Version	W1WR36.18
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
Remark:	
1. This device supports VoIP in GPRS, EGPRS, WCDMA, LTE and 5GNR (e.g. for 3rd-party VoIP), LTE supports VoLTE operation. 2. This device WLAN 2.4GHz support hotspot operation and Bluetooth support tethering applications. 3. This device 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only). WLAN 6GHz has no hotspot function. 4. This device supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). 5. This device does not support DTM operation and support GRPS/EGPRS mode up to multi-slot class 12. 6. The 2.4GHz/5GHz/6GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode. 7. The device implements the power management and proximity sensor /receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. Details about the power management decision and sensor detection are provided in the operational description. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E. 8. For WLAN when transmit simultaneous with WWAN, power reduction will be activated to head exposure condition. For WLAN when transmit simultaneous with WWAN and Proximity sensors trigger, power reduction will be activated to body-worn and extremity exposure conditions. 9. This device supports HPUE mode for LTE Band 41 and 5GNR n41/n77/n78 with higher power. For HPUE power is higher than power class 3 but with lower duty cycle, the maximum average power for class 2 and class 3 is almost the same, so power class 3 was chosen to perform full SAR testing and power class 2 verified the worst case of power class 3 SAR. 10. For 5GNR n41/n77/n78 HPUE, 5GNR n41/n77/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 test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing. 11. There are two samples: XT2601-2 is Sample1, XT2601-3 is Sample2. For details different between them refer to the XT2601-2, XT2601-3 Product Equality Declaration which is exhibit separately. According to the differences, sample 1 was chosen to perform full SAR testing and sample 2 verified the worst case of sample 1. 12. This device will be equipped with one Magnetic Protective Cover that does not contain metal components and any electronic circuitry, so Magnetic Protective Cover spot check the worst case of each exposure condition. 13. 5G NR n7 supports UL MIMO mode. 14. This device has NFC function and the NFC SAR report will be separately submitted. 15. This device supports 5GNR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.	

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths (BW)
NSA	n2	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 50
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 45
	n38	TDD	30	10, 15, 20, 25, 30, 40
	n41	TDD	30	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	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
SA	n2	FDD	15	5, 10, 15, 20, 25, 30, 35, 40
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 50
	n26	FDD	15	5, 10, 15, 20
	n66	FDD	15	5, 10, 15, 20, 25, 30, 35, 40, 45
	n71	FDD	15	5, 10, 15, 20, 25, 30, 35
	n38	TDD	30	10, 15, 20, 25, 30, 40
	n41	TDD	30	10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100
	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	IHDT56AW2																																																																						
Equipment Name	Mobile Cellular Phone																																																																						
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz																																																																						
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																																						
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM																																																																						
LTE Voice / Data requirements	Voice and Data																																																																						
LTE Release Version	R17																																																																						
CA Support	Supported, Uplink and Downlink																																																																						
LTE MPR permanently built-in by design	<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table>	Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
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256 QAM	≥ 1						≤ 5																																																																
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)																																																																						
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.																																																																						
Power reduction applied to satisfy SAR compliance	Yes, when operating in Proximity sensors/receiver/hotspot detect mechanism, head/body-worn /hotspot/extremity will trigger reduced power for some bands applied to satisfy SAR compliance, the detail please referred to section 14.																																																																						
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 14.																																																																						
LTE Carrier Aggregation Additional Information	1. This device supports LTE Carrier Aggregation (CA) in the uplink for intra-band and inter-band with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. 2. This device supports maximum of 2 carriers in the uplink.																																																																						



Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz		Bandwidth 25 MHz		Bandwidth 30 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)		Channel #		Freq. (MHz)	
L	23755		706.5		23780		709		23780		709	
M	23790		710		23790		710		23790		710	
H	23825		713.5		23800		711		23800		711	
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23230		782	
M	23230		782		23230		782		23230		782	
H	23255		784.5		23230		782		23230		782	
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5	26965	841.5

LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 42												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460				
M	42590	3500	42590	3500	42590	3500	42590	3500				
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540				
LTE Band 71												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	133147	665.5	133172	668	133197	670.5	133222	673				
M	133247	675.5	133272	678	133297	680.5	133322	683				
H	133447	695.5	133422	693	133397	690.5	133372	688				

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

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

2) LTE Bands tune up:

Band	Antenna	Head	Body-worn	Hotspot	Extremity	Sensor Off	Default
		DSI 2	DSI 3	DSI 7	DSI 6	DSI 4	
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 12(17)	Ant 0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 12(17)	Ant 1	24.0	23.8	22.0	24.0	24.0	24.0
LTE Band 26(5)	Ant 0	24.0	24.0	24.0	24.0	24.0	24.0
LTE Band 26(5)	Ant 1	21.9	22.1	19.9	24.0	24.0	24.0
LTE Band 66(4)	Ant 4	18.7	20.5	18.3	20.9	24.0	24.0
LTE Band 66(4)_ PA (Reference Designator)	Ant 4	18.7	20.5	18.3	20.9	24.0	24.0
LTE Band 66(4)	Ant 8	24.0	22.2	20.3	24.0	24.0	24.0
LTE Band 66(4)_ PA (Reference Designator)	Ant 8	24.0	22.2	20.3	24.0	24.0	24.0
LTE Band 41(38)	Ant 1	20.6	22.3	18.7	24.0	24.0	24.0
LTE Band 41 HPUE	Ant 1	22.2	23.9	20.3	25.9	27.0	27.0
LTE Band 41(38)	Ant 4	15.7	19.1	16.7	21.3	24.0	24.0
LTE Band 41 HPUE	Ant 4	17.3	20.7	18.3	22.9	27.0	27.0
LTE Band 41(38)	Ant 8	24.0	24.0	21.7	24.0	24.0	24.0
LTE Band 41 HPUE	Ant 8	27.0	27.0	23.3	26.8	27.0	27.0

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

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77 : 3700 MHz ~ 3980 MHz 5G NR n78 : 3700 MHz ~ 3800 MHz
Channel Bandwidth	The detail please refers to section 4.1 5G NR FR1 bands table.
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B4/12
LTE Anchor Bands for n5	LTE B2/7/66
LTE Anchor Bands for n7	LTE B2/4/5/66
LTE Anchor Bands for n38	LTE B2/4/5/66
LTE Anchor Bands for n41	LTE B2/4/5/66
LTE Anchor Bands for n66	LTE B2/7/12/13
LTE Anchor Bands for n77	LTE B7/71
LTE Anchor Bands for n78	LTE B2/4/5/7/12/38/41/66/71

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band																
NR Band 2																
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L 370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	373500	1867.5	374000	1870	
M 376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	
H 381500	1907.5	381000	1905	380500	1902.5	380000	1900	379500	1897.5	379000	1895	378500	1892.5	378000	1890	

NR Band 5									
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz			
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
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 35MHz		Bandwidth 40MHz		Bandwidth 50MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	503500	2517.5	504000	2520	505000	2525
M 507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H 513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510500	2552.5	510000	2550	509000	2545



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

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

NR Band 71														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133100	665.5	133600	668	134100	670.5	134600	673	135100	675.5	135600	678		
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5	136100	680.5	136100	680.5	136100	680.5
H	139100	695.5	138600	693	138100	690.5	137600	688	137100	685.5	136600	683		

NR Band 38												
	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)
L	515000	2575	515500	2577.5	516000	2580	516500	2582.5	517000	2585	518000	2590
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595
H	523000	2615	522500	2612.5	522000	2610	521500	2607.5	521000	2605	520000	2600

NR Band 41																												
Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	500202	2501.01	500700	2503.5	501204	2506.02	501702	2508.51	502200	2511	502704	2513.52	503202	2516.01	503700	2518.5	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	535500	2677.5	534996	2674.98	534498	2672.49	534000	2670	533496	2667.48	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640

NR Band 77 SCS30KHz																								
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840.00	656000	3840.00	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664500	3967.50	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

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

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

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

2) NR Bands Tune up:

Band	Antenna	Head	Body-worn	Hotspot	Extremity	Sensor Off	Default
		DSI 2	DSI 3	DSI 7	DSI 6	DSI 4	
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit	
FR1 n26(n5)	Ant 0	24.0	24.0	24.0	24.0	24.0	24.0
FR1 n26(n5)	Ant 1	22.5	22.5	19.8	24.0	24.0	24.0
FR1 n41(n38)	Ant 1	17.8	19.3	16.2	21.4	24.0	24.0
FR1 n41 HPUE	Ant 1	20.8	22.3	19.2	24.4	27.0	27.0
FR1 n41(n38)	Ant 3	16.6	20.9	20.3	22.4	24.0	24.0
FR1 n41(n38)	Ant 4	14.1	17.0	13.7	20.2	24.0	24.0
FR1 n41(n38) _ PA (Reference Designator)	Ant 4	14.1	17.0	13.7	20.2	24.0	24.0
FR1 n41 HPUE	Ant 4	17.1	20.0	16.7	23.2	27.0	27.0
FR1 n41 HPUE _ PA (Reference Designator)	Ant 4	17.1	20.0	16.7	23.2	27.0	27.0
FR1 n41(n38)	Ant 8	24.0	23.1	20.4	22.1	24.0	24.0
FR1 n41(n38) _ PA (Reference Designator)	Ant 8	24.0	23.1	20.4	22.1	24.0	24.0
FR1 n41 HPUE	Ant 8	27.0	26.1	23.4	25.1	27.0	27.0
FR1 n41 HPUE _ PA (Reference Designator)	Ant 8	27.0	26.1	23.4	25.1	27.0	27.0
FR1 n77(n78)	Ant 4	14.5	18.8	16.1	21.4	24.0	24.0
FR1 n77(n78) HPUE	Ant 4	17.5	21.8	19.1	24.4	27.0	27.0
FR1 n77(n78)	Ant 5	13.8	17.1	13.2	21.5	21.5	21.5
FR1 n77(n78)	Ant 6	12.4	16.1	10.9	17.4	24.0	24.0
FR1 n77(n78) HPUE	Ant 6	15.4	19.1	13.9	20.4	27.0	27.0
FR1 n77(n78)	Ant 7	22.0	15.0	14.1	22.0	22.0	22.0
FR1 n77(n78) HPUE	Ant 7	25.0	18.0	17.1	25.0	25.0	25.0

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

5. Smart Transmit feature for RF Exposure compliance

Qualcomm® Smart Transmit™ 5.0 of Smart Transmit (GEN2) Feature operates based on pre-defined sub6 antenna groups (AG). This Device is enabled with the Qualcomm® Smart Transmit Gen2 feature. The FCC RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.

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

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) version 23 to enable the Smart Transmit GEN2 Feature.

<Terminologies in this report>

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

<SAR Characterization>

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

<SAR design target and uncertainty>

Item	Uncertainty dB (k=2)
Total uncertainty	1.5

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

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

Antenna Group:

Antenna Group 0 (AG0)	ANT1 & ANT3 & ANT4 & ANT5 & ANT6 & ANT7
Antenna Group 1 (AG1)	ANT0 & ANT1 & ANT8

Note: ANT1 as shared antennas (sAnt) among AG0 and AG1.



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

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

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

Band	Antenna	Head DSI2	Body-worn DSI3	Hotspot DSI7	Extremity DSI6	Sensor off DSI4	Pmax*
GSM850	Ant 0	32.3	26.1	26.1	30.5	24.5	24.5
GSM1900	Ant 8	32.2	21.2	21.2	24.2	21.2	21.2
WCDMA II	Ant 4	17.0	18.9	16.3	20.2	23.0	23.0
WCDMA II	Ant 8	29.6	19.7	17.5	21.3	23.0	23.0
WCDMA IV	Ant 4	18.1	20.1	17.1	20.2	23.0	23.0
WCDMA IV	Ant 8	30.2	20.2	19.2	22.2	23.0	23.0
WCDMA V	Ant 0	32.2	25.3	25.1	23.0	23.0	23.0
WCDMA V	Ant 1	20.8	20.5	19.4	22.8	23.0	23.0
LTE Band 2	Ant 4	17.4	19.6	16.5	21.0	23.0	23.0
LTE Band 2	Ant 8	29.7	20.5	18.0	21.6	23.0	23.0
LTE Band 7	Ant 4	12.7	14.9	14.3	18.4	23.0	23.0
LTE Band 7_PA (Reference Designator)	Ant 4	12.7	14.9	14.3	18.4	23.0	23.0
LTE Band 7	Ant 8	29.4	20.7	18.7	21.9	23.0	23.0
LTE Band 7_PA (Reference Designator)	Ant 8	29.4	20.7	18.7	21.9	23.0	23.0
LTE Band 12(17)	Ant 0	32.5	26.8	23.8	23.0	23.0	23.0
LTE Band 12(17)	Ant 1	23.2	22.8	21.0	24.0	23.0	23.0
LTE Band 13	Ant 0	31.3	26.0	24.5	23.0	23.0	23.0
LTE Band 13	Ant 1	21.9	21.9	19.4	23.8	23.0	23.0
LTE Band 26(5)	Ant 0	32.0	25.4	25.1	23.0	23.0	23.0
LTE Band 26(5)	Ant 1	20.9	21.1	18.9	23.2	23.0	23.0
LTE Band 66(4)	Ant 4	17.7	19.5	17.3	19.9	23.0	23.0
LTE Band 66(4)_PA (Reference Designator)	Ant 4	17.7	19.5	17.3	19.9	23.0	23.0
LTE Band 66(4)	Ant 8	30.2	21.2	19.3	23.3	23.0	23.0
LTE Band 66(4)_PA (Reference Designator)	Ant 8	30.2	21.2	19.3	23.3	23.0	23.0
LTE Band 71	Ant 0	33.2	26.6	24.7	23.0	23.0	23.0
LTE Band 71	Ant 1	24.0	23.9	21.8	25.5	23.0	23.0
LTE Band 41(38)	Ant 1	17.6	19.3	15.7	21.3	22.4	21.0
LTE Band 41 HPUE	Ant 1	17.6	19.3	15.7	21.3	22.4	22.4
LTE Band 41(38)	Ant 4	12.7	16.1	13.7	18.3	22.4	21.0
LTE Band 41 HPUE	Ant 4	12.7	16.1	13.7	18.3	22.4	22.4
LTE Band 41(38)	Ant 8	30.3	22.6	18.7	22.2	22.4	21.0
LTE Band 41 HPUE	Ant 8	30.3	22.6	18.7	22.2	22.4	22.4
LTE Band 42	Ant 4	14.3	18.3	15.8	19.9	21.0	21.0
LTE Band 42	Ant 6	12.6	15.5	11.1	16.7	21.0	21.0
LTE Band 42	Ant 7	27.6	30.5	25.2	19.0	19.0	19.0
FR1 n2	Ant 4	17.7	21.0	17.2	21.1	23.0	23.0
FR1 n2	Ant 8	31.8	19.3	17.7	21.5	23.0	23.0
FR1 n7	Ant 4	13.2	16.1	13.8	18.8	23.0	23.0
FR1 n7_PA (Reference Designator)	Ant 4	13.2	16.1	13.8	18.8	23.0	23.0
FR1 n7	Ant 8	30.1	21.3	18.6	21.6	23.0	23.0
FR1 n7_PA (Reference Designator)	Ant 8	30.1	21.3	18.6	21.6	23.0	23.0
FR1 n26(n5)	Ant 0	33.7	26.8	27.6	23.0	23.0	23.0
FR1 n26(n5)	Ant 1	21.5	21.5	18.8	25.1	23.0	23.0
FR1 n66	Ant 4	18.5	21.6	18.1	21.4	23.0	23.0
FR1 n66_PA (Reference Designator)	Ant 4	18.5	21.6	18.1	21.4	23.0	23.0
FR1 n66	Ant 8	31.6	20.8	18.7	22.6	23.0	23.0
FR1 n66_PA (Reference Designator)	Ant 8	31.6	20.8	18.7	22.6	23.0	23.0

FR1 n71	Ant 0	34.4	29.3	26.8	23.0	23.0	23.0
FR1 n71	Ant 1	24.8	24.3	21.9	23.0	23.0	23.0
FR1 n41(n38)	Ant 1	16.8	18.3	15.2	20.4	23.0	23.0
FR1 n41 HPUE	Ant 1	16.8	18.3	15.2	20.4	23.0	23.0
FR1 n41(n38)	Ant 3	15.6	19.9	19.3	21.4	23.0	23.0
FR1 n41(n38)	Ant 4	13.1	16.0	12.7	19.2	23.0	23.0
FR1 n41(n38)_PA (Reference Designator)	Ant 4	13.1	16.0	12.7	19.2	23.0	23.0
FR1 n41 HPUE	Ant 4	13.1	16.0	12.7	19.2	23.0	23.0
FR1 n41 HPUE_PA (Reference Designator)	Ant 4	13.1	16.0	12.7	19.2	23.0	23.0
FR1 n41(n38)	Ant 8	31.5	22.1	19.4	21.1	23.0	23.0
FR1 n41(n38)_PA (Reference Designator)	Ant 8	31.5	22.1	19.4	21.1	23.0	23.0
FR1 n41 HPUE	Ant 8	31.5	22.1	19.4	21.1	23.0	23.0
FR1 n41 HPUE_PA (Reference Designator)	Ant 8	31.5	22.1	19.4	21.1	23.0	23.0
FR1 n77(n78)	Ant 4	13.5	17.8	15.1	20.4	23.0	23.0
FR1 n77(n78) HPUE	Ant 4	13.5	17.8	15.1	20.4	23.0	23.0
FR1 n77(n78)	Ant 5	12.8	16.1	12.2	23.1	20.5	20.5
FR1 n77(n78)	Ant 6	11.4	15.1	9.9	16.4	23.0	23.0
FR1 n77(n78) HPUE	Ant 6	11.4	15.1	9.9	16.4	23.0	23.0
FR1 n77(n78)	Ant 7	22.9	14.0	13.1	21.0	21.0	21.0
FR1 n77(n78) HPUE	Ant 7	22.9	14.0	13.1	21.0	21.0	21.0

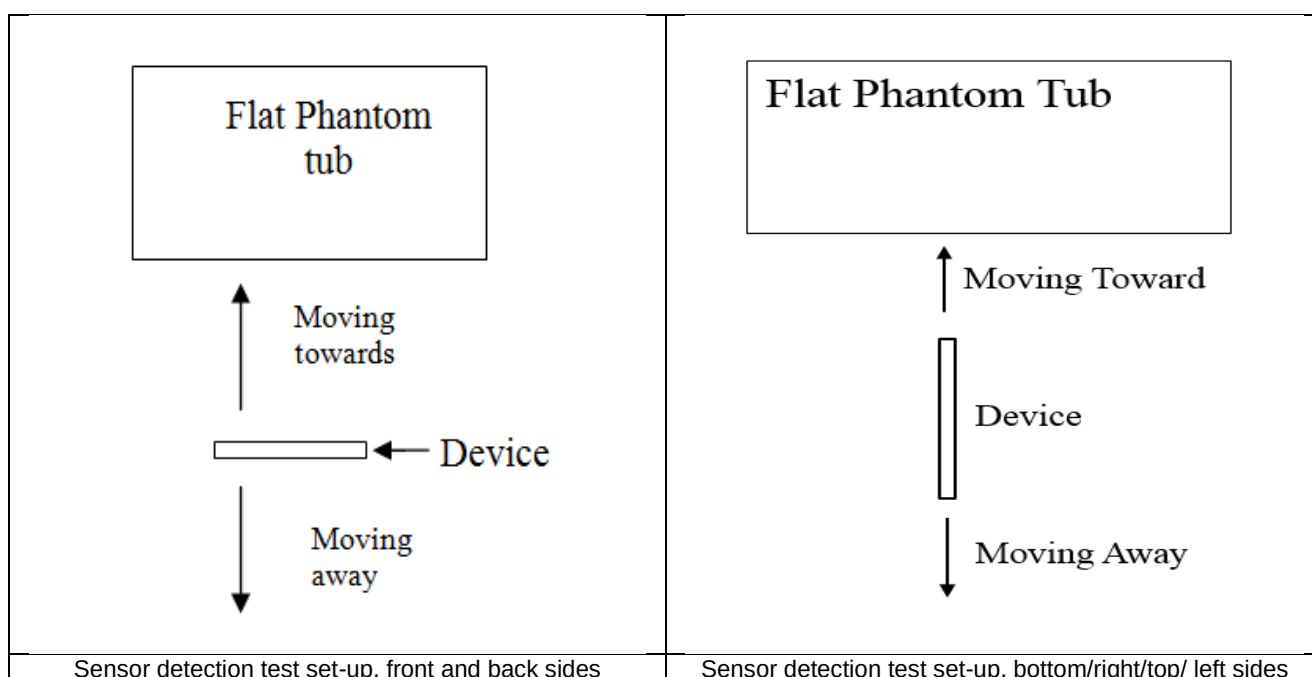
Note:

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

6. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (5825MHz) 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 phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
3. The device employs proximity sensors also can detect the presence of the user's a finger or hand when handheld state at the front/back/top/bottom/left/right sides of the device. When front/back/top/bottom/left/right sides of handheld condition is detected reduced power will be active.
4. The sensors can use to detect the proximity of the user's body or handheld states at the front or back or top or right or left side of the device use a detection threshold distance. When front/back/top/right/left sides of body or handheld condition is detected reduced power will be active. The trigger distance shown in the sections below.
5. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



<P-Sensor>

Proximity Sensor Triggering Distance (mm)				
Position	Front		Back	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	16	21	13	18

<Handheld for ANT 0&8>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Bottom Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	7	13	7	13	6	12	7	12

<Handheld for ANT 4&6>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Left Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	9	15	6	11	12	17	7	13

<Handheld for ANT 2&3&5&7>

Proximity Sensor Triggering Distance (mm)								
Position	Front		Back		Right Side		Top Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	10	15	2	6	11	16	8	14

<Handheld for ANT1>

Proximity Sensor Triggering Distance (mm)						
Position	Front		Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	8	14	5	10	12	18

7. RF Exposure Limits

7.1 Uncontrolled Environment

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

7.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7.3 RF Exposure limit for above 6GHz

According to ANSI/IEEE C95.1-1992, the criteria listed in Table 1 shall be used to evaluate the environmental impact of human exposure to radio frequency (RF) radiation as specified in §1.1310. The unit of power density evaluation is W/m² or mW/cm².

Peak Spatially Averaged Power Density was evaluated over a square area of 4cm² per interim FCC Guidance for near-field power density evaluations per October 2018 TCB Workshop notes

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3.0-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

Note: 1.0 mW/cm² is 10 W/m²

8. Specific Absorption Rate (SAR)

8.1 Introduction

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

8.2 SAR Definition

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

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

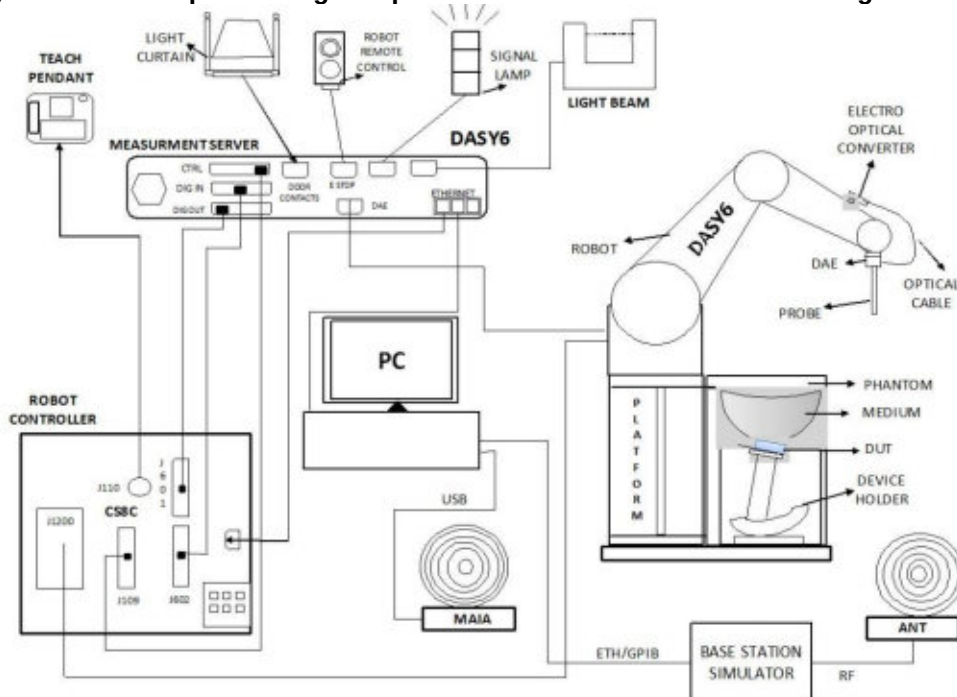
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

9. System Description and Setup

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



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

Note: 1. DASY6 software used: DASY6 mmWave V3.0.0.841 and older generations and used the developed Plane-to-Plane Phase Reconstruction (PTP-PR) Algorithm which was used in PD measurement.

9.1 E-Field Probe

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

<EX3DV4 Probe>

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

9.2 Data Acquisition Electronics (DAE)

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

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



Photo of DAE

9.3 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

9.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

10. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

10.1 Spatial Peak SAR Evaluation

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

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

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

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

10.2 Power Reference Measurement

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

10.3 Area Scan

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

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

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

10.4 Zoom Scan

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

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

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

10.5 Volume Scan Procedures

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

10.6 Power Drift Monitoring

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

11. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	Mar. 12, 2025	Mar. 11, 2026
SPEAG	835MHz System Validation Kit	D835V2	4d298	Jan. 26, 2024	Jan. 24, 2026
SPEAG	1750MHz System Validation Kit	D1750V2	1090	Mar. 12, 2025	Mar. 11, 2026
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	Mar. 13, 2025	Mar. 12, 2026
SPEAG	2450MHz System Validation Kit	D2450V2	1095	Feb. 08, 2024	Feb. 06, 2026
SPEAG	2600MHz System Validation Kit	D2600V2	1112	Dec. 18, 2023	Dec. 16, 2025
SPEAG	3500MHz System Validation Kit	D3500V2	1037	Nov. 20, 2023	Nov. 18, 2025
SPEAG	3700MHz System Validation Kit	D3700V2	1008	Nov. 20, 2023	Nov. 18, 2025
SPEAG	3900MHz System Validation Kit	D3900V2	1048	Mar. 09, 2023	Mar. 06, 2026
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	Sep. 23, 2022	Sep. 21, 2025
SPEAG	5000MHz System Validation Kit	D5GHzV2	1341	Dec. 22, 2024	Dec. 21, 2025
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1026	Jan. 28, 2025	Jan. 27, 2026
SPEAG	5G Verification Source	10GHz	2005	Dec. 04, 2024	Dec. 03, 2025
SPEAG	Data Acquisition Electronics	DAE4	1358	Jul. 15, 2025	Jul. 14, 2026
SPEAG	Data Acquisition Electronics	DAE4	1650	Nov. 25, 2024	Nov. 24, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7918	Mar. 24, 2025	Mar. 23, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	7706	May 22, 2025	May 21, 2026
SPEAG	EUmmWV Probe Tip Protection	EUmmWV4	9553	Nov. 25, 2024	Nov. 24, 2025
SPEAG	mmWave Phantom	mmWave	1065	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-2024	NCR	NCR
Beichuang	Thermo-Hygrometer	HTC-1	1959634	May 27, 2025	May 26, 2026
Testo	Thermo-Hygrometer	HTC-1	55009	Jan. 02, 2025	Jan. 01, 2026
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Rohde & Schwarz	Signal Generator	SMB100A	100455	Jan. 02, 2025	Jan. 01, 2026
Keysight	Preamplifier	83017A	MY57280106	Apr. 18, 2025	Apr. 17, 2026
Anritsu	Radio Communication Analyzer	MT8820C	6201563900	Jul. 02, 2025	Jul. 01, 2026
Agilent	ENA Series Network Analyzer	E5071C	MY46112129	Jul. 02, 2025	Jul. 01, 2026
SPEAG	Dielectric Probe Kit	DAK-3.5	1071	Feb. 24, 2025	Feb. 23, 2026
Anritsu	Vector Signal Generator	MG3710A	6201682672	Jan. 03, 2025	Jan. 02, 2026
Rohde & Schwarz	Power Meter	NRVD	102081	Jul. 02, 2025	Jul. 01, 2026
Rohde & Schwarz	Power Sensor	NRV-Z5	100538	Jul. 02, 2025	Jul. 01, 2026
Rohde & Schwarz	Power Sensor	NRV-Z5	100539	Jul. 02, 2025	Jul. 01, 2026
Rohde & Schwarz	Power Sensor	NRP50S	101385	Oct. 15, 2024	Oct. 14, 2025
R&S	BLUETOOTH TESTER	CBT	101246	Jul. 03, 2025	Jul. 02, 2026
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	Oct. 11, 2024	Oct. 10, 2025
TES	DIGITAC THERMOMETER	TYPE-K	220305411	Jan. 02, 2025	Jan. 01, 2026
ARRA	Power Divider	A3200-2	N/A	Note 1	
mini-circuits	amplifier	ZVE-3W-83+	162601250	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	
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	
ET Industries	Dual Directional Coupler	C-058-10	N/A	Note 1	
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	

Note:

- 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
- 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.
- The justification data of dipole can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration,

the impedance is within 5 ohm of prior calibration.

12. System Verification

12.1 Tissue Simulating Liquids

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

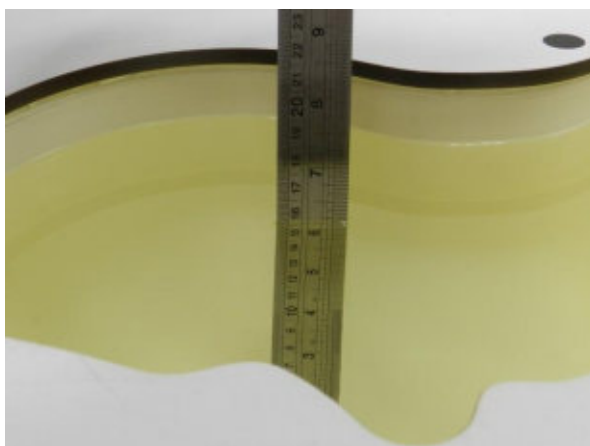


Fig 11.1 Photo of Liquid Height for Head SAR



Fig 11.2 Photo of Liquid Height for Body SAR

12.2 Tissue Verification

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

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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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



<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	22.7	0.883	43.0	0.89	41.9	-0.79	2.63	±5.0	2025-08-15
750	22.7	0.886	42.8	0.89	41.9	-0.45	2.15	±5.0	2025-08-23
835	22.7	0.917	42.5	0.9	41.5	1.89	2.41	±5.0	2025-08-16
835	22.7	0.916	42.5	0.9	41.5	1.78	2.41	±5.0	2025-08-24
1750	22.7	1.38	40.8	1.37	40.1	0.73	1.75	±5.0	2025-08-17
1750	22.7	1.38	40.6	1.37	40.1	0.73	1.25	±5.0	2025-08-25
1900	22.6	1.44	39.2	1.4	40.0	2.86	-2.00	±5.0	2025-08-18
1900	22.8	1.45	39.1	1.4	40.0	3.57	-2.25	±5.0	2025-08-25
2450	22.8	1.78	39.3	1.8	39.2	-1.11	0.26	±5.0	2025-08-30
2600	22.8	1.91	38.8	1.96	39.0	-2.55	-0.51	±5.0	2025-08-19
2600	22.6	1.91	38.9	1.96	39.0	-2.55	-0.26	±5.0	2025-08-26
3500	22.7	2.98	37.7	2.91	37.9	2.41	-0.53	±5.0	2025-08-20
3500	22.8	2.95	37.8	2.91	37.9	1.37	-0.26	±5.0	2025-08-27
3700	22.7	3.19	37.6	3.12	37.7	2.24	-0.27	±5.0	2025-08-21
3700	22.9	3.18	37.5	3.12	37.7	1.92	-0.53	±5.0	2025-08-28
3900	22.7	3.38	37.4	3.33	37.51	1.50	-0.29	±5.0	2025-08-22
3900	22.9	3.4	37.2	3.33	37.51	2.10	-0.83	±5.0	2025-08-29
5250	22.7	4.74	36.5	4.71	35.95	0.64	1.53	±5.0	2025-08-31
5600	22.8	5.03	35.9	5.07	35.5	-0.79	1.13	±5.0	2025-08-31
5750	22.9	5.25	35.6	5.22	35.35	0.57	0.71	±5.0	2025-09-01
6500	22.6	6.1	34.1	6.07	34.5	0.49	-1.16	±5.0	2025-09-01
5600	22.7	4.99	35.8	5.07	35.5	-1.58	0.85	±5.0	2025-09-25
5750	22.7	5.17	35.6	5.22	35.35	-0.96	0.71	±5.0	2025-09-26

12.3 System Performance Check Results

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

Date	Frequency (MHz)	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 (%)	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2025-08-15	750	50.00	D750V3 - 1087	EX3DV4 - SN7918	DAE4 SN1358	0.426	8.680	8.520	-1.84	0.287	5.610	5.740	2.32
2025-08-23	750	50.00	D750V3 - 1087	EX3DV4 - SN7918	DAE4 SN1358	0.426	8.680	8.520	-1.84	0.288	5.610	5.760	2.67
2025-08-16	835	50.00	D835V2 - 4d298	EX3DV4 - SN7918	DAE4 SN1358	0.508	9.890	10.160	2.73	0.347	6.450	6.940	7.60
2025-08-24	835	50.00	D835V2 - 4d298	EX3DV4 - SN7918	DAE4 SN1358	0.518	9.890	10.360	4.75	0.347	6.450	6.940	7.60
2025-08-17	1750	50.00	D1750V2 - 1090	EX3DV4 - SN7918	DAE4 SN1358	1.940	36.600	38.800	6.01	1.020	19.500	20.400	4.62
2025-08-25	1750	50.00	D1750V2 - 1090	EX3DV4 - SN7918	DAE4 SN1358	1.920	36.600	38.400	4.92	1.020	19.500	20.400	4.62
2025-08-18	1900	50.00	D1900V2 - 5d170	EX3DV4 - SN7918	DAE4 SN1358	2.100	39.100	42.000	7.42	1.030	20.600	20.600	0.00
2025-08-25	1900	50.00	D1900V2 - 5d170	EX3DV4 - SN7918	DAE4 SN1358	2.120	39.100	42.400	8.44	1.110	20.600	22.200	7.77
2025-08-30	2450	50.00	D2450V2 - 1095	EX3DV4 - SN7918	DAE4 SN1358	2.840	52.600	56.800	7.98	1.310	24.700	26.200	6.07
2025-08-19	2600	50.00	D2600V2 - 1112	EX3DV4 - SN7918	DAE4 SN1358	2.940	55.100	58.800	6.72	1.310	24.800	26.200	5.65
2025-08-26	2600	50.00	D2600V2 - 1112	EX3DV4 - SN7918	DAE4 SN1358	2.960	55.100	59.200	7.44	1.320	24.800	26.400	6.45
2025-08-20	3500	50.00	D3500V2 - 1037	EX3DV4 - SN7918	DAE4 SN1358	3.550	65.400	71.000	8.56	1.250	24.700	25.000	1.21
2025-08-27	3500	50.00	D3500V2 - 1037	EX3DV4 - SN7918	DAE4 SN1358	3.070	65.400	61.400	-6.12	1.250	24.700	25.000	1.21
2025-08-21	3700	50.00	D3700V2 - 1008	EX3DV4 - SN7918	DAE4 SN1358	3.450	67.200	69.000	2.68	1.260	24.400	25.200	3.28
2025-08-28	3700	50.00	D3700V2 - 1008	EX3DV4 - SN7918	DAE4 SN1358	3.040	67.200	60.800	-9.52	1.220	24.400	24.400	0.00
2025-08-22	3900	50.00	D3900V2 - 1048	EX3DV4 - SN7918	DAE4 SN1358	3.650	69.100	73.000	5.64	1.280	24.100	25.600	6.22
2025-08-29	3900	50.00	D3900V2 - 1048	EX3DV4 - SN7918	DAE4 SN1358	3.510	69.100	70.200	1.59	1.310	24.100	26.200	8.71
2025-08-31	5250	50.00	D5GHzV2 - 1113	EX3DV4 - SN7918	DAE4 SN1358	4.450	81.500	89.000	9.20	1.170	23.300	23.400	0.43
2025-08-31	5600	50.00	D5GHzV2 - 1113	EX3DV4 - SN7918	DAE4 SN1358	4.460	82.600	89.200	7.99	1.180	23.700	23.600	-0.42
2025-09-01	5750	50.00	D5GHzV2 - 1113	EX3DV4 - SN7918	DAE4 SN1358	3.640	80.800	72.800	-9.90	1.090	23.000	21.800	-5.22
2025-09-01	6500	50.00	D6.5GHzV2 - 1026	EX3DV4 - SN7706	DAE4 SN1650	15.200	296.000	304.000	2.70	2.980	54.800	59.600	8.76
2025-09-25	5600	50.00	D5GHzV2 - 1341	EX3DV4 - SN7918	DAE4 SN1358	4.28	82.800	85.600	3.38	1.230	23.800	24.600	3.36
2025-09-26	5750	50.00	D5GHzV2 - 1341	EX3DV4 - SN7918	DAE4 SN1358	3.99	79.900	79.800	-0.13	1.140	22.900	22.800	-0.44

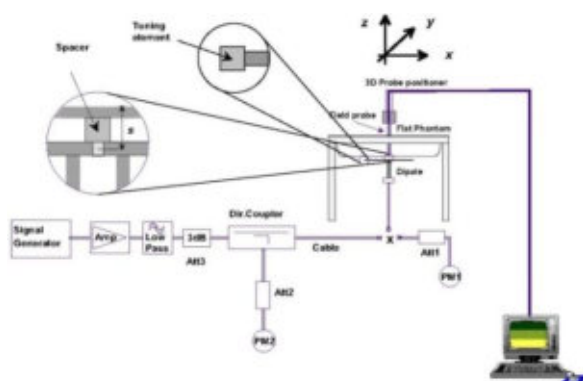


Fig 11.3.1 System Performance Check Setup



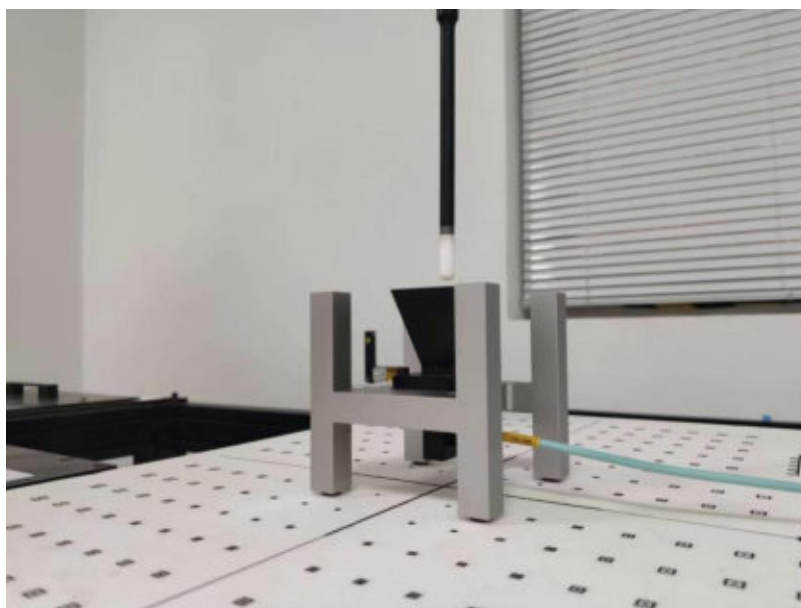
Fig 11.3.2 Setup Photo

12.4 PD System Verification Results

The system was verified to be within ± 0.66 dB of the power density targets on the calibration certificate according to the test system specification in the user's manual and calibration facility recommendation. The 0.66 dB deviation threshold represents the expanded uncertainty for system performance checks using SPEAG's mmWave verification sources. The same spatial resolution and measurement region used in the source calibration was applied during the system check. The measured power density distribution of verification source was also confirmed through visual inspection to have no noticeable differences, both spatially (shape) and numerically (level) from the distribution provided by the manufacturer, per November 2017 TCBC Workshop Notes.

Frequency (GHz)	5G Verification Source	Probe S/N	DAE S/N	Distance (mm)	Prad (mW)	Measured psPDn+ 4 cm ² (W/m ²)	Normalized 4 cm ² (W/m ²)	Targeted psPDn+ 4 cm ² (W/m ²)	Deviation (dB)	Measured psPDtot+ 4 cm ² (W/m ²)	Normalized 4 cm ² (W/m ²)	Targeted psPDtot+ 4 cm ² (W/m ²)	Deviation (dB)	Measured psPDmod+ 4 cm ² (W/m ²)	Normalized 4 cm ² (W/m ²)	Targeted psPDmod+ 4 cm ² (W/m ²)	Deviation (dB)	Test date
10	10GHz_2005	9553	1650	10	100	96.8	153.4	171	-0.47	97.7	154.8	172	-0.46	102	161.6	177	-0.39	2025/8/30

Note: (1) means the measured PD was normalized to Prad power which can be referred to DASY Calibration Certificate in appendix C.



System Verification Setup Photo

13. RF Exposure Positions

13.1 Ear and handset reference point

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

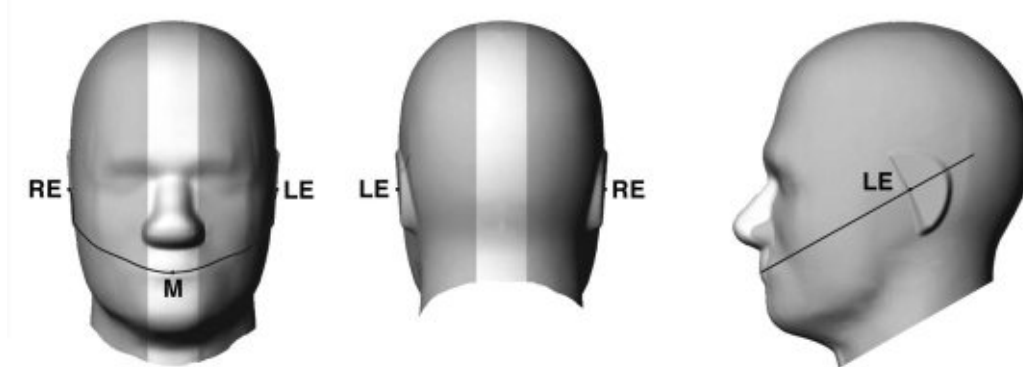


Fig 12.1.1 Front, back, and side views of SAM twin phantom

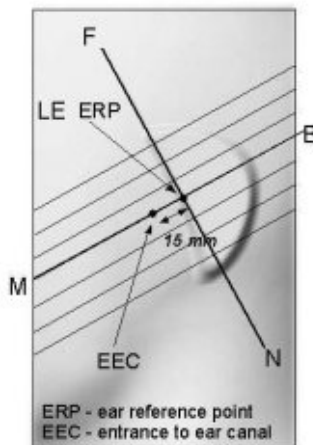


Fig 12.1.2 Close-up side view of phantom showing the ear region.

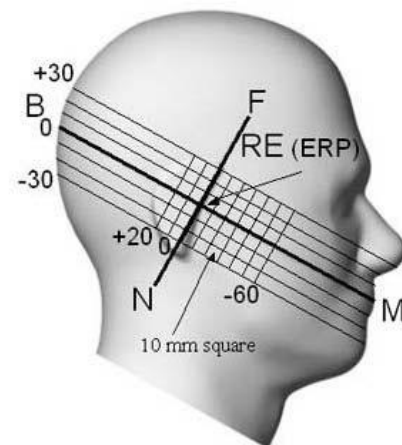


Fig 12.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

13.2 Definition of the cheek position

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

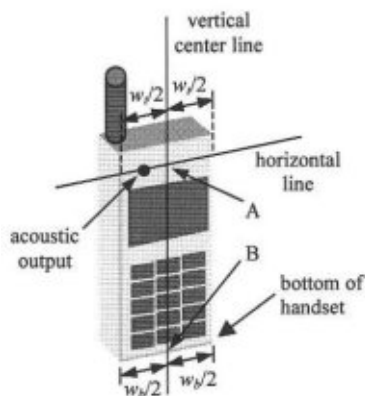


Fig 12.2.1 Handset vertical and horizontal reference lines—"fixed case"

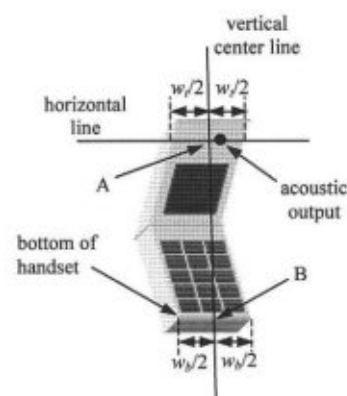


Fig 12.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

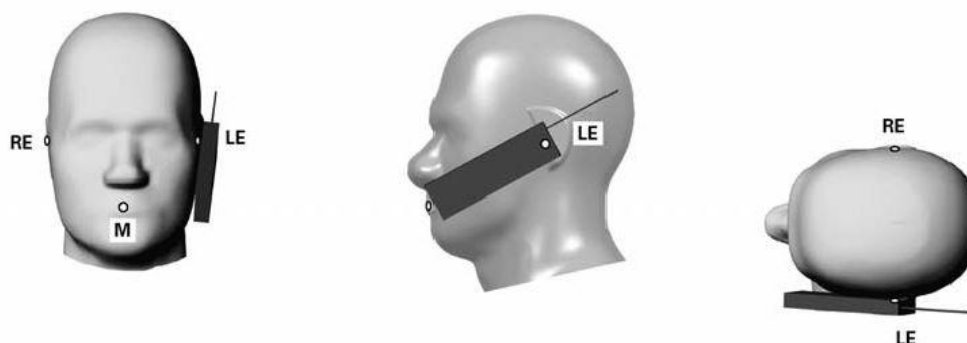


Fig 12.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

13.3 Definition of the tilt position

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

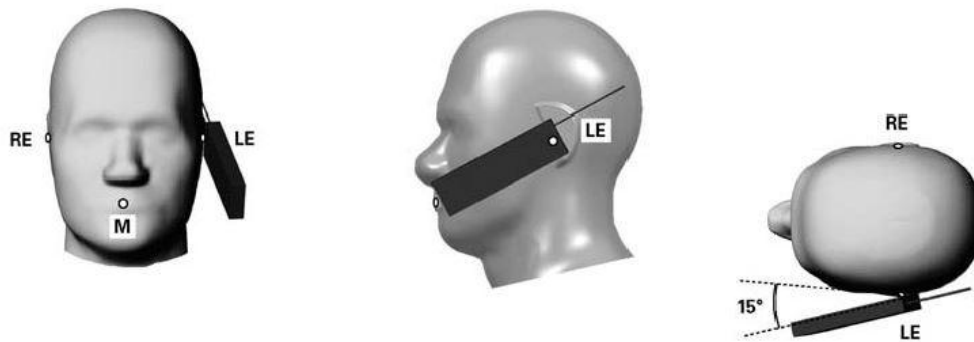


Fig 12.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

13.4 Body Worn Accessory

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

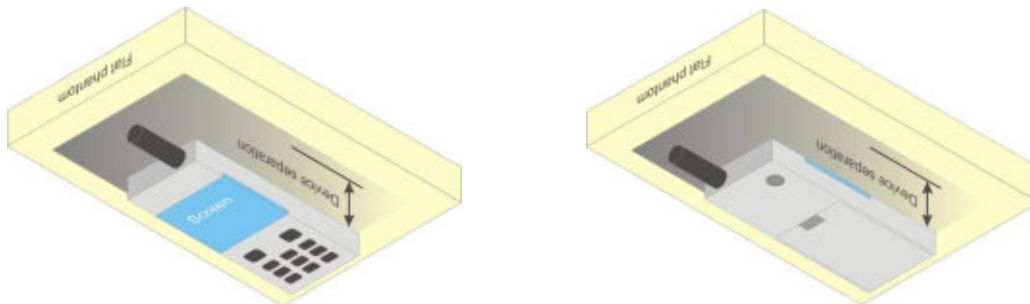


Fig 12.4 Body Worn Position

13.5 Product Specific 10g SAR Exposure

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

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

13.6 Wireless Router

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

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

13.7 Miscellaneous Testing Considerations

- Evaluate SAR using 6-7 GHz parameters per IEC/IEEE 62209-1528:2020.
- Per procedures of KDB Pubs. 447498 and 248227, and applicable product-specific procedures among KDB Pubs. 648474 (handsets/phablets).
- Where supported by the test system, also report estimated absorbed (epithelial) power density (for reference purposes only, not specifically for compliance) and estimated incident PD, derived from measured SAR.
- In addition, for the highest SAR test configurations evaluate incident PD using the mmw near-field probe and total-field/power-density reconstruction method (2 mm closest meas. plane)
 - Adjust measured results per amount that measurement uncertainty exceeds 30 % (see e.g. IEC 62479:2010)

14. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<GSM Conducted Power>

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

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_o/β_d	β_{HS} (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5
Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$. Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and $\Delta_{NACK} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{HS} = 24/15 * \beta_c$. Note 3: CM = 1 for $\beta_o/\beta_d = 12/15$, $\beta_{HS}/\beta_c = 24/15$. For all other combinations of DPCCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases. Note 4: For subtest 2 the β_o/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to $\beta_c = 11/15$ and $\beta_d = 15/15$.							

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

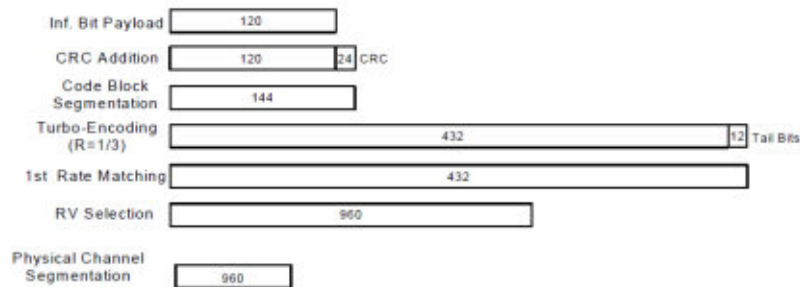


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

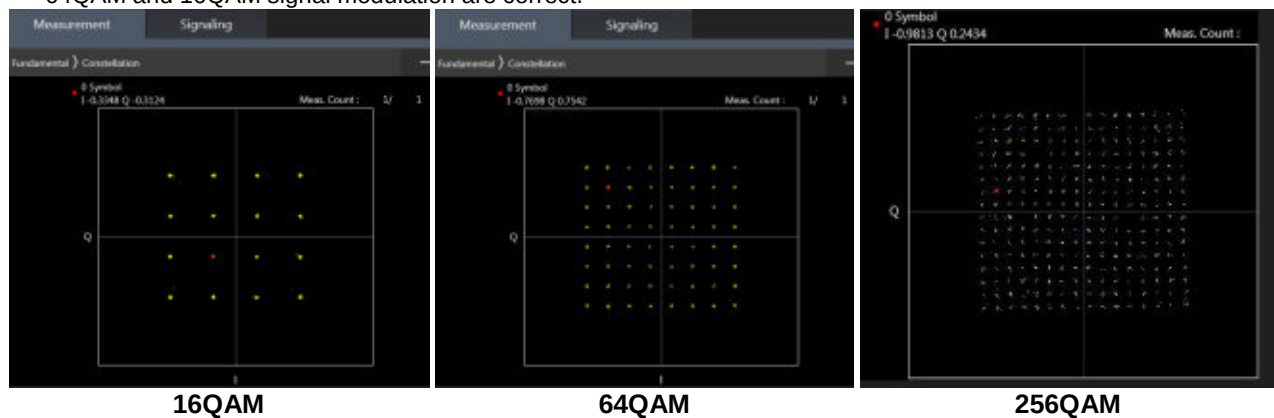
General Note:

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

<LTE Conducted Power>

General Note:

1. Anritsu MT8821C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 /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 B17/5/38/4 SAR test was covered by B12/26/41/66; 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.

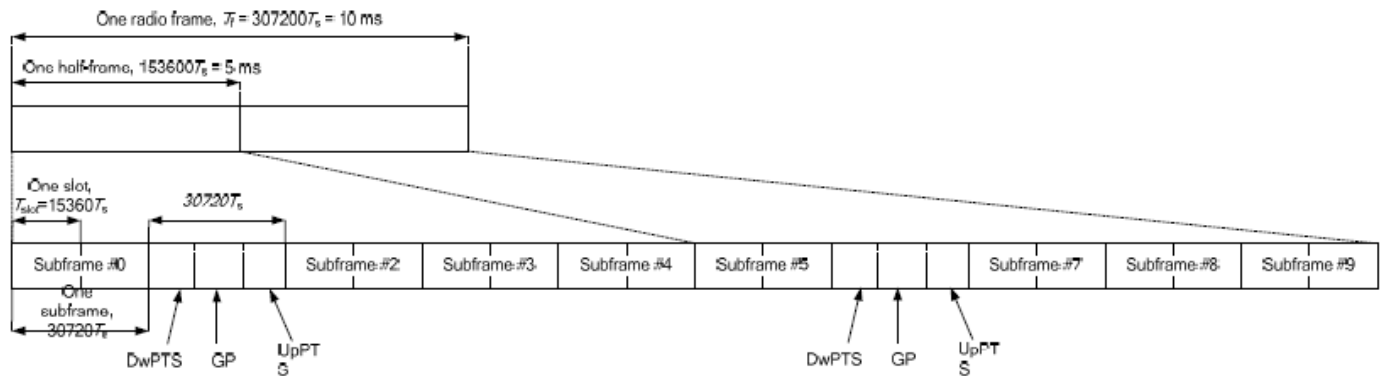


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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.

For LTE TDD Power class 3

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

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
	=23	0,1,2,3,4,5,6
	< 23	0,1,2,3,4,5,6

<LTE Carrier Aggregation>

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

General Note:

1. Per Oct. 2024 TCB workshop, the downlink (DL) pertains to receiver functionality, thus it is not related to RF exposure compliance limits related to cumulative effects of different transmitters.
2. Per Oct. 2024 TCB workshop, equipment authorization applications shall refer to the worst-case UL powers resulting from all the possible modes of operations. Accordingly, CA-DL cases do not need to be analyzed separately, unless pertinent to establishing UL power setting.
3. Per Oct. 2024 TCB workshop, Manufacturer declares that TX power measurement for multiple DL CA configurations is deemed not required as the DL CA has no impact on the TX power according to preliminary scan. TX power measured in LTE standalone operation represents the worst case.
4. This device supports LTE carrier aggregation in the downlink. All uplink maximum output power with downlink carrier aggregation active does not show more than $\frac{1}{4}$ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

LTE Carrier Aggregation Conducted Power (Uplink)

LTE Uplink CA	2CC Uplink Carrier Aggregation		
Intra-band	Antenna Tx	ASDiv-1 Tx	ASDiv-2 Tx
CA_2C	Ant8	Ant4	/
CA_7C	Ant8	Ant4	/
CA_38C	Ant8	Ant4	Ant1
CA_41C	Ant8	Ant4	Ant1
CA_42C	Ant6	Ant7	/
CA_66C	Ant8	Ant4	/

<Intra-band>
General Note:

- The device supports intra-band uplink carrier aggregation for LTE B2/7/38/41/42/66 with a maximum of two uplink component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- According Nov. 2017 TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
- Additional SAR measurement for LTE UL CA with other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

<Inter-band>

LTE Inter Band UL CA	PCC ANT	SCC ANT
CA_2A-4A	Ant8	Ant4
	Ant4	Ant8
CA_2A-5A	Ant8	Ant1
	Ant4	Ant0
CA_2A-7A	Ant8	Ant4
	Ant4	Ant8
CA_2A-66A	Ant8	Ant4
	Ant4	Ant8
CA_4A-5A	Ant8	Ant1
	Ant4	Ant0
CA_4A-7A	Ant8	Ant4
	Ant4	Ant8
CA_5A-7A	Ant0	Ant4
	Ant1	Ant8
CA_5A-66A	Ant0	Ant4
	Ant1	Ant8
CA_7A-26A	Ant8	Ant1
	Ant4	Ant0
CA_7A-66A	Ant8	Ant4
	Ant4	Ant8

General Note:

1. The single carrier of inter band CA uplink power level is the same as Non-CA standalone LTE power level.
2. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window. To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement.
3. For LTE inter-band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two LTE bands. Smart Transmit algorithm controls the total RF exposure base on LTE inter CA bands to not exceed FCC limit.

5G NR Output Power (Unit: dBm)

General Note:

1. 5G NR n2/n5/n7/n38/n41/n66/n77/n78 is NSA mode.
2. 5G NR n2/n5/n7/n26/n38/n41/n66/n71/n77/n78 is SA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg; CP-OFDM testing is not required.
 - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel
 - d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - e. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested
 - f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
4. For 5G NR n41/n77/n78 HPUE, 5G NR n41/n77/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 test, using FTM (Factory Test Mode) with default 100% duty cycle transmission to perform SAR testing.
5. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
6. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
7. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
8. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
9. For NR inter-band CA mode, Qualcomm Smart Transmit algorithm in WWAN adds directly the time-averaged RF exposure between two NR bands. Smart Transmit algorithm controls the total RF exposure base on NR inter band ULCA bands to not exceed FCC limit.
10. 5G NR n7 supports UL MIMO, due to UL MIMO antenna operating on different antenna groups, therefore TAS validation is not required.

<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 mode	LTE ANT	NR ANT
DC_2A_n5A	Ant8	Ant1
	Ant4	Ant0
DC_2A_n7A	Ant8	Ant4
	Ant4	Ant8
DC_2A_n38A	Ant8	Ant4
	Ant4	Ant8
DC_2A_n41A	Ant8	Ant4
	Ant4	Ant8
DC_2A_n66A	Ant8	Ant4
	Ant4	Ant8
DC_2A_n78A	Ant8	Ant6
	Ant4	Ant7
DC_4A_n2A	Ant4	Ant8
	Ant8	Ant4
DC_4A_n7A	Ant8	Ant4
	Ant4	Ant8
DC_4A_n38A	Ant4	Ant8
	Ant8	Ant4
DC_4A_n41A	Ant4	Ant8
	Ant8	Ant4
DC_4A_n78A	Ant8	Ant6
	Ant4	Ant7
DC_5A_n7A	Ant0	Ant4
	Ant1	Ant8
DC_5A_n38A	Ant0	Ant4
	Ant1	Ant8
DC_5A_n41A	Ant0	Ant4



	Ant1	Ant8
DC_5A_n78A	Ant0	Ant6
	Ant1	Ant7
DC_7A_n5A	Ant8	Ant1
	Ant4	Ant0
DC_7A_n66A	Ant8	Ant4
	Ant4	Ant8
DC_7A_n77A	Ant8	Ant6
	Ant4	Ant7
DC_7A_n78A	Ant8	Ant6
	Ant4	Ant7
DC_12A_n2A	Ant0	Ant4
	Ant1	Ant8
DC_12A_n66A	Ant0	Ant4
	Ant1	Ant8
DC_12A_n78A	Ant0	Ant6
	Ant1	Ant7
DC_13A_n66A	Ant0	Ant4
	Ant1	Ant8
DC_38A_n78A	Ant8	Ant6
	Ant4	Ant7
DC_41A_n78A	Ant8	Ant6
	Ant4	Ant7
DC_66A_n5A	Ant8	Ant1
	Ant4	Ant0
DC_66A_n7A	Ant8	Ant4
	Ant4	Ant8
DC_66A_n38A	Ant4	Ant8
	Ant8	Ant4
DC_66A_n41A	Ant4	Ant8
	Ant8	Ant4
DC_66A_n78A	Ant8	Ant6
	Ant4	Ant7
DC_71A_n77A	Ant0	Ant6
	Ant1	Ant7
DC_71A_n78A	Ant0	Ant6
	Ant1	Ant7

Inter-Band CA Configuration:

NR UL CA mode	NR ANT	NR ANT
CA_n7A-n78A	Ant8	Ant6
	Ant4	Ant7
CA_n41A-n71A	Ant8	Ant1
	Ant4	Ant0
CA_n71A-n78A	Ant0	Ant6
	Ant1	Ant7

UL MIMO combination:

NR UL CA mode	NR ANT	NR ANT
n7	Ant4	Ant8

<WLAN Conducted Power>

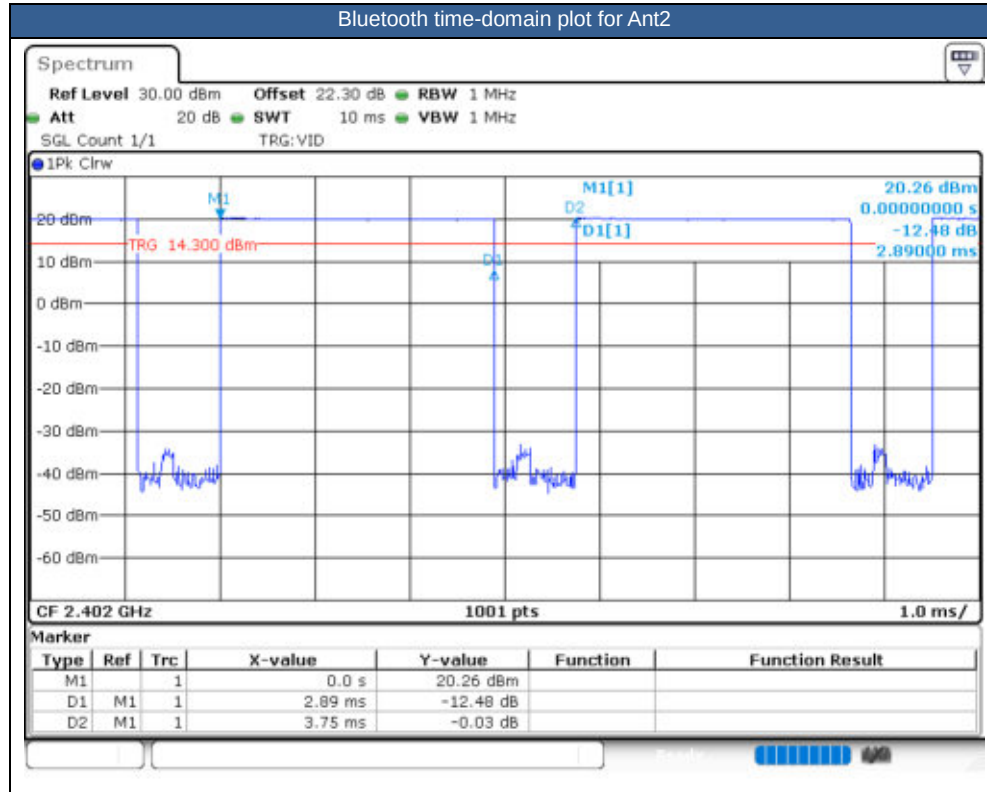
General Note:

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.18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
6. 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/6GHz WLAN can transmit in MIMO antenna mode only and it has no SISO antenna mode.
8. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of two antennas respectively to calculate sum of the power for MIMO mode.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 77.07% as following figure, Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation.





15. Antenna Location

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

16. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
 - d. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - e. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - f. For TDD LTE SAR measurement of power class 3, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = Measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
 - g. For TDD LTE SAR measurement of power class 2, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 is applied to scale-up the measured SAR result. The reported TDD LTE SAR (W/kg) = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8 W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The device implements the power management, proximity sensor/receiver detection/hotspot mode for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the Qualcomm smart transmit will manage to ensure the power level not exceeding the associated power table. And the device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to power table at appendix E.
5. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
6. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
 - a. For this device SAR for WWAN/WLAN transmitter scaled to maximum output power mode for product specific 10g SAR is higher than 1.2W/kg of GSM1900, WCDMA Band II/IV/V, LTE Band 2/4/5/7/12/13/17/26/38/41/66/71/42, 5GNR n2/n5/n7/n26/n66/n38/n41/n77/n78 and WLAN 2.4GHz /WLAN 5.2/5.8GHz therefore product specific 10g SAR is necessary.
 - b. WLAN 5.3/5.5/6GHz tested the product specific 10g SAR since it has no hotspot mode.
 - c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.
7. According to Nov. 2017 TCB workshop, when the reported 1gSAR for UL CA configuration is <1.2 W/kg, UL CA 1gSAR is not required for all required test channels (PCC based).
8. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot SAR.
9. For Phablet devices, when hotspot mode is not supported, Product specific 10-g SAR is required for all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge in direct contact with a flat phantom, to address

interactive hand use exposure conditions.

10. For WLAN 6GHz doesn't support wireless router capability.
11. Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factors.
12. Per October 2020 TCB Workshop Interim procedures, start instead with a minimum of 5 test channels across the full band, then adapt and apply conducted power and SAR test reduction procedures of KDB Pub. 248227 v02r02.
13. Absorbed power density (APD) using a 4cm² averaging area is reported based on SAR measurements.
14. For testing the WLAN 6GHz of this DUT, the selection of test channels was based on FCC guidance, with five channels selected across the entire WLAN 6GHz Bands.

GSM Note:

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

WCDMA Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26 / B38 / 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.
7. LTE B17/5/38/4 SAR test was covered by B12/26/41/66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

5G NR Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
 - b. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure
 - c. QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - d. $\pi/2$ BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not $\frac{1}{2}$ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, $\pi/2$ BPSK /16QAM/64QAM/256QAM SAR testing are not required.
 - e. Smaller bandwidth output power for each RB allocation configuration for this device will not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - f. For 5G FR1 n2/n5/n7/n26/n66/n38/n41/n77 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

WLAN/Bluetooth Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.
6. 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.

Power Density General Notes:

1. The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics and are within operational tolerances expected for production units.
2. Batteries are fully charged at the beginning of the measurements.
3. Absorbed power density (APD) using a 4cm² averaging area is reported based on SAR measurements.
4. Power density was calculated by repeated E-field measurements on two measurement planes separated by $\lambda/4$.
5. The device was configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools.
6. Per FCC guidance and equipment manufacturer guidance, power density results were scaled according to IEC 62479:2010 for the portion of the measurement uncertainty > 30%. Total expanded uncertainty of 2.68 dB (85.4%) was used to determine the psPD measurement scaling factor.
7. Per April 2021 TCB Workshop and KDB 388624 D02v18r08, For the highest SAR test configurations also measure incident PD (total) using power-density reconstruction method in 2 mm closest measurement plane.
8. Per October 2020 TCB Workshop, PTP-PR algorithm was used during psPD measurement and calculations.
9. Since this device is considered a phablet and there is no different PD limit on different exposure conditions, therefore select highest phablet SAR at 0 mm test distance and configurations evaluate power density. Since there is no different PD limit on different exposure conditions, therefore the PD test was performed of a 2mm separation between Probe sensor and EUT surface to cover r all exposure conditions of phablet.
10. The measurement procedure consists of measuring the PD_{inc} at two different distances: 2 mm (compliance distance) and $\lambda/5$. The grid extents should be large enough to fully capture the transmitted energy. The grid step should be fine enough to demonstrate that the integrated Power Density iPD_n fulfill the criterion described below. Since iPD ratio between the two distances is ≥ -1 dB, the grid step (0.0625) was sufficient for determining compliance at d=2mm.

$$10 \cdot \log_{10} \frac{iPD_n(2mm)}{iPD_n(\lambda/5)} \geq -1$$

DSI status description:

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

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

Exposure Condition	DSI	Trigger Conditions
Head SAR	DSI 2	Earpiece On
Body worn SAR	DSI 3	Sensor On
Hotspot SAR	DSI 7	Hotspot On
Extremity SAR	DSI 6	Sensor On
Body Worn / Extremity / Sensor Off	DSI 4	Sensor Off



16.1 Head SAR

【GSM SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
01	GSM850	GPRS 2 Tx slots	Right Cheek	0mm	Ant 0	DSI 2	189	836.4	1		30.52	31.50	1.253	0.08	0.135	0.169
	GSM850	GPRS 2 Tx slots	Right Tilted	0mm	Ant 0	DSI 2	189	836.4	1		30.52	31.50	1.253	0.01	0.080	0.100
	GSM850	GPRS 2 Tx slots	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	1		30.52	31.50	1.253	-0.08	0.146	0.183
	GSM850	GPRS 2 Tx slots	Left Tilted	0mm	Ant 0	DSI 2	189	836.4	1		30.52	31.50	1.253	0.03	0.002	0.003
	GSM850	GPRS 2 Tx slots	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	1	Cover	30.52	31.5	1.253	-0.12	0.132	0.165
	GSM850	GPRS 2 Tx slots	Left Cheek	0mm	Ant 0	DSI 2	189	836.4	2		30.52	31.5	1.253	0.08	0.101	0.127
02	GSM1900	GPRS 3 Tx slots	Right Cheek	0mm	Ant 8	DSI 2	661	1880	1		25.32	26.50	1.312	0.10	0.061	0.080
	GSM1900	GPRS 3 Tx slots	Right Tilted	0mm	Ant 8	DSI 2	661	1880	1		25.32	26.50	1.312	0.12	0.001	0.001
	GSM1900	GPRS 3 Tx slots	Left Cheek	0mm	Ant 8	DSI 2	661	1880	1		25.32	26.50	1.312	-0.01	0.068	0.089
	GSM1900	GPRS 3 Tx slots	Left Tilted	0mm	Ant 8	DSI 2	661	1880	1		25.32	26.50	1.312	0.08	0.001	0.001

【WCDMA SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
03	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 2	9400	1880	1		16.79	18.00	1.321	-0.16	0.574	0.758
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 2	9400	1880	1		16.79	18.00	1.321	0.14	0.404	0.534
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 2	9400	1880	1		16.79	18.00	1.321	-0.03	0.278	0.367
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 2	9400	1880	1		16.79	18.00	1.321	-0.14	0.320	0.423
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	Ant 8	DSI 2	9400	1880	1		23.61	24.00	1.094	-0.05	0.203	0.222
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	Ant 8	DSI 2	9400	1880	1		23.61	24.00	1.094	0.18	0.102	0.112
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 8	DSI 2	9400	1880	1		23.61	24.00	1.094	0.14	0.219	0.240
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	Ant 8	DSI 2	9400	1880	1		23.61	24.00	1.094	-0.17	0.130	0.142
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 8	DSI 2	9400	1880	1	Cover	23.61	24	1.094	0.03	0.188	0.206
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	Ant 8	DSI 2	9400	1880	2		23.61	24	1.094	0.01	0.181	0.198
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 2	1413	1732.6	1		17.83	19.10	1.34	-0.01	0.574	0.769
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 4	DSI 2	1413	1732.6	1		17.83	19.10	1.34	-0.07	0.500	0.670
04	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 4	DSI 2	1413	1732.6	1		17.83	19.10	1.34	-0.04	0.335	0.449
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	Ant 4	DSI 2	1413	1732.6	1		17.83	19.10	1.34	-0.15	0.367	0.492
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 2	1413	1732.6	1	Cover	17.83	19.1	1.34	-0.16	0.551	0.738
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 4	DSI 2	1413	1732.6	2		17.83	19.1	1.34	0.03	0.493	0.661
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	Ant 8	DSI 2	1413	1732.6	1		23.66	24.00	1.081	0.17	0.191	0.206
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	Ant 8	DSI 2	1413	1732.6	1		23.66	24.00	1.081	-0.05	0.113	0.122
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 8	DSI 2	1413	1732.6	1		23.66	24.00	1.081	0.01	0.197	0.213
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	Ant 8	DSI 2	1413	1732.6	1		23.66	24.00	1.081	0.10	0.094	0.102
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 8	DSI 2	1413	1732.6	1	Cover	23.66	24	1.081	-0.02	0.184	0.199
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	Ant 8	DSI 2	1413	1732.6	2		23.66	24	1.081	-0.08	0.176	0.190
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 0	DSI 2	4182	836.4	1		23.83	24.00	1.04	-0.17	0.118	0.123
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	Ant 0	DSI 2	4182	836.4	1		23.83	24.00	1.04	0.04	0.069	0.072
05	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 0	DSI 2	4182	836.4	1		23.83	24.00	1.04	-0.01	0.129	0.134
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	Ant 0	DSI 2	4182	836.4	1		23.83	24.00	1.04	-0.08	0.057	0.059
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	Ant 1	DSI 2	4182	836.4	1		20.77	21.80	1.268	-0.11	0.452	0.573
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	Ant 1	DSI 2	4182	836.4	1		20.77	21.80	1.268	-0.02	0.095	0.120
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	4182	836.4	1		20.77	21.80	1.268	-0.10	0.744	0.943
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	4132	826.4	1		20.71	21.80	1.285	0.14	0.621	0.798
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	Ant 1	DSI 2	4233	846.6	1		20.73	21.80	1.279	0.06	0.777	0.994
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	Ant 1	DSI 2	4182	836.4	1		20.77	21.80	1.268	-0.05	0.104	0.132



【LTE SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	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)
06	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	18900	1880	1		17.15	18.40	1.334			-0.16	0.580	0.774
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2	18900	1880	1		17.13	18.40	1.34			0.16	0.458	0.614
	LTE Band 2	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 2	18900	1880	1		17.15	18.40	1.334			0.01	0.422	0.563
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2	18900	1880	1		17.13	18.40	1.34			-0.06	0.334	0.448
	LTE Band 2	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 2	18900	1880	1		17.15	18.40	1.334			0.14	0.281	0.375
	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 2	18900	1880	1		17.13	18.40	1.34			-0.09	0.225	0.302
	LTE Band 2	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 2	18900	1880	1		17.15	18.40	1.334			-0.09	0.322	0.430
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 2	18900	1880	1		17.13	18.40	1.34			-0.12	0.255	0.342
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	18900	1880	1	Cover	17.15	18.4	1.334			0.15	0.542	0.723
	LTE Band 2C	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI 2	18900+19098	1880+1899.8	1		17.03	18.4	1.371			0.03	0.512	0.702
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	18900	1880	2		17.15	18.4	1.334			-0.08	0.567	0.756
	LTE Band 2	20M	QPSK	1	0	Right Cheek	0mm	Ant 8	DSI 2	18900	1880	1		23.11	24.00	1.227			0.05	0.186	0.228
	LTE Band 2	20M	QPSK	50	0	Right Cheek	0mm	Ant 8	DSI 2	18900	1880	1		22.99	24.00	1.262			0.06	0.150	0.189
	LTE Band 2	20M	QPSK	1	0	Right Tilted	0mm	Ant 8	DSI 2	18900	1880	1		23.11	24.00	1.227			-0.09	0.096	0.118
	LTE Band 2	20M	QPSK	50	0	Right Tilted	0mm	Ant 8	DSI 2	18900	1880	1		22.99	24.00	1.262			-0.08	0.077	0.097
	LTE Band 2	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	18900	1880	1		23.11	24.00	1.227			0.13	0.192	0.236
	LTE Band 2	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 2	18900	1880	1		22.99	24.00	1.262			0.12	0.158	0.199
	LTE Band 2	20M	QPSK	1	0	Left Tilted	0mm	Ant 8	DSI 2	18900	1880	1		23.11	24.00	1.227			0.03	0.112	0.137
	LTE Band 2	20M	QPSK	50	0	Left Tilted	0mm	Ant 8	DSI 2	18900	1880	1		22.99	24.00	1.262			0.18	0.089	0.112
	LTE Band 2C	20M	QPSK	1	99	Left Cheek	0mm	Ant 8	DSI 2	18900+19098	1880+1899.8	1		22.98	24	1.265			0.03	0.166	0.210
07	LTE Band 7	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	21100	2535	1		13.14	13.70	1.138			0.04	0.671	0.764
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2	21100	2535	1		13.10	13.70	1.148			0.17	0.532	0.611
	LTE Band 7	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 2	21100	2535	1		13.14	13.70	1.138			-0.15	0.504	0.574
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2	21100	2535	1		13.10	13.70	1.148			0.18	0.405	0.465
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 2	21100	2535	1		13.14	13.70	1.138			0.05	0.159	0.181
	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 2	21100	2535	1		13.10	13.70	1.148			0.04	0.126	0.145
	LTE Band 7	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 2	21100	2535	1		13.14	13.70	1.138			0.15	0.140	0.159
	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 2	21100	2535	1		13.10	13.70	1.148			0.03	0.112	0.129
	LTE Band 7_PA (Reference Designator)	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	21100	2535	1		13.14	13.7	1.138			0.02	0.356	0.405
	LTE Band 7C	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI 2	21100+21298	2535+2554.8	1		13.01	13.7	1.172			0.01	0.616	0.722
	LTE Band 7	20M	QPSK	1	0	Right Cheek	0mm	Ant 8	DSI 2	21100	2535	1		23.58	24.00	1.102			0.16	0.132	0.145
	LTE Band 7	20M	QPSK	50	0	Right Cheek	0mm	Ant 8	DSI 2	21100	2535	1		23.56	24.00	1.107			-0.10	0.103	0.114
	LTE Band 7	20M	QPSK	1	0	Right Tilted	0mm	Ant 8	DSI 2	21100	2535	1		23.58	24.00	1.102			0.07	0.112	0.123
	LTE Band 7	20M	QPSK	50	0	Right Tilted	0mm	Ant 8	DSI 2	21100	2535	1		23.56	24.00	1.107			0.18	0.087	0.096
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	21100	2535	1		23.58	24.00	1.102			-0.10	0.228	0.251
	LTE Band 7	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 2	21100	2535	1		23.56	24.00	1.107			0.01	0.184	0.204
	LTE Band 7	20M	QPSK	1	0	Left Tilted	0mm	Ant 8	DSI 2	21100	2535	1		23.58	24.00	1.102			-0.15	0.054	0.060
	LTE Band 7	20M	QPSK	50	0	Left Tilted	0mm	Ant 8	DSI 2	21100	2535	1		23.56	24.00	1.107			0.19	0.043	0.048
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	21100	2535	1	Cover	23.58	24	1.102			-0.09	0.201	0.222
	LTE Band 7_PA (Reference Designator)	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	21100	2535	1		23.58	24	1.102			0.01	0.162	0.179
	LTE Band 7C	20M	QPSK	1	99	Left Cheek	0mm	Ant 8	DSI 2	21100+21298	2535+2554.8	1		23.41	24	1.146			0.02	0.199	0.228
	LTE Band 7	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	21100	2535	2		23.58	24	1.102			0.1	0.209	0.230
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	1		23.35	24.00	1.161			0.07	0.106	0.123
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 0	DSI 2	23095	707.5	1		23.31	24.00	1.172			-0.18	0.084	0.098
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	1		23.35	24.00	1.161			0.03	0.068	0.079
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 0	DSI 2	23095	707.5	1		23.31	24.00	1.172			-0.15	0.056	0.066
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	1		23.35	24.00	1.161			-0.15	0.103	0.120
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 0	DSI 2	23095	707.5	1		23.31	24.00	1.172			0.11	0.080	0.094
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	1		23.35	24.00	1.161			-0.08	0.054	0.063
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 0	DSI 2	23095	707.5	1		23.31	24.00	1.172			-0.17	0.044	0.052
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 2	23095	707.5	1		22.83	24.00	1.309			0.08	0.552	0.723
	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI 2	23095	707.5	1		22.80	24.00	1.318			0.01	0.480	0.633
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 2	23095	707.5	1		22.83	24.00	1.309			0.03	0.120	0.157
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI 2	23095	707.5	1		22.80	24.00	1.318			-0.08	0.102	0.134
08	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	1		22.83	24.00	1.309			0.01	0.734	0.961
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	1		22.80	24.00	1.318			-0.08	0.634	0.836
	LTE Band 12	10M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 2	23095	707.5	1		22.74	24.00	1.337			0.10	0.671	0.897
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 2	23095	707.5	1		22.83	24.00	1.309			-0.18	0.126	0.165
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI 2	23095	707.5	1		22.80	24.00	1.318			0.10	0.107	0.141
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 2	23230	782	1		23.51	24.00	1.119			-0.08	0.147	0.164
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 0	DSI 2	23230	782	1		23.40	24.00	1.148			-0.04	0.120	0.138
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 0	DSI 2	23230	782	1		23.51	24.00	1.119			-0.08	0.097	0.109
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 0	DSI 2	23230	782	1		23.40	24.00	1.148			0.17	0.082	0.094
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 0	DSI 2	23230	782	1		23.51	24.00	1.119			0.18	0.144	0.161



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	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 0	DSI 2	23230	782	1		23.40	24.00	1.148			-0.04	0.116	0.133
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 0	DSI 2	23230	782	1		23.51	24.00	1.119			-0.08	0.070	0.078
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 0	DSI 2	23230	782	1		23.40	24.00	1.148			-0.13	0.060	0.069
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 2	23230	782	1	Cover	23.51	24	1.119			0.11	0.136	0.152
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 2	23230	782	2		23.51	24	1.119			-0.18	0.141	0.158
	LTE Band 13	10M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 2	23230	782	1		21.72	22.90	1.312			-0.05	0.526	0.690
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	Ant 1	DSI 2	23230	782	1		21.65	22.90	1.334			-0.12	0.425	0.567
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 2	23230	782	1		21.72	22.90	1.312			0.18	0.115	0.151
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	Ant 1	DSI 2	23230	782	1		21.65	22.90	1.334			0.14	0.095	0.127
09	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	23230	782	1		21.72	22.90	1.312			-0.07	0.755	0.991
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	Ant 1	DSI 2	23230	782	1		21.65	22.90	1.334			-0.07	0.632	0.843
	LTE Band 13	10M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 2	23230	782	1		21.55	22.90	1.365			0.09	0.644	0.879
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 2	23230	782	1		21.72	22.90	1.312			-0.13	0.125	0.164
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	Ant 1	DSI 2	23230	782	1		21.65	22.90	1.334			-0.09	0.102	0.136
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	23230	782	1	Cover	21.72	22.9	1.312			-0.05	0.738	0.968
	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	23230	782	2		21.72	22.9	1.312			0.1	0.739	0.970
	LTE Band 26	15M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	1		23.63	24.00	1.089			-0.13	0.123	0.134
	LTE Band 26	15M	QPSK	36	0	Right Cheek	0mm	Ant 0	DSI 2	26865	831.5	1		23.48	24.00	1.127			0.06	0.093	0.105
	LTE Band 26	15M	QPSK	1	0	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	1		23.63	24.00	1.089			-0.03	0.074	0.081
	LTE Band 26	15M	QPSK	36	0	Right Tilted	0mm	Ant 0	DSI 2	26865	831.5	1		23.48	24.00	1.127			-0.03	0.056	0.063
	LTE Band 26	15M	QPSK	1	0	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	1		23.63	24.00	1.089			0.08	0.129	0.140
	LTE Band 26	15M	QPSK	36	0	Left Cheek	0mm	Ant 0	DSI 2	26865	831.5	1		23.48	24.00	1.127			-0.07	0.097	0.109
	LTE Band 26	15M	QPSK	1	0	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	1		23.63	24.00	1.089			0.05	0.060	0.065
	LTE Band 26	15M	QPSK	36	0	Left Tilted	0mm	Ant 0	DSI 2	26865	831.5	1		23.48	24.00	1.127			-0.11	0.046	0.052
	LTE Band 26	15M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 2	26865	831.5	1		20.89	21.90	1.262			0.13	0.485	0.612
	LTE Band 26	15M	QPSK	36	0	Right Cheek	0mm	Ant 1	DSI 2	26865	831.5	1		20.85	21.90	1.274			-0.03	0.400	0.510
	LTE Band 26	15M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 2	26865	831.5	1		20.89	21.90	1.262			0.19	0.102	0.129
	LTE Band 26	15M	QPSK	36	0	Right Tilted	0mm	Ant 1	DSI 2	26865	831.5	1		20.85	21.90	1.274			-0.09	0.084	0.107
10	LTE Band 26	15M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	1		20.89	21.90	1.262			-0.15	0.788	0.994
	LTE Band 26	15M	QPSK	36	0	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	1		20.85	21.90	1.274			-0.12	0.643	0.819
	LTE Band 26	15M	QPSK	75	0	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	1		20.79	21.90	1.291			0.07	0.670	0.865
	LTE Band 26	15M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 2	26865	831.5	1		20.89	21.90	1.262			-0.18	0.116	0.146
	LTE Band 26	15M	QPSK	36	0	Left Tilted	0mm	Ant 1	DSI 2	26865	831.5	1		20.85	21.90	1.274			-0.06	0.095	0.121
	LTE Band 26	15M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	1	Cover	20.89	21.9	1.262			-0.08	0.725	0.915
	LTE Band 26	15M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	26865	831.5	2		20.89	21.9	1.262			0.12	0.756	0.954
11	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	132322	1745	1		18.03	18.70	1.167			-0.06	0.656	0.766
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2	132322	1745	1		17.98	18.70	1.18			-0.02	0.491	0.579
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 2	132322	1745	1		18.03	18.70	1.167			-0.04	0.545	0.636
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2	132322	1745	1		17.98	18.70	1.18			-0.03	0.428	0.505
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 2	132322	1745	1		18.03	18.70	1.167			-0.11	0.341	0.398
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 2	132322	1745	1		17.98	18.70	1.18			-0.12	0.271	0.320
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 2	132322	1745	1		18.03	18.70	1.167			-0.03	0.409	0.477
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 2	132322	1745	1		17.98	18.70	1.18			0.15	0.322	0.380
	LTE Band 66_PA (Reference Designator)	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	132322	1745	1		18.03	18.7	1.167			0.05	0.316	0.369
	LTE Band 66C	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI 2	132322+ 132520	1745+ 1764.8	1		17.89	18.7	1.205			0.01	0.621	0.748
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	Ant 8	DSI 2	132322	1745	1		23.31	24.00	1.172			-0.12	0.171	0.200
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	Ant 8	DSI 2	132322	1745	1		23.25	24.00	1.189			0.03	0.133	0.158
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	Ant 8	DSI 2	132322	1745	1		23.31	24.00	1.172			-0.16	0.099	0.116
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	Ant 8	DSI 2	132322	1745	1		23.25	24.00	1.189			-0.02	0.087	0.103
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	132322	1745	1		23.31	24.00	1.172			0.15	0.178	0.209
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 2	132322	1745	1		23.25	24.00	1.189			-0.09	0.138	0.164
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	Ant 8	DSI 2	132322	1745	1		23.31	24.00	1.172			0.11	0.082	0.096
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	Ant 8	DSI 2	132322	1745	1		23.25	24.00	1.189			-0.05	0.069	0.082
	LTE Band 66_PA (Reference Designator)	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	132322	1745	1		23.31	24	1.172			0.01	0.08	0.094
	LTE Band 66C	20M	QPSK	1	99	Left Cheek	0mm	Ant 8	DSI 2	132322+ 132520	1745+ 1764.8	1		23.21	24	1.199			0.05	0.145	0.174
	LTE Band 71	20M	QPSK	1	0	Right Cheek	0mm	Ant 0	DSI 2	133297	680.5	1		23.61	24.00	1.094			-0.08	0.086	0.094
	LTE Band 71	20M	QPSK	50	0	Right Cheek	0mm	Ant 0	DSI 2	133297	680.5	1		23.55	24.00	1.109			0.16	0.073	0.081
	LTE Band 71	20M	QPSK	1	0	Right Tilted	0mm	Ant 0	DSI 2	133297	680.5	1		23.61	24.00	1.094			0.05	0.051	0.056
	LTE Band 71	20M	QPSK	50	0	Right Tilted	0mm	Ant 0	DSI 2	133297	680.5	1		23.55	24.00	1.109			0.05	0.001	0.001
	LTE Band 71	20M	QPSK	1	0	Left Cheek	0mm	Ant 0	DSI 2	133297	680.5	1		23.61	24.00	1.094			-0.03	0.096	0.105
	LTE Band 71	20M	QPSK	50	0	Left Cheek	0mm	Ant 0	DSI 2	133297	680.5	1		23.55	24.00	1.109			-0.15	0.080	0.089
	LTE Band 71	20M	QPSK	1	0	Left Tilted	0mm	Ant 0	DSI 2	133297	680.5	1		23.61	24.00	1.094			0.02	0.046	0.050
	LTE Band 71	20M	QPSK	50	0	Left Tilted	0mm	Ant 0	DSI 2	133297	680.5	1		23.55	24.00	1.109			0.07	0.001	0.001
	LTE Band 71	20M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 2	133297	680.5	1		23.65	24.00	1.084			0.07	0.620	0.672
	LTE Band 71	20M	QPSK	50	0	Right Cheek	0mm	Ant 1	DSI 2	133297	680.5	1		23.62	24.00	1.091			-0.15	0.506	0.552
	LTE Band 71	20M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 2	133297	680.5	1		23.65	24.00	1.084			-0.15	0.123	0.133
	LTE Band 71	20M	QPSK	50	0	Right Tilted	0mm	Ant 1	DSI 2	133297	680.5	1		23.62	24.00	1.091			-0.08	0.101	0.110
12	LTE Band 71	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	133297	680.5	1		23.65	24.00	1.084			-0.13	0.730	0.791
	LTE Band 71	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 2	133297	680.5	1		23.62	24.00	1.091			-0.04	0.597	0.651
	LTE Band 71	20M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 2</												



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	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	1		19.84	20.60	1.191	62.9	1.006	0.08	0.278	0.333
	LTE Band 41	20M	QPSK	50	0	Right Cheek	0mm	Ant 1	DSI 2	40620	2593	1		19.81	20.60	1.199	62.9	1.006	0.10	0.233	0.281
	LTE Band 41	20M	QPSK	1	0	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	1		19.84	20.60	1.191	62.9	1.006	0.10	0.063	0.075
	LTE Band 41	20M	QPSK	50	0	Right Tilted	0mm	Ant 1	DSI 2	40620	2593	1		19.81	20.60	1.199	62.9	1.006	0.12	0.048	0.058
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	1		19.84	20.60	1.191	62.9	1.006	0.03	0.823	0.986
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	39750	2506	1		19.78	20.60	1.208	62.9	1.006	0.08	0.593	0.721
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	40185	2549.5	1		19.81	20.60	1.199	62.9	1.006	-0.17	0.691	0.833
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	41055	2636.5	1		19.75	20.60	1.216	62.9	1.006	-0.03	0.673	0.823
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	41490	2680	1		19.73	20.60	1.222	62.9	1.006	0.14	0.472	0.580
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	1		19.81	20.60	1.199	62.9	1.006	0.11	0.645	0.778
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 2	39750	2506	1		19.70	20.60	1.23	62.9	1.006	-0.05	0.474	0.587
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 2	40185	2549.5	1		19.73	20.60	1.222	62.9	1.006	0.18	0.553	0.680
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 2	41055	2636.5	1		19.66	20.60	1.242	62.9	1.006	0.14	0.529	0.661
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 1	DSI 2	41490	2680	1		19.65	20.60	1.245	62.9	1.006	-0.17	0.363	0.455
	LTE Band 41	20M	QPSK	100	0	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	1		19.75	20.60	1.216	62.9	1.006	0.17	0.610	0.746
	LTE Band 41	20M	QPSK	1	0	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	1		19.84	20.60	1.191	62.9	1.006	-0.05	0.052	0.062
	LTE Band 41	20M	QPSK	50	0	Left Tilted	0mm	Ant 1	DSI 2	40620	2593	1		19.81	20.60	1.199	62.9	1.006	0.01	0.041	0.049
13	LTE Band 41_HPUE	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	1		21.46	22.20	1.186	42.9	1.009	-0.09	0.830	0.993
	LTE Band 41_HPUE	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	1	Cover	21.46	22.2	1.186	42.9	1.009	0.16	0.806	0.965
	LTE Band 41C_HPUE	20M	QPSK	1	99	Left Cheek	0mm	Ant 1	DSI 2	40620+ 40818	2593+ 2612.8	1		21.33	22.2	1.222	42.9	1.009	0.01	0.769	0.948
	LTE Band 41_HPUE	20M	QPSK	1	0	Left Cheek	0mm	Ant 1	DSI 2	40620	2593	2		21.46	22.2	1.186	42.9	1.009	0.08	0.789	0.944
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	40620	2593	1		14.35	15.70	1.365	62.9	1.006	0.01	0.534	0.733
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	39750	2506	1		14.30	15.70	1.38	62.9	1.006	0.10	0.491	0.682
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	40185	2549.5	1		14.32	15.70	1.374	62.9	1.006	0.01	0.566	0.782
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	41055	2636.5	1		14.28	15.70	1.387	62.9	1.006	-0.17	0.415	0.579
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	41490	2680	1		14.26	15.70	1.393	62.9	1.006	0.04	0.375	0.526
	LTE Band 41	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2	40620	2593	1		14.30	15.70	1.38	62.9	1.006	-0.01	0.424	0.589
	LTE Band 41	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 2	40620	2593	1		14.35	15.70	1.365	62.9	1.006	0.13	0.421	0.578
	LTE Band 41	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2	40620	2593	1		14.30	15.70	1.38	62.9	1.006	-0.10	0.330	0.458
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 2	40620	2593	1		14.35	15.70	1.365	62.9	1.006	0.19	0.118	0.162
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 2	40620	2593	1		14.30	15.70	1.38	62.9	1.006	-0.15	0.092	0.128
	LTE Band 41	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 2	40620	2593	1		14.35	15.70	1.365	62.9	1.006	-0.08	0.137	0.188
	LTE Band 41	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 2	40620	2593	1		14.30	15.70	1.38	62.9	1.006	-0.13	0.110	0.153
	LTE Band 41_HPUE	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	40620	2593	1		16.11	17.30	1.315	42.9	1.009	-0.01	0.574	0.762
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	40185	2549.5	1	Cover	14.32	15.7	1.374	62.9	1.006	0.05	0.539	0.745
	LTE Band 41C	20M	QPSK	1	99	Right Cheek	0mm	Ant 4	DSI 2	40185+ 40383	2549.5+ 2569.3	1		14.13	15.7	1.435	62.9	1.006	0.05	0.521	0.752
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	40185	2549.5	2		14.32	15.7	1.374	62.9	1.006	-0.17	0.531	0.734
	LTE Band 41	20M	QPSK	1	0	Right Cheek	0mm	Ant 8	DSI 2	40620	2593	1		23.75	24.00	1.059	62.9	1.006	0.16	0.063	0.067
	LTE Band 41	20M	QPSK	50	0	Right Cheek	0mm	Ant 8	DSI 2	40620	2593	1		23.72	24.00	1.067	62.9	1.006	0.13	0.046	0.049
	LTE Band 41	20M	QPSK	1	0	Right Tilted	0mm	Ant 8	DSI 2	40620	2593	1		23.75	24.00	1.059	62.9	1.006	-0.18	0.057	0.061
	LTE Band 41	20M	QPSK	50	0	Right Tilted	0mm	Ant 8	DSI 2	40620	2593	1		23.72	24.00	1.067	62.9	1.006	0.02	0.047	0.050
	LTE Band 41	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	40620	2593	1		23.75	24.00	1.059	62.9	1.006	0.16	0.120	0.128
	LTE Band 41	20M	QPSK	50	0	Left Cheek	0mm	Ant 8	DSI 2	40620	2593	1		23.72	24.00	1.067	62.9	1.006	-0.03	0.098	0.105
	LTE Band 41	20M	QPSK	1	0	Left Tilted	0mm	Ant 8	DSI 2	40620	2593	1		23.75	24.00	1.059	62.9	1.006	0.07	0.001	0.001
	LTE Band 41	20M	QPSK	50	0	Left Tilted	0mm	Ant 8	DSI 2	40620	2593	1		23.72	24.00	1.067	62.9	1.006	-0.01	0.001	0.001
	LTE Band 41_HPUE	20M	QPSK	1	0	Left Cheek	0mm	Ant 8	DSI 2	40620	2593	1		26.69	27.00	1.074	42.9	1.009	0.01	0.166	0.180
	LTE Band 41C_HPUE	20M	QPSK	1	99	Left Cheek	0mm	Ant 8	DSI 2	40620+ 40818	2593+ 2612.8	1		26.53	27	1.114	42.9	1.009	0.06	0.148	0.166
14	LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	42590	3500	1		16.25	17.30	1.274	62.9	1.006	0.01	0.605	0.775
	LTE Band 42	20M	QPSK	50	0	Right Cheek	0mm	Ant 4	DSI 2	42590	3500	1		16.23	17.30	1.279	62.9	1.006	0.03	0.477	0.614
	LTE Band 42	20M	QPSK	1	0	Right Tilted	0mm	Ant 4	DSI 2	42590	3500	1		16.25	17.30	1.274	62.9	1.006	-0.18	0.465	0.596
	LTE Band 42	20M	QPSK	50	0	Right Tilted	0mm	Ant 4	DSI 2	42590	3500	1		16.23	17.30	1.279	62.9	1.006	0.08	0.372	0.479
	LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 4	DSI 2	42590	3500	1		16.25	17.30	1.274	62.9	1.006	0.11	0.183	0.235
	LTE Band 42	20M	QPSK	50	0	Left Cheek	0mm	Ant 4	DSI 2	42590	3500	1		16.23	17.30	1.279	62.9	1.006	0.14	0.145	0.187
	LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 4	DSI 2	42590	3500	1		16.25	17.30	1.274	62.9	1.006	0.01	0.193	0.247
	LTE Band 42	20M	QPSK	50	0	Left Tilted	0mm	Ant 4	DSI 2	42590	3500	1		16.23	17.30	1.279	62.9	1.006	0.04	0.155	0.199
	LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	42590	3500	1	Cover	16.25	17.3	1.274	62.9	1.006	-0.03	0.576	0.738
	LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 4	DSI 2	42590	3500	2		16.25	17.3	1.274	62.9	1.006	-0.03	0.555	0.711
	LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 6	DSI 2	42590	3500	1		14.75	15.60	1.216	62.9	1.006	0.01	0.626	0.766
	LTE Band 42	20M	QPSK	50	0	Right Cheek	0mm	Ant 6	DSI 2	42590	3500	1		14.73	15.60	1.222	62.9	1.006	0.03	0.449	0.552
	LTE Band 42	20M	QPSK	1	0	Right Tilted	0mm	Ant 6	DSI 2	42590	3500	1		14.75	15.60	1.216	62.9	1.006	-0.18	0.129	0.158
	LTE Band 42	20M	QPSK	50	0	Right Tilted	0mm	Ant 6	DSI 2	42590	3500	1		14.73	15.60	1.222	62.9	1.006	0.08	0.105	0.129
	LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 6	DSI 2	42590	3500	1		14.75	15.60	1.216	62.9	1.006	0.11	0.091	0.111
	LTE Band 42	20M	QPSK	50	0	Left Cheek	0mm	Ant 6	DSI 2	42590	3500	1		14.73	15.60	1.222	62.9	1.006	0.14	0.074	0.091
	LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 6	DSI 2	42590	3500	1		14.75	15.60	1.216	62.9	1.006	0.17	0.052	0.064
	LTE Band 42	20M	QPSK	50	0	Left Tilted	0mm	Ant 6	DSI 2	42590	3500	1		14.73	15.60	1.222	62.9	1.006	-0.05	0.042	0.052
	LTE Band 42	20M	QPSK	1	0	Right Cheek	0mm	Ant 6	DSI 2	4259											



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	LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 7	DSI 2	42590	3500	1		21.91	22.00	1.021	62.9	1.006	0.09	0.105	0.108
	LTE Band 42	20M	QPSK	50	0	Left Cheek	0mm	Ant 7	DSI 2	42590	3500	1		20.85	21.00	1.035	62.9	1.006	-0.08	0.076	0.079
	LTE Band 42	20M	QPSK	1	0	Left Tilted	0mm	Ant 7	DSI 2	42590	3500	1		21.91	22.00	1.021	62.9	1.006	0.10	0.093	0.096
	LTE Band 42	20M	QPSK	50	0	Left Tilted	0mm	Ant 7	DSI 2	42590	3500	1		20.85	21.00	1.035	62.9	1.006	-0.18	0.074	0.077
	LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 7	DSI 2	42590	3500	1	Cover	21.91	22	1.021	62.9	1.006	0.02	0.098	0.101
	LTE Band 42C	20M	QPSK	1	99	Left Cheek	0mm	Ant 7	DSI 2	42590+ 42788	3500+ 3519.8	1		21.81	22	1.045	62.9	1.006	0.03	0.098	0.103
	LTE Band 42	20M	QPSK	1	0	Left Cheek	0mm	Ant 7	DSI 2	42590	3500	2		21.91	22	1.021	62.9	1.006	0.11	0.091	0.093

【FR1 SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	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)
	FR1 n2	40M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	376000	1880	1		17.75	18.70	1.245			-0.03	0.582	0.725
15	FR1 n2	40M	BPSK	108	54	Right Cheek	0mm	Ant 4	DSI 2	376000	1880	1		17.69	18.70	1.262			0.04	0.605	0.764
	FR1 n2	40M	BPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	376000	1880	1		17.75	18.70	1.245			-0.12	0.413	0.514
	FR1 n2	40M	BPSK	108	54	Right Tilted	0mm	Ant 4	DSI 2	376000	1880	1		17.69	18.70	1.262			-0.03	0.439	0.554
	FR1 n2	40M	BPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	376000	1880	1		17.75	18.70	1.245			0.12	0.306	0.381
	FR1 n2	40M	BPSK	108	54	Left Cheek	0mm	Ant 4	DSI 2	376000	1880	1		17.69	18.70	1.262			0.02	0.322	0.406
	FR1 n2	40M	BPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	376000	1880	1		17.75	18.70	1.245			0.07	0.345	0.430
	FR1 n2	40M	BPSK	108	54	Left Tilted	0mm	Ant 4	DSI 2	376000	1880	1		17.69	18.70	1.262			-0.10	0.353	0.445
	FR1 n2	40M	BPSK	1	1	Right Cheek	0mm	Ant 8	DSI 2	376000	1880	1		23.26	24.00	1.186			0.13	0.122	0.145
	FR1 n2	40M	BPSK	108	54	Right Cheek	0mm	Ant 8	DSI 2	376000	1880	1		23.25	24.00	1.189			-0.03	0.121	0.144
	FR1 n2	40M	BPSK	1	1	Right Tilted	0mm	Ant 8	DSI 2	376000	1880	1		23.26	24.00	1.186			-0.17	0.056	0.066
	FR1 n2	40M	BPSK	108	54	Right Tilted	0mm	Ant 8	DSI 2	376000	1880	1		23.25	24.00	1.189			0.00	0.067	0.080
	FR1 n2	40M	BPSK	1	1	Left Cheek	0mm	Ant 8	DSI 2	376000	1880	1		23.26	24.00	1.186			0.03	0.124	0.147
	FR1 n2	40M	BPSK	108	54	Left Cheek	0mm	Ant 8	DSI 2	376000	1880	1		23.25	24.00	1.189			0.16	0.117	0.139
	FR1 n2	40M	BPSK	1	1	Left Tilted	0mm	Ant 8	DSI 2	376000	1880	1		23.26	24.00	1.186			-0.06	0.065	0.077
	FR1 n2	40M	BPSK	108	54	Left Tilted	0mm	Ant 8	DSI 2	376000	1880	1		23.25	24.00	1.189			0.09	0.070	0.083
16	FR1 n7	50M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	507000	2535	1		13.30	14.20	1.23			-0.06	0.629	0.774
	FR1 n7	50M	BPSK	135	68	Right Cheek	0mm	Ant 4	DSI 2	507000	2535	1		13.26	14.20	1.242			0.15	0.621	0.771
	FR1 n7	50M	BPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	507000	2535	1		13.30	14.20	1.23			-0.08	0.503	0.619
	FR1 n7	50M	BPSK	135	68	Right Tilted	0mm	Ant 4	DSI 2	507000	2535	1		13.26	14.20	1.242			-0.08	0.464	0.576
	FR1 n7	50M	BPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	507000	2535	1		13.30	14.20	1.23			0.01	0.147	0.181
	FR1 n7	50M	BPSK	135	68	Left Cheek	0mm	Ant 4	DSI 2	507000	2535	1		13.26	14.20	1.242			-0.11	0.139	0.173
	FR1 n7	50M	BPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	507000	2535	1		13.30	14.20	1.23			-0.05	0.135	0.166
	FR1 n7	50M	BPSK	135	68	Left Tilted	0mm	Ant 4	DSI 2	507000	2535	1		13.26	14.20	1.242			0.14	0.128	0.159
	FR1 n7_PA (Reference Designator)	50M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	507000	2535	1		13.3	14.2	1.23			0.06	0.504	0.620
	FR1 n7	50M	BPSK	1	1	Right Cheek	0mm	Ant 8	DSI 2	507000	2535	1		23.59	24.00	1.099			0.08	0.119	0.131
	FR1 n7	50M	BPSK	135	68	Right Cheek	0mm	Ant 8	DSI 2	507000	2535	1		23.67	24.00	1.079			0.16	0.110	0.119
	FR1 n7	50M	BPSK	1	1	Right Tilted	0mm	Ant 8	DSI 2	507000	2535	1		23.59	24.00	1.099			-0.02	0.092	0.101
	FR1 n7	50M	BPSK	135	68	Right Tilted	0mm	Ant 8	DSI 2	507000	2535	1		23.67	24.00	1.079			-0.17	0.098	0.106
	FR1 n7	50M	BPSK	1	1	Left Cheek	0mm	Ant 8	DSI 2	507000	2535	1		23.59	24.00	1.099			-0.16	0.198	0.218
	FR1 n7	50M	BPSK	135	68	Left Cheek	0mm	Ant 8	DSI 2	507000	2535	1		23.67	24.00	1.079			0.03	0.200	0.216
	FR1 n7	50M	BPSK	1	1	Left Tilted	0mm	Ant 8	DSI 2	507000	2535	1		23.59	24.00	1.099			0.06	0.059	0.065
	FR1 n7	50M	BPSK	135	68	Left Tilted	0mm	Ant 8	DSI 2	507000	2535	1		23.67	24.00	1.079			0.07	0.050	0.054
	FR1 n7_PA (Reference Designator)	50M	BPSK	1	1	Left Cheek	0mm	Ant 8	DSI 2	507000	2535	1		23.59	24	1.099			0.05	0.149	0.164
	FR1 n26	20M	BPSK	1	1	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	1		23.64	24.00	1.086			0.02	0.087	0.094
	FR1 n26	20M	BPSK	50	28	Right Cheek	0mm	Ant 0	DSI 2	166300	831.5	1		23.54	24.00	1.112			-0.19	0.078	0.087
	FR1 n26	20M	BPSK	1	1	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	1		23.64	24.00	1.086			-0.17	0.059	0.064
	FR1 n26	20M	BPSK	50	28	Right Tilted	0mm	Ant 0	DSI 2	166300	831.5	1		23.54	24.00	1.112			-0.16	0.051	0.057
	FR1 n26	20M	BPSK	1	1	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	1		23.64	24.00	1.086			0.00	0.086	0.093
	FR1 n26	20M	BPSK	50	28	Left Cheek	0mm	Ant 0	DSI 2	166300	831.5	1		23.54	24.00	1.112			0.14	0.079	0.088
	FR1 n26	20M	BPSK	1	1	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	1		23.64	24.00	1.086			-0.01	0.045	0.049
	FR1 n26	20M	BPSK	50	28	Left Tilted	0mm	Ant 0	DSI 2	166300	831.5	1		23.54	24.00	1.112			0.02	0.001	0.001
	FR1 n26	20M	BPSK	1	1	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	1		21.55	22.50	1.245			-0.12	0.487	0.606
	FR1 n26	20M	BPSK	50	28	Right Cheek	0mm	Ant 1	DSI 2	166300	831.5	1		21.52	22.50	1.253			0.07	0.520	0.652
	FR1 n26	20M	BPSK	1	1	Right Tilted	0mm	Ant 1	DSI 2	166300	831.5	1		21.55	22.50	1.245			0.04	0.107	0.133
	FR1 n26	20M	BPSK	50	28	Right Tilted	0mm	Ant 1	DSI 2	166300	831.5	1		21.52	22.50	1.253			0.11	0.114	0.143
	FR1 n26	20M	BPSK	1	1	Left Cheek	0mm	Ant 1	DSI 2	166300	831.5	1		21.55	22.50	1.245			-0.13	0.733	0.913
17	FR1 n26	20M	BPSK	50	28	Left Cheek	0mm	Ant 1	DSI 2	166300	831.5	1		21.52	22.50	1.253			0.11	0.792	0.992
	FR1 n26	20M	BPSK	100	0	Left Cheek	0mm	Ant 1	DSI 2	166300	831.5	1		21.44	22.50	1.276			0.12	0.777	0.991
	FR1 n26	20M	BPSK	1	1	Left Tilted	0mm	Ant 1	DSI 2	166300	831.5	1		21.55	22.50	1.245			-0.11	0.117	0.146
	FR1 n26	20M	BPSK	50	28	Left Tilted	0mm	Ant 1	DSI 2	166300	831.5	1		21.52	22.50	1.253			0.17	0.125	0.157
18	FR1 n66	45M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	349000	1745	1		18.40	19.50	1.288			0.03	0.593	0.764
	FR1 n66	45M	BPSK	120	60	Right Cheek	0mm	Ant 4	DSI 2	349000	1745	1		18.35	19.50	1.303			-0.16	0.531	0.692
	FR1 n66	45M	BPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	349000	1745	1		18.40	19.50	1.288			0.11	0.509	0.656
	FR1 n66	45M	BPSK	120	60	Right Tilted	0mm	Ant 4	DSI 2	349000	1745	1		18.35	19.50	1.303			-0.05	0.467	0.609
	FR1 n66	45M	BPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	349000	1745	1		18.40	19.50	1.288			-0.14	0.332	0.428
	FR1 n66	45M	BPSK	120	60	Left Cheek	0mm	Ant 4	DSI 2	349000	1745	1		18.35	19.50	1.303			-0.15	0.298	0.388
	FR1 n66	45M	BPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	349000	1745	1		18.40	19.50	1.288			-0.17	0.368	0.474



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	FR1 n66	45M	BPSK	120	60	Left Tilted	0mm	Ant 4	DSI 2	349000	1745	1		18.35	19.50	1.303		0.08	0.343	0.447	
	FR1 n66_PA (Reference Designator)	45M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	349000	1745	1		18.4	19.5	1.288		0.04	0.447	0.576	
	FR1 n66	45M	BPSK	1	1	Right Cheek	0mm	Ant 8	DSI 2	349000	1745	1		23.45	24.00	1.135		0.03	0.135	0.153	
	FR1 n66	45M	BPSK	120	60	Right Cheek	0mm	Ant 8	DSI 2	349000	1745	1		23.29	24.00	1.178		0.01	0.122	0.144	
	FR1 n66	45M	BPSK	1	1	Right Tilted	0mm	Ant 8	DSI 2	349000	1745	1		23.45	24.00	1.135		0.15	0.051	0.058	
	FR1 n66	45M	BPSK	120	60	Right Tilted	0mm	Ant 8	DSI 2	349000	1745	1		23.29	24.00	1.178		0.13	0.057	0.067	
	FR1 n66	45M	BPSK	1	1	Left Cheek	0mm	Ant 8	DSI 2	349000	1745	1		23.45	24.00	1.135		-0.01	0.120	0.136	
	FR1 n66	45M	BPSK	120	60	Left Cheek	0mm	Ant 8	DSI 2	349000	1745	1		23.29	24.00	1.178		-0.13	0.119	0.140	
	FR1 n66	45M	BPSK	1	1	Left Tilted	0mm	Ant 8	DSI 2	349000	1745	1		23.45	24.00	1.135		-0.06	0.045	0.051	
	FR1 n66	45M	BPSK	120	60	Left Tilted	0mm	Ant 8	DSI 2	349000	1745	1		23.29	24.00	1.178		0.18	0.047	0.055	
	FR1 n66_PA (Reference Designator)	45M	BPSK	1	1	Right Cheek	0mm	Ant 8	DSI 2	349000	1745	1		23.45	24	1.135		0.01	0.113	0.128	
	FR1 n71	35M	BPSK	1	1	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	1		23.72	24.00	1.067		0.08	0.065	0.069	
	FR1 n71	35M	BPSK	90	45	Right Cheek	0mm	Ant 0	DSI 2	136100	680.5	1		23.71	24.00	1.069		0.06	0.075	0.080	
	FR1 n71	35M	BPSK	1	1	Right Tilted	0mm	Ant 0	DSI 2	136100	680.5	1		23.72	24.00	1.067		0.05	0.044	0.047	
	FR1 n71	35M	BPSK	90	45	Right Tilted	0mm	Ant 0	DSI 2	136100	680.5	1		23.71	24.00	1.069		-0.17	0.049	0.052	
	FR1 n71	35M	BPSK	1	1	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	1		23.72	24.00	1.067		-0.05	0.069	0.074	
	FR1 n71	35M	BPSK	90	45	Left Cheek	0mm	Ant 0	DSI 2	136100	680.5	1		23.71	24.00	1.069		-0.04	0.071	0.076	
	FR1 n71	35M	BPSK	1	1	Left Tilted	0mm	Ant 0	DSI 2	136100	680.5	1		23.72	24.00	1.067		0.09	0.001	0.001	
	FR1 n71	35M	BPSK	90	45	Left Tilted	0mm	Ant 0	DSI 2	136100	680.5	1		23.71	24.00	1.069		-0.16	0.001	0.001	
	FR1 n71	35M	BPSK	1	1	Right Cheek	0mm	Ant 1	DSI 2	136100	680.5	1		23.23	24.00	1.194		-0.18	0.435	0.519	
	FR1 n71	35M	BPSK	90	45	Right Cheek	0mm	Ant 1	DSI 2	136100	680.5	1		23.21	24.00	1.199		-0.17	0.449	0.538	
	FR1 n71	35M	BPSK	1	1	Right Tilted	0mm	Ant 1	DSI 2	136100	680.5	1		23.23	24.00	1.194		0.12	0.094	0.112	
	FR1 n71	35M	BPSK	90	45	Right Tilted	0mm	Ant 1	DSI 2	136100	680.5	1		23.21	24.00	1.199		0.01	0.092	0.110	
	FR1 n71	35M	BPSK	1	1	Left Cheek	0mm	Ant 1	DSI 2	136100	680.5	1		23.23	24.00	1.194		0.02	0.539	0.644	
19	FR1 n71	35M	BPSK	90	45	Left Cheek	0mm	Ant 1	DSI 2	136100	680.5	1		23.21	24.00	1.199		0.04	0.553	0.663	
	FR1 n71	35M	BPSK	1	1	Left Tilted	0mm	Ant 1	DSI 2	136100	680.5	1		23.23	24.00	1.194		0.07	0.100	0.119	
	FR1 n71	35M	BPSK	90	45	Left Tilted	0mm	Ant 1	DSI 2	136100	680.5	1		23.21	24.00	1.199		0.04	0.100	0.120	
	FR1 n41	100M	BPSK	1	1	Right Cheek	0mm	Ant 1	DSI 2	518598	2592.99	1		16.73	17.80	1.279		0.02	0.249	0.318	
	FR1 n41	100M	BPSK	135	69	Right Cheek	0mm	Ant 1	DSI 2	518598	2592.99	1		16.71	17.80	1.285		-0.11	0.316	0.406	
	FR1 n41	100M	BPSK	1	1	Right Tilted	0mm	Ant 1	DSI 2	518598	2592.99	1		16.73	17.80	1.279		0.09	0.053	0.068	
	FR1 n41	100M	BPSK	135	69	Right Tilted	0mm	Ant 1	DSI 2	518598	2592.99	1		16.71	17.80	1.285		0.10	0.052	0.067	
	FR1 n41	100M	BPSK	1	1	Left Cheek	0mm	Ant 1	DSI 2	518598	2592.99	1		16.73	17.80	1.279		-0.04	0.587	0.751	
20	FR1 n41	100M	BPSK	135	69	Left Cheek	0mm	Ant 1	DSI 2	518598	2592.99	1		16.71	17.80	1.285		-0.04	0.768	0.987	
	FR1 n41	100M	BPSK	270	0	Left Cheek	0mm	Ant 1	DSI 2	518598	2592.99	1		16.43	17.80	1.371		0.15	0.702	0.962	
	FR1 n41	100M	BPSK	1	1	Left Tilted	0mm	Ant 1	DSI 2	518598	2592.99	1		16.73	17.80	1.279		0.09	0.041	0.052	
	FR1 n41	100M	BPSK	135	69	Left Tilted	0mm	Ant 1	DSI 2	518598	2592.99	1		16.71	17.80	1.285		-0.16	0.054	0.069	
	FR1 n41_HPUE	100M	BPSK	1	1	Left Cheek	0mm	Ant 1	DSI 2	518598	2592.99	1		19.77	20.80	1.268	50.0	1.0	0.05	0.746	0.946
	FR1 n41	100M	BPSK	1	1	Right Cheek	0mm	Ant 3	DSI 2	518598	2592.99	1		15.55	16.60	1.274		0.03	0.185	0.236	
	FR1 n41	100M	BPSK	135	69	Right Cheek	0mm	Ant 3	DSI 2	518598	2592.99	1		15.52	16.60	1.282		0.16	0.187	0.240	
	FR1 n41	100M	BPSK	1	1	Right Tilted	0mm	Ant 3	DSI 2	518598	2592.99	1		15.55	16.60	1.274		-0.06	0.131	0.167	
	FR1 n41	100M	BPSK	135	69	Right Tilted	0mm	Ant 3	DSI 2	518598	2592.99	1		15.52	16.60	1.282		0.14	0.134	0.172	
	FR1 n41	100M	BPSK	1	1	Left Cheek	0mm	Ant 3	DSI 2	518598	2592.99	1		15.55	16.60	1.274		0.06	0.605	0.771	
	FR1 n41	100M	BPSK	135	69	Left Cheek	0mm	Ant 3	DSI 2	518598	2592.99	1		15.52	16.60	1.282		-0.09	0.557	0.714	
	FR1 n41	100M	BPSK	1	1	Left Tilted	0mm	Ant 3	DSI 2	518598	2592.99	1		15.55	16.60	1.274		-0.06	0.406	0.517	
	FR1 n41	100M	BPSK	135	69	Left Tilted	0mm	Ant 3	DSI 2	518598	2592.99	1		15.52	16.60	1.282		-0.19	0.381	0.488	
	FR1 n41	100M	BPSK	1	1	Left Cheek	0mm	Ant 3	DSI 2	518598	2592.99	1	Cover	15.55	16.6	1.274		0.01	0.556	0.708	
	FR1 n41	100M	BPSK	1	1	Left Cheek	0mm	Ant 3	DSI 2	518598	2592.99	2		15.55	16.6	1.274		-0.05	0.587	0.748	
	FR1 n41	100M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	518598	2592.99	1		13.14	14.10	1.247		-0.11	0.612	0.763	
	FR1 n41	100M	BPSK	135	69	Right Cheek	0mm	Ant 4	DSI 2	518598	2592.99	1		13.05	14.10	1.274		0.15	0.531	0.676	
	FR1 n41	100M	BPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	518598	2592.99	1		13.14	14.10	1.247		-0.07	0.491	0.612	
	FR1 n41	100M	BPSK	135	69	Right Tilted	0mm	Ant 4	DSI 2	518598	2592.99	1		13.05	14.10	1.274		0.10	0.422	0.538	
	FR1 n41	100M	BPSK	1	1	Left Cheek	0mm	Ant 4	DSI 2	518598	2592.99	1		13.14	14.10	1.247		-0.02	0.146	0.182	
	FR1 n41	100M	BPSK	135	69	Left Cheek	0mm	Ant 4	DSI 2	518598	2592.99	1		13.05	14.10	1.274		-0.10	0.114	0.145	
	FR1 n41	100M	BPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	518598	2592.99	1		13.14	14.10	1.247		0.04	0.138	0.172	
	FR1 n41	100M	BPSK	135	69	Left Tilted	0mm	Ant 4	DSI 2	518598	2592.99	1		13.05	14.10	1.274		-0.05	0.141	0.180	
	FR1 n41_HPUE	100M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	518598	2592.99	1		16.16	17.10	1.242	50.0	1.0	0.14	0.605	0.751
	FR1 n41_PA (Reference Designator)	100M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	518598	2592.99	1		13.14	14.1	1.247		0.03	0.441	0.550	
	FR1 n41	100M	BPSK	1	1	Right Cheek	0mm	Ant 8	DSI 2	518598	2592.99	1		23.73	24.00	1.064		-0.18	0.063	0.067	
	FR1 n41	100M	BPSK	135	69	Right Cheek	0mm	Ant 8	DSI 2	518598	2592.99	1		23.62	24.00	1.091		-0.13	0.066	0.072	
	FR1 n41	100M	BPSK	1	1	Right Tilted	0mm	Ant 8	DSI 2	518598	2592.99	1		23.73	24.00	1.064		-0.13	0.054	0.057	
	FR1 n41	100M	BPSK	135	69	Right Tilted	0mm	Ant 8	DSI 2	518598	2592.99	1		23.62	24.00	1.091		-0.12	0.068	0.074	
	FR1 n41	100M	BPSK	1	1	Left Cheek	0mm	Ant 8	DSI 2	518598	2592.99	1		23.73	24.00	1.064		-0.04	0.132	0.140	
	FR1 n41	100M	BPSK	135	69	Left Cheek	0mm	Ant 8	DSI 2	518598	2592.99	1		23.62	24.00	1.091		-0.15	0.143	0.156	
	FR1 n41	100M	BPSK	1	1	Left Tilted	0mm	Ant 8	DSI 2	518598	2592.99	1		23.73	24.00	1.064		-0.09	0.001	0.001	
	FR1 n41	100M	BPSK	135	69	Left Tilted	0mm	Ant 8	DSI 2	518598	2592.99	1		23.62	24.00	1.091		0.05	0.039	0.043	
	FR1 n41_HPUE	100M	BPSK	1	1	Left Cheek	0mm	Ant 8	DSI 2	518598	2592.99	1		26.35	27.00	1.161	50.0	1.0	0.13	0.141	0.164
	FR1 n41_HPUE_PA (Reference Designator)	100M	BPSK	1	1	Left Cheek	0mm	Ant 8	DSI 2	518598	2592.99	1		26.35	27	1.161	50	1	0.03	0.072	0.084
	FR1 n77	100M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	1		13.28	14.50	1.324		-0.11	0.584	0.773	
	FR1 n77	100M	BPSK	135	69	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	1		13.27	14.50	1.327		-0.07	0.509	0.675	
	FR1 n77	100M	BPSK	1	1	Right Tilted	0mm	Ant 4	DSI 2	656000	3840	1		13.28	14.50	1.324		0.12			



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	FR1 n77	100M	BPSK	135	69	Left Cheek	0mm	Ant 4	DSI 2	656000	3840	1		13.27	14.50	1.327			-0.03	0.155	0.206
	FR1 n77	100M	BPSK	1	1	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	1		13.28	14.50	1.324			0.17	0.165	0.218
	FR1 n77	100M	BPSK	135	69	Left Tilted	0mm	Ant 4	DSI 2	656000	3840	1		13.27	14.50	1.327			0.11	0.155	0.206
	FR1 n77_HPUE	100M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	1		16.30	17.50	1.318	50.0	1.0	-0.04	0.563	0.742
	FR1 n77	100M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	1	Cover	13.28	14.5	1.324			0.07	0.548	0.726
	FR1 n77	100M	BPSK	1	1	Right Cheek	0mm	Ant 4	DSI 2	656000	3840	2		13.28	14.5	1.324			0.18	0.571	0.756
	FR1 n77	100M	BPSK	1	1	Right Cheek	0mm	Ant 5	DSI 2	656000	3840	1		12.58	13.80	1.324			0.10	0.127	0.168
	FR1 n77	100M	BPSK	135	69	Right Cheek	0mm	Ant 5	DSI 2	656000	3840	1		12.55	13.80	1.334			0.08	0.106	0.141
	FR1 n77	100M	BPSK	1	1	Right Tilted	0mm	Ant 5	DSI 2	656000	3840	1		12.58	13.80	1.324			0.11	0.159	0.211
	FR1 n77	100M	BPSK	135	69	Right Tilted	0mm	Ant 5	DSI 2	656000	3840	1		12.55	13.80	1.334			-0.13	0.103	0.137
	FR1 n77	100M	BPSK	1	1	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	1		12.58	13.80	1.324			-0.02	0.586	0.776
	FR1 n77	100M	BPSK	135	69	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	1		12.55	13.80	1.334			-0.10	0.485	0.647
	FR1 n77	100M	BPSK	1	1	Left Tilted	0mm	Ant 5	DSI 2	656000	3840	1		12.58	13.80	1.324			0.11	0.445	0.589
	FR1 n77	100M	BPSK	135	69	Left Tilted	0mm	Ant 5	DSI 2	656000	3840	1		12.55	13.80	1.334			-0.17	0.384	0.512
	FR1 n77	100M	BPSK	1	1	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	1	Cover	12.58	13.8	1.324			0.16	0.539	0.714
	FR1 n77	100M	BPSK	1	1	Left Cheek	0mm	Ant 5	DSI 2	656000	3840	2		12.58	13.8	1.324			0.14	0.531	0.703
21	FR1 n77	100M	BPSK	1	1	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	1		11.38	12.40	1.265			0.03	0.617	0.781
	FR1 n77	100M	BPSK	135	0	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	1		11.23	12.40	1.309			-0.03	0.542	0.709
	FR1 n77	100M	BPSK	1	1	Right Tilted	0mm	Ant 6	DSI 2	656000	3840	1		11.38	12.40	1.265			0.02	0.119	0.151
	FR1 n77	100M	BPSK	135	0	Right Tilted	0mm	Ant 6	DSI 2	656000	3840	1		11.23	12.40	1.309			0.18	0.115	0.151
	FR1 n77	100M	BPSK	1	1	Left Cheek	0mm	Ant 6	DSI 2	656000	3840	1		11.38	12.40	1.265			-0.11	0.094	0.119
	FR1 n77	100M	BPSK	135	0	Left Cheek	0mm	Ant 6	DSI 2	656000	3840	1		11.23	12.40	1.309			-0.05	0.082	0.107
	FR1 n77	100M	BPSK	1	1	Left Tilted	0mm	Ant 6	DSI 2	656000	3840	1		11.38	12.40	1.265			-0.08	0.045	0.057
	FR1 n77	100M	BPSK	135	0	Left Tilted	0mm	Ant 6	DSI 2	656000	3840	1		11.23	12.40	1.309			0.01	0.042	0.055
	FR1 n77_HPUE	100M	BPSK	1	1	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	1		14.40	15.40	1.259	50.0	1.0	-0.14	0.571	0.719
	FR1 n77	100M	BPSK	1	1	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	1	Cover	11.38	12.4	1.265			0.13	0.588	0.744
	FR1 n77	100M	BPSK	1	1	Right Cheek	0mm	Ant 6	DSI 2	656000	3840	2		11.38	12.4	1.265			-0.17	0.567	0.717
	FR1 n77	100M	BPSK	1	1	Right Cheek	0mm	Ant 7	DSI 2	656000	3840	1		21.15	22.00	1.216			-0.05	0.317	0.385
	FR1 n77	100M	BPSK	135	69	Right Cheek	0mm	Ant 7	DSI 2	656000	3840	1		21.13	22.00	1.222			-0.03	0.294	0.359
	FR1 n77	100M	BPSK	1	1	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	1		21.15	22.00	1.216			0.17	0.329	0.400
	FR1 n77	100M	BPSK	135	69	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	1		21.13	22.00	1.222			-0.18	0.342	0.418
	FR1 n77	100M	BPSK	1	1	Left Cheek	0mm	Ant 7	DSI 2	656000	3840	1		21.15	22.00	1.216			0.06	0.255	0.310
	FR1 n77	100M	BPSK	135	69	Left Cheek	0mm	Ant 7	DSI 2	656000	3840	1		21.13	22.00	1.222			-0.06	0.261	0.319
	FR1 n77	100M	BPSK	1	1	Left Tilted	0mm	Ant 7	DSI 2	656000	3840	1		21.15	22.00	1.216			-0.15	0.329	0.400
	FR1 n77	100M	BPSK	135	69	Left Tilted	0mm	Ant 7	DSI 2	656000	3840	1		21.13	22.00	1.222			-0.12	0.334	0.408
	FR1 n77_HPUE	100M	BPSK	1	1	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	1		23.69	25.00	1.352	50.0	1.0	-0.16	0.301	0.407
	FR1 n77	100M	BPSK	135	69	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	1	Cover	21.13	22	1.222			-0.18	0.319	0.390
	FR1 n77	100M	BPSK	135	69	Right Tilted	0mm	Ant 7	DSI 2	656000	3840	2		21.13	22	1.222			0.17	0.311	0.380



【WLAN 2.4GHz_5GHz SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	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)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3+2(2)	Head Standalone	1	2412	1		16.09	18.00	1.552	99.88	1.001	0.03	0.377	0.586
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 3+2(2)	Head Simultaneous	1	2412	1		11.33	13.00	1.469	99.88	1.001	0.01	0.115	0.169
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3+2(2)	Head Standalone	1	2412	1		16.09	18.00	1.552	99.88	1.001	0.03	0.349	0.542
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 3+2(2)	Head Simultaneous	1	2412	1		11.33	13.00	1.469	99.88	1.001	0.09	0.107	0.157
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+2(2)	Head Standalone	1	2412	1		16.09	18.00	1.552	99.88	1.001	0.01	0.840	1.305
22	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+2(2)	Head Standalone	6	2437	1		16.16	18.00	1.528	99.88	1.001	-0.02	0.906	1.386
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+2(2)	Head Standalone	11	2462	1		16.05	18.00	1.567	99.88	1.001	0.05	0.878	1.377
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+2(2)	Head Simultaneous	1	2412	1		11.33	13.00	1.469	99.88	1.001	0.09	0.257	0.378
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3+2(2)	Head Standalone	1	2412	1		16.09	18.00	1.552	99.88	1.001	0.04	0.635	0.987
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3+2(2)	Head Standalone	6	2437	1		16.16	18.00	1.528	99.88	1.001	0.02	0.691	1.057
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3+2(2)	Head Standalone	11	2462	1		16.05	18.00	1.567	99.88	1.001	-0.01	0.586	0.919
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 3+2(2)	Head Simultaneous	1	2412	1		11.33	13.00	1.469	99.88	1.001	0.09	0.211	0.310
	WLAN2.4GHz	802.11n-HT40 MCS0	Left Cheek	0mm	Ant 3+2(3)	Head Standalone	6	2437	1		16.10	18.00	1.549	99.82	1.002	0.03	0.758	1.176
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+2(2)	Head Standalone	6	2437	1	Cover	16.16	18	1.528	99.88	1.001	-0.16	0.823	1.259
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 3+2(2)	Head Standalone	6	2437	2		16.16	18	1.528	99.88	1.001	-0.05	0.811	1.240
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(7)	Head Standalone	58	5290	1		17.24	18.00	1.191	99.82	1.002	0.03	0.277	0.331
	WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 5+7(7)	Head Simultaneous	50	5250	1		11.88	13.00	1.294	99.63	1.004	0.08	0.088	0.114
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(7)	Head Standalone	58	5290	1		17.24	18.00	1.191	99.82	1.002	0.01	0.281	0.335
	WLAN5GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Ant 5+7(7)	Head Simultaneous	50	5250	1		11.88	13.00	1.294	99.63	1.004	0.05	0.089	0.116
23	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	58	5290	1		17.24	18.00	1.191	99.82	1.002	-0.03	0.892	1.064
	WLAN5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Simultaneous	50	5250	1		11.88	13.00	1.294	99.63	1.004	0.09	0.282	0.366
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(7)	Head Standalone	58	5290	1		17.24	18.00	1.191	99.82	1.002	0.04	0.565	0.674
	WLAN5GHz	802.11ac-VHT160 MCS0	Left Tilted	0mm	Ant 5+7(7)	Head Simultaneous	50	5250	1		11.88	13.00	1.294	99.63	1.004	0.07	0.179	0.233
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	58	5290	1	Cover	17.24	18	1.191	99.82	1.002	0.05	0.818	0.976
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	58	5290	2		17.24	18	1.191	99.82	1.002	0.01	0.805	0.961
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(5)	Head Standalone	138	5690	1		14.29	16	1.483	99.82	1.002	0.03	0.212	0.315
	WLAN5GHz	802.11ac-VHT160 MCS0	Right Cheek	0mm	Ant 5+7(7)	Head Simultaneous	114	5570	1		9.05	10.5	1.396	99.63	1.004	0.01	0.067	0.094
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(5)	Head Standalone	138	5690	1		14.29	16	1.483	99.82	1.002	-0.09	0.249	0.370
	WLAN5GHz	802.11ac-VHT160 MCS0	Right Tilted	0mm	Ant 5+7(7)	Head Simultaneous	114	5570	1		9.05	10.5	1.396	99.63	1.004	0.08	0.079	0.111
24	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Head Standalone	138	5690	1		14.29	16	1.483	99.82	1.002	-0.08	0.803	1.193
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Head Standalone	122	5610	1		14.25	16	1.496	99.82	1.002	0.03	0.711	1.066
	WLAN5GHz	802.11ac-VHT160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Simultaneous	114	5570	1		9.05	10.5	1.396	99.63	1.004	0.03	0.257	0.360
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	Head Standalone	138	5690	1		14.29	16	1.483	99.82	1.002	0.01	0.437	0.649
	WLAN5GHz	802.11ac-VHT160 MCS0	Left Tilted	0mm	Ant 5+7(7)	Head Simultaneous	114	5570	1		9.05	10.5	1.396	99.63	1.004	0.08	0.138	0.193
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Head Standalone	138	5690	1	Cover	14.29	16	1.483	99.82	1.002	-0.03	0.749	1.113
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Head Standalone	138	5690	2		14.29	16	1.483	99.82	1.002	0.1	0.711	1.057
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(5)	Head Standalone	155	5775	1		13.88	15.50	1.452	99.82	1.002	0.06	0.300	0.436
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 5+7(5)	Head Simultaneous	155	5775	1		8.93	10.50	1.435	99.82	1.002	0.04	0.095	0.137
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(5)	Head Standalone	155	5775	1		13.88	15.50	1.452	99.82	1.002	0.03	0.326	0.474
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 5+7(5)	Head Simultaneous	155	5775	1		8.93	10.50	1.435	99.82	1.002	-0.01	0.103	0.148
25	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Head Standalone	155	5775	1		13.88	15.50	1.452	99.82	1.002	-0.01	0.813	1.183
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Head Simultaneous	155	5775	1		8.93	10.50	1.435	99.82	1.002	-0.09	0.266	0.382
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	Head Standalone	155	5775	1		13.88	15.50	1.452	99.82	1.002	0.08	0.521	0.758
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 5+7(5)	Head Simultaneous	155	5775	1		8.93	10.50	1.435	99.82	1.002	0.07	0.164	0.236
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Head Standalone	155	5775	1	Cover	13.88	15.5	1.452	99.82	1.002	0.17	0.725	1.055
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 5+7(5)	Head Standalone	155	5775	2		13.88	15.5	1.452	99.82	1.002	-0.17	0.763	1.110



【WLAN 6GHz SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	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)	Measured APD (W/m ²)
	WLAN6GHz	802.11ax-HE160 MCS0	Right Cheek	0mm	Ant 5+7(7)	Head Standalone	47	6185	1		15.21	16.50	1.346	99.63	1.004	0.03	0.111	0.150	0.629
	WLAN6GHz	802.11ax-HE160 MCS0	Right Cheek	0mm	Ant 5+7(7)	Head Simultaneous	143	6665	1		14.72	16.00	1.343	99.63	1.004	0.03	0.057	0.077	0.322
	WLAN6GHz	802.11ax-HE160 MCS0	Right Tilted	0mm	Ant 5+7(7)	Head Standalone	47	6185	1		15.21	16.50	1.346	99.63	1.004	0.01	0.115	0.155	0.675
	WLAN6GHz	802.11ax-HE160 MCS0	Right Tilted	0mm	Ant 5+7(7)	Head Simultaneous	143	6665	1		14.72	16.00	1.343	99.63	1.004	0.06	0.059	0.080	0.346
26	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	47	6185	1		15.21	16.50	1.346	99.63	1.004	0.07	0.403	0.545	2.460
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Simultaneous	143	6665	1		14.72	16.00	1.343	99.63	1.004	0.07	0.206	0.278	1.260
	WLAN6GHz	802.11ax-HE160 MCS0	Left Tilted	0mm	Ant 5+7(7)	Head Standalone	47	6185	1		15.21	16.50	1.346	99.63	1.004	0.05	0.308	0.416	1.860
	WLAN6GHz	802.11ax-HE160 MCS0	Left Tilted	0mm	Ant 5+7(7)	Head Standalone	15	6025	1		14.30	16.00	1.479	99.63	1.004	0.01	0.235	0.349	1.430
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	111	6505	1		14.65	16.00	1.365	99.63	1.004	-0.10	0.340	0.466	2.090
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	143	6665	1		14.72	16.00	1.343	99.63	1.004	0.07	0.206	0.278	1.260
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	207	6985	1		12.29	13.50	1.321	99.63	1.004	0.01	0.115	0.153	0.607
	WLAN6GHz	802.11ax-HE160 MCS0	Left Tilted	0mm	Ant 5+7(7)	Head Simultaneous	143	6665	1		14.72	16.00	1.343	99.63	1.004	0.06	0.157	0.212	0.953
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	47	6185	1	Cover	15.21	16.5	1.346	99.63	1.004	-0.15	0.308	0.416	1.860
	WLAN6GHz	802.11ax-HE160 MCS0	Left Cheek	0mm	Ant 5+7(7)	Head Standalone	47	6185	2		15.21	16.5	1.346	99.63	1.004	0.04	0.345	0.466	2.180

【Bluetooth SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	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)	Measured APD (W/m ²)
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 2	Head Standalone	39	2441	1		11.60	13.00	1.38	77.07	1.081	0.08	0.080	0.119	
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 2	Head Standalone	39	2441	1		11.60	13.00	1.38	77.07	1.081	0.01	0.017	0.025	
27	Bluetooth	1Mbps	Left Cheek	0mm	Ant 2	Head Standalone	39	2441	1		11.60	13.00	1.38	77.07	1.081	-0.03	0.184	0.274	
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 2	Head Standalone	39	2441	1		11.60	13.00	1.38	77.07	1.081	0.03	0.039	0.058	



16.2 Hotspot SAR

【GSM SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
28	GSM850	GPRS 2 Tx slots	Front	5mm	Ant 0	DSI 7	189	836.4	1		30.52	31.50	1.253	-0.13	0.431	0.540
	GSM850	GPRS 2 Tx slots	Back	5mm	Ant 0	DSI 7	189	836.4	1		30.52	31.50	1.253	-0.09	0.548	0.687
	GSM850	GPRS 2 Tx slots	Left Side	5mm	Ant 0	DSI 7	189	836.4	1		30.52	31.50	1.253	0.17	0.059	0.074
	GSM850	GPRS 2 Tx slots	Right Side	5mm	Ant 0	DSI 7	189	836.4	1		30.52	31.50	1.253	0.06	0.429	0.538
	GSM850	GPRS 2 Tx slots	Bottom Side	5mm	Ant 0	DSI 7	189	836.4	1		30.52	31.50	1.253	-0.04	0.416	0.521
	GSM1900	GPRS 3 Tx slots	Front	5mm	Ant 8	DSI 7	661	1880	1		25.32	26.50	1.312	0.10	0.460	0.604
	GSM1900	GPRS 3 Tx slots	Back	5mm	Ant 8	DSI 7	661	1880	1		25.32	26.50	1.312	0.02	0.539	0.707
	GSM1900	GPRS 3 Tx slots	Left Side	5mm	Ant 8	DSI 7	661	1880	1		25.32	26.50	1.312	-0.03	0.206	0.270
	GSM1900	GPRS 3 Tx slots	Right Side	5mm	Ant 8	DSI 7	661	1880	1		25.32	26.50	1.312	0.17	0.086	0.113
	GSM1900	GPRS 3 Tx slots	Bottom Side	5mm	Ant 8	DSI 7	661	1880	1		25.32	26.50	1.312	0.16	0.665	0.872
29	GSM1900	GPRS 3 Tx slots	Bottom Side	5mm	Ant 8	DSI 7	512	1850.2	1		25.24	26.50	1.337	0.01	0.842	1.126
	GSM1900	GPRS 3 Tx slots	Bottom Side	5mm	Ant 8	DSI 7	810	1909.8	1		25.22	26.50	1.343	0.05	0.830	1.115
	GSM1900	GPRS 3 Tx slots	Bottom Side	5mm	Ant 8	DSI 7	512	1850.2	1	Cover	25.24	26.5	1.337	-0.16	0.788	1.054
	GSM1900	GPRS 3 Tx slots	Bottom Side	5mm	Ant 8	DSI 7	512	1850.2	2		25.24	26.5	1.337	-0.09	0.811	1.084

【WCDMA SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 4	DSI 7	9400	1880	1		16.28	17.30	1.265	0.07	0.266	0.336
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 4	DSI 7	9400	1880	1		16.28	17.30	1.265	-0.17	0.337	0.426
	WCDMA II	RMC 12.2Kbps	Left Side	5mm	Ant 4	DSI 7	9400	1880	1		16.28	17.30	1.265	0.10	0.143	0.181
	WCDMA II	RMC 12.2Kbps	Right Side	5mm	Ant 4	DSI 7	9400	1880	1		16.28	17.30	1.265	0.08	0.032	0.040
	WCDMA II	RMC 12.2Kbps	Top Side	5mm	Ant 4	DSI 7	9400	1880	1		16.28	17.30	1.265	0.04	0.422	0.534
	WCDMA II	RMC 12.2Kbps	Front	5mm	Ant 8	DSI 7	9400	1880	1		17.28	18.50	1.324	0.08	0.508	0.673
	WCDMA II	RMC 12.2Kbps	Back	5mm	Ant 8	DSI 7	9400	1880	1		17.28	18.50	1.324	-0.08	0.482	0.638
	WCDMA II	RMC 12.2Kbps	Left Side	5mm	Ant 8	DSI 7	9400	1880	1		17.28	18.50	1.324	-0.18	0.176	0.233
	WCDMA II	RMC 12.2Kbps	Right Side	5mm	Ant 8	DSI 7	9400	1880	1		17.28	18.50	1.324	0.08	0.080	0.106
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Ant 8	DSI 7	9400	1880	1		17.28	18.50	1.324	0.03	0.844	1.117
30	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Ant 8	DSI 7	9262	1852.4	1		17.23	18.50	1.34	-0.03	0.792	1.061
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	Ant 8	DSI 7	9538	1907.6	1		17.21	18.50	1.346	0.14	0.774	1.042
	WCDMA IV	RMC 12.2Kbps	Front	5mm	Ant 4	DSI 7	1413	1732.6	1		17.33	18.10	1.194	-0.10	0.320	0.382
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Ant 4	DSI 7	1413	1732.6	1		17.33	18.10	1.194	-0.07	0.370	0.442
	WCDMA IV	RMC 12.2Kbps	Left Side	5mm	Ant 4	DSI 7	1413	1732.6	1		17.33	18.10	1.194	0.11	0.195	0.233
	WCDMA IV	RMC 12.2Kbps	Right Side	5mm	Ant 4	DSI 7	1413	1732.6	1		17.33	18.10	1.194	-0.17	0.021	0.025
	WCDMA IV	RMC 12.2Kbps	Top Side	5mm	Ant 4	DSI 7	1413	1732.6	1		17.33	18.10	1.194	-0.07	0.452	0.540
	WCDMA IV	RMC 12.2Kbps	Top Side	5mm	Ant 4	DSI 7	1413	1732.6	1	Cover	17.33	18.1	1.194	-0.15	0.409	0.488
	WCDMA IV	RMC 12.2Kbps	Top Side	5mm	Ant 4	DSI 7	1413	1732.6	2		17.33	18.1	1.194	0.08	0.423	0.505
	WCDMA IV	RMC 12.2Kbps	Front	5mm	Ant 8	DSI 7	1413	1732.6	1		19.32	20.20	1.225	-0.18	0.603	0.739
	WCDMA IV	RMC 12.2Kbps	Back	5mm	Ant 8	DSI 7	1413	1732.6	1		19.32	20.20	1.225	-0.08	0.644	0.789
	WCDMA IV	RMC 12.2Kbps	Left Side	5mm	Ant 8	DSI 7	1413	1732.6	1		19.32	20.20	1.225	-0.09	0.191	0.234
	WCDMA IV	RMC 12.2Kbps	Right Side	5mm	Ant 8	DSI 7	1413	1732.6	1		19.32	20.20	1.225	-0.01	0.084	0.103
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	Ant 8	DSI 7	1413	1732.6	1		19.32	20.20	1.225	0.14	0.877	1.074
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	Ant 8	DSI 7	1312	1712.4	1		19.31	20.20	1.227	-0.02	0.893	1.096
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	Ant 8	DSI 7	1513	1752.6	1		19.29	20.20	1.233	0.03	0.874	1.078
	WCDMA V	RMC 12.2Kbps	Front	5mm	Ant 0	DSI 7	4182	836.4	1		23.83	24.00	1.04	0.11	0.502	0.522
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 0	DSI 7	4182	836.4	1		23.83	24.00	1.04	0.03	0.654	0.680
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	Ant 0	DSI 7	4182	836.4	1		23.83	24.00	1.04	-0.05	0.066	0.069
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	Ant 0	DSI 7	4182	836.4	1		23.83	24.00	1.04	0.18	0.505	0.525
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	Ant 0	DSI 7	4182	836.4	1		23.83	24.00	1.04	-0.17	0.467	0.486
	WCDMA V	RMC 12.2Kbps	Front	5mm	Ant 1	DSI 7	4182	836.4	1		19.19	20.40	1.321	0.08	0.538	0.711
	WCDMA V	RMC 12.2Kbps	Back	5mm	Ant 1	DSI 7	4182	836.4	1		19.19	20.40	1.321	0.01	0.433	0.572
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 7	4182	836.4	1		19.19	20.40	1.321	-0.08	0.747	0.987
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 7	4132	826.4	1		19.15	20.40	1.334	0.06	0.728	0.971
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	Ant 1	DSI 7	4233	846.6	1		19.14	20.40	1.337	0.04	0.711	0.951
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	Ant 1	DSI 7	4182	836.4	1		19.19	20.40	1.321	0.02	0.019	0.025
	WCDMA V	RMC 12.2Kbps	Top Side	5mm	Ant 1	DSI 7	4182	836.4	1		19.19	20.40	1.321	0.01	0.017	0.022



【LTE SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	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)
	LTE Band 2	20M	QPSK	1	0	Front	5mm	Ant 4	DSI 7	18900	1880	1		16.92	17.50	1.143			0.06	0.309	0.353
	LTE Band 2	20M	QPSK	50	0	Front	5mm	Ant 4	DSI 7	18900	1880	1		16.85	17.50	1.161			-0.06	0.254	0.295
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 4	DSI 7	18900	1880	1		16.92	17.50	1.143			-0.15	0.189	0.216
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 4	DSI 7	18900	1880	1		16.85	17.50	1.161			-0.12	0.147	0.171
	LTE Band 2	20M	QPSK	1	0	Left Side	5mm	Ant 4	DSI 7	18900	1880	1		16.92	17.50	1.143			-0.16	0.191	0.218
	LTE Band 2	20M	QPSK	50	0	Left Side	5mm	Ant 4	DSI 7	18900	1880	1		16.85	17.50	1.161			-0.03	0.153	0.178
	LTE Band 2	20M	QPSK	1	0	Right Side	5mm	Ant 4	DSI 7	18900	1880	1		16.92	17.50	1.143			0.17	0.026	0.030
	LTE Band 2	20M	QPSK	50	0	Right Side	5mm	Ant 4	DSI 7	18900	1880	1		16.85	17.50	1.161			0.02	0.022	0.026
	LTE Band 2	20M	QPSK	1	0	Top Side	5mm	Ant 4	DSI 7	18900	1880	1		16.92	17.50	1.143			0.03	0.463	0.529
	LTE Band 2	20M	QPSK	50	0	Top Side	5mm	Ant 4	DSI 7	18900	1880	1		16.85	17.50	1.161			0.02	0.374	0.434
	LTE Band 2C	20M	QPSK	1	99	Top Side	5mm	Ant 4	DSI 7	18900+19098	1880+1899.8	1		16.83	17.5	1.167			0.01	0.435	0.508
	LTE Band 2	20M	QPSK	1	0	Front	5mm	Ant 8	DSI 7	18900	1880	1		18.21	19.00	1.199			0.07	0.572	0.686
	LTE Band 2	20M	QPSK	50	0	Front	5mm	Ant 8	DSI 7	18900	1880	1		18.15	19.00	1.216			-0.01	0.451	0.548
	LTE Band 2	20M	QPSK	1	0	Back	5mm	Ant 8	DSI 7	18900	1880	1		18.21	19.00	1.199			-0.17	0.546	0.655
	LTE Band 2	20M	QPSK	50	0	Back	5mm	Ant 8	DSI 7	18900	1880	1		18.15	19.00	1.216			-0.17	0.428	0.520
	LTE Band 2	20M	QPSK	1	0	Left Side	5mm	Ant 8	DSI 7	18900	1880	1		18.21	19.00	1.199			-0.13	0.194	0.233
	LTE Band 2	20M	QPSK	50	0	Left Side	5mm	Ant 8	DSI 7	18900	1880	1		18.15	19.00	1.216			0.05	0.151	0.184
	LTE Band 2	20M	QPSK	1	0	Right Side	5mm	Ant 8	DSI 7	18900	1880	1		18.21	19.00	1.199			-0.13	0.076	0.091
	LTE Band 2	20M	QPSK	50	0	Right Side	5mm	Ant 8	DSI 7	18900	1880	1		18.15	19.00	1.216			0.17	0.059	0.072
33	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	18900	1880	1		18.21	19.00	1.199			0.01	0.926	1.110
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	18700	1860	1		18.15	19.00	1.216			-0.04	0.905	1.100
	LTE Band 2	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	19100	1900	1		18.13	19.00	1.222			-0.15	0.900	1.100
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	18900	1880	1		18.15	19.00	1.216			0.11	0.742	0.902
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	18700	1860	1		18.10	19.00	1.23			-0.02	0.685	0.843
	LTE Band 2	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	19100	1900	1		18.08	19.00	1.236			0.10	0.678	0.838
	LTE Band 2	20M	QPSK	100	0	Bottom Side	5mm	Ant 8	DSI 7	19100	1900	1		18.05	19.00	1.245			0.04	0.728	0.906
	LTE Band 2C	20M	QPSK	1	99	Bottom Side	5mm	Ant 8	DSI 7	18900+19098	1880+1899.8	1		18.13	19	1.222			0.05	0.882	1.078
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Ant 4	DSI 7	21100	2535	1		14.08	15.30	1.324			-0.05	0.398	0.527
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Ant 4	DSI 7	21100	2535	1		14.05	15.30	1.334			-0.04	0.324	0.432
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 4	DSI 7	21100	2535	1		14.08	15.30	1.324			-0.02	0.406	0.538
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 4	DSI 7	21100	2535	1		14.05	15.30	1.334			-0.08	0.317	0.423
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	Ant 4	DSI 7	21100	2535	1		14.08	15.30	1.324			0.03	0.389	0.515
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	Ant 4	DSI 7	21100	2535	1		14.05	15.30	1.334			-0.14	0.318	0.424
	LTE Band 7	20M	QPSK	1	0	Right Side	5mm	Ant 4	DSI 7	21100	2535	1		14.08	15.30	1.324			0.01	0.007	0.009
	LTE Band 7	20M	QPSK	50	0	Right Side	5mm	Ant 4	DSI 7	21100	2535	1		14.05	15.30	1.334			0.18	0.005	0.007
	LTE Band 7	20M	QPSK	1	0	Top Side	5mm	Ant 4	DSI 7	21100	2535	1		14.08	15.30	1.324			0.02	0.280	0.371
	LTE Band 7	20M	QPSK	50	0	Top Side	5mm	Ant 4	DSI 7	21100	2535	1		14.05	15.30	1.334			0.16	0.205	0.273
	LTE Band 7 PA (Reference Designator)	20M	QPSK	1	0	Back	5mm	Ant 4	DSI 7	21100	2535	1		14.08	15.3	1.324			0.06	0.259	0.343
	LTE Band 7C	20M	QPSK	1	99	Back	5mm	Ant 4	DSI 7	21100+21298	2535+2554.8	1		13.85	15.3	1.396			0.03	0.366	0.511
	LTE Band 7	20M	QPSK	1	0	Front	5mm	Ant 8	DSI 7	21100	2535	1		18.79	19.70	1.233			0.13	0.510	0.629
	LTE Band 7	20M	QPSK	50	0	Front	5mm	Ant 8	DSI 7	21100	2535	1		18.75	19.70	1.245			-0.16	0.407	0.507
	LTE Band 7	20M	QPSK	1	0	Back	5mm	Ant 8	DSI 7	21100	2535	1		18.79	19.70	1.233			-0.19	0.516	0.636
	LTE Band 7	20M	QPSK	50	0	Back	5mm	Ant 8	DSI 7	21100	2535	1		18.75	19.70	1.245			0.02	0.413	0.514
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	Ant 8	DSI 7	21100	2535	1		18.79	19.70	1.233			0.07	0.179	0.221
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	Ant 8	DSI 7	21100	2535	1		18.75	19.70	1.245			-0.02	0.136	0.169
	LTE Band 7	20M	QPSK	1	0	Right Side	5mm	Ant 8	DSI 7	21100	2535	1		18.79	19.70	1.233			-0.05	0.081	0.100
	LTE Band 7	20M	QPSK	50	0	Right Side	5mm	Ant 8	DSI 7	21100	2535	1		18.75	19.70	1.245			-0.13	0.065	0.081
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	21100	2535	1		18.79	19.70	1.233			0.01	0.852	1.051
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	20850	2510	1		18.63	19.70	1.279			-0.16	0.803	1.027
34	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	21350	2560	1		18.75	19.70	1.245			0.08	0.889	1.107
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	21100	2535	1		18.75	19.70	1.245			0.10	0.685	0.853
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	20850	2510	1		18.67	19.70	1.268			-0.04	0.683	0.866
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	21350	2560	1		18.73	19.70	1.25			-0.01	0.728	0.910
	LTE Band 7	20M	QPSK	100	0	Bottom Side	5mm	Ant 8	DSI 7	20850	2510	1		18.66	19.70	1.271			0.03	0.683	0.868
	LTE Band 7 PA (Reference Designator)	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	21350	2560	1		18.75	19.7	1.245			0.06	0.584	0.727
	LTE Band 7C	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	21350+21152	2560+2540.2	1		18.59	19.7	1.291			0.02	0.823	1.062
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant 0	DSI 7	23095	707.5	1		23.35	24.00	1.161			0.03	0.433	0.503
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant 0	DSI 7	23095	707.5	1		23.31	24.00	1.172			-0.08	0.348	0.408
	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant 0	DSI 7	23095	707.5	1		23.35	24.00	1.161			-0.08	0.441	0.512
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant 0	DSI 7	23095	707.5	1		23.31	24.00	1.172			0.10	0.370	0.434
	LTE Band 12	10M	QPSK	1	0	Left Side	5mm	Ant 0	DSI 7	23095	707.5	1		23.35	24.00	1.161			-0.18	0.197	0.229
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	Ant 0	DSI 7	23095	707.5	1		23.31	24.00	1.172			0.10	0.160	0.188
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	Ant 0	DSI 7	23095	707.5	1		23.35	24.00	1.161			-0.05	0.796	0.924
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	Ant 0	DSI 7	23095	707.5	1		23.31	24.00	1.172			-0.05	0.652	0.764
	LTE Band 12	10M	QPSK	50	0	Right Side	5mm	Ant 0	DSI 7	23095	707.5	1		23.12	24.00	1.225			0.12	0.621	0.761



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	LTE Band 12	10M	QPSK	1	0	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	1		23.35	24.00	1.161			-0.03	0.340	0.395
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5mm	Ant 0	DSI 7	23095	707.5	1		23.31	24.00	1.172			0.14	0.263	0.308
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	Ant 0	DSI 7	23095	707.5	1	Cover	23.35	24	1.161			-0.19	0.731	0.849
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	Ant 0	DSI 7	23095	707.5	2		23.35	24	1.161			0.01	0.745	0.865
	LTE Band 12	10M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	23095	707.5	1		20.78	22.00	1.324			0.10	0.463	0.613
	LTE Band 12	10M	QPSK	25	0	Front	5mm	Ant 1	DSI 7	23095	707.5	1		20.75	22.00	1.334			-0.18	0.390	0.520
	LTE Band 12	10M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	23095	707.5	1		20.78	22.00	1.324			0.10	0.352	0.466
	LTE Band 12	10M	QPSK	25	0	Back	5mm	Ant 1	DSI 7	23095	707.5	1		20.75	22.00	1.334			0.12	0.302	0.403
35	LTE Band 12	10M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	23095	707.5	1		20.78	22.00	1.324			0.07	0.750	0.993
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	Ant 1	DSI 7	23095	707.5	1		20.75	22.00	1.334			0.08	0.631	0.842
	LTE Band 12	10M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	23095	707.5	1		20.51	22.00	1.409			-0.17	0.578	0.814
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 7	23095	707.5	1		20.78	22.00	1.324			-0.03	0.031	0.041
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	Ant 1	DSI 7	23095	707.5	1		20.75	22.00	1.334			0.14	0.025	0.033
	LTE Band 12	10M	QPSK	1	0	Top Side	5mm	Ant 1	DSI 7	23095	707.5	1		20.78	22.00	1.324			0.11	0.010	0.013
	LTE Band 12	10M	QPSK	25	0	Top Side	5mm	Ant 1	DSI 7	23095	707.5	1		20.75	22.00	1.334			0.03	0.006	0.008
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant 0	DSI 7	23230	782	1		23.51	24.00	1.119			-0.11	0.433	0.485
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant 0	DSI 7	23230	782	1		23.40	24.00	1.148			-0.06	0.355	0.408
	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant 0	DSI 7	23230	782	1		23.51	24.00	1.119			-0.15	0.564	0.631
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant 0	DSI 7	23230	782	1		23.40	24.00	1.148			0.03	0.458	0.526
	LTE Band 13	10M	QPSK	1	0	Left Side	5mm	Ant 0	DSI 7	23230	782	1		23.51	24.00	1.119			-0.13	0.161	0.180
	LTE Band 13	10M	QPSK	25	0	Left Side	5mm	Ant 0	DSI 7	23230	782	1		23.40	24.00	1.148			0.16	0.133	0.153
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	Ant 0	DSI 7	23230	782	1		23.51	24.00	1.119			-0.05	0.698	0.781
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	Ant 0	DSI 7	23230	782	1		23.40	24.00	1.148			-0.15	0.554	0.636
	LTE Band 13	10M	QPSK	1	0	Bottom Side	5mm	Ant 0	DSI 7	23230	782	1		23.51	24.00	1.119			0.14	0.482	0.539
	LTE Band 13	10M	QPSK	25	0	Bottom Side	5mm	Ant 0	DSI 7	23230	782	1		23.40	24.00	1.148			0.10	0.390	0.448
	LTE Band 13	10M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	23230	782	1		19.25	20.40	1.303			0.14	0.520	0.678
	LTE Band 13	10M	QPSK	25	0	Front	5mm	Ant 1	DSI 7	23230	782	1		19.15	20.40	1.334			-0.17	0.438	0.584
	LTE Band 13	10M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	23230	782	1		19.25	20.40	1.303			0.17	0.413	0.538
	LTE Band 13	10M	QPSK	25	0	Back	5mm	Ant 1	DSI 7	23230	782	1		19.15	20.40	1.334			-0.05	0.337	0.450
36	LTE Band 13	10M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	23230	782	1		19.25	20.40	1.303			0.02	0.759	0.989
	LTE Band 13	10M	QPSK	25	0	Left Side	5mm	Ant 1	DSI 7	23230	782	1		19.15	20.40	1.334			0.01	0.627	0.836
	LTE Band 13	10M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	23230	782	1		18.91	20.40	1.409			0.10	0.581	0.819
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 7	23230	782	1		19.25	20.40	1.303			-0.17	0.037	0.048
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	Ant 1	DSI 7	23230	782	1		19.15	20.40	1.334			0.04	0.003	0.004
	LTE Band 13	10M	QPSK	1	0	Top Side	5mm	Ant 1	DSI 7	23230	782	1		19.25	20.40	1.303			-0.01	0.018	0.023
	LTE Band 13	10M	QPSK	25	0	Top Side	5mm	Ant 1	DSI 7	23230	782	1		19.15	20.40	1.334			0.03	0.015	0.020
	LTE Band 26	15M	QPSK	1	0	Front	5mm	Ant 0	DSI 7	26865	831.5	1		23.63	24.00	1.089			0.08	0.466	0.507
	LTE Band 26	15M	QPSK	36	0	Front	5mm	Ant 0	DSI 7	26865	831.5	1		23.48	24.00	1.127			0.01	0.369	0.416
	LTE Band 26	15M	QPSK	1	0	Back	5mm	Ant 0	DSI 7	26865	831.5	1		23.63	24.00	1.089			-0.19	0.632	0.688
	LTE Band 26	15M	QPSK	36	0	Back	5mm	Ant 0	DSI 7	26865	831.5	1		23.48	24.00	1.127			0.03	0.497	0.560
	LTE Band 26	15M	QPSK	1	0	Left Side	5mm	Ant 0	DSI 7	26865	831.5	1		23.63	24.00	1.089			-0.08	0.123	0.134
	LTE Band 26	15M	QPSK	36	0	Left Side	5mm	Ant 0	DSI 7	26865	831.5	1		23.48	24.00	1.127			-0.08	0.090	0.101
	LTE Band 26	15M	QPSK	1	0	Right Side	5mm	Ant 0	DSI 7	26865	831.5	1		23.63	24.00	1.089			0.10	0.540	0.588
	LTE Band 26	15M	QPSK	36	0	Right Side	5mm	Ant 0	DSI 7	26865	831.5	1		23.48	24.00	1.127			-0.18	0.408	0.460
	LTE Band 26	15M	QPSK	1	0	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	1		23.63	24.00	1.089			0.08	0.564	0.614
	LTE Band 26	15M	QPSK	36	0	Bottom Side	5mm	Ant 0	DSI 7	26865	831.5	1		23.48	24.00	1.127			-0.17	0.453	0.511
	LTE Band 26	15M	QPSK	1	0	Back	5mm	Ant 0	DSI 7	26865	831.5	1	Cover	23.63	24	1.089			0.01	0.588	0.640
	LTE Band 26	15M	QPSK	1	0	Back	5mm	Ant 0	DSI 7	26865	831.5	2		23.63	24	1.089			0.03	0.562	0.612
	LTE Band 26	15M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	26865	831.5	1		18.83	19.90	1.279			0.06	0.550	0.703
	LTE Band 26	15M	QPSK	36	0	Front	5mm	Ant 1	DSI 7	26865	831.5	1		18.81	19.90	1.285			-0.09	0.443	0.569
	LTE Band 26	15M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	26865	831.5	1		18.83	19.90	1.279			-0.08	0.455	0.582
	LTE Band 26	15M	QPSK	36	0	Back	5mm	Ant 1	DSI 7	26865	831.5	1		18.81	19.90	1.285			0.13	0.349	0.448
37	LTE Band 26	15M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	26865	831.5	1		18.83	19.90	1.279			0.02	0.785	1.004
	LTE Band 26	15M	QPSK	36	0	Left Side	5mm	Ant 1	DSI 7	26865	831.5	1		18.81	19.90	1.285			0.12	0.650	0.835
	LTE Band 26	15M	QPSK	75	0	Left Side	5mm	Ant 1	DSI 7	26865	831.5	1		18.67	19.90	1.327			0.03	0.621	0.824
	LTE Band 26	15M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 7	26865	831.5	1		18.83	19.90	1.279			0.18	0.026	0.033
	LTE Band 26	15M	QPSK	36	0	Right Side	5mm	Ant 1	DSI 7	26865	831.5	1		18.81	19.90	1.285			0.16	0.020	0.026
	LTE Band 26	15M	QPSK	1	0	Top Side	5mm	Ant 1	DSI 7	26865	831.5	1		18.83	19.90	1.279			-0.10	0.018	0.023
	LTE Band 26	15M	QPSK	36	0	Top Side	5mm	Ant 1	DSI 7	26865	831.5	1		18.81	19.90	1.285			0.03	0.014	0.018
	LTE Band 26	15M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	26865	831.5	1	Cover	18.83	19.9	1.279			0.06	0.714	0.913
	LTE Band 26	15M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	26865	831.5	2		18.83	19.9	1.279			-0.08	0.745	0.953
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 4	DSI 7	132322	1745	1		17.47	18.30	1.211			-0.09	0.307	0.372
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 4	DSI 7	132322	1745	1		17.41	18.30	1.227			0.18	0.241	0.296
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 4	DSI 7	132322	1745	1		17.47	18.30	1.211			0.11	0.380	0.460
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 4	DSI 7	132322	1745	1		17.41	18.30	1.227			0.07	0.295	0.362
	LTE Band 66	20M	QPSK	1	0	Left Side	5mm	Ant 4	DSI 7	132322	1745	1		17.47	18.30	1.211			-0.03	0.169	0.205
	LTE Band 66	20M	QPSK	50	0	Left Side	5mm	Ant 4	DSI 7	132322	1745	1		17.41	18.30	1.227			0.09	0.136	0.167
	LTE Band 66	20M	QPSK	1	0	Right Side	5mm	Ant 4	DSI 7	132322	1745	1		17.47	18.30	1.211			-0.08	0.020	0.024
	LTE Band 66	20M	QPSK	50	0	Right Side	5mm	Ant 4	DSI 7	132322	1745	1		17.41	18.30	1.227			-0.05	0.016	0.020
	LTE Band 66	20M	QPSK	1	0	Top Side	5mm	Ant 4	DSI 7	132322	1745	1		17.47	18.30	1.211			0.02	0.440	0.533
	LTE Band 66	20M	QPSK	50	0	Top Side	5mm	Ant 4	DSI 7	132322	1745										



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	LTE Band 66C	20M	QPSK	1	99	Top Side	5mm	Ant 4	DSI 7	132322+ 132520	1745+ 1764.8	1		17.35	18.3	1.245			0.01	0.409	0.509
	LTE Band 66	20M	QPSK	1	0	Front	5mm	Ant 8	DSI 7	132322	1745	1		19.28	20.30	1.265			0.17	0.580	0.734
	LTE Band 66	20M	QPSK	50	0	Front	5mm	Ant 8	DSI 7	132322	1745	1		19.25	20.30	1.274			0.10	0.461	0.587
	LTE Band 66	20M	QPSK	1	0	Back	5mm	Ant 8	DSI 7	132322	1745	1		19.28	20.30	1.265			-0.08	0.614	0.777
	LTE Band 66	20M	QPSK	50	0	Back	5mm	Ant 8	DSI 7	132322	1745	1		19.25	20.30	1.274			-0.09	0.489	0.623
	LTE Band 66	20M	QPSK	1	0	Left Side	5mm	Ant 8	DSI 7	132322	1745	1		19.28	20.30	1.265			0.03	0.202	0.256
	LTE Band 66	20M	QPSK	50	0	Left Side	5mm	Ant 8	DSI 7	132322	1745	1		19.25	20.30	1.274			-0.10	0.161	0.205
	LTE Band 66	20M	QPSK	1	0	Right Side	5mm	Ant 8	DSI 7	132322	1745	1		19.28	20.30	1.265			0.18	0.080	0.101
	LTE Band 66	20M	QPSK	50	0	Right Side	5mm	Ant 8	DSI 7	132322	1745	1		19.25	20.30	1.274			-0.10	0.068	0.087
38	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	132322	1745	1		19.28	20.30	1.265			-0.04	0.870	1.101
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	132072	1720	1		19.25	20.30	1.274			0.19	0.857	1.092
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	132572	1770	1		19.21	20.30	1.285			0.07	0.850	1.092
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	132322	1745	1		19.25	20.30	1.274			-0.18	0.705	0.898
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	132072	1720	1		19.10	20.30	1.318			0.03	0.682	0.899
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	132572	1770	1		19.19	20.30	1.291			-0.15	0.648	0.837
	LTE Band 66	20M	QPSK	100	0	Bottom Side	5mm	Ant 8	DSI 7	132322	1745	1		19.21	20.30	1.285			-0.15	0.691	0.888
	LTE Band 66_PA (Reference Designator)	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	132322	1745	1		19.28	20.3	1.265			0.03	0.603	0.763
	LTE Band 66C	20M	QPSK	1	99	Bottom Side	5mm	Ant 8	DSI 7	132322+ 132520	1745+ 1764.8	1		19.15	20.3	1.303			0.02	0.826	1.076
	LTE Band 71	20M	QPSK	1	0	Front	5mm	Ant 0	DSI 7	133297	680.5	1		23.61	24.00	1.094			0.02	0.397	0.434
	LTE Band 71	20M	QPSK	50	0	Front	5mm	Ant 0	DSI 7	133297	680.5	1		23.55	24.00	1.109			0.16	0.332	0.368
	LTE Band 71	20M	QPSK	1	0	Back	5mm	Ant 0	DSI 7	133297	680.5	1		23.61	24.00	1.094			-0.03	0.436	0.477
	LTE Band 71	20M	QPSK	50	0	Back	5mm	Ant 0	DSI 7	133297	680.5	1		23.55	24.00	1.109			0.07	0.372	0.413
	LTE Band 71	20M	QPSK	1	0	Left Side	5mm	Ant 0	DSI 7	133297	680.5	1		23.61	24.00	1.094			0.06	0.123	0.135
	LTE Band 71	20M	QPSK	50	0	Left Side	5mm	Ant 0	DSI 7	133297	680.5	1		23.55	24.00	1.109			0.01	0.090	0.100
	LTE Band 71	20M	QPSK	1	0	Right Side	5mm	Ant 0	DSI 7	133297	680.5	1		23.61	24.00	1.094			0.02	0.689	0.754
	LTE Band 71	20M	QPSK	50	0	Right Side	5mm	Ant 0	DSI 7	133297	680.5	1		23.55	24.00	1.109			-0.01	0.546	0.606
	LTE Band 71	20M	QPSK	1	0	Bottom Side	5mm	Ant 0	DSI 7	133297	680.5	1		23.61	24.00	1.094			-0.09	0.327	0.358
	LTE Band 71	20M	QPSK	50	0	Bottom Side	5mm	Ant 0	DSI 7	133297	680.5	1		23.55	24.00	1.109			-0.17	0.277	0.307
	LTE Band 71	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	133297	680.5	1		21.77	22.80	1.268			0.03	0.536	0.680
	LTE Band 71	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	133297	680.5	1		21.61	22.80	1.315			-0.06	0.432	0.568
	LTE Band 71	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	133297	680.5	1		21.77	22.80	1.268			0.01	0.417	0.529
	LTE Band 71	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	133297	680.5	1		21.61	22.80	1.315			-0.03	0.332	0.437
39	LTE Band 71	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	133297	680.5	1		21.77	22.80	1.268			0.01	0.781	0.990
	LTE Band 71	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	133297	680.5	1		21.61	22.80	1.315			0.03	0.638	0.839
	LTE Band 71	20M	QPSK	100	0	Left Side	5mm	Ant 1	DSI 7	133297	680.5	1		21.58	22.80	1.324			-0.17	0.611	0.809
	LTE Band 71	20M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 7	133297	680.5	1		21.77	22.80	1.268			0.02	0.034	0.043
	LTE Band 71	20M	QPSK	50	0	Right Side	5mm	Ant 1	DSI 7	133297	680.5	1		21.61	22.80	1.315			-0.11	0.031	0.041
	LTE Band 71	20M	QPSK	1	0	Top Side	5mm	Ant 1	DSI 7	133297	680.5	1		21.77	22.80	1.268			0.18	0.001	0.001
	LTE Band 71	20M	QPSK	50	0	Top Side	5mm	Ant 1	DSI 7	133297	680.5	1		21.61	22.80	1.315			0.03	0.001	0.001
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 1	DSI 7	40620	2593	1		17.84	18.70	1.219	62.9	1.006	0.02	0.383	0.470
	LTE Band 41	20M	QPSK	50	0	Front	5mm	Ant 1	DSI 7	40620	2593	1		17.82	18.70	1.225	62.9	1.006	0.02	0.339	0.418
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 1	DSI 7	40620	2593	1		17.84	18.70	1.219	62.9	1.006	-0.01	0.336	0.412
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Ant 1	DSI 7	40620	2593	1		17.82	18.70	1.225	62.9	1.006	-0.10	0.272	0.335
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	40620	2593	1		17.84	18.70	1.219	62.9	1.006	0.08	0.813	0.997
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	39750	2506	1		17.75	18.70	1.245	62.9	1.006	-0.13	0.548	0.686
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	40185	2549.5	1		17.78	18.70	1.236	62.9	1.006	-0.01	0.682	0.848
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	41055	2636.5	1		17.73	18.70	1.25	62.9	1.006	-0.09	0.658	0.827
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	41490	2680	1		17.76	18.70	1.242	62.9	1.006	0.05	0.480	0.600
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	40620	2593	1		17.82	18.70	1.225	62.9	1.006	0.02	0.652	0.803
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	39750	2506	1		17.69	18.70	1.262	62.9	1.006	-0.13	0.454	0.576
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	40185	2549.5	1		17.72	18.70	1.253	62.9	1.006	0.17	0.541	0.682
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	41055	2636.5	1		17.64	18.70	1.276	62.9	1.006	0.06	0.494	0.634
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	Ant 1	DSI 7	41490	2680	1		17.73	18.70	1.25	62.9	1.006	-0.18	0.376	0.473
	LTE Band 41	20M	QPSK	100	0	Left Side	5mm	Ant 1	DSI 7	40620	2593	1		17.72	18.70	1.253	62.9	1.006	-0.04	0.611	0.770
	LTE Band 41	20M	QPSK	1	0	Right Side	5mm	Ant 1	DSI 7	40620	2593	1		17.84	18.70	1.219	62.9	1.006	-0.15	0.021	0.026
	LTE Band 41	20M	QPSK	50	0	Right Side	5mm	Ant 1	DSI 7	40620	2593	1		17.82	18.70	1.225	62.9	1.006	0.11	0.018	0.022
	LTE Band 41	20M	QPSK	1	0	Top Side	5mm	Ant 1	DSI 7	40620	2593	1		17.84	18.70	1.219	62.9	1.006	-0.02	0.006	0.007
	LTE Band 41	20M	QPSK	50	0	Top Side	5mm	Ant 1	DSI 7	40620	2593	1		17.82	18.70	1.225	62.9	1.006	0.10	0.003	0.004
	LTE Band 41_HPUE	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	40620	2593	1		19.47	20.30	1.211	42.9	1.009	0.01	0.809	0.989
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	40620	2593	1	Cover	17.84	18.7	1.219	62.9	1.006	-0.16	0.725	0.889
	LTE Band 41C	20M	QPSK	1	99	Left Side	5mm	Ant 1	DSI 7	40620+ 40818	2593+ 2612.8	1		17.69	18.7	1.262	62.9	1.006	0.02	0.746	0.947
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 1	DSI 7	40620	2593	2		17.84	18.7	1.219	62.9	1.006	-0.08	0.762	0.934
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 4	DSI 7	40620	2593	1		15.38	16.70	1.355	62.9	1.006	-0.15	0.353	0.481
	LTE Band 41	20M	QPSK	50	0	Front	5mm	Ant 4	DSI 7	40620	2593	1		15.35	16.70	1.365	62.9	1.006	0.13	0.280	0.384
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 4	DSI 7	40620	2593	1		15.38	16.70	1.355	62.9	1.006	-0.14	0.341	0.465
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Ant 4	DSI 7	40620	2593	1		15.35	16.70	1.365	62.9	1.006	0.12	0.265	0.364
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 4	DSI 7	40620	2593	1		15.38	16.70	1.355	62.9	1.006	0.19	0.393	0.536
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	Ant 4	DSI 7	40620	2593	1		15.35	16.70	1.365	62.9	1.006	-0.16	0.307	0.422



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	LTE Band 41	20M	QPSK	50	0	Top Side	5mm	Ant 4	DSI 7	40620	2593	1		15.35	16.70	1.365	62.9	1.006	-0.09	0.202	0.277
	LTE Band 41 HPUE	20M	QPSK	1	0	Left Side	5mm	Ant 4	DSI 7	40620	2593	1		17.02	18.30	1.343	42.9	1.009	-0.09	0.378	0.512
	LTE Band 41C	20M	QPSK	1	99	Left Side	5mm	Ant 4	DSI 7	40620+ 40818	2593+ 2612.8	1		15.25	16.7	1.396	62.9	1.006	0.03	0.355	0.499
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 8	DSI 7	40620	2593	1		20.75	21.70	1.245	62.9	1.006	0.11	0.561	0.703
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 8	DSI 7	39750	2506	1		20.69	21.70	1.262	62.9	1.006	-0.08	0.450	0.571
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 8	DSI 7	40185	2549.5	1		20.66	21.70	1.271	62.9	1.006	-0.17	0.490	0.627
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 8	DSI 7	41055	2636.5	1		20.70	21.70	1.259	62.9	1.006	-0.08	0.572	0.724
	LTE Band 41	20M	QPSK	1	0	Front	5mm	Ant 8	DSI 7	41490	2680	1		20.69	21.70	1.262	62.9	1.006	-0.04	0.605	0.768
	LTE Band 41	20M	QPSK	50	0	Front	5mm	Ant 8	DSI 7	40620	2593	1		20.73	21.70	1.25	62.9	1.006	-0.08	0.465	0.585
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 8	DSI 7	40620	2593	1		20.75	21.70	1.245	62.9	1.006	-0.13	0.549	0.688
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 8	DSI 7	39750	2506	1		20.69	21.70	1.262	62.9	1.006	0.06	0.394	0.500
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 8	DSI 7	40185	2549.5	1		20.66	21.70	1.271	62.9	1.006	-0.03	0.477	0.610
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 8	DSI 7	41055	2636.5	1		20.70	21.70	1.259	62.9	1.006	-0.03	0.566	0.717
	LTE Band 41	20M	QPSK	1	0	Back	5mm	Ant 8	DSI 7	41490	2680	1		20.69	21.70	1.262	62.9	1.006	0.08	0.555	0.705
	LTE Band 41	20M	QPSK	50	0	Back	5mm	Ant 8	DSI 7	40620	2593	1		20.73	21.70	1.25	62.9	1.006	-0.07	0.455	0.572
	LTE Band 41	20M	QPSK	1	0	Left Side	5mm	Ant 8	DSI 7	40620	2593	1		20.75	21.70	1.245	62.9	1.006	-0.02	0.076	0.095
	LTE Band 41	20M	QPSK	50	0	Left Side	5mm	Ant 8	DSI 7	40620	2593	1		20.73	21.70	1.25	62.9	1.006	0.15	0.052	0.065
	LTE Band 41	20M	QPSK	1	0	Right Side	5mm	Ant 8	DSI 7	40620	2593	1		20.75	21.70	1.245	62.9	1.006	-0.09	0.108	0.135
	LTE Band 41	20M	QPSK	50	0	Right Side	5mm	Ant 8	DSI 7	40620	2593	1		20.73	21.70	1.25	62.9	1.006	0.11	0.055	0.069
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	40620	2593	1		20.75	21.70	1.245	62.9	1.006	0.16	0.858	1.075
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	39750	2506	1		20.69	21.70	1.262	62.9	1.006	0.05	0.807	1.025
40	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	40185	2549.5	1		20.66	21.70	1.271	62.9	1.006	0.02	0.880	1.125
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	41055	2636.5	1		20.70	21.70	1.259	62.9	1.006	0.05	0.774	0.980
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	41490	2680	1		20.69	21.70	1.262	62.9	1.006	-0.03	0.622	0.790
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	40620	2593	1		20.73	21.70	1.25	62.9	1.006	-0.15	0.790	0.993
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	39750	2506	1		20.68	21.70	1.265	62.9	1.006	0.02	0.589	0.750
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	40185	2549.5	1		20.64	21.70	1.276	62.9	1.006	0.07	0.751	0.964
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	41055	2636.5	1		20.66	21.70	1.271	62.9	1.006	0.16	0.577	0.738
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5mm	Ant 8	DSI 7	41490	2680	1		20.72	21.70	1.253	62.9	1.006	0.13	0.446	0.562
	LTE Band 41	20M	QPSK	100	0	Bottom Side	5mm	Ant 8	DSI 7	39750	2506	1		20.66	21.70	1.271	62.9	1.006	-0.18	0.701	0.896
	LTE Band 41 HPUE	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	40620	2593	1		22.35	23.30	1.245	42.9	1.009	0.01	0.851	1.069
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	40185	2549.5	1	Cover	20.66	21.7	1.271	62.9	1.006	-0.12	0.821	1.050
	LTE Band 41C	20M	QPSK	1	99	Bottom Side	5mm	Ant 8	DSI 7	40185+ 40383	2549.5+ 2569.3	1		20.51	21.7	1.315	62.9	1.006	0.03	0.823	1.089
	LTE Band 41	20M	QPSK	1	0	Bottom Side	5mm	Ant 8	DSI 7	40185	2549.5	2		20.66	21.7	1.271	62.9	1.006	0.1	0.835	1.068
41	LTE Band 42	20M	QPSK	1	0	Front	5mm	Ant 4	DSI 7	42590	3500	1		17.75	18.80	1.274	62.9	1.006	0.01	0.426	0.546
	LTE Band 42	20M	QPSK	50	0	Front	5mm	Ant 4	DSI 7	42590	3500	1		17.65	18.80	1.303	62.9	1.006	-0.07	0.352	0.461
	LTE Band 42	20M	QPSK	1	0	Back	5mm	Ant 4	DSI 7	42590	3500	1		17.75	18.80	1.274	62.9	1.006	0.11	0.194	0.249
	LTE Band 42	20M	QPSK	50	0	Back	5mm	Ant 4	DSI 7	42590	3500	1		17.65	18.80	1.303	62.9	1.006	-0.08	0.147	0.193
	LTE Band 42	20M	QPSK	1	0	Left Side	5mm	Ant 4	DSI 7	42590	3500	1		17.75	18.80	1.274	62.9	1.006	-0.10	0.235	0.301
	LTE Band 42	20M	QPSK	50	0	Left Side	5mm	Ant 4	DSI 7	42590	3500	1		17.65	18.80	1.303	62.9	1.006	-0.01	0.189	0.248
	LTE Band 42	20M	QPSK	1	0	Right Side	5mm	Ant 4	DSI 7	42590	3500	1		17.75	18.80	1.274	62.9	1.006	-0.09	0.047	0.060
	LTE Band 42	20M	QPSK	50	0	Right Side	5mm	Ant 4	DSI 7	42590	3500	1		17.65	18.80	1.303	62.9	1.006	-0.06	0.049	0.064
	LTE Band 42	20M	QPSK	1	0	Top Side	5mm	Ant 4	DSI 7	42590	3500	1		17.75	18.80	1.274	62.9	1.006	-0.17	0.377	0.483
	LTE Band 42	20M	QPSK	50	0	Top Side	5mm	Ant 4	DSI 7	42590	3500	1		17.65	18.80	1.303	62.9	1.006	-0.01	0.307	0.402
	LTE Band 42	20M	QPSK	1	0	Front	5mm	Ant 4	DSI 7	42590	3500	1	Cover	17.75	18.8	1.274	62.9	1.006	0.07	0.396	0.508
	LTE Band 42	20M	QPSK	1	0	Front	5mm	Ant 4	DSI 7	42590	3500	2		17.75	18.8	1.274	62.9	1.006	-0.18	0.413	0.529
	LTE Band 42	20M	QPSK	1	0	Front	5mm	Ant 6	DSI 7	42590	3500	1		13.24	14.10	1.219	62.9	1.006	-0.10	0.209	0.256
	LTE Band 42	20M	QPSK	50	0	Front	5mm	Ant 6	DSI 7	42590	3500	1		13.21	14.10	1.227	62.9	1.006	0.18	0.165	0.204
	LTE Band 42	20M	QPSK	1	0	Back	5mm	Ant 6	DSI 7	42590	3500	1		13.24	14.10	1.219	62.9	1.006	-0.17	0.110	0.135
	LTE Band 42	20M	QPSK	50	0	Back	5mm	Ant 6	DSI 7	42590	3500	1		13.21	14.10	1.227	62.9	1.006	-0.04	0.075	0.093
	LTE Band 42	20M	QPSK	1	0	Left Side	5mm	Ant 6	DSI 7	42590	3500	1		13.24	14.10	1.219	62.9	1.006	0.02	0.437	0.536
	LTE Band 42	20M	QPSK	50	0	Left Side	5mm	Ant 6	DSI 7	42590	3500	1		13.21	14.10	1.227	62.9	1.006	-0.05	0.315	0.389
	LTE Band 42	20M	QPSK	1	0	Right Side	5mm	Ant 6	DSI 7	42590	3500	1		13.24	14.10	1.219	62.9	1.006	0.01	0.004	0.005
	LTE Band 42	20M	QPSK	50	0	Right Side	5mm	Ant 6	DSI 7	42590	3500	1		13.21	14.10	1.227	62.9	1.006	-0.13	0.003	0.004
	LTE Band 42	20M	QPSK	1	0	Top Side	5mm	Ant 6	DSI 7	42590	3500	1		13.24	14.10	1.219	62.9	1.006	-0.01	0.025	0.031
	LTE Band 42	20M	QPSK	50	0	Top Side	5mm	Ant 6	DSI 7	42590	3500	1		13.21	14.10	1.227	62.9	1.006	-0.09	0.017	0.021
	LTE Band 42	20M	QPSK	1	0	Left Side	5mm	Ant 6	DSI 7	42590	3500	1	Cover	13.24	14.1	1.219	62.9	1.006	-0.02	0.378	0.464
	LTE Band 42C	20M	QPSK	1	99	Left Side	5mm	Ant 6	DSI 7	42590+ 42788	3500+ 3519.8	1		13.18	14.1	1.236	62.9	1.006	0.03	0.411	0.511
	LTE Band 42	20M	QPSK	1	0	Left Side	5mm	Ant 6	DSI 7	42590	3500	2		13.24	14.1	1.219	62.9	1.006	0.1	0.427	0.524
	LTE Band 42	20M	QPSK	1	0	Front	5mm	Ant 7	DSI 7	42590	3500	1		21.91	22.00	1.021	62.9	1.006	-0.02	0.126	0.129
	LTE Band 42	20M	QPSK	50	0	Front	5mm	Ant 7	DSI 7	42590	3500	1		20.85	21.00	1.035	62.9	1.006	-0.16	0.094	0.098
	LTE Band 42	20M	QPSK	1	0	Back	5mm	Ant 7	DSI 7	42590	3500	1		21.91	22.00	1.021	62.9	1.006	-0.03	0.095	0.098
	LTE Band 42	20M	QPSK	50	0	Back	5mm	Ant 7	DSI 7	42590	3500	1		20.85	21.00	1.035	62.9	1.006	-0.06	0.085	0.089
	LTE Band 42	20M	QPSK	1	0	Left Side	5mm	Ant 7	DSI 7	42590	3500	1		21.91	22.00	1.021	62.9	1.006	0.08	0.027	0.028
	LTE Band 42	20M	QPSK	50	0	Left Side	5mm	Ant 7	DSI 7	42590	3500	1		20.85	21.00	1.035	62.9	1.006	-0.07	0.016	0.017
	LTE Band 42	20M	QPSK	1	0	Right Side	5mm	Ant 7	DSI 7	42590	3500	1		21.91	22.00						



【FR1 SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Accessory	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)
	FR1 n2	40M	BPSK	1	1	Front	5mm	Ant 4	DSI 7	376000	1880	1		17.31	18.20	1.227			0.08	0.242	0.297
	FR1 n2	40M	BPSK	108	54	Front	5mm	Ant 4	DSI 7	376000	1880	1		17.25	18.20	1.245			0.01	0.249	0.310
	FR1 n2	40M	BPSK	1	1	Back	5mm	Ant 4	DSI 7	376000	1880	1		17.31	18.20	1.227			-0.08	0.140	0.172
	FR1 n2	40M	BPSK	108	54	Back	5mm	Ant 4	DSI 7	376000	1880	1		17.25	18.20	1.245			-0.08	0.141	0.176
	FR1 n2	40M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	376000	1880	1		17.31	18.20	1.227			-0.18	0.158	0.194
	FR1 n2	40M	BPSK	108	54	Left Side	5mm	Ant 4	DSI 7	376000	1880	1		17.25	18.20	1.245			0.10	0.161	0.200
	FR1 n2	40M	BPSK	1	1	Right Side	5mm	Ant 4	DSI 7	376000	1880	1		17.31	18.20	1.227			0.08	0.020	0.025
	FR1 n2	40M	BPSK	108	54	Right Side	5mm	Ant 4	DSI 7	376000	1880	1		17.25	18.20	1.245			-0.17	0.015	0.019
	FR1 n2	40M	BPSK	1	1	Top Side	5mm	Ant 4	DSI 7	376000	1880	1		17.31	18.20	1.227			-0.04	0.437	0.536
	FR1 n2	40M	BPSK	108	54	Top Side	5mm	Ant 4	DSI 7	376000	1880	1		17.25	18.20	1.245			-0.03	0.389	0.484
	FR1 n2	40M	BPSK	1	1	Top Side	5mm	Ant 4	DSI 7	376000	1880	1	Cover	17.31	18.2	1.227			-0.13	0.386	0.474
	FR1 n2	40M	BPSK	1	1	Top Side	5mm	Ant 4	DSI 7	376000	1880	2		17.31	18.2	1.227			0.08	0.411	0.504
	FR1 n2	40M	BPSK	1	1	Front	5mm	Ant 8	DSI 7	376000	1880	1		17.79	18.70	1.233			0.18	0.555	0.684
	FR1 n2	40M	BPSK	108	54	Front	5mm	Ant 8	DSI 7	376000	1880	1		17.75	18.70	1.245			0.14	0.598	0.745
	FR1 n2	40M	BPSK	1	1	Back	5mm	Ant 8	DSI 7	376000	1880	1		17.79	18.70	1.233			0.17	0.604	0.745
	FR1 n2	40M	BPSK	108	54	Back	5mm	Ant 8	DSI 7	376000	1880	1		17.75	18.70	1.245			-0.05	0.631	0.786
	FR1 n2	40M	BPSK	1	1	Left Side	5mm	Ant 8	DSI 7	376000	1880	1		17.79	18.70	1.233			0.10	0.195	0.240
	FR1 n2	40M	BPSK	108	54	Left Side	5mm	Ant 8	DSI 7	376000	1880	1		17.75	18.70	1.245			-0.17	0.198	0.247
	FR1 n2	40M	BPSK	1	1	Right Side	5mm	Ant 8	DSI 7	376000	1880	1		17.79	18.70	1.233			0.04	0.010	0.012
	FR1 n2	40M	BPSK	108	54	Right Side	5mm	Ant 8	DSI 7	376000	1880	1		17.75	18.70	1.245			-0.01	0.014	0.017
42	FR1 n2	40M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	376000	1880	1		17.79	18.70	1.233			0.08	0.900	1.110
	FR1 n2	40M	BPSK	108	54	Bottom Side	5mm	Ant 8	DSI 7	376000	1880	1		17.75	18.70	1.245			0.06	0.854	1.063
	FR1 n2	40M	BPSK	216	0	Bottom Side	5mm	Ant 8	DSI 7	376000	1880	1		17.50	18.70	1.318			-0.09	0.806	1.062
	FR1 n7	50M	BPSK	1	1	Front	5mm	Ant 4	DSI 7	507000	2535	1		13.79	14.80	1.262			-0.08	0.338	0.427
	FR1 n7	50M	BPSK	135	68	Front	5mm	Ant 4	DSI 7	507000	2535	1		13.74	14.80	1.276			0.13	0.319	0.407
	FR1 n7	50M	BPSK	1	1	Back	5mm	Ant 4	DSI 7	507000	2535	1		13.79	14.80	1.262			0.03	0.152	0.192
	FR1 n7	50M	BPSK	135	68	Back	5mm	Ant 4	DSI 7	507000	2535	1		13.74	14.80	1.276			0.18	0.180	0.230
	FR1 n7	50M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	507000	2535	1		13.79	14.80	1.262			-0.07	0.423	0.534
	FR1 n7	50M	BPSK	135	68	Left Side	5mm	Ant 4	DSI 7	507000	2535	1		13.74	14.80	1.276			-0.10	0.390	0.498
	FR1 n7	50M	BPSK	1	1	Right Side	5mm	Ant 4	DSI 7	507000	2535	1		13.79	14.80	1.262			0.18	0.008	0.010
	FR1 n7	50M	BPSK	135	68	Right Side	5mm	Ant 4	DSI 7	507000	2535	1		13.74	14.80	1.276			-0.10	0.008	0.010
	FR1 n7	50M	BPSK	1	1	Top Side	5mm	Ant 4	DSI 7	507000	2535	1		13.79	14.80	1.262			0.01	0.256	0.323
	FR1 n7	50M	BPSK	135	68	Top Side	5mm	Ant 4	DSI 7	507000	2535	1		13.74	14.80	1.276			-0.15	0.213	0.272
	FR1 n7_PA (Reference Designator)	50M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	507000	2535	1		13.79	14.8	1.262			0.05	0.384	0.485
	FR1 n7	50M	BPSK	1	1	Front	5mm	Ant 8	DSI 7	507000	2535	1		18.55	19.60	1.274			0.03	0.585	0.745
	FR1 n7	50M	BPSK	135	68	Front	5mm	Ant 8	DSI 7	507000	2535	1		18.51	19.60	1.285			-0.15	0.531	0.682
	FR1 n7	50M	BPSK	1	1	Back	5mm	Ant 8	DSI 7	507000	2535	1		18.55	19.60	1.274			0.11	0.627	0.799
	FR1 n7	50M	BPSK	135	68	Back	5mm	Ant 8	DSI 7	507000	2535	1		18.51	19.60	1.285			-0.08	0.579	0.744
	FR1 n7	50M	BPSK	1	1	Left Side	5mm	Ant 8	DSI 7	507000	2535	1		18.55	19.60	1.274			-0.08	0.261	0.333
	FR1 n7	50M	BPSK	135	68	Left Side	5mm	Ant 8	DSI 7	507000	2535	1		18.51	19.60	1.285			-0.04	0.219	0.281
	FR1 n7	50M	BPSK	1	1	Right Side	5mm	Ant 8	DSI 7	507000	2535	1		18.55	19.60	1.274			0.17	0.009	0.011
	FR1 n7	50M	BPSK	135	68	Right Side	5mm	Ant 8	DSI 7	507000	2535	1		18.51	19.60	1.285			0.18	0.006	0.008
43	FR1 n7	50M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	507000	2535	1		18.55	19.60	1.274			0.01	0.879	1.120
	FR1 n7	50M	BPSK	135	68	Bottom Side	5mm	Ant 8	DSI 7	507000	2535	1		18.51	19.60	1.285			-0.13	0.795	1.022
	FR1 n7	50M	BPSK	270	0	Bottom Side	5mm	Ant 8	DSI 7	507000	2535	1		18.20	19.60	1.38			-0.13	0.736	1.016
	FR1 n7_PA (Reference Designator)	50M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	507000	2535	1		18.55	19.6	1.274			0.09	0.768	0.978
	FR1 n26	20M	BPSK	1	1	Front	5mm	Ant 0	DSI 7	166300	831.5	1		23.64	24.00	1.086			0.06	0.304	0.330
	FR1 n26	20M	BPSK	50	28	Front	5mm	Ant 0	DSI 7	166300	831.5	1		23.54	24.00	1.112			-0.03	0.296	0.329
	FR1 n26	20M	BPSK	1	1	Back	5mm	Ant 0	DSI 7	166300	831.5	1		23.64	24.00	1.086			-0.03	0.302	0.328
	FR1 n26	20M	BPSK	50	28	Back	5mm	Ant 0	DSI 7	166300	831.5	1		23.54	24.00	1.112			0.08	0.304	0.338
	FR1 n26	20M	BPSK	1	1	Left Side	5mm	Ant 0	DSI 7	166300	831.5	1		23.64	24.00	1.086			-0.07	0.001	0.001
	FR1 n26	20M	BPSK	50	28	Left Side	5mm	Ant 0	DSI 7	166300	831.5	1		23.54	24.00	1.112			0.05	0.001	0.001
	FR1 n26	20M	BPSK	1	1	Right Side	5mm	Ant 0	DSI 7	166300	831.5	1		23.64	24.00	1.086			-0.11	0.292	0.317
	FR1 n26	20M	BPSK	50	28	Right Side	5mm	Ant 0	DSI 7	166300	831.5	1		23.54	24.00	1.112			-0.06	0.342	0.380
	FR1 n26	20M	BPSK	1	1	Bottom Side	5mm	Ant 0	DSI 7	166300	831.5	1		23.64	24.00	1.086			-0.16	0.268	0.291
	FR1 n26	20M	BPSK	50	28	Bottom Side	5mm	Ant 0	DSI 7	166300	831.5	1		23.54	24.00	1.112			-0.02	0.269	0.299
	FR1 n26	20M	BPSK	1	1	Front	5mm	Ant 1	DSI 7	166300	831.5	1		18.55	19.80	1.334			0.08	0.508	0.678
	FR1 n26	20M	BPSK	50	28	Front	5mm	Ant 1	DSI 7	166300	831.5	1		18.38	19.80	1.387			0.01	0.534	0.741
	FR1 n26	20M	BPSK	1	1	Back	5mm	Ant 1	DSI 7	166300	831.5	1		18.55	19.80	1.334			-0.08	0.317	0.423
	FR1 n26	20M	BPSK	50	28	Back	5mm	Ant 1	DSI 7	166300	831.5	1		18.38	19.80	1.387			-0.08	0.331	0.459
44	FR1 n26	20M	BPSK	1	1	Left Side	5mm	Ant 1	DSI 7	166300	831.5	1		18.55	19.80	1.334			-0.01	0.743	0.991
	FR1 n26	20M	BPSK	50	28	Left Side	5mm	Ant 1	DSI 7	166300	831.5	1		18.38	19.80	1.387			-0.18	0.689	0.956
	FR1 n26	20M	BPSK	100	0	Left Side	5mm	Ant 1	DSI 7	166300	831.5	1		18.30	19.80	1.413			0.12	0.665	0.940
	FR1 n26	20M	BPSK	1	1	Right Side	5mm	Ant 1	DSI 7	166300	831.5	1		18.55	19.80	1.334			0.08	0.019	0.025



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	FR1 n26	20M	BPSK	50	28	Right Side	5mm	Ant 1	DSI 7	166300	831.5	1		18.38	19.80	1.387			-0.17	0.019	0.026
	FR1 n26	20M	BPSK	1	1	Top Side	5mm	Ant 1	DSI 7	166300	831.5	1		18.55	19.80	1.334			-0.03	0.010	0.013
	FR1 n26	20M	BPSK	50	28	Top Side	5mm	Ant 1	DSI 7	166300	831.5	1		18.38	19.80	1.387			0.05	0.006	0.008
	FR1 n66	45M	BPSK	1	1	Front	5mm	Ant 4	DSI 7	349000	1745	1		18.39	19.10	1.178			-0.05	0.275	0.324
	FR1 n66	45M	BPSK	120	60	Front	5mm	Ant 4	DSI 7	349000	1745	1		18.33	19.10	1.194			0.18	0.241	0.288
	FR1 n66	45M	BPSK	1	1	Back	5mm	Ant 4	DSI 7	349000	1745	1		18.39	19.10	1.178			-0.17	0.151	0.178
	FR1 n66	45M	BPSK	120	60	Back	5mm	Ant 4	DSI 7	349000	1745	1		18.33	19.10	1.194			0.17	0.136	0.162
	FR1 n66	45M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	349000	1745	1		18.39	19.10	1.178			-0.05	0.157	0.185
	FR1 n66	45M	BPSK	120	60	Left Side	5mm	Ant 4	DSI 7	349000	1745	1		18.33	19.10	1.194			0.01	0.120	0.143
	FR1 n66	45M	BPSK	1	1	Right Side	5mm	Ant 4	DSI 7	349000	1745	1		18.39	19.10	1.178			0.10	0.012	0.014
	FR1 n66	45M	BPSK	120	60	Right Side	5mm	Ant 4	DSI 7	349000	1745	1		18.33	19.10	1.194			-0.17	0.007	0.008
	FR1 n66	45M	BPSK	1	1	Top Side	5mm	Ant 4	DSI 7	349000	1745	1		18.39	19.10	1.178			0.07	0.451	0.531
	FR1 n66	45M	BPSK	120	60	Top Side	5mm	Ant 4	DSI 7	349000	1745	1		18.33	19.10	1.194			0.04	0.438	0.523
	FR1 n66_PA (Reference Designator)	45M	BPSK	1	1	Top Side	5mm	Ant 4	DSI 7	349000	1745	1		18.39	19.1	1.178			0.06	0.385	0.454
	FR1 n66	45M	BPSK	1	1	Front	5mm	Ant 8	DSI 7	349000	1745	1		18.48	19.70	1.324			0.06	0.597	0.790
	FR1 n66	45M	BPSK	120	60	Front	5mm	Ant 8	DSI 7	349000	1745	1		18.45	19.70	1.334			-0.09	0.509	0.679
	FR1 n66	45M	BPSK	1	1	Back	5mm	Ant 8	DSI 7	349000	1745	1		18.48	19.70	1.324			0.13	0.597	0.790
	FR1 n66	45M	BPSK	120	60	Back	5mm	Ant 8	DSI 7	349000	1745	1		18.45	19.70	1.334			0.12	0.580	0.774
	FR1 n66	45M	BPSK	1	1	Left Side	5mm	Ant 8	DSI 7	349000	1745	1		18.48	19.70	1.324			0.18	0.159	0.211
	FR1 n66	45M	BPSK	120	60	Left Side	5mm	Ant 8	DSI 7	349000	1745	1		18.45	19.70	1.334			0.16	0.143	0.191
	FR1 n66	45M	BPSK	1	1	Right Side	5mm	Ant 8	DSI 7	349000	1745	1		18.48	19.70	1.324			-0.10	0.010	0.013
	FR1 n66	45M	BPSK	120	60	Right Side	5mm	Ant 8	DSI 7	349000	1745	1		18.45	19.70	1.334			0.07	0.005	0.007
45	FR1 n66	45M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	349000	1745	1		18.48	19.70	1.324			0.09	0.845	1.119
	FR1 n66	45M	BPSK	120	60	Bottom Side	5mm	Ant 8	DSI 7	349000	1745	1		18.45	19.70	1.334			0.01	0.774	1.033
	FR1 n66	45M	BPSK	240	0	Bottom Side	5mm	Ant 8	DSI 7	349000	1745	1		18.33	19.70	1.371			-0.15	0.757	1.038
	FR1 n66_PA (Reference Designator)	45M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	349000	1745	1		18.48	19.7	1.324			0.01	0.699	0.925
	FR1 n66	45M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	349000	1745	1	Cover	18.48	19.7	1.324			-0.16	0.804	1.064
	FR1 n66	45M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	349000	1745	2		18.48	19.7	1.324			-0.17	0.823	1.090
	FR1 n71	35M	BPSK	1	1	Front	5mm	Ant 0	DSI 7	136100	680.5	1		23.72	24.00	1.067			0.19	0.335	0.357
	FR1 n71	35M	BPSK	90	45	Front	5mm	Ant 0	DSI 7	136100	680.5	1		23.71	24.00	1.069			0.07	0.396	0.423
	FR1 n71	35M	BPSK	1	1	Back	5mm	Ant 0	DSI 7	136100	680.5	1		23.72	24.00	1.067			-0.18	0.318	0.339
	FR1 n71	35M	BPSK	90	45	Back	5mm	Ant 0	DSI 7	136100	680.5	1		23.71	24.00	1.069			0.03	0.399	0.427
	FR1 n71	35M	BPSK	1	1	Left Side	5mm	Ant 0	DSI 7	136100	680.5	1		23.72	24.00	1.067			-0.15	0.002	0.002
	FR1 n71	35M	BPSK	90	45	Left Side	5mm	Ant 0	DSI 7	136100	680.5	1		23.71	24.00	1.069			-0.15	0.002	0.002
	FR1 n71	35M	BPSK	1	1	Right Side	5mm	Ant 0	DSI 7	136100	680.5	1		23.72	24.00	1.067			0.11	0.389	0.415
	FR1 n71	35M	BPSK	90	45	Right Side	5mm	Ant 0	DSI 7	136100	680.5	1		23.71	24.00	1.069			-0.02	0.434	0.464
	FR1 n71	35M	BPSK	1	1	Bottom Side	5mm	Ant 0	DSI 7	136100	680.5	1		23.72	24.00	1.067			-0.08	0.210	0.224
	FR1 n71	35M	BPSK	90	45	Bottom Side	5mm	Ant 0	DSI 7	136100	680.5	1		23.71	24.00	1.069			-0.04	0.217	0.232
	FR1 n71	35M	BPSK	1	1	Front	5mm	Ant 1	DSI 7	136100	680.5	1		21.78	22.90	1.294			-0.08	0.598	0.774
	FR1 n71	35M	BPSK	90	45	Front	5mm	Ant 1	DSI 7	136100	680.5	1		21.77	22.90	1.297			0.17	0.641	0.831
	FR1 n71	35M	BPSK	180	0	Front	5mm	Ant 1	DSI 7	136100	680.5	1		21.56	22.90	1.361			0.18	0.583	0.793
	FR1 n71	35M	BPSK	1	1	Back	5mm	Ant 1	DSI 7	136100	680.5	1		21.78	22.90	1.294			-0.04	0.377	0.488
	FR1 n71	35M	BPSK	90	45	Back	5mm	Ant 1	DSI 7	136100	680.5	1		21.77	22.90	1.297			-0.08	0.423	0.549
	FR1 n71	35M	BPSK	1	1	Left Side	5mm	Ant 1	DSI 7	136100	680.5	1		21.78	22.90	1.294			0.06	0.686	0.888
46	FR1 n71	35M	BPSK	90	45	Left Side	5mm	Ant 1	DSI 7	136100	680.5	1		21.77	22.90	1.297			-0.13	0.766	0.994
	FR1 n71	35M	BPSK	180	0	Left Side	5mm	Ant 1	DSI 7	136100	680.5	1		21.56	22.90	1.361			0.06	0.643	0.875
	FR1 n71	35M	BPSK	1	1	Right Side	5mm	Ant 1	DSI 7	136100	680.5	1		21.78	22.90	1.294			-0.03	0.001	0.001
	FR1 n71	35M	BPSK	90	45	Right Side	5mm	Ant 1	DSI 7	136100	680.5	1		21.77	22.90	1.297			-0.03	0.001	0.001
	FR1 n71	35M	BPSK	1	1	Top Side	5mm	Ant 1	DSI 7	136100	680.5	1		21.78	22.90	1.294			0.05	0.001	0.001
	FR1 n71	35M	BPSK	90	45	Top Side	5mm	Ant 1	DSI 7	136100	680.5	1		21.77	22.90	1.297			0.06	0.001	0.001
	FR1 n71	35M	BPSK	90	45	Left Side	5mm	Ant 1	DSI 7	136100	680.5	1	Cover	21.77	22.9	1.297			-0.04	0.734	0.952
	FR1 n71	35M	BPSK	90	45	Left Side	5mm	Ant 1	DSI 7	136100	680.5	2		21.77	22.9	1.297			-0.03	0.745	0.966
	FR1 n41	100M	BPSK	1	1	Front	5mm	Ant 1	DSI 7	518598	2592.99	1		15.31	16.20	1.227			0.08	0.354	0.434
	FR1 n41	100M	BPSK	135	69	Front	5mm	Ant 1	DSI 7	518598	2592.99	1		15.28	16.20	1.236			0.01	0.473	0.585
	FR1 n41	100M	BPSK	1	1	Back	5mm	Ant 1	DSI 7	518598	2592.99	1		15.31	16.20	1.227			-0.08	0.215	0.264
	FR1 n41	100M	BPSK	135	69	Back	5mm	Ant 1	DSI 7	518598	2592.99	1		15.28	16.20	1.236			-0.08	0.320	0.396
	FR1 n41	100M	BPSK	1	1	Left Side	5mm	Ant 1	DSI 7	518598	2592.99	1		15.31	16.20	1.227			-0.18	0.689	0.845
	FR1 n41	100M	BPSK	135	69	Left Side	5mm	Ant 1	DSI 7	518598	2592.99	1		15.28	16.20	1.236			0.06	0.791	0.978
	FR1 n41	100M	BPSK	270	0	Left Side	5mm	Ant 1	DSI 7	518598	2592.99	1		14.98	16.20	1.324			0.12	0.635	0.841
	FR1 n41	100M	BPSK	1	1	Right Side	5mm	Ant 1	DSI 7	518598	2592.99	1		15.31	16.20	1.227			0.08	0.021	0.026
	FR1 n41	100M	BPSK	135	69	Right Side	5mm	Ant 1	DSI 7	518598	2592.99	1		15.28	16.20	1.236			-0.17	0.016	0.020
	FR1 n41	100M	BPSK	1	1	Top Side	5mm	Ant 1	DSI 7	518598	2592.99	1		15.31	16.20	1.227			-0.03	0.025	0.031
	FR1 n41	100M	BPSK	135	69	Top Side	5mm	Ant 1	DSI 7	518598	2592.99	1		15.28	16.20	1.236			-0.04	0.010	0.012
	FR1 n41_HPUE	100M	BPSK	1	1	Left Side	5mm	Ant 1	DSI 7	518598	2592.99	1		18.35	19.20	1.216	50.0	1.0	-0.04	0.784	0.953
	FR1 n41	100M	BPSK	1	1	Front	5mm	Ant 3	DSI 7	518598	2592.99	1		18.99	20.30	1.352			-0.09	0.400	0.541
	FR1 n41	100M	BPSK	135	69	Front	5mm	Ant 3	DSI 7	518598	2592.99	1		18.95	20.30	1.365			0.08	0.310	0.423
	FR1 n41	100M	BPSK	1	1	Back	5mm	Ant 3	DSI 7	518598	2592.99	1		18.99	20.30	1.352			0.03	0.390	0.527
	FR1 n41	100M	BPSK	135	69	Back	5mm	Ant 3	DSI 7	518598	2592.99	1		18.95	20.30	1.365			-0.08	0.362	0.494
	FR1 n41	100M	BPSK	1	1	Left Side	5mm	Ant 3	DSI 7	518598	2592.99	1		18.99	20.30	1.352			-0.08	0.060	0.081
	FR1 n41	100M	BPSK	135	69	Left Side	5mm	Ant 3	DSI 7	518598	2592.99	1		18.95							



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	FR1 n41	100M	BPSK	135	69	Right Side	5mm	Ant 3	DSI 7	518598	2592.99	1		18.95	20.30	1.365			0.10	0.380	0.519
	FR1 n41	100M	BPSK	1	1	Top Side	5mm	Ant 3	DSI 7	518598	2592.99	1		18.99	20.30	1.352			0.12	0.532	0.719
	FR1 n41	100M	BPSK	135	69	Top Side	5mm	Ant 3	DSI 7	518598	2592.99	1		18.95	20.30	1.365			0.08	0.567	0.774
	FR1 n41	100M	BPSK	135	69	Top Side	5mm	Ant 3	DSI 7	518598	2592.99	1	Cover	18.95	20.3	1.365			0.06	0.508	0.693
	FR1 n41	100M	BPSK	135	69	Top Side	5mm	Ant 3	DSI 7	518598	2592.99	2		18.95	20.3	1.365			0.14	0.531	0.725
	FR1 n41	100M	BPSK	1	1	Front	5mm	Ant 4	DSI 7	518598	2592.99	1		12.65	13.70	1.274			0.14	0.302	0.385
	FR1 n41	100M	BPSK	135	69	Front	5mm	Ant 4	DSI 7	518598	2592.99	1		12.59	13.70	1.291			0.11	0.280	0.361
	FR1 n41	100M	BPSK	1	1	Back	5mm	Ant 4	DSI 7	518598	2592.99	1		12.65	13.70	1.274			0.18	0.134	0.171
	FR1 n41	100M	BPSK	135	69	Back	5mm	Ant 4	DSI 7	518598	2592.99	1		12.59	13.70	1.291			0.14	0.115	0.148
	FR1 n41	100M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	518598	2592.99	1		12.65	13.70	1.274			-0.11	0.423	0.539
	FR1 n41	100M	BPSK	135	69	Left Side	5mm	Ant 4	DSI 7	518598	2592.99	1		12.59	13.70	1.291			0.17	0.378	0.488
	FR1 n41	100M	BPSK	1	1	Right Side	5mm	Ant 4	DSI 7	518598	2592.99	1		12.65	13.70	1.274			0.01	0.010	0.013
	FR1 n41	100M	BPSK	135	69	Right Side	5mm	Ant 4	DSI 7	518598	2592.99	1		12.59	13.70	1.291			0.10	0.015	0.019
	FR1 n41	100M	BPSK	1	1	Top Side	5mm	Ant 4	DSI 7	518598	2592.99	1		12.65	13.70	1.274			-0.17	0.251	0.320
	FR1 n41	100M	BPSK	135	69	Top Side	5mm	Ant 4	DSI 7	518598	2592.99	1		12.59	13.70	1.291			0.04	0.261	0.337
	FR1 n41 HPUE	100M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	518598	2592.99	1		15.69	16.70	1.262	50.0	1.0	-0.06	0.410	0.517
	FR1 n41	100M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	518598	2592.99	1	Cover	12.65	13.7	1.274			-0.11	0.388	0.494
	FR1 n41_PA (Reference Designator)	100M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	518598	2592.99	1		12.65	13.7	1.274			0.03	0.281	0.358
	FR1 n41	100M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	518598	2592.99	2		12.65	13.7	1.274			0.11	0.409	0.521
	FR1 n41	100M	BPSK	1	1	Front	5mm	Ant 8	DSI 7	518598	2592.99	1		19.25	20.40	1.303			0.08	0.392	0.511
	FR1 n41	100M	BPSK	135	69	Front	5mm	Ant 8	DSI 7	518598	2592.99	1		19.21	20.40	1.315			0.01	0.456	0.600
	FR1 n41	100M	BPSK	1	1	Back	5mm	Ant 8	DSI 7	518598	2592.99	1		19.25	20.40	1.303			-0.08	0.491	0.640
	FR1 n41	100M	BPSK	135	69	Back	5mm	Ant 8	DSI 7	518598	2592.99	1		19.21	20.40	1.315			-0.08	0.509	0.669
	FR1 n41	100M	BPSK	1	1	Left Side	5mm	Ant 8	DSI 7	518598	2592.99	1		19.25	20.40	1.303			-0.18	0.090	0.117
	FR1 n41	100M	BPSK	135	69	Left Side	5mm	Ant 8	DSI 7	518598	2592.99	1		19.21	20.40	1.315			0.10	0.146	0.192
	FR1 n41	100M	BPSK	1	1	Right Side	5mm	Ant 8	DSI 7	518598	2592.99	1		19.25	20.40	1.303			0.12	0.021	0.027
	FR1 n41	100M	BPSK	135	69	Right Side	5mm	Ant 8	DSI 7	518598	2592.99	1		19.21	20.40	1.315			0.08	0.016	0.021
47	FR1 n41	100M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	518598	2592.99	1		19.25	20.40	1.303			-0.01	0.855	1.114
	FR1 n41	100M	BPSK	135	69	Bottom Side	5mm	Ant 8	DSI 7	518598	2592.99	1		19.21	20.40	1.315			0.14	0.785	1.032
	FR1 n41	100M	BPSK	270	0	Bottom Side	5mm	Ant 8	DSI 7	518598	2592.99	1		19.08	20.40	1.355			0.11	0.723	0.980
	FR1 n41 HPUE	100M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	518598	2592.99	1		22.22	23.40	1.312	50.0	1.0	-0.01	0.806	1.057
	FR1 n41_PA (Reference Designator)	100M	BPSK	1	1	Bottom Side	5mm	Ant 8	DSI 7	518598	2592.99	1		19.25	20.4	1.303			0.06	0.734	0.956
	FR1 n77	100M	BPSK	1	1	Front	5mm	Ant 4	DSI 7	656000	3840	1		15.28	16.10	1.208			0.17	0.418	0.505
	FR1 n77	100M	BPSK	135	69	Front	5mm	Ant 4	DSI 7	656000	3840	1		15.23	16.10	1.222			-0.05	0.408	0.499
	FR1 n77	100M	BPSK	1	1	Back	5mm	Ant 4	DSI 7	656000	3840	1		15.28	16.10	1.208			-0.13	0.124	0.150
	FR1 n77	100M	BPSK	135	69	Back	5mm	Ant 4	DSI 7	656000	3840	1		15.23	16.10	1.222			-0.01	0.119	0.145
	FR1 n77	100M	BPSK	1	1	Left Side	5mm	Ant 4	DSI 7	656000	3840	1		15.28	16.10	1.208			-0.09	0.154	0.186
	FR1 n77	100M	BPSK	135	69	Left Side	5mm	Ant 4	DSI 7	656000	3840	1		15.23	16.10	1.222			0.05	0.100	0.122
	FR1 n77	100M	BPSK	1	1	Right Side	5mm	Ant 4	DSI 7	656000	3840	1		15.28	16.10	1.208			-0.13	0.044	0.053
	FR1 n77	100M	BPSK	135	69	Right Side	5mm	Ant 4	DSI 7	656000	3840	1		15.23	16.10	1.222			0.17	0.035	0.043
	FR1 n77	100M	BPSK	1	1	Top Side	5mm	Ant 4	DSI 7	656000	3840	1		15.28	16.10	1.208			0.06	0.280	0.338
	FR1 n77	100M	BPSK	135	69	Top Side	5mm	Ant 4	DSI 7	656000	3840	1		15.23	16.10	1.222			0.06	0.248	0.303
	FR1 n77 HPUE	100M	BPSK	1	1	Front	5mm	Ant 4	DSI 7	656000	3840	1		18.25	19.10	1.216	50.0	1.0	0.09	0.437	0.531
	FR1 n77 HPUE	100M	BPSK	1	1	Front	5mm	Ant 4	DSI 7	656000	3840	1	Cover	18.25	19.1	1.216	50	1	0.03	0.396	0.482
	FR1 n77 HPUE	100M	BPSK	1	1	Front	5mm	Ant 4	DSI 7	656000	3840	2		18.25	19.1	1.216	50	1	-0.05	0.413	0.502
	FR1 n77	100M	BPSK	1	1	Front	5mm	Ant 5	DSI 7	656000	3840	1		12.08	13.20	1.294			-0.02	0.339	0.439
	FR1 n77	100M	BPSK	135	69	Front	5mm	Ant 5	DSI 7	656000	3840	1		12.05	13.20	1.303			0.10	0.266	0.347
	FR1 n77	100M	BPSK	1	1	Back	5mm	Ant 5	DSI 7	656000	3840	1		12.08	13.20	1.294			0.13	0.105	0.136
	FR1 n77	100M	BPSK	135	69	Back	5mm	Ant 5	DSI 7	656000	3840	1		12.05	13.20	1.303			-0.18	0.090	0.117
	FR1 n77	100M	BPSK	1	1	Left Side	5mm	Ant 5	DSI 7	656000	3840	1		12.08	13.20	1.294			-0.11	0.011	0.014
	FR1 n77	100M	BPSK	135	69	Left Side	5mm	Ant 5	DSI 7	656000	3840	1		12.05	13.20	1.303			-0.16	0.021	0.027
	FR1 n77	100M	BPSK	1	1	Right Side	5mm	Ant 5	DSI 7	656000	3840	1		12.08	13.20	1.294			0.01	0.410	0.531
	FR1 n77	100M	BPSK	135	69	Right Side	5mm	Ant 5	DSI 7	656000	3840	1		12.05	13.20	1.303			-0.15	0.305	0.397
	FR1 n77	100M	BPSK	1	1	Top Side	5mm	Ant 5	DSI 7	656000	3840	1		12.08	13.20	1.294			-0.14	0.229	0.296
	FR1 n77	100M	BPSK	135	69	Top Side	5mm	Ant 5	DSI 7	656000	3840	1		12.05	13.20	1.303			-0.19	0.184	0.240
	FR1 n77	100M	BPSK	1	1	Right Side	5mm	Ant 5	DSI 7	656000	3840	1	Cover	12.08	13.2	1.294			-0.13	0.375	0.485
	FR1 n77	100M	BPSK	1	1	Right Side	5mm	Ant 5	DSI 7	656000	3840	2		12.08	13.2	1.294			0.18	0.409	0.529
	FR1 n77	100M	BPSK	1	1	Front	5mm	Ant 6	DSI 7	656000	3840	1		9.88	10.90	1.265			0.02	0.181	0.229
	FR1 n77	100M	BPSK	135	69	Front	5mm	Ant 6	DSI 7	656000	3840	1		9.95	10.90	1.245			0.12	0.160	0.199
	FR1 n77	100M	BPSK	1	1	Back	5mm	Ant 6	DSI 7	656000	3840	1		9.88	10.90	1.265			-0.12	0.106	0.134
	FR1 n77	100M	BPSK	135	69	Back	5mm	Ant 6	DSI 7	656000	3840	1		9.95	10.90	1.245			0.07	0.068	0.085
48	FR1 n77	100M	BPSK	1	1	Left Side	5mm	Ant 6	DSI 7	656000	3840	1		9.88	10.90	1.265			-0.05	0.428	0.541
	FR1 n77	100M	BPSK	135	69	Left Side	5mm	Ant 6	DSI 7	656000	3840	1		9.95	10.90	1.245			-0.05	0.309	0.385
	FR1 n77	100M	BPSK	1	1	Right Side	5mm	Ant 6	DSI 7	656000	3840	1		9.88	10.90	1.265			0.08	0.004	0.005
	FR1 n77	100M	BPSK	135	69	Right Side	5mm	Ant 6	DSI 7	656000	3840	1		9.95	10.90	1.245			0.16	0.003	0.004
	FR1 n77	100M	BPSK	1	1	Top Side	5mm	Ant 6	DSI 7	656000	3840	1		9.88	10.90	1.265			0.01	0.027	0.034
	FR1 n77	100M	BPSK	135	69	Top Side	5mm	Ant 6	DSI 7	656000	3840	1		9.95	10.90	1.245			-0.16	0.022	0.027
	FR1 n77 HPUE	100M	BPSK	1	1	Left Side	5mm	Ant 6	DSI 7	656000	3840	1		12.91	13.90	1.256	50.0	1.0	0.05	0.410	0.515
	FR1 n77	100M	BPSK	1	1	Left Side	5mm	Ant 6	DSI 7	656000	3840	1	Cover	9.88	10.9	1.265			0.16	0.381	0.482
	FR1 n77																				