

FCC SAR Test Report

APPLICANT : Datalogic S.r.l.
EQUIPMENT : MOBILE COMPUTER/BARCODE READER
BRAND NAME : DATALOGIC
MODEL NAME : CMFSNR
FCC ID : U4G-CMFSNR
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

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA5O1606	Rev. 01	Initial issue of report	Apr. 13, 2026

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Datalogic S.r.l., MOBILE COMPUTER/BARCODE READER, CMFSNR**, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary			Highest Simultaneous Transmission 1g SAR (W/kg)	Highest Simultaneous Transmission 10g SAR (W/kg)
		Hotspot (Separation 10mm)	Body-worn (Separation 10mm)	Extremity (Separation 0mm)		
		1g SAR (W/kg)	1g SAR (W/kg)	10g SAR (W/kg)		
Licensed	WCDMA II	0.32	0.26		1.59	-
	WCDMA IV	0.40	0.35			
	WCDMA V	0.36	0.25			
	LTE Band 7	0.37	0.22			
	LTE Band 12/17	0.17	0.11			
	LTE Band 13	0.22	0.15			
	LTE Band 25/2	0.36	0.36			
	LTE Band 26/5	0.19	0.12			
	LTE Band 30	0.37	0.68			
	LTE Band 41/38	0.37	0.37			
	LTE Band 42	0.37	0.17			
	LTE Band 48/43	0.39	0.10			
	LTE Band 66/4	0.37	0.18			
	LTE Band 71	0.23	0.17			
	FR1 n7	0.40	0.34			
	FR1 n12	0.35	0.22			
	FR1 n13	0.37	0.23			
	FR1 n25/2	0.37	0.37			
	FR1 n26/5	0.35	0.27			
	FR1 n30	0.37	0.37			
	FR1 n41/38	0.40	0.22			
	FR1 n48	0.38	0.55			
	FR1 n66	0.41	0.67			
	FR1 n71	0.30	0.19			
	FR1 n77/78	0.20	0.46			
DTS	2.4GHz WLAN	0.30	0.30		1.59	-
NII	5GHz WLAN		0.56	0.97	1.59	0.97
6CD	6GHz WLAN		0.51	0.28	1.59	0.97
DSS	Bluetooth	<0.10	<0.10		1.59	-

Equipment Class	Frequency Band	Measured APD		Reported PD
		Body Worn (W/m ²)	Extremity (W/m ²)	psPD (W/m ²)
6CD	6GHz WLAN	3.36	5.12	7.41
Date of Testing:		2026/02/12 ~ 2026/03/04		

Remark:

- This device supports LTE B2 / B4 / B5 / B17 / B38 / 42 (3550MHz~3600MHz)&43 and B25 / B66 / B26 / B12 / B41 / B48. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 / 42 (3550MHz~3600MHz)&43 falls completely within the support's frequency span for LTE B25 / B66 / B26 / B12 / B41 / B48, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41 / B48.
- This device supports 5GNR n38/n5/n78/n2 and n41/n26/n77/n25. Since the supported frequency span for 5GNR n38/n5/n78/n2 falls completely within the support's frequency span for n41/n26/n77/n25, both 5GNR bands have the same target power, and both 5GNR bands share the same transmission path; therefore, SAR was only assessed for n41/n26/n77/n25.

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, SAR06-KS	CN1257	314309

Applicant	
Company Name	Datalogic S.r.l.
Address	Via San Vitalino 13 CALDERARA DI RENO, BO 40012 Italy

Manufacturer	
Company Name	Datalogic S.r.l.
Address	Via San Vitalino 13 CALDERARA DI RENO, BO 40012 Italy



3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 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/IEEE 62209-1528:2020
- 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 COMPUTER/BARCODE READER
Brand Name	DATALOGIC
Model Name	CMFSNR
FCC ID	U4G-CMFSNR
IMEI Code	Sample 1: 354106690004392/354106690004400 Sample 4: 354106690011256/354106690011264 Sample 6: 354106690009979/354106690009987
Wireless Technology and Frequency Range	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3600 MHz LTE Band 43: 3600 MHz ~ 3700 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n12: 699 MHz ~ 716 MHz 5G NR n13: 777 MHz ~ 787 MHz 5G NR n25: 1850 MHz ~ 1915 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n30: 2305 MHz ~ 2315 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n48: 3550 MHz ~ 3700 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz WLAN 6GHz U-NII 5: 5925 MHz ~ 6425 MHz WLAN 6GHz U-NII 6: 6425 MHz ~ 6525 MHz WLAN 6GHz U-NII 7: 6525 MHz ~ 6875 MHz WLAN 6GHz U-NII 8: 6875 MHz ~ 7125 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC: 13.56 MHz
Mode	RMC 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 802.11ac VHT20/VHT40 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
EUT Stage	Identical Prototype
Remark: 1. This device does not support voice function. 2. This device WLAN 2.4GHz support hotspot operation and Bluetooth support tethering applications. 3. This device WLAN 5GHz/6GHz has no hotspot function. 4. For dual SIM card mobile supports dual SIM dual standby. The WWAN radio transmission will be enabled by either one SIM at a time (single active). 5. The 2.4GHz/5GHz/6GHz WLAN can transmit in SISO/MIMO mode. 6. The device implements proximity sensors detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table. 7. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission. 8. This device supports HPUE mode for 5G NR n41/n77/n78 with higher power, so HPUE SAR has been performed full SAR testing and HUPE SAR can represent power class 3 level SAR. 9. 5G NR n77/n78 supports UL MIMO mode. 10. There are six samples, the differences can be found in the product equality declaration exhibit submitted. According to the difference, sample 1 was chosen to perform full SAR testing and sample 4/6 verified the worst case. For sample 2/3/5, the differences do not affect the test; therefore, they were not tested. 11. This device has NFC function and the NFC SAR report will be separately submitted. 12. This device supports 5G NR FR1 bands as following table, including NSA mode and SA mode. NSA and SA mode performed SAR separately.	

<5G NR>

Mode	Band	Duplex	SCS(KHz)	Bandwidths(BW)
NSA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n30	FDD	15	10
	n66	FDD	15	5, 10, 15, 20, 25, 30
	n41	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n77	TDD	30	20, 30, 40, 60, 80, 100
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
SA	n2	FDD	15	5, 10, 15, 20
	n5	FDD	15	5, 10, 15, 20
	n7	FDD	15	5, 10, 15, 20
	n12	FDD	15	5, 10, 15
	n13	FDD	15	5, 10
	n25	FDD	15	5, 10, 15, 20, 25, 30
	n26	FDD	15	5, 10, 15, 20
	n30	FDD	15	10
	n66	FDD	15	5, 10, 15, 20, 25, 30
	n71	FDD	15	5, 10, 15, 20
	n38	TDD	30	20, 30, 40
	n41	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100
	n48	TDD	30	20, 30, 40
	n77	TDD	30	20, 30, 40, 60, 80, 100
	n78	TDD	30	20, 30, 40, 50, 60, 70, 80, 90, 100

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05								
FCC ID	U4G-CMFSNR							
Equipment Name	MOBILE COMPUTER/BARCODE READER							
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz							
	LTE Band 4: 1710 MHz ~ 1755 MHz							
	LTE Band 5: 824 MHz ~ 849 MHz							
	LTE Band 7: 2500 MHz ~ 2570 MHz							
	LTE Band 12: 699 MHz ~ 716 MHz							
	LTE Band 13: 777 MHz ~ 787 MHz							
	LTE Band 17: 704 MHz ~ 716 MHz							
	LTE Band 25: 1850 MHz ~ 1915 MHz							
	LTE Band 26: 814 MHz ~ 849 MHz							
	LTE Band 30: 2305 MHz ~ 2315 MHz							
	LTE Band 38: 2570 MHz ~ 2620 MHz							
	LTE Band 41: 2496 MHz ~ 2690 MHz							
	LTE Band 42: 3450 MHz ~ 3600 MHz							
	LTE Band 43: 3600 MHz ~ 3700 MHz							
	LTE Band 48: 3550 MHz ~ 3700 MHz							
	LTE Band 66: 1710 MHz ~ 1780 MHz							
LTE Band 71: 663 MHz ~ 698 MHz								
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz							
	LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz							
	LTE Band 13: 5MHz, 10MHz							
	LTE Band 17: 5MHz, 10MHz							
	LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz							
	LTE Band 30: 5MHz, 10MHz							
	LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 43: 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz							
	LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz							
LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz								
Uplink Modulations used	QPSK / 16QAM / 64QAM / 256QAM							
LTE Voice / Data requirements	Data only							
LTE Release Version	R15							
CA Support	Yes, Downlink only							
LTE MPR permanently built-in by design	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
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/hotspot detect mechanism; body-worn/hotspot /extremity will trigger reduced power for some bands applied to satisfy SAR compliance.							

Transmission (H, M, L) channel numbers and frequencies in each LTE band																		
LTE Band 2																		
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860						
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880						
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900						
LTE Band 4																		
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720						
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5						
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745						
LTE Band 5																		
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz											
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	20407	824.7	20415	825.5	20425	826.5	20450	829										
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5								
H	20643	848.3	20635	847.5	20625	846.5	20600	844										
LTE Band 7																		
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz											
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510										
M	21100	2535	21100	2535	21100	2535	21100	2535										
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560										
LTE Band 12																		
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz											
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	23017	699.7	23025	700.5	23035	701.5	23060	704										
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5										
H	23173	715.3	23165	714.5	23155	713.5	23130	711										
LTE Band 13																		
	Bandwidth 5 MHz					Bandwidth 10 MHz												
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)							
L	23205		779.5		23230		782											
M	23230		782															
H	23255		784.5															
LTE Band 17																		
	Bandwidth 5 MHz					Bandwidth 10 MHz												
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)		Channel #		Freq. (MHz)							
L	23755		706.5		23780		709											
M	23790		710		23790		710											
H	23825		713.5		23800		711											
LTE Band 25																		
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860						
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880						
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905						
LTE Band 26																		
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5								
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5								
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5								

LTE Band 30				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	27685	2307.5	27710	2310
M	27710	2310		
H	27735	2312.5		

LTE Band 38								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
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 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

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	43115	3552.5	43140	3555	43165	3557.5	43190	3560
M	43340	3575	43340	3575	43340	3575	43340	3575
H	43565	3597.5	43540	3595	43515	3592.5	43490	3590

LTE Band 43								
	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	43615	3602.5	43640	3605	43665	3607.5	43690	3610
M	44090	3650	44090	3650	44090	3650	44090	3650
H	44565	3697.5	44540	3695	44515	3692.5	44490	3690

LTE Band 48								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560
LM	55810	3607	55815	3607.5	55820	3608	55830	3609
MH	56170	3643	56165	3642.5	56160	3642	56150	3641
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690

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

Band	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz
LTE Band 2	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 25	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 4	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 66	Yes	Yes	Yes	Yes	Yes	Yes
LTE Band 5	Yes	Yes	Yes	Yes		
LTE Band 26	Yes	Yes	Yes	Yes	Yes	
LTE Band 12	Yes	Yes	Yes	Yes		
LTE Band 17			Yes	Yes		
LTE Band 38			Yes	Yes	Yes	Yes
LTE Band 41			Yes	Yes	Yes	Yes
LTE Band 42			Yes	Yes	Yes	Yes
LTE Band 43			Yes	Yes	Yes	Yes
LTE Band 48			Yes	Yes	Yes	Yes

2) LTE Bands tune up:

Band	Antenna	Sensor on	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 2	Ant 0	16	16	24	24
LTE Band 25	Ant 0	16	16	24	24
LTE Band 4	Ant 0	13.5	13.5	24	24
LTE Band 66	Ant 0	13.5	13.5	24	24
LTE Band 5	Ant 0	20	20	24	24
LTE Band 26	Ant 0	20	20	24	24
LTE Band 12	Ant 0	22	22	24.5	24.5
LTE Band 17	Ant 0	22	22	24.5	24.5
LTE Band 38	Ant 0	19	19	25	25
LTE Band 41	Ant 0	19	19	25	25

Band	Antenna	Sensor on	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 2	Ant 1	24	24	24	24
LTE Band 25	Ant 1	24	24	24	24
LTE Band 4	Ant 1	24	24	24	24
LTE Band 66	Ant 1	24	24	24	24
LTE Band 38	Ant 1	19	19	24	24
LTE Band 41	Ant 1	19	19	24	24

Band	Antenna	Sensor on	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 2	Ant 4	20.5	20.5	24	24
LTE Band 25	Ant 4	20.5	20.5	24	24
LTE Band 4	Ant 4	20	20	24	24
LTE Band 66	Ant 4	20	20	24	24
LTE Band 38	Ant 4	21	21	24	24
LTE Band 41	Ant 4	21	21	24	24



Band	Antenna	Sensor on	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 42 Part96	Ant 5	21	21	21	21
LTE Band 43	Ant 5	21	21	21	21
LTE Band 48	Ant 5	21	21	21	21

Band	Antenna	Sensor on	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
LTE Band 42 Part96	Ant 7	18.5	18.5	18.5	18.5
LTE Band 43	Ant 7	18.5	18.5	18.5	18.5
LTE Band 48	Ant 7	18.5	18.5	18.5	18.5

4.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
Operating Frequency Range of each 5G NR transmission band	5G NR n2: 1850 MHz ~ 1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~ 2570 MHz 5G NR n12: 699 MHz ~ 716 MHz 5G NR n13: 777 MHz ~ 787 MHz 5G NR n25: 1850 MHz ~ 1915 MHz 5G NR n26: 814 MHz ~ 849 MHz 5G NR n30: 2305 MHz ~ 2315 MHz 5G NR n38: 2570 MHz ~ 2620 MHz 5G NR n41: 2496 MHz ~ 2690 MHz 5G NR n48: 3550 MHz ~ 3700 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz
Channel Bandwidth	The detail please refers to section 4.1 5GNR FR1 bands table.
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B5/12/13
LTE Anchor Bands for n5	LTE B2/66/30
LTE Anchor Bands for n30	LTE B5/12
LTE Anchor Bands for n41	LTE B26/12
LTE Anchor Bands for n66	LTE B5/12/13
LTE Anchor Bands for n77	LTE B2/5/12/13/30/66
LTE Anchor Bands for n78	LTE B5/7/41

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

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

NR Band 7								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560

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

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

NR Band 25												
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz	
	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
M	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5
H	382500	1912.5	382000	1910	381500	1907.5	381000	1905	380500	1902.5	380000	1900

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 30		
	Bandwidth 10MHz	
	Ch. #	Freq. (MHz)
L	462000	2310
M		
H		

NR Band 66												
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz	
	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
M	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

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

NR Band 38						
	Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	516000	2580	517000	2585	518000	2590
M	519000	2595	519000	2595	519000	2595
H	522000	2610	521000	2605	520000	2600



NR Band 41																	
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505206	2526	500202	2501.01	507204	2536.02	508200	2541	509202	2546.01
M 518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H 535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640

NR Band 77 SCS30KHz											
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647334	3710.01	647668	3715.02	648000	3720	648668	3730.02	649334	3740.01	650000	3750
M 656000	3840	656000	3840.00	656000	3840	656000	3840	656000	3840	656000	3840
H 664666	3969.99	664332	3964.98	664000	3960	663332	3949.98	662666	3939.99	662000	3930

NR Band 78 SCS30KHz																	
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M 650000	3750	650000	3750.00	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H 652666	3789.99	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		

NR Band 48					
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 637334	3560.01	637668	3565.02	638000	3570
M 641666	3624.99	641666	3624.99	641666	3624.99
H 646000	3690	645666	3684.99	645332	3679.98

NR Band 77 SCS30KHz											
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 630668	3460.02	631000	3465	631334	3470.01	632000	3480	632668	3490.02		
M 633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H 636000	3540	635666	3534.99	635332	3529.98	634666	3519.99	634000	3510		

NR Band 78 SCS30KHz																	
Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L 630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495		
M 633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H 636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

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

Band	5 MHz	10 MHz	15 MHz	20 MHz	25 MHz	30 MHz	35 MHz	40 MHz	45 MHz	50 MHz	60 MHz	70 MHz	80 MHz	90 MHz	100 MHz
FR1 n2	Yes	Yes	Yes	Yes											
FR1 n25	Yes	Yes	Yes	Yes	Yes	Yes									
FR1 n5	Yes	Yes	Yes	Yes											
FR1 n26	Yes	Yes	Yes	Yes											
FR1 n38				Yes		Yes		Yes							
FR1 n41				Yes		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes
FR1 n77				Yes		Yes		Yes			Yes		Yes		Yes
FR1 n78				Yes		Yes		Yes		Yes	Yes	Yes	Yes	Yes	Yes

2) NR Bands Tune up:

Band	Antenna	Sensor on	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
5G NR n2	Ant 0	16	16	24.5	24.5
5G NR n25	Ant 0	16	16	24.5	24.5
5G NR n5	Ant 0	23	23	24	24
5G NR n26	Ant 0	23	23	24	24
5G NR n38	Ant 0	24	24	24	24
5G NR n41	Ant 0	24	24	24	24
5G NR n41 HPUE	Ant 0	25.5	25.5	27	27

Band	Antenna	Sensor on	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
5G NR n2	Ant 1	24	24	24	24
5G NR n25	Ant 1	24	24	24	24
5G NR n38	Ant 1	13.5	13.5	24	24
5G NR n41	Ant 1	13.5	13.5	24	24
5G NR n41 HPUE	Ant 1	13.5	13.5	27	27

Band	Antenna	Body-worn	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
5G NR n2	Ant 4	21.5	21.5	24	24
5G NR n25	Ant 4	21.5	21.5	24	24
5G NR n38	Ant 4	23	23	24	24
5G NR n41	Ant 4	23	23	24	24
5G NR n41 HPUE	Ant 4	23	23	27	27
5G NR n77	Ant 4	16	16	24	24
5G NR n77 HPUE	Ant 4	16	16	27	27
5G NR n78	Ant 4	16	16	24	24
5G NR n78 HPUE	Ant 4	16	16	27	27

Band	Antenna	Body-worn	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
5G NR n77	Ant 5	10	10	19	19
5G NR n77 HPUE	Ant 5	10	10	19	19
5G NR n78	Ant 5	10	10	19	19
5G NR n78 HPUE	Ant 5	10	10	19	19

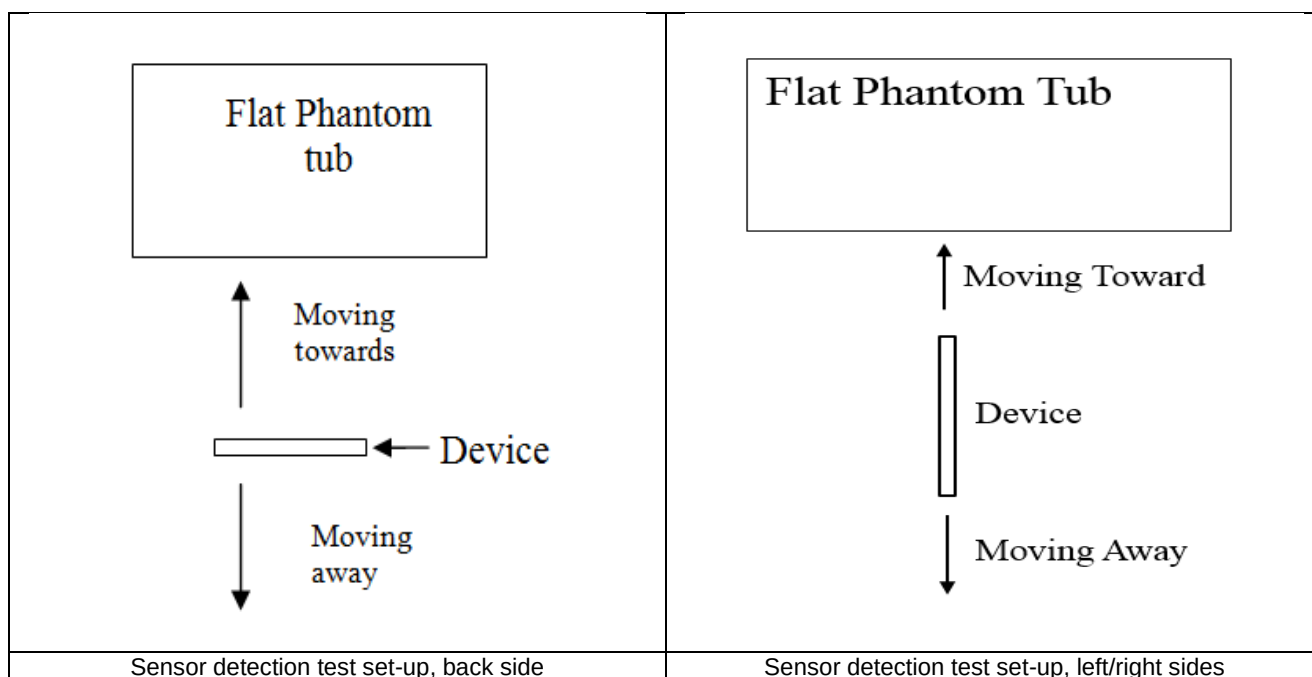
Band	Antenna	Body-worn	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
5G NR n77	Ant 6	12.5	12.5	19.5	19.5
5G NR n77 HPUE	Ant 6	12.5	12.5	22.5	22.5
5G NR n78	Ant 6	12.5	12.5	19.5	19.5
5G NR n78 HPUE	Ant 6	12.5	12.5	22.5	22.5

Band	Antenna	Body-worn	Hotspot	Sensor Off	Default
		Tune-up Limit	Tune-up Limit	Tune-up Limit	Tune-up Limit
5G NR n77	Ant 7	14	14	14	14
5G NR n77 HPUE	Ant 7	14	14	14	14
5G NR n78	Ant 7	14	14	14	14
5G NR n78 HPUE	Ant 7	14	14	14	14

5. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (7125MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the left and right ends of the device are utilized to determine when the device comes in proximity of the user's body at the back/right/left of the device.
3. The sensors can use to detect the proximity of the user's body or handheld states at the back or right or left side of the device use a detection threshold distance. When back/right/left sides of body or handheld condition is detected reduced power will be active. The trigger distance shown in the sections below.
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1mm was performed.



<Sensor for ANT 0>

Proximity Sensor Triggering Distance (mm)				
Position	Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	27	32	35	41

<Sensor for ANT1>

Proximity Sensor Triggering Distance (mm)				
Position	Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	28	33	27	33

<Sensor for ANT2/2+3>

Proximity Sensor Triggering Distance (mm)				
Position	Back		Right Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	23	29	23	28

<Sensor for ANT3>

Proximity Sensor Triggering Distance (mm)				
Position	Back		Right Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	23	29	25	30

<Sensor for ANT4>

Proximity Sensor Triggering Distance (mm)				
Position	Back		Left Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	13	18	19	25

<Sensor for ANT5>

Proximity Sensor Triggering Distance (mm)			
Position	Right Side		
	Moving towards		Moving away
Minimum	12		18

<Sensor for ANT6>

Proximity Sensor Triggering Distance (mm)				
Position	Back		Right Side	
	Moving towards	Moving away	Moving towards	Moving away
Minimum	19	24	18	23

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

6.3 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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

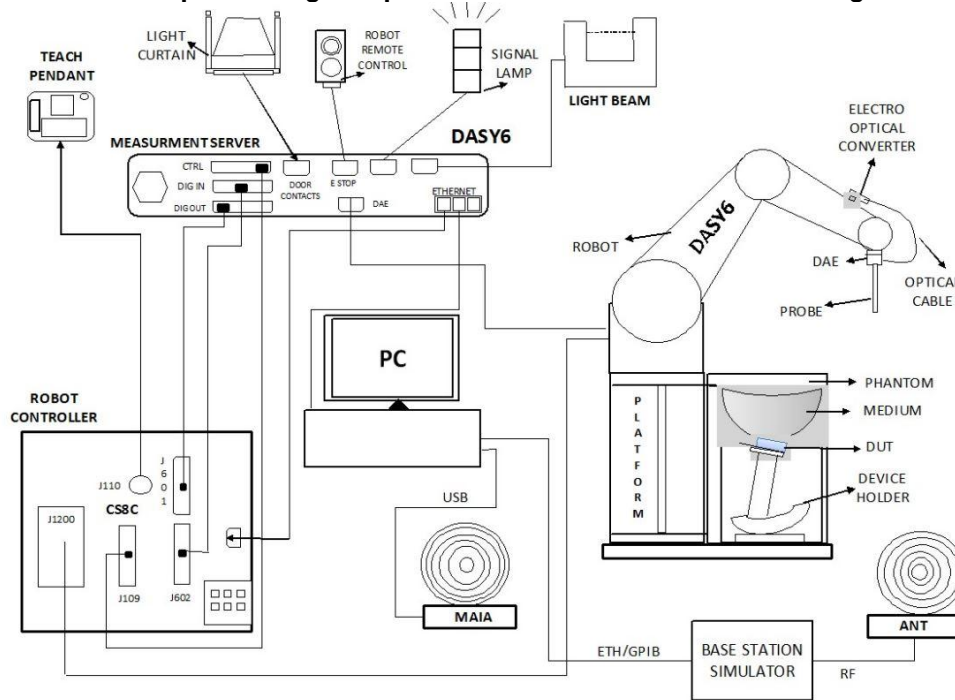
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 or Win10 and the DASY5 or DASY6⁽¹⁾ 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 V3.2.0.1840 and older generations and used the developed Plane-to-Plane Phase Reconstruction (PTP-PR) Algorithm which was used in PD measurement.

8.1 E-Field Probe

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

<EX3DV4 Probe>

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

8.2 Data Acquisition Electronics (DAE)

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

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



Photo of DAE

8.3 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

8.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

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

9.2 Power Reference Measurement

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

9.3 Area Scan

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

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: 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.	

9.4 Zoom Scan

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

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

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

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1087	Mar. 12, 2025	Mar. 10, 2027
SPEAG	835MHz System Validation Kit	D835V2	4d167	Dec. 02, 2025	Dec. 01, 2026
SPEAG	1750MHz System Validation Kit	D1750V2	1090	Mar. 12, 2025	Mar. 10, 2027
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	Jun. 30, 2025	Jun. 29, 2026
SPEAG	2300MHz System Validation Kit	D2300V2	1055	Aug. 21, 2023	Aug. 19, 2026
SPEAG	2450MHz System Validation Kit	D2450V2	1095	Feb. 08, 2024	Feb. 05, 2027
SPEAG	2600MHz System Validation Kit	D2600V2	1112	Dec. 18, 2023	Dec. 15, 2026
SPEAG	3500MHz System Validation Kit	D3500V2	1037	Nov. 20, 2023	Nov. 17, 2026
SPEAG	3700MHz System Validation Kit	D3700V2	1008	Nov. 20, 2023	Nov. 17, 2026
SPEAG	3900MHz System Validation Kit	D3900V2	1048	Mar. 09, 2023	Mar. 06, 2026
SPEAG	5000MHz System Validation Kit	D5GHzV2	1113	Sep. 17, 2025	Sep. 16, 2026
SPEAG	6500MHz System Validation Kit	D6.5GHzV2	1003	Mar. 14, 2025	Mar. 13, 2026
SPEAG	5G Verification Source	10GHz	2005	Jan. 12, 2026	Jan. 11, 2027
SPEAG	Data Acquisition Electronics	DAE4	1279	Dec. 04, 2025	Dec. 03, 2026
SPEAG	Data Acquisition Electronics	DAE4	1691	Jun. 04, 2025	Jun. 03, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	7774	Jul. 25, 2025	Jul. 24, 2026
SPEAG	EUmmWV Probe Tip Protection	EUmmWV4	9441	Nov. 17, 2025	Nov. 16, 2026
SPEAG	mmWave Phantom	mmWave	1065	NCR	NCR
SPEAG	SAM Twin Phantom	SAM Twin	TP-2022	NCR	NCR
Beichuang	Thermo-Hygrometer	HTC-1	1959631	May 27, 2025	May 26, 2026
Beichuang	Thermo-Hygrometer	HTC-1	1959634	May 27, 2025	May 26, 2026
Beichuang	Thermo-Hygrometer	HTC-1	1959630	May 27, 2025	May 26, 2026
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Rohde & Schwarz	Signal Generator	SMR40	100455	Dec. 26, 2025	Dec. 25, 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	1144	Aug. 26, 2025	Aug. 25, 2026
Anritsu	Vector Signal Generator	MG3710A	6201682672	Dec. 26, 2025	Dec. 25, 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. 14, 2025	Oct. 13, 2026
R&S	BLUETOOTH TESTER	CBT	101246	Jul. 03, 2025	Jul. 02, 2026
Rohde & Schwarz	Spectrum Analyzer	FSV7	101631	Oct. 11, 2025	Oct. 10, 2026
TES	DIGITAC THERMOMETER	TYPE-K	200505600	Jul. 05, 2025	Jul. 04, 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 source.
- The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found

which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

11. System Verification

11.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For 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. 10.1.



Fig 10.1 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

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

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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	22.6	0.887	43.0	0.89	41.9	-0.34	2.63	±5.0	2026-03-04
835	22.8	0.917	42.6	0.9	41.5	1.89	2.65	±5.0	2026-02-12
1750	22.6	1.37	40.8	1.37	40.1	0.00	1.75	±5.0	2026-02-13
1900	22.7	1.44	39.2	1.4	40.0	2.86	-2.00	±5.0	2026-02-14
2300	22.6	1.6	39.7	1.67	39.5	-4.19	0.51	±5.0	2026-02-15
2450	22.7	1.76	39.2	1.8	39.2	-2.22	0.00	±5.0	2026-02-20
2600	22.8	1.91	38.9	1.96	39.0	-2.55	-0.26	±5.0	2026-02-16
3500	22.7	2.95	37.6	2.91	37.9	1.37	-0.79	±5.0	2026-02-18
3700	22.8	3.2	37.6	3.12	37.7	2.56	-0.27	±5.0	2026-02-19
3900	22.7	3.37	37.3	3.33	37.51	1.20	-0.56	±5.0	2026-02-20
5250	22.8	4.71	36.3	4.71	35.95	0.00	0.97	±5.0	2026-02-21
5600	22.9	4.98	36.0	5.07	35.5	-1.78	1.41	±5.0	2026-02-22
5800	22.7	5.13	35.5	5.27	35.3	-2.66	0.57	±5.0	2026-02-23
6500	22.8	6.10	34.1	6.07	34.50	0.49	-1.16	±5	2026-02-25

11.3 System Performance Check Results

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

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 (%)
2026-03-04	750	50.00	D750V3 - 1087	EX3DV4 - SN7774	DAE4 Sn1279	0.426	8.680	8.520	-1.84	0.284	5.610	5.680	1.25
2026-02-12	835	50.00	D835V2 - 4d167	EX3DV4 - SN7774	DAE4 Sn1279	0.489	9.360	9.780	4.49	0.327	6.050	6.540	8.10
2026-02-13	1750	50.00	D1750V2 - 1090	EX3DV4 - SN7774	DAE4 Sn1279	1.980	36.600	39.600	8.20	1.060	19.500	21.200	8.72
2026-02-14	1900	50.00	D1900V2 - 5d170	EX3DV4 - SN7774	DAE4 Sn1279	2.160	39.600	43.200	9.09	1.140	20.900	22.800	9.09
2026-02-15	2300	50.00	D2300V2 - 1055	EX3DV4 - SN7774	DAE4 Sn1279	2.460	48.400	49.200	1.65	1.200	23.700	24.000	1.27
2026-02-20	2450	50.00	D2450V2 - 1095	EX3DV4 - SN7774	DAE4 Sn1279	2.500	52.600	50.000	-4.94	1.170	24.700	23.400	-5.26
2026-02-16	2600	50.00	D2600V2 - 1112	EX3DV4 - SN7774	DAE4 Sn1279	2.820	55.100	56.400	2.36	1.300	24.800	26.000	4.84
2026-02-18	3500	50.00	D3500V2 - 1037	EX3DV4 - SN7774	DAE4 Sn1279	3.430	65.400	68.600	4.89	1.350	24.700	27.000	9.31
2026-02-19	3700	50.00	D3700V2 - 1008	EX3DV4 - SN7774	DAE4 Sn1279	3.660	67.200	73.200	8.93	1.320	24.400	26.400	8.20
2026-02-20	3900	50.00	D3900V2 - 1048	EX3DV4 - SN7774	DAE4 Sn1279	3.120	69.100	62.400	-9.70	1.130	24.100	22.600	-6.22
2026-02-21	5250	50.00	D5GHZV2 - 1113	EX3DV4 - SN7774	DAE4 Sn1279	3.840	78.100	76.800	-1.66	1.100	22.400	22.000	-1.79
2026-02-22	5600	50.00	D5GHZV2 - 1113	EX3DV4 - SN7774	DAE4 Sn1279	3.920	80.000	78.400	-2.00	1.110	23.000	22.200	-3.48
2026-02-23	5800	50.00	D5GHZV2 - 1113	EX3DV4 - SN7774	DAE4 Sn1279	4.020	77.900	80.400	3.21	1.140	22.300	22.800	2.24
2026-02-25	6500	50.00	D6.5GHZV2-1003	EX3DV4 - SN7774	DAE4 Sn1279	14.0	294.000	280	-4.76	2.66	54.700	53.2	-2.74

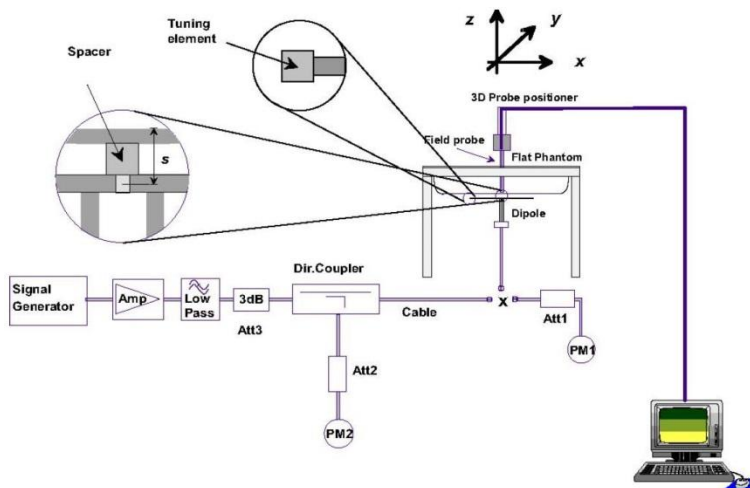


Fig 10.3.1 System Performance Check Setup



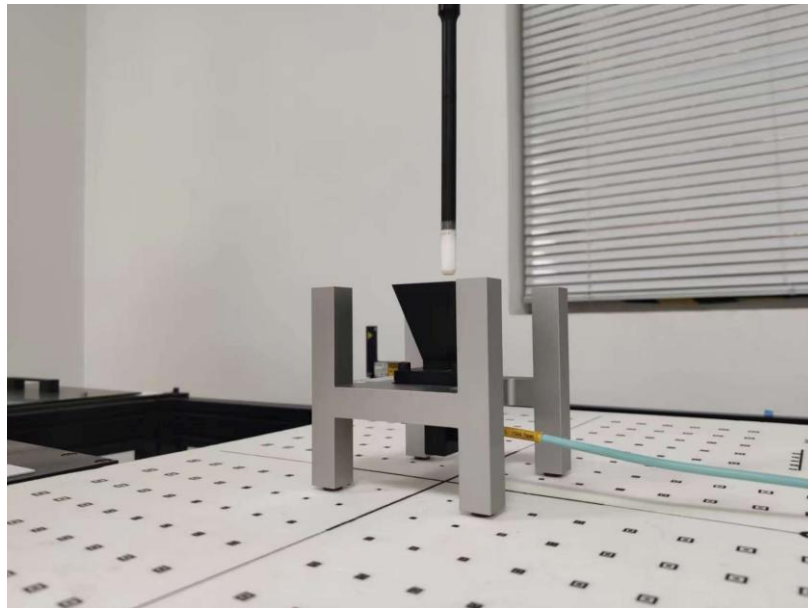
Fig 10.3.2 Setup Photo

11.4 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)	Input Power (mW)	Measured psPDn+ 4 cm ² (W/m ²)	Normalized ⁽¹⁾ psPDn+ 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 ⁽¹⁾ psPDtot+ 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 ⁽¹⁾ psPDmod+ 4 cm ² (W/m ²)	Targeted psPDmod+ 4 cm ² (W/m ²)	Deviation (dB)	Test date
10	10GHz_2005	9441	1691	10	100	94.6	149.9	167	-0.47	95	150.5	168	-0.48	97	153.7	172	-0.49	2026/2/28

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



System Verification Setup Photo

12. RF Exposure Positions

12.1 Body-worn SAR Testing for Device

- (a) To position the device parallel to the phantom surface with Front and Back surfaces of the device.
- (b) To adjust the device parallel to the flat phantom.
- (c) To adjust the distance between the device surface and the flat phantom to 10 mm.

12.2 Extremity SAR Testing for Device

- (b) To position the device parallel to the phantom surface with all surfaces of the device.
- (b) To adjust the device parallel to the flat phantom.
- (c) To adjust the distance between the device surface and the flat phantom to 0 mm.

12.3 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 ($L \times W \geq 9 \text{ cm} \times 5 \text{ cm}$) 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.

12.1 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.
- 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)

13. Conducted RF Output Power (Unit: dBm)

The detailed conducted power table can refer to Appendix E.

<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.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	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 $\beta_d/\beta_c = 12/15$, $\beta_{hs}/\beta_c = 24/15$. For all other combinations of DPDCCH, DPCCH, HS-DPCCH, E-DPDCCH 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-DPDCCH 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-DPDCCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

<WCDMA Conducted Power>

General Note:

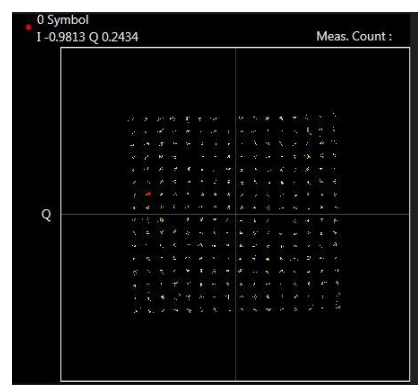
- Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
- Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA is $\leq 1/4$ dB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

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM/256QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26/ B38/ B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE B2 / B4 / B5 / B17 / B38 / B42(3550MHz~3600MHz) & 43 SAR test was covered by B25 / B66 / B26 / B12 / B41 / B48; 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.


16QAM

64QAM

256QAM

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

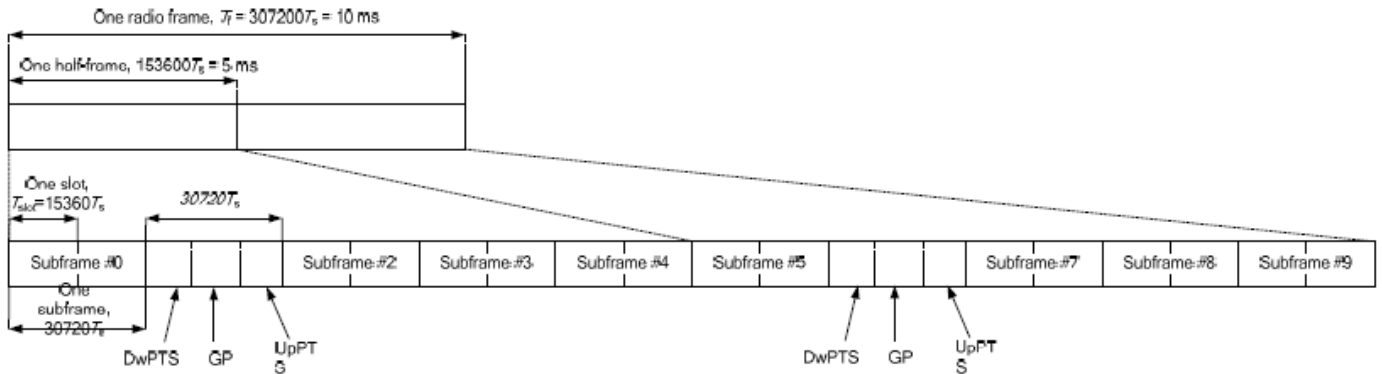


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

For LTE TDD Power class 3

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

<LTE Carrier Aggregation>

General Note:

- 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.
- 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.
- 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.
- This device supports LTE carrier aggregation in the downlink. All uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

5G NR Output Power (Unit: dBm)**General Note:**

1. 5G NR n2/n5/n7/n12/n13/n25/n26/n30/n38/n41/n48/n66/n71/n77/n78 is SA mode.
2. 5G NR n2/n5/n30/n66/n41/n77/n78 is NSA mode.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 $\frac{1}{2}$ 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.
 - g. 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
4. For 5G NR test, using FTM (Factory Test Mode) to perform SAR with default 100% transmission.
5. 5G NR supports CP-OFDM and DFT-s-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
6. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode, therefore, CP-OFDM measurement is unnecessary.
7. NSA and SA mode should perform SAR separately. For the maximum power of NSA mode is the same as SA total power level, so SA SAR can represent NSA mode SAR.
8. 5G NR NSA mode, the power level is the same as 5G NR SA mode, so 5G NR NSA mode and SA mode power table only show one time.
9. 5G NR n77/n78 supports UL MIMO, MIMO SAR base on standalone SAR summed together as MIMO SAR.
10. For 5G NR EN-DC mode, standalone SAR performed for 5G NR NSA band with the maximum power, EN-DC SAR summed EN-DC mode 5G NR standalone SAR and LTE standalone SAR, the result of EN-DC SAR is more conservatively.

<3GPP 38.101 MPR for EN-DC>

Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

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

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

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

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

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

<EN-DC combination>

ENDC	Main Antenna Tx	
	LTE TX	NR TX
DC_5A_n2A	Ant 0	Ant 1
DC_12A_n2A	Ant 0	Ant 1
DC_13A_n2A	Ant 0	Ant 1
DC_2A_n5A	Ant 1	Ant 0
DC_66A_n5A	Ant 1	Ant 0
DC_30A_n5A	Ant 5	Ant 0
DC_5A_n30A	Ant 0	Ant 5
DC_12A_n30A	Ant 0	Ant 5
DC_5A_n66A	Ant 0	Ant 1
DC_12A_n66A	Ant 0	Ant 1
DC_13A_n66A	Ant 0	Ant 1
DC_26A_n41A	Ant 0	Ant 1
DC_12A_n41A	Ant 0	Ant 1
DC_2A_n77A	Ant 1	Ant 5
DC_5A_n77A	Ant 0	Ant 7/4/5/6
DC_12A_n77A	Ant 0	Ant 7/4/5/6
DC_13A_n77A	Ant 0	Ant 7/4/5/6
DC_30A_n77A	Ant 0	Ant 5
DC_66A_n77A	Ant 1	Ant 5
DC_5A_n78A	Ant 0	Ant 7/4/5/6
DC_7A_n78A	Ant 1	Ant 5
DC_41A_n78A	Ant 1	Ant 5

UL MIMO combination:

ULMIMO	Main Antenna Tx	
	NR TX	NR TX
n77/78	Ant5	Ant7

<WLAN Conducted Power>
General Note:

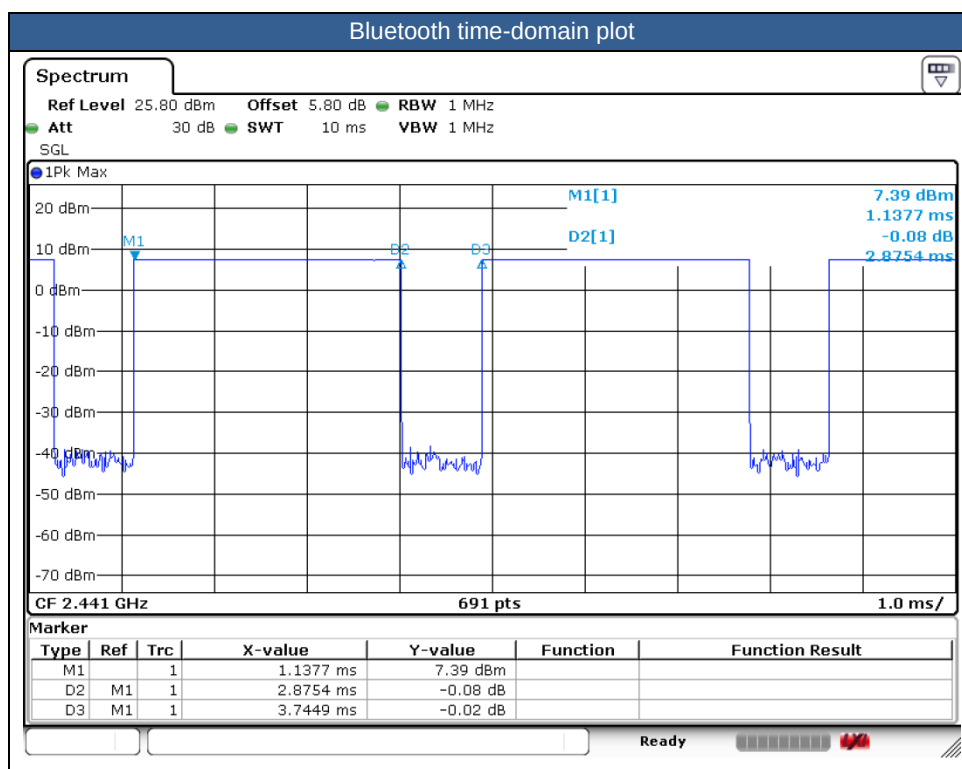
- The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default 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.
- 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.
- 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).
- 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.
- 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:
 - 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.
 - When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
- Per April 2019 TCB workshops, General principles of FCC KDB Publication 248227 D01 can be applied to determine the SAR Initial Test Configurations and test reduction for 802.11ax SAR testing. For the table below the 802.11ax maximum power is SU (non-OFDMA), and the SU maximum power also higher than RU (OFDMA)
- In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
- For modes with the same maximum output power, the guidance from section 5.3.2 a) of FCC KDB Publication 248227 D01 should be applied, with 802.11ax being considered as the highest 802.11 mode for the appropriate frequency bands
- When SAR testing for 802.11ax is required

- a. If the maximum output power is highest for OFDMA scenarios, choose the tone size with the maximum number of tones and the highest maximum output power
 - b. Otherwise, consider the fully allocated channel for SAR testing
 - c. When SAR testing is required on RU sizes less than the fully allocated channel, use the RU number closest to the middle of the channel, choosing the higher RU number when two RUs are equidistant to the middle of the channel
10. 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.
 11. SISO and MIMO all supported by WLAN2.4GHz/WLAN5GHz/WLAN6GHz, for SISO mode power is less than per chain power of MIMO mode. For WLAN SISO & MIMO mode, the whole testing has assessed only MIMO mode by referring to their higher conducted power, so only chose MIMO mode to perform SAR testing.
 12. For the conducted power measurement is MIMO chains transmitting simultaneously and measured the separately conducted power for both chains and then based on the conducted power of two antennas respectively to calculate sum of the power for MIMO mode.

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle are 76.78% 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.





14. Antenna Location

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

15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For SAR testing of Bluetooth signal with 83.3% theoretical duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle) *83.3%".
 - d. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - e. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - f. 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 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 only when the measured SAR is ≥ 0.8 W/kg.
4. The device implements proximity sensors detect mechanism/hotspot trigger reduced power for the power management for SAR compliance at different exposure conditions (body-worn, hotspot, extremity). The device will invoke corresponding work scenarios power level base on frequency bands/antennas, which can refer to appendix E. power table.
5. For the device with a display diagonal dimension > 15cm or an overall diagonal dimension > 16cm, when hotspot mode applies, 10-g product specific SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, in this report all the hotspot mode results are < 1.2W/kg.
 - a. WLAN 5GHz/6GHz tested the product specific 10g SAR since it has no hotspot mode.
 - b. 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.
6. For 10-g extremity SAR testing, only performed within a transmitting antenna located within 25mm from that surface or edge.
7. While 1-g SAR thresholds are specified in the procedures for SAR test reduction and exclusion, these thresholds should be multiplied by 2.5 when 10-g extremity SAR is considered.
8. Per FCC guidance, SAR was performed using 6.5 GHz SAR probe calibration factors.
9. 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.
10. Absorbed power density (APD) using a 4cm² averaging area is reported based on SAR measurements.
11. 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. For the U-NII-5/U-NII-7 band supporting Standard AP mode and indoor Client mode, the higher output mode was measured among the selected channels.
12. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. Further simplification chose the worse SAR value and the worst scaling factor from each transmit chain perform reported SAR calculation conservatively. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain.

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 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 to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA) are less than $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA.

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 output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is $> \text{not } \frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B17 / B26/ B38/ 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 B2 / B4 / B5 / B17 / B38 / B42(3550MHz~3600MHz) & 43 SAR test was covered by B25 / B66 / B26 / B12 / B41 / B48; 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/n25/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.

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 device and there is no different PD limit on different exposure conditions, therefore select highest 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 all exposure conditions of device.
10. The measurement procedure consists of measuring the PDinc 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 iPDn 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.

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



15.1 Hotspot SAR

【WCDMA SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
01	WCDMA II	RMC 12.2Kbps	Front	10mm	Ant 0	Hotspot on	9400	1880	1	16.31	17.00	1.172	-0.18	0.022	0.026
	WCDMA II	RMC 12.2Kbps	Back	10mm	Ant 0	Hotspot on	9400	1880	1	16.31	17.00	1.172	-0.17	0.218	0.255
	WCDMA II	RMC 12.2Kbps	Left Side	10mm	Ant 0	Hotspot on	9400	1880	1	16.31	17.00	1.172	-0.17	0.275	0.322
	WCDMA II	RMC 12.2Kbps	Right Side	10mm	Ant 0	Hotspot on	9400	1880	1	16.31	17.00	1.172	0.09	0.010	0.012
	WCDMA II	RMC 12.2Kbps	Top Side	10mm	Ant 0	Hotspot on	9400	1880	1	16.31	17.00	1.172	-0.15	0.001	0.001
02	WCDMA IV	RMC 12.2Kbps	Front	10mm	Ant 0	Hotspot on	1413	1732.6	1	21.44	22.50	1.276	-0.07	0.001	0.001
	WCDMA IV	RMC 12.2Kbps	Back	10mm	Ant 0	Hotspot on	1413	1732.6	1	21.44	22.50	1.276	-0.16	0.272	0.347
	WCDMA IV	RMC 12.2Kbps	Left Side	10mm	Ant 0	Hotspot on	1413	1732.6	1	21.44	22.50	1.276	-0.08	0.311	0.397
	WCDMA IV	RMC 12.2Kbps	Left Side	10mm	Ant 0	Hotspot on	1413	1732.6	4	21.44	22.50	1.276	0.13	0.297	0.379
	WCDMA IV	RMC 12.2Kbps	Left Side	10mm	Ant 0	Hotspot on	1413	1732.6	6	21.44	22.50	1.276	0.02	0.302	0.385
03	WCDMA IV	RMC 12.2Kbps	Right Side	10mm	Ant 0	Hotspot on	1413	1732.6	1	21.44	22.50	1.276	-0.18	0.040	0.051
	WCDMA IV	RMC 12.2Kbps	Top Side	10mm	Ant 0	Hotspot on	1413	1732.6	1	21.44	22.50	1.276	0.11	0.039	0.050
	WCDMA V	RMC 12.2Kbps	Front	10mm	Ant 0	Hotspot on	4182	836.4	1	22.29	23.00	1.178	0.06	0.153	0.180
	WCDMA V	RMC 12.2Kbps	Back	10mm	Ant 0	Hotspot on	4182	836.4	1	22.29	23.00	1.178	-0.01	0.214	0.252
	WCDMA V	RMC 12.2Kbps	Left Side	10mm	Ant 0	Hotspot on	4182	836.4	1	22.29	23.00	1.178	0.03	0.307	0.362
	WCDMA V	RMC 12.2Kbps	Left Side	10mm	Ant 0	Hotspot on	4182	836.4	4	22.29	23.00	1.178	0.02	0.287	0.338
	WCDMA V	RMC 12.2Kbps	Left Side	10mm	Ant 0	Hotspot on	4182	836.4	6	22.29	23.00	1.178	-0.17	0.291	0.343
	WCDMA V	RMC 12.2Kbps	Right Side	10mm	Ant 0	Hotspot on	4182	836.4	1	22.29	23.00	1.178	0.16	0.069	0.081
	WCDMA V	RMC 12.2Kbps	Top Side	10mm	Ant 0	Hotspot on	4182	836.4	1	22.29	23.00	1.178	-0.18	0.078	0.092

【LTE SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	21100	2535	1	15.58	16.50	1.236			-0.06	0.011	0.014
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 0	Hotspot on	21100	2535	1	15.55	16.50	1.245			0.18	0.009	0.011
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	21100	2535	1	15.58	16.50	1.236			0.03	0.125	0.155
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 0	Hotspot on	21100	2535	1	15.55	16.50	1.245			-0.19	0.096	0.120
	LTE Band 7	20M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	21100	2535	1	15.58	16.50	1.236			0.02	0.132	0.163
	LTE Band 7	20M	QPSK	50	0	Left Side	10mm	Ant 0	Hotspot on	21100	2535	1	15.55	16.50	1.245			-0.01	0.090	0.112
	LTE Band 7	20M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	21100	2535	1	15.58	16.50	1.236			-0.15	0.019	0.023
	LTE Band 7	20M	QPSK	50	0	Right Side	10mm	Ant 0	Hotspot on	21100	2535	1	15.55	16.50	1.245			-0.08	0.014	0.017
	LTE Band 7	20M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	21100	2535	1	15.58	16.50	1.236			0.04	0.023	0.028
	LTE Band 7	20M	QPSK	50	0	Top Side	10mm	Ant 0	Hotspot on	21100	2535	1	15.55	16.50	1.245			-0.15	0.020	0.025
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 1	Hotspot on	21100	2535	1	19.13	19.50	1.089			-0.13	0.099	0.108
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 1	Hotspot on	21100	2535	1	19.11	19.50	1.094			-0.18	0.078	0.085
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 1	Hotspot on	21100	2535	1	19.13	19.50	1.089			-0.02	0.118	0.129
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 1	Hotspot on	21100	2535	1	19.11	19.50	1.094			0.08	0.089	0.097
	LTE Band 7	20M	QPSK	1	0	Left Side	10mm	Ant 1	Hotspot on	21100	2535	1	19.13	19.50	1.089			0.16	0.336	0.366
	LTE Band 7	20M	QPSK	50	0	Left Side	10mm	Ant 1	Hotspot on	21100	2535	1	19.11	19.50	1.094			-0.06	0.275	0.301
	LTE Band 7	20M	QPSK	1	0	Right Side	10mm	Ant 1	Hotspot on	21100	2535	1	19.13	19.50	1.089			0.15	0.023	0.025
	LTE Band 7	20M	QPSK	50	0	Right Side	10mm	Ant 1	Hotspot on	21100	2535	1	19.11	19.50	1.094			0.17	0.019	0.021
	LTE Band 7	20M	QPSK	1	0	Top Side	10mm	Ant 1	Hotspot on	21100	2535	1	19.13	19.50	1.089			-0.13	0.001	0.001
	LTE Band 7	20M	QPSK	50	0	Top Side	10mm	Ant 1	Hotspot on	21100	2535	1	19.11	19.50	1.094			-0.03	0.001	0.001
04	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 4	Hotspot on	21100	2535	1	19.65	21.00	1.365			-0.07	0.049	0.067
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 4	Hotspot on	21100	2535	1	19.62	21.00	1.374			-0.03	0.040	0.055
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 4	Hotspot on	21100	2535	1	19.65	21.00	1.365			-0.02	0.111	0.152
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 4	Hotspot on	21100	2535	1	19.62	21.00	1.374			-0.02	0.092	0.126
	LTE Band 7	20M	QPSK	1	0	Left Side	10mm	Ant 4	Hotspot on	21100	2535	1	19.65	21.00	1.365			0.04	0.274	0.374
	LTE Band 7	20M	QPSK	50	0	Left Side	10mm	Ant 4	Hotspot on	21100	2535	1	19.62	21.00	1.374			0.04	0.219	0.301
	LTE Band 7	20M	QPSK	1	0	Right Side	10mm	Ant 4	Hotspot on	21100	2535	1	19.65	21.00	1.365			-0.03	0.047	0.064
	LTE Band 7	20M	QPSK	50	0	Right Side	10mm	Ant 4	Hotspot on	21100	2535	1	19.62	21.00	1.374			0.06	0.039	0.054
	LTE Band 7	20M	QPSK	1	0	Top Side	10mm	Ant 4	Hotspot on	21100	2535	1	19.65	21.00	1.365			-0.15	0.039	0.053
	LTE Band 7	20M	QPSK	50	0	Top Side	10mm	Ant 4	Hotspot on	21100	2535	1	19.62	21.00	1.374			-0.04	0.032	0.044
05	LTE Band 12	10M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	23095	707.5	1	21.47	22.00	1.13			0.11	0.081	0.092
	LTE Band 12	10M	QPSK	25	0	Front	10mm	Ant 0	Hotspot on	23095	707.5	1	21.39	22.00	1.151			-0.12	0.064	0.074
	LTE Band 12	10M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	23095	707.5	1	21.47	22.00	1.13			0.02	0.099	0.112
	LTE Band 12	10M	QPSK	25	0	Back	10mm	Ant 0	Hotspot on	23095	707.5	1	21.39	22.00	1.151			0.04	0.082	0.094
	LTE Band 12	10M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	23095	707.5	1	21.47	22.00	1.13			0.03	0.154	0.174
	LTE Band 12	10M	QPSK	25	0	Left Side	10mm	Ant 0	Hotspot on	23095	707.5	1	21.39	22.00	1.151			0.14	0.119	0.137
	LTE Band 12	10M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	23095	707.5	1	21.47	22.00	1.13			-0.12	0.001	0.001
	LTE Band 12	10M	QPSK	25	0	Right Side	10mm	Ant 0	Hotspot on	23095	707.5	1	21.39	22.00	1.151			0.18	0.001	0.001
	LTE Band 12	10M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	23095	707.5	1	21.47	22.00	1.13			0.16	0.042	0.047



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	LTE Band 12	10M	QPSK	25	0	Top Side	10mm	Ant 0	Hotspot on	23095	707.5	1	21.39	22.00	1.151			0.03	0.033	0.038
	LTE Band 13	10M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	23230	782	1	21.66	22.50	1.213			0.17	0.059	0.072
	LTE Band 13	10M	QPSK	25	0	Front	10mm	Ant 0	Hotspot on	23230	782	1	21.63	22.50	1.222			-0.12	0.046	0.056
	LTE Band 13	10M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	23230	782	1	21.66	22.50	1.213			-0.03	0.122	0.148
	LTE Band 13	10M	QPSK	25	0	Back	10mm	Ant 0	Hotspot on	23230	782	1	21.63	22.50	1.222			0.02	0.098	0.120
06	LTE Band 13	10M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	23230	782	1	21.66	22.50	1.213			-0.03	0.177	0.215
	LTE Band 13	10M	QPSK	25	0	Left Side	10mm	Ant 0	Hotspot on	23230	782	1	21.63	22.50	1.222			0.11	0.117	0.143
	LTE Band 13	10M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	23230	782	1	21.66	22.50	1.213			0.15	0.001	0.001
	LTE Band 13	10M	QPSK	25	0	Right Side	10mm	Ant 0	Hotspot on	23230	782	1	21.63	22.50	1.222			-0.00	0.001	0.001
	LTE Band 13	10M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	23230	782	1	21.66	22.50	1.213			0.14	0.043	0.052
	LTE Band 13	10M	QPSK	25	0	Top Side	10mm	Ant 0	Hotspot on	23230	782	1	21.63	22.50	1.222			-0.16	0.032	0.039
	LTE Band 25	20M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	26340	1880	1	15.37	16.00	1.156			0.19	0.017	0.020
	LTE Band 25	20M	QPSK	50	0	Front	10mm	Ant 0	Hotspot on	26340	1880	1	15.35	16.00	1.161			0.15	0.014	0.016
	LTE Band 25	20M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	26340	1880	1	15.37	16.00	1.156			0.08	0.137	0.158
	LTE Band 25	20M	QPSK	50	0	Back	10mm	Ant 0	Hotspot on	26340	1880	1	15.35	16.00	1.161			-0.16	0.132	0.153
	LTE Band 25	20M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	26340	1880	1	15.37	16.00	1.156			-0.17	0.269	0.311
	LTE Band 25	20M	QPSK	50	0	Left Side	10mm	Ant 0	Hotspot on	26340	1880	1	15.35	16.00	1.161			-0.12	0.184	0.214
	LTE Band 25	20M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	26340	1880	1	15.37	16.00	1.156			0.08	0.010	0.012
	LTE Band 25	20M	QPSK	50	0	Right Side	10mm	Ant 0	Hotspot on	26340	1880	1	15.35	16.00	1.161			0.00	0.005	0.006
	LTE Band 25	20M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	26340	1880	1	15.37	16.00	1.156			-0.02	0.001	0.001
	LTE Band 25	20M	QPSK	50	0	Top Side	10mm	Ant 0	Hotspot on	26340	1880	1	15.35	16.00	1.161			0.10	0.001	0.001
	LTE Band 25	20M	QPSK	1	0	Front	10mm	Ant 1	Hotspot on	26340	1880	1	23.13	24.00	1.222			0.08	0.222	0.271
	LTE Band 25	20M	QPSK	50	0	Front	10mm	Ant 1	Hotspot on	26340	1880	1	22.34	23.00	1.164			-0.17	0.180	0.210
07	LTE Band 25	20M	QPSK	1	0	Back	10mm	Ant 1	Hotspot on	26340	1880	1	23.13	24.00	1.222			0.04	0.295	0.360
	LTE Band 25	20M	QPSK	50	0	Back	10mm	Ant 1	Hotspot on	26340	1880	1	22.34	23.00	1.164			0.09	0.248	0.289
	LTE Band 25	20M	QPSK	1	0	Left Side	10mm	Ant 1	Hotspot on	26340	1880	1	23.13	24.00	1.222			-0.04	0.264	0.323
	LTE Band 25	20M	QPSK	50	0	Left Side	10mm	Ant 1	Hotspot on	26340	1880	1	22.34	23.00	1.164			0.08	0.203	0.236
	LTE Band 25	20M	QPSK	1	0	Right Side	10mm	Ant 1	Hotspot on	26340	1880	1	23.13	24.00	1.222			0.09	0.001	0.001
	LTE Band 25	20M	QPSK	50	0	Right Side	10mm	Ant 1	Hotspot on	26340	1880	1	22.34	23.00	1.164			0.15	0.001	0.001
	LTE Band 25	20M	QPSK	1	0	Top Side	10mm	Ant 1	Hotspot on	26340	1880	1	23.13	24.00	1.222			-0.03	0.001	0.001
	LTE Band 25	20M	QPSK	50	0	Top Side	10mm	Ant 1	Hotspot on	26340	1880	1	22.34	23.00	1.164			0.13	0.001	0.001
	LTE Band 25	20M	QPSK	1	0	Front	10mm	Ant 4	Hotspot on	26340	1880	1	19.62	20.50	1.225			0.08	0.049	0.060
	LTE Band 25	20M	QPSK	50	0	Front	10mm	Ant 4	Hotspot on	26340	1880	1	19.60	20.50	1.23			0.06	0.040	0.049
	LTE Band 25	20M	QPSK	1	0	Back	10mm	Ant 4	Hotspot on	26340	1880	1	19.62	20.50	1.225			0.14	0.101	0.124
	LTE Band 25	20M	QPSK	50	0	Back	10mm	Ant 4	Hotspot on	26340	1880	1	19.60	20.50	1.23			0.14	0.085	0.105
	LTE Band 25	20M	QPSK	1	0	Left Side	10mm	Ant 4	Hotspot on	26340	1880	1	19.62	20.50	1.225			0.01	0.283	0.347
	LTE Band 25	20M	QPSK	50	0	Left Side	10mm	Ant 4	Hotspot on	26340	1880	1	19.60	20.50	1.23			-0.12	0.228	0.280
	LTE Band 25	20M	QPSK	1	0	Right Side	10mm	Ant 4	Hotspot on	26340	1880	1	19.62	20.50	1.225			-0.05	0.066	0.081
	LTE Band 25	20M	QPSK	50	0	Right Side	10mm	Ant 4	Hotspot on	26340	1880	1	19.60	20.50	1.23			-0.13	0.052	0.064
	LTE Band 25	20M	QPSK	1	0	Top Side	10mm	Ant 4	Hotspot on	26340	1880	1	19.62	20.50	1.225			-0.04	0.025	0.031
	LTE Band 25	20M	QPSK	50	0	Top Side	10mm	Ant 4	Hotspot on	26340	1880	1	19.60	20.50	1.23			0.14	0.020	0.025
	LTE Band 26	15M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	26865	831.5	1	19.43	20.00	1.14			-0.05	0.068	0.078
	LTE Band 26	15M	QPSK	36	0	Front	10mm	Ant 0	Hotspot on	26865	831.5	1	19.41	20.00	1.146			-0.07	0.054	0.062
	LTE Band 26	15M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	26865	831.5	1	19.43	20.00	1.14			-0.06	0.105	0.120
	LTE Band 26	15M	QPSK	36	0	Back	10mm	Ant 0	Hotspot on	26865	831.5	1	19.41	20.00	1.146			-0.06	0.080	0.092
08	LTE Band 26	15M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	26865	831.5	1	19.43	20.00	1.14			0.06	0.167	0.190
	LTE Band 26	15M	QPSK	36	0	Left Side	10mm	Ant 0	Hotspot on	26865	831.5	1	19.41	20.00	1.146			0.17	0.133	0.152
	LTE Band 26	15M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	26865	831.5	1	19.43	20.00	1.14			-0.17	0.040	0.046
	LTE Band 26	15M	QPSK	36	0	Right Side	10mm	Ant 0	Hotspot on	26865	831.5	1	19.41	20.00	1.146			0.02	0.032	0.037
	LTE Band 26	15M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	26865	831.5	1	19.43	20.00	1.14			-0.19	0.043	0.049
	LTE Band 26	15M	QPSK	36	0	Top Side	10mm	Ant 0	Hotspot on	26865	831.5	1	19.41	20.00	1.146			0.09	0.035	0.040
	LTE Band 30	10M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	27710	2310	1	14.51	15.00	1.119			0.04	0.011	0.012
	LTE Band 30	10M	QPSK	25	0	Front	10mm	Ant 0	Hotspot on	27710	2310	1	14.48	15.00	1.127			-0.06	0.008	0.009
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	27710	2310	1	14.51	15.00	1.119			0.03	0.156	0.175
	LTE Band 30	10M	QPSK	25	0	Back	10mm	Ant 0	Hotspot on	27710	2310	1	14.48	15.00	1.127			0.02	0.123	0.139
	LTE Band 30	10M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	27710	2310	1	14.51	15.00	1.119			-0.07	0.181	0.203
	LTE Band 30	10M	QPSK	25	0	Left Side	10mm	Ant 0	Hotspot on	27710	2310	1	14.48	15.00	1.127			0.13	0.124	0.140
	LTE Band 30	10M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	27710	2310	1	14.51	15.00	1.119			-0.14	0.006	0.007
	LTE Band 30	10M	QPSK	25	0	Right Side	10mm	Ant 0	Hotspot on	27710	2310	1	14.48	15.00	1.127			-0.10	0.005	0.006
	LTE Band 30	10M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	27710	2310	1	14.51	15.00	1.119			0.07	0.011	0.012
	LTE Band 30	10M	QPSK	25	0	Top Side	10mm	Ant 0	Hotspot on	27710	2310	1	14.48	15.00	1.127			0.18	0.009	0.010
	LTE Band 30	10M	QPSK	1	0	Front	10mm	Ant 1	Hotspot on	27710	2310	1	21.58	22.00	1.102			-0.18	0.184	0.203
	LTE Band 30	10M	QPSK	25	0	Front	10mm	Ant 1	Hotspot on	27710	2310	1	21.53	22.00	1.114			0.04	0.139	0.155
09	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 1	Hotspot on	27710	2310	1	21.58	22.00	1.102			0.02	0.337	0.371
	LTE Band 30	10M	QPSK	25	0	Back	10mm	Ant 1	Hotspot on	27710	2310	1	21.53	22.00	1.114			0.09	0.282	0.314
	LTE Band 30	10M	QPSK	1	0	Left Side	10mm	Ant 1	Hotspot on	27710	2310	1	21.58	22.00	1.102			-0.06	0.234	0.258
	LTE Band 30	10M	QPSK	25	0	Left Side	10mm	Ant 1	Hotspot on	27710	2310	1	21.53	22.00	1.114			0.06	0.196	0.218
	LTE Band 30	10M	QPSK	1	0	Right Side	10mm	Ant 1	Hotspot on	27710	2310	1	21.58	22.00	1.102			-0.04	0.041	0.045
	LTE Band 30	10M	QPSK	25	0	Right Side	10mm	Ant 1	Hotspot on	27710	2310	1	21.53	22.00	1.114			-0.13	0.038	0.042
	LTE Band 30	10M	QPSK	1	0	Top Side	10mm	Ant 1	Hotspot on	27710	2310	1	21.58	22.00	1.102			-0.16	0.001	0.001
	LTE Band 30	10M	QPSK	25	0	Top Side	10mm	Ant 1	Hotspot on	27710	2310	1	21.53	22.00	1.114			0.13	0.001	0.001
	LTE Band 30	10M	QPSK	1	0	Front	10mm	Ant 4	Hotspot on	27710	2310	1	23.13	24.00	1.222			0.04	0.052	0.064
	LTE Band 30	10M	QPSK	25	0	Front	10mm	Ant 4												



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	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 4	Hotspot on	27710	2310	1	23.13	24.00	1.222		0.05	0.142	0.174	
	LTE Band 30	10M	QPSK	25	0	Back	10mm	Ant 4	Hotspot on	27710	2310	1	22.09	23.00	1.233		0.07	0.117	0.144	
	LTE Band 30	10M	QPSK	1	0	Left Side	10mm	Ant 4	Hotspot on	27710	2310	1	23.13	24.00	1.222		-0.19	0.250	0.306	
	LTE Band 30	10M	QPSK	25	0	Left Side	10mm	Ant 4	Hotspot on	27710	2310	1	22.09	23.00	1.233		0.17	0.202	0.249	
	LTE Band 30	10M	QPSK	1	0	Right Side	10mm	Ant 4	Hotspot on	27710	2310	1	23.13	24.00	1.222		-0.06	0.001	0.001	
	LTE Band 30	10M	QPSK	25	0	Right Side	10mm	Ant 4	Hotspot on	27710	2310	1	22.09	23.00	1.233		-0.05	0.001	0.001	
	LTE Band 30	10M	QPSK	1	0	Top Side	10mm	Ant 4	Hotspot on	27710	2310	1	23.13	24.00	1.222		-0.13	0.001	0.001	
	LTE Band 30	10M	QPSK	25	0	Top Side	10mm	Ant 4	Hotspot on	27710	2310	1	22.09	23.00	1.233		0.13	0.001	0.001	
	LTE Band 30	10M	QPSK	1	0	Front	10mm	Ant 5	Hotspot on	27710	2310	1	17.71	18.50	1.199		0.09	0.047	0.056	
	LTE Band 30	10M	QPSK	25	0	Front	10mm	Ant 5	Hotspot on	27710	2310	1	17.65	18.50	1.216		-0.05	0.047	0.057	
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 5	Hotspot on	27710	2310	1	17.71	18.50	1.199		0.19	0.050	0.060	
	LTE Band 30	10M	QPSK	25	0	Back	10mm	Ant 5	Hotspot on	27710	2310	1	17.65	18.50	1.216		0.02	0.048	0.058	
	LTE Band 30	10M	QPSK	1	0	Left Side	10mm	Ant 5	Hotspot on	27710	2310	1	17.71	18.50	1.199		-0.01	0.001	0.001	
	LTE Band 30	10M	QPSK	25	0	Left Side	10mm	Ant 5	Hotspot on	27710	2310	1	17.65	18.50	1.216		0.11	0.001	0.001	
	LTE Band 30	10M	QPSK	1	0	Right Side	10mm	Ant 5	Hotspot on	27710	2310	1	17.71	18.50	1.199		-0.14	0.161	0.193	
	LTE Band 30	10M	QPSK	25	0	Right Side	10mm	Ant 5	Hotspot on	27710	2310	1	17.65	18.50	1.216		0.18	0.153	0.186	
	LTE Band 30	10M	QPSK	1	0	Top Side	10mm	Ant 5	Hotspot on	27710	2310	1	17.71	18.50	1.199		-0.19	0.024	0.029	
	LTE Band 30	10M	QPSK	25	0	Top Side	10mm	Ant 5	Hotspot on	27710	2310	1	17.65	18.50	1.216		0.14	0.023	0.028	
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	132322	1745	1	12.77	13.50	1.183		0.09	0.008	0.009	
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 0	Hotspot on	132322	1745	1	12.71	13.50	1.199		-0.05	0.006	0.007	
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	132322	1745	1	12.77	13.50	1.183		0.01	0.090	0.106	
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 0	Hotspot on	132322	1745	1	12.71	13.50	1.199		0.03	0.072	0.086	
	LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	132322	1745	1	12.77	13.50	1.183		0.03	0.132	0.156	
	LTE Band 66	20M	QPSK	50	0	Left Side	10mm	Ant 0	Hotspot on	132322	1745	1	12.71	13.50	1.199		-0.02	0.107	0.128	
	LTE Band 66	20M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	132322	1745	1	12.77	13.50	1.183		0.06	0.011	0.013	
	LTE Band 66	20M	QPSK	50	0	Right Side	10mm	Ant 0	Hotspot on	132322	1745	1	12.71	13.50	1.199		0.15	0.009	0.011	
	LTE Band 66	20M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	132322	1745	1	12.77	13.50	1.183		0.05	0.013	0.015	
	LTE Band 66	20M	QPSK	50	0	Top Side	10mm	Ant 0	Hotspot on	132322	1745	1	12.71	13.50	1.199		0.09	0.010	0.012	
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 1	Hotspot on	132322	1745	1	22.93	24.00	1.279		0.03	0.001	0.001	
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 1	Hotspot on	132322	1745	1	21.96	23.00	1.271		0.10	0.001	0.001	
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 1	Hotspot on	132322	1745	1	22.93	24.00	1.279		-0.06	0.137	0.175	
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 1	Hotspot on	132322	1745	1	21.96	23.00	1.271		-0.11	0.111	0.141	
	LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 1	Hotspot on	132322	1745	1	22.93	24.00	1.279		0.09	0.102	0.130	
	LTE Band 66	20M	QPSK	50	0	Left Side	10mm	Ant 1	Hotspot on	132322	1745	1	21.96	23.00	1.271		-0.05	0.098	0.125	
	LTE Band 66	20M	QPSK	1	0	Right Side	10mm	Ant 1	Hotspot on	132322	1745	1	22.93	24.00	1.279		0.08	0.001	0.001	
	LTE Band 66	20M	QPSK	50	0	Right Side	10mm	Ant 1	Hotspot on	132322	1745	1	21.96	23.00	1.271		0.03	0.001	0.001	
	LTE Band 66	20M	QPSK	1	0	Top Side	10mm	Ant 1	Hotspot on	132322	1745	1	22.93	24.00	1.279		-0.14	0.001	0.001	
	LTE Band 66	20M	QPSK	50	0	Top Side	10mm	Ant 1	Hotspot on	132322	1745	1	21.96	23.00	1.271		-0.19	0.001	0.001	
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 4	Hotspot on	132322	1745	1	19.21	20.00	1.199		0.13	0.040	0.048	
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 4	Hotspot on	132322	1745	1	19.20	20.00	1.202		0.16	0.036	0.043	
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 4	Hotspot on	132322	1745	1	19.21	20.00	1.199		-0.18	0.107	0.128	
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 4	Hotspot on	132322	1745	1	19.20	20.00	1.202		-0.10	0.089	0.107	
10	LTE Band 66	20M	QPSK	1	0	Left Side	10mm	Ant 4	Hotspot on	132322	1745	1	19.21	20.00	1.199		0.18	0.306	0.367	
	LTE Band 66	20M	QPSK	50	0	Left Side	10mm	Ant 4	Hotspot on	132322	1745	1	19.20	20.00	1.202		-0.15	0.230	0.276	
	LTE Band 66	20M	QPSK	1	0	Right Side	10mm	Ant 4	Hotspot on	132322	1745	1	19.21	20.00	1.199		-0.19	0.046	0.055	
	LTE Band 66	20M	QPSK	50	0	Right Side	10mm	Ant 4	Hotspot on	132322	1745	1	19.20	20.00	1.202		-0.00	0.035	0.042	
	LTE Band 66	20M	QPSK	1	0	Top Side	10mm	Ant 4	Hotspot on	132322	1745	1	19.21	20.00	1.199		-0.04	0.001	0.001	
	LTE Band 66	20M	QPSK	50	0	Top Side	10mm	Ant 4	Hotspot on	132322	1745	1	19.20	20.00	1.202		0.13	0.001	0.001	
	LTE Band 71	20M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	133297	680.5	1	23.59	24.00	1.099		-0.16	0.086	0.095	
	LTE Band 71	20M	QPSK	50	0	Front	10mm	Ant 0	Hotspot on	133297	680.5	1	22.59	23.00	1.099		-0.16	0.082	0.090	
	LTE Band 71	20M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	133297	680.5	1	23.59	24.00	1.099		-0.16	0.157	0.173	
	LTE Band 71	20M	QPSK	50	0	Back	10mm	Ant 0	Hotspot on	133297	680.5	1	22.59	23.00	1.099		-0.17	0.122	0.134	
11	LTE Band 71	20M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	133297	680.5	1	23.59	24.00	1.099		0.01	0.211	0.232	
	LTE Band 71	20M	QPSK	50	0	Left Side	10mm	Ant 0	Hotspot on	133297	680.5	1	22.59	23.00	1.099		0.01	0.164	0.180	
	LTE Band 71	20M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	133297	680.5	1	23.59	24.00	1.099		0.02	0.001	0.001	
	LTE Band 71	20M	QPSK	50	0	Right Side	10mm	Ant 0	Hotspot on	133297	680.5	1	22.59	23.00	1.099		0.10	0.001	0.001	
	LTE Band 71	20M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	133297	680.5	1	23.59	24.00	1.099		-0.16	0.065	0.071	
	LTE Band 71	20M	QPSK	50	0	Top Side	10mm	Ant 0	Hotspot on	133297	680.5	1	22.59	23.00	1.099		0.08	0.032	0.035	
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 0	Hotspot on	40620	2593	1	18.20	19.00	1.202	62.9	1.006	-0.10	0.012	0.015
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 0	Hotspot on	40620	2593	1	18.17	19.00	1.211	62.9	1.006	0.16	0.010	0.012
	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 0	Hotspot on	40620	2593	1	18.20	19.00	1.202	62.9	1.006	0.05	0.139	0.168
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 0	Hotspot on	40620	2593	1	18.17	19.00	1.211	62.9	1.006	-0.03	0.112	0.136
	LTE Band 41	20M	QPSK	1	0	Left Side	10mm	Ant 0	Hotspot on	40620	2593	1	18.20	19.00	1.202	62.9	1.006	0.11	0.103	0.125
	LTE Band 41	20M	QPSK	50	0	Left Side	10mm	Ant 0	Hotspot on	40620	2593	1	18.17	19.00	1.211	62.9	1.006	-0.07	0.082	0.100
	LTE Band 41	20M	QPSK	1	0	Right Side	10mm	Ant 0	Hotspot on	40620	2593	1	18.20	19.00	1.202	62.9	1.006	0.11	0.001	0.001
	LTE Band 41	20M	QPSK	50	0	Right Side	10mm	Ant 0	Hotspot on	40620	2593	1	18.17	19.00	1.211	62.9	1.006	-0.03	0.001	0.001
	LTE Band 41	20M	QPSK	1	0	Top Side	10mm	Ant 0	Hotspot on	40620	2593	1	18.20	19.00	1.202	62.9	1.006	0.10	0.027	0.033
	LTE Band 41	20M	QPSK	50	0	Top Side	10mm	Ant 0	Hotspot on	40620	2593	1	18.17	19.00	1.211	62.9	1.006	0.01	0.022	0.027
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 1	Hotspot on	40620	2593	1	18.63	19.00	1.089	62.9	1.006	0.05	0.046	0.050
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 1	Hotspot on	40620	2593	1	18.60	19.00	1.096	62.9	1.006	0.08	0.037	0.041
	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 1	Hotspot on	40620	2593	1	18.63	19.00	1.089	62.9	1.006	-0.09	0.092	0.101
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 1	Hotspot on	40620	2593	1	18.60	19.00	1.096	62.9	1.006	-0.05	0.074	0.082
	LTE Band 41	20M	QPSK	1	0	Left Side	10mm	Ant 1	Hotspot on	40620	2593									



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	LTE Band 41	20M	QPSK	50	0	Left Side	10mm	Ant 1	Hotspot on	40620	2593	1	18.60	19.00	1.096	62.9	1.006	-0.05	0.150	0.165
	LTE Band 41	20M	QPSK	1	0	Right Side	10mm	Ant 1	Hotspot on	40620	2593	1	18.63	19.00	1.089	62.9	1.006	-0.11	0.001	0.001
	LTE Band 41	20M	QPSK	50	0	Right Side	10mm	Ant 1	Hotspot on	40620	2593	1	18.60	19.00	1.096	62.9	1.006	0.10	0.001	0.001
	LTE Band 41	20M	QPSK	1	0	Top Side	10mm	Ant 1	Hotspot on	40620	2593	1	18.63	19.00	1.089	62.9	1.006	-0.18	0.001	0.001
	LTE Band 41	20M	QPSK	50	0	Top Side	10mm	Ant 1	Hotspot on	40620	2593	1	18.60	19.00	1.096	62.9	1.006	0.18	0.001	0.001
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 4	Hotspot on	40620	2593	1	20.06	21.00	1.242	62.9	1.006	0.17	0.030	0.037
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 4	Hotspot on	40620	2593	1	20.05	21.00	1.245	62.9	1.006	-0.02	0.024	0.030
12	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 4	Hotspot on	40620	2593	1	20.06	21.00	1.242	62.9	1.006	0.02	0.294	0.367
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 4	Hotspot on	40620	2593	1	20.05	21.00	1.245	62.9	1.006	-0.05	0.236	0.296
	LTE Band 41	20M	QPSK	1	0	Left Side	10mm	Ant 4	Hotspot on	40620	2593	1	20.06	21.00	1.242	62.9	1.006	-0.02	0.227	0.284
	LTE Band 41	20M	QPSK	50	0	Left Side	10mm	Ant 4	Hotspot on	40620	2593	1	20.05	21.00	1.245	62.9	1.006	-0.00	0.184	0.230
	LTE Band 41	20M	QPSK	1	0	Right Side	10mm	Ant 4	Hotspot on	40620	2593	1	20.06	21.00	1.242	62.9	1.006	-0.10	0.023	0.029
	LTE Band 41	20M	QPSK	50	0	Right Side	10mm	Ant 4	Hotspot on	40620	2593	1	20.05	21.00	1.245	62.9	1.006	-0.16	0.022	0.028
	LTE Band 41	20M	QPSK	1	0	Top Side	10mm	Ant 4	Hotspot on	40620	2593	1	20.06	21.00	1.242	62.9	1.006	0.05	0.060	0.075
	LTE Band 41	20M	QPSK	50	0	Top Side	10mm	Ant 4	Hotspot on	40620	2593	1	20.05	21.00	1.245	62.9	1.006	0.04	0.048	0.060
	LTE Band 42	20M	QPSK	1	0	Front	10mm	Ant 5	Hotspot on	42590	3500	1	20.51	21.00	1.119	62.9	1.006	0.10	0.039	0.044
	LTE Band 42	20M	QPSK	50	0	Front	10mm	Ant 5	Hotspot on	42590	3500	1	19.53	20.00	1.114	62.9	1.006	-0.05	0.027	0.030
	LTE Band 42	20M	QPSK	1	0	Back	10mm	Ant 5	Hotspot on	42590	3500	1	20.51	21.00	1.119	62.9	1.006	-0.01	0.077	0.087
	LTE Band 42	20M	QPSK	50	0	Back	10mm	Ant 5	Hotspot on	42590	3500	1	19.53	20.00	1.114	62.9	1.006	-0.04	0.056	0.063
	LTE Band 42	20M	QPSK	1	0	Left Side	10mm	Ant 5	Hotspot on	42590	3500	1	20.51	21.00	1.119	62.9	1.006	-0.07	0.042	0.047
	LTE Band 42	20M	QPSK	50	0	Left Side	10mm	Ant 5	Hotspot on	42590	3500	1	19.53	20.00	1.114	62.9	1.006	-0.15	0.033	0.037
	LTE Band 42	20M	QPSK	1	0	Right Side	10mm	Ant 5	Hotspot on	42590	3500	1	20.51	21.00	1.119	62.9	1.006	0.09	0.153	0.172
	LTE Band 42	20M	QPSK	50	0	Right Side	10mm	Ant 5	Hotspot on	42590	3500	1	19.53	20.00	1.114	62.9	1.006	-0.05	0.130	0.146
	LTE Band 42	20M	QPSK	1	0	Top Side	10mm	Ant 5	Hotspot on	42590	3500	1	20.51	21.00	1.119	62.9	1.006	0.11	0.057	0.064
	LTE Band 42	20M	QPSK	50	0	Top Side	10mm	Ant 5	Hotspot on	42590	3500	1	19.53	20.00	1.114	62.9	1.006	0.06	0.048	0.054
	LTE Band 42	20M	QPSK	1	0	Front	10mm	Ant 7	Hotspot on	42590	3500	1	17.27	18.50	1.327	62.9	1.006	0.10	0.101	0.135
	LTE Band 42	20M	QPSK	50	0	Front	10mm	Ant 7	Hotspot on	42590	3500	1	17.25	18.50	1.334	62.9	1.006	-0.10	0.097	0.130
	LTE Band 42	20M	QPSK	1	0	Back	10mm	Ant 7	Hotspot on	42590	3500	1	17.27	18.50	1.327	62.9	1.006	-0.13	0.126	0.168
	LTE Band 42	20M	QPSK	50	0	Back	10mm	Ant 7	Hotspot on	42590	3500	1	17.25	18.50	1.334	62.9	1.006	-0.16	0.119	0.160
	LTE Band 42	20M	QPSK	1	0	Left Side	10mm	Ant 7	Hotspot on	42590	3500	1	17.27	18.50	1.327	62.9	1.006	0.04	0.270	0.360
13	LTE Band 42	20M	QPSK	50	0	Left Side	10mm	Ant 7	Hotspot on	42590	3500	1	17.25	18.50	1.334	62.9	1.006	-0.14	0.278	0.373
	LTE Band 42	20M	QPSK	1	0	Right Side	10mm	Ant 7	Hotspot on	42590	3500	1	17.27	18.50	1.327	62.9	1.006	-0.11	0.022	0.029
	LTE Band 42	20M	QPSK	50	0	Right Side	10mm	Ant 7	Hotspot on	42590	3500	1	17.25	18.50	1.334	62.9	1.006	0.10	0.018	0.024
	LTE Band 42	20M	QPSK	1	0	Top Side	10mm	Ant 7	Hotspot on	42590	3500	1	17.27	18.50	1.327	62.9	1.006	-0.11	0.052	0.069
	LTE Band 42	20M	QPSK	50	0	Top Side	10mm	Ant 7	Hotspot on	42590	3500	1	17.25	18.50	1.334	62.9	1.006	-0.03	0.057	0.076
	LTE Band 48	20M	QPSK	1	0	Front	10mm	Ant 5	Hotspot on	55990	3625	1	19.74	21.00	1.337	62.9	1.006	0.11	0.042	0.056
	LTE Band 48	20M	QPSK	50	0	Front	10mm	Ant 5	Hotspot on	55990	3625	1	18.93	20.00	1.279	62.9	1.006	0.07	0.039	0.050
	LTE Band 48	20M	QPSK	1	0	Back	10mm	Ant 5	Hotspot on	55990	3625	1	19.74	21.00	1.337	62.9	1.006	0.18	0.057	0.077
	LTE Band 48	20M	QPSK	50	0	Back	10mm	Ant 5	Hotspot on	55990	3625	1	18.93	20.00	1.279	62.9	1.006	0.04	0.051	0.066
	LTE Band 48	20M	QPSK	1	0	Left Side	10mm	Ant 5	Hotspot on	55990	3625	1	19.74	21.00	1.337	62.9	1.006	-0.06	0.039	0.052
	LTE Band 48	20M	QPSK	50	0	Left Side	10mm	Ant 5	Hotspot on	55990	3625	1	18.93	20.00	1.279	62.9	1.006	-0.01	0.031	0.040
	LTE Band 48	20M	QPSK	1	0	Right Side	10mm	Ant 5	Hotspot on	55990	3625	1	19.74	21.00	1.337	62.9	1.006	-0.03	0.148	0.199
	LTE Band 48	20M	QPSK	50	0	Right Side	10mm	Ant 5	Hotspot on	55990	3625	1	18.93	20.00	1.279	62.9	1.006	-0.01	0.135	0.174
	LTE Band 48	20M	QPSK	1	0	Top Side	10mm	Ant 5	Hotspot on	55990	3625	1	19.74	21.00	1.337	62.9	1.006	0.03	0.001	0.001
	LTE Band 48	20M	QPSK	50	0	Top Side	10mm	Ant 5	Hotspot on	55990	3625	1	18.93	20.00	1.279	62.9	1.006	0.06	0.001	0.001
	LTE Band 48	20M	QPSK	1	0	Front	10mm	Ant 7	Hotspot on	55990	3625	1	17.63	18.50	1.222	62.9	1.006	0.16	0.077	0.095
	LTE Band 48	20M	QPSK	50	0	Front	10mm	Ant 7	Hotspot on	55990	3625	1	17.58	18.50	1.236	62.9	1.006	-0.07	0.053	0.066
	LTE Band 48	20M	QPSK	1	0	Back	10mm	Ant 7	Hotspot on	55990	3625	1	17.63	18.50	1.222	62.9	1.006	0.15	0.043	0.053
	LTE Band 48	20M	QPSK	50	0	Back	10mm	Ant 7	Hotspot on	55990	3625	1	17.58	18.50	1.236	62.9	1.006	-0.09	0.039	0.048
14	LTE Band 48	20M	QPSK	1	0	Left Side	10mm	Ant 7	Hotspot on	55990	3625	1	17.63	18.50	1.222	62.9	1.006	-0.11	0.314	0.386
	LTE Band 48	20M	QPSK	1	0	Left Side	10mm	Ant 7	Hotspot on	55990	3625	4	17.63	18.50	1.222	62.9	1.006	0.02	0.301	0.37
	LTE Band 48	20M	QPSK	1	0	Left Side	10mm	Ant 7	Hotspot on	55990	3625	6	17.63	18.50	1.222	62.9	1.006	-0.17	0.308	0.379
	LTE Band 48	20M	QPSK	50	0	Left Side	10mm	Ant 7	Hotspot on	55990	3625	1	17.58	18.50	1.236	62.9	1.006	-0.12	0.258	0.321
	LTE Band 48	20M	QPSK	1	0	Right Side	10mm	Ant 7	Hotspot on	55990	3625	1	17.63	18.50	1.222	62.9	1.006	-0.00	0.016	0.020
	LTE Band 48	20M	QPSK	50	0	Right Side	10mm	Ant 7	Hotspot on	55990	3625	1	17.58	18.50	1.236	62.9	1.006	0.12	0.015	0.019
	LTE Band 48	20M	QPSK	1	0	Top Side	10mm	Ant 7	Hotspot on	55990	3625	1	17.63	18.50	1.222	62.9	1.006	0.08	0.063	0.077
	LTE Band 48	20M	QPSK	50	0	Top Side	10mm	Ant 7	Hotspot on	55990	3625	1	17.58	18.50	1.236	62.9	1.006	0.12	0.051	0.063



[FR1 SAR]

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n7	20M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	507000	2535	1	19.13	20.00	1.222	-0.09	0.042	0.051
	FR1 n7	20M	BPSK	50	28	Front	10mm	Ant 0	Hotspot on	507000	2535	1	19.11	20.00	1.227	0.09	0.038	0.047
	FR1 n7	20M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	507000	2535	1	19.13	20.00	1.222	-0.12	0.267	0.326
	FR1 n7	20M	BPSK	50	28	Back	10mm	Ant 0	Hotspot on	507000	2535	1	19.11	20.00	1.227	0.06	0.275	0.337
	FR1 n7	20M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	507000	2535	1	19.13	20.00	1.222	-0.06	0.316	0.386
	FR1 n7	20M	BPSK	50	28	Left Side	10mm	Ant 0	Hotspot on	507000	2535	1	19.11	20.00	1.227	-0.08	0.312	0.383
	FR1 n7	20M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	507000	2535	1	19.13	20.00	1.222	-0.11	0.290	0.354
	FR1 n7	20M	BPSK	50	28	Right Side	10mm	Ant 0	Hotspot on	507000	2535	1	19.11	20.00	1.227	-0.19	0.042	0.052
	FR1 n7	20M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	507000	2535	1	19.13	20.00	1.222	-0.16	0.073	0.089
	FR1 n7	20M	BPSK	50	28	Top Side	10mm	Ant 0	Hotspot on	507000	2535	1	19.11	20.00	1.227	0.04	0.077	0.094
	FR1 n7	20M	BPSK	1	1	Front	10mm	Ant 1	Hotspot on	507000	2535	1	17.39	18.00	1.151	0.07	0.033	0.038
	FR1 n7	20M	BPSK	50	28	Front	10mm	Ant 1	Hotspot on	507000	2535	1	17.30	18.00	1.175	-0.05	0.042	0.049
	FR1 n7	20M	BPSK	1	1	Back	10mm	Ant 1	Hotspot on	507000	2535	1	17.39	18.00	1.151	-0.10	0.205	0.236
	FR1 n7	20M	BPSK	50	28	Back	10mm	Ant 1	Hotspot on	507000	2535	1	17.30	18.00	1.175	0.12	0.188	0.221
15	FR1 n7	20M	BPSK	1	1	Left Side	10mm	Ant 1	Hotspot on	507000	2535	1	17.39	18.00	1.151	-0.06	0.344	0.396
	FR1 n7	20M	BPSK	50	28	Left Side	10mm	Ant 1	Hotspot on	507000	2535	1	17.30	18.00	1.175	-0.17	0.323	0.380
	FR1 n7	20M	BPSK	1	1	Right Side	10mm	Ant 1	Hotspot on	507000	2535	1	17.39	18.00	1.151	-0.18	0.001	0.001
	FR1 n7	20M	BPSK	50	28	Right Side	10mm	Ant 1	Hotspot on	507000	2535	1	17.30	18.00	1.175	-0.12	0.001	0.001
	FR1 n7	20M	BPSK	1	1	Top Side	10mm	Ant 1	Hotspot on	507000	2535	1	17.39	18.00	1.151	0.17	0.001	0.001
	FR1 n7	20M	BPSK	50	28	Top Side	10mm	Ant 1	Hotspot on	507000	2535	1	17.30	18.00	1.175	-0.14	0.001	0.001
	FR1 n7	20M	BPSK	1	1	Front	10mm	Ant 4	Hotspot on	507000	2535	1	21.46	22.50	1.271	-0.01	0.052	0.066
	FR1 n7	20M	BPSK	50	28	Front	10mm	Ant 4	Hotspot on	507000	2535	1	21.44	22.50	1.276	0.16	0.052	0.066
	FR1 n7	20M	BPSK	1	1	Back	10mm	Ant 4	Hotspot on	507000	2535	1	21.46	22.50	1.271	0.18	0.117	0.149
	FR1 n7	20M	BPSK	50	28	Back	10mm	Ant 4	Hotspot on	507000	2535	1	21.44	22.50	1.276	0.01	0.119	0.152
	FR1 n7	20M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	507000	2535	1	21.46	22.50	1.271	0.02	0.303	0.385
	FR1 n7	20M	BPSK	50	28	Left Side	10mm	Ant 4	Hotspot on	507000	2535	1	21.44	22.50	1.276	-0.14	0.265	0.338
	FR1 n7	20M	BPSK	1	1	Right Side	10mm	Ant 4	Hotspot on	507000	2535	1	21.46	22.50	1.271	0.11	0.039	0.050
	FR1 n7	20M	BPSK	50	28	Right Side	10mm	Ant 4	Hotspot on	507000	2535	1	21.44	22.50	1.276	-0.17	0.037	0.047
	FR1 n7	20M	BPSK	1	1	Top Side	10mm	Ant 4	Hotspot on	507000	2535	1	21.46	22.50	1.271	-0.08	0.042	0.053
	FR1 n7	20M	BPSK	50	28	Top Side	10mm	Ant 4	Hotspot on	507000	2535	1	21.44	22.50	1.276	-0.17	0.048	0.061
	FR1 n12	15M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	141500	707.5	1	23.66	24.50	1.213	-0.02	0.131	0.159
	FR1 n12	15M	BPSK	36	22	Front	10mm	Ant 0	Hotspot on	141500	707.5	1	23.34	24.50	1.306	-0.15	0.128	0.167
	FR1 n12	15M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	141500	707.5	1	23.66	24.50	1.213	0.10	0.144	0.175
	FR1 n12	15M	BPSK	36	22	Back	10mm	Ant 0	Hotspot on	141500	707.5	1	23.34	24.50	1.306	-0.06	0.169	0.221
16	FR1 n12	15M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	141500	707.5	1	23.66	24.50	1.213	0.02	0.291	0.353
	FR1 n12	15M	BPSK	36	22	Left Side	10mm	Ant 0	Hotspot on	141500	707.5	1	23.34	24.50	1.306	-0.11	0.241	0.315
	FR1 n12	15M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	141500	707.5	1	23.66	24.50	1.213	0.03	0.001	0.001
	FR1 n12	15M	BPSK	36	22	Right Side	10mm	Ant 0	Hotspot on	141500	707.5	1	23.34	24.50	1.306	0.06	0.001	0.001
	FR1 n12	15M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	141500	707.5	1	23.66	24.50	1.213	0.08	0.053	0.064
	FR1 n12	15M	BPSK	36	22	Top Side	10mm	Ant 0	Hotspot on	141500	707.5	1	23.34	24.50	1.306	-0.17	0.061	0.080
	FR1 n13	10M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	156400	782	1	23.06	24.00	1.242	-0.16	0.118	0.147
	FR1 n13	10M	BPSK	25	14	Front	10mm	Ant 0	Hotspot on	156400	782	1	22.94	24.00	1.276	-0.17	0.109	0.139
	FR1 n13	10M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	156400	782	1	23.06	24.00	1.242	-0.02	0.185	0.230
	FR1 n13	10M	BPSK	25	14	Back	10mm	Ant 0	Hotspot on	156400	782	1	22.94	24.00	1.276	0.01	0.168	0.214
17	FR1 n13	10M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	156400	782	1	23.06	24.00	1.242	0.02	0.296	0.368
	FR1 n13	10M	BPSK	25	14	Left Side	10mm	Ant 0	Hotspot on	156400	782	1	22.94	24.00	1.276	-0.08	0.261	0.333
	FR1 n13	10M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	156400	782	1	23.06	24.00	1.242	-0.03	0.001	0.001
	FR1 n13	10M	BPSK	25	14	Right Side	10mm	Ant 0	Hotspot on	156400	782	1	22.94	24.00	1.276	-0.11	0.001	0.001
	FR1 n13	10M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	156400	782	1	23.06	24.00	1.242	-0.18	0.068	0.084
	FR1 n13	10M	BPSK	25	14	Top Side	10mm	Ant 0	Hotspot on	156400	782	1	22.94	24.00	1.276	-0.09	0.061	0.078
	FR1 n25	30M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.80	16.00	1.318	-0.05	0.015	0.020
	FR1 n25	30M	BPSK	80	40	Front	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.78	16.00	1.324	-0.02	0.013	0.017
	FR1 n25	30M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.80	16.00	1.318	-0.08	0.169	0.223
	FR1 n25	30M	BPSK	80	40	Back	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.78	16.00	1.324	0.10	0.152	0.201
	FR1 n25	30M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.80	16.00	1.318	0.01	0.261	0.344
	FR1 n25	30M	BPSK	80	40	Left Side	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.78	16.00	1.324	-0.02	0.183	0.242
	FR1 n25	30M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.80	16.00	1.318	-0.03	0.009	0.012
	FR1 n25	30M	BPSK	80	40	Right Side	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.78	16.00	1.324	0.05	0.006	0.008
	FR1 n25	30M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.80	16.00	1.318	0.13	0.007	0.009
	FR1 n25	30M	BPSK	80	40	Top Side	10mm	Ant 0	Hotspot on	376500	1882.5	1	14.78	16.00	1.324	0.05	0.001	0.001
	FR1 n25	30M	BPSK	1	1	Front	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.17	24.00	1.211	0.01	0.160	0.194
	FR1 n25	30M	BPSK	80	40	Front	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.19	24.00	1.205	0.06	0.142	0.171
18	FR1 n25	30M	BPSK	1	1	Back	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.17	24.00	1.211	0.01	0.301	0.365
	FR1 n25	30M	BPSK	80	40	Back	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.19	24.00	1.205	-0.11	0.231	0.278
	FR1 n25	30M	BPSK	1	1	Left Side	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.17	24.00	1.211	-0.05	0.288	0.349
	FR1 n25	30M	BPSK	80	40	Left Side	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.19	24.00	1.205	0.07	0.266	0.321
	FR1 n25	30M	BPSK	1	1	Right Side	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.17	24.00	1.211	0.09	0.082	0.099
	FR1 n25	30M	BPSK	80	40	Right Side	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.19	24.00	1.205	-0.13	0.061	0.074



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	FR1 n25	30M	BPSK	1	1	Top Side	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.17	24.00	1.211	-0.14	0.045	0.054
	FR1 n25	30M	BPSK	80	40	Top Side	10mm	Ant 1	Hotspot on	376500	1882.5	1	23.19	24.00	1.205	0.10	0.001	0.001
	FR1 n25	30M	BPSK	1	1	Front	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.84	21.50	1.164	-0.04	0.061	0.071
	FR1 n25	30M	BPSK	80	40	Front	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.79	21.50	1.178	0.12	0.057	0.067
	FR1 n25	30M	BPSK	1	1	Back	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.84	21.50	1.164	-0.06	0.101	0.118
	FR1 n25	30M	BPSK	80	40	Back	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.79	21.50	1.178	0.06	0.103	0.121
	FR1 n25	30M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.84	21.50	1.164	0.05	0.297	0.346
	FR1 n25	30M	BPSK	80	40	Left Side	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.79	21.50	1.178	-0.02	0.301	0.355
	FR1 n25	30M	BPSK	1	1	Right Side	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.84	21.50	1.164	-0.07	0.073	0.085
	FR1 n25	30M	BPSK	80	40	Right Side	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.79	21.50	1.178	-0.08	0.066	0.078
	FR1 n25	30M	BPSK	1	1	Top Side	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.84	21.50	1.164	-0.10	0.029	0.034
	FR1 n25	30M	BPSK	80	40	Top Side	10mm	Ant 4	Hotspot on	376500	1882.5	1	20.79	21.50	1.178	0.04	0.029	0.034
	FR1 n26	20M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	166300	831.5	1	22.18	23.00	1.208	0.14	0.143	0.173
	FR1 n26	20M	BPSK	50	28	Front	10mm	Ant 0	Hotspot on	166300	831.5	1	22.12	23.00	1.225	-0.01	0.081	0.099
	FR1 n26	20M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	166300	831.5	1	22.18	23.00	1.208	0.02	0.154	0.186
	FR1 n26	20M	BPSK	50	28	Back	10mm	Ant 0	Hotspot on	166300	831.5	1	22.12	23.00	1.225	0.01	0.217	0.266
19	FR1 n26	20M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	166300	831.5	1	22.18	23.00	1.208	-0.03	0.288	0.348
	FR1 n26	20M	BPSK	50	28	Left Side	10mm	Ant 0	Hotspot on	166300	831.5	1	22.12	23.00	1.225	0.18	0.186	0.228
	FR1 n26	20M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	166300	831.5	1	22.18	23.00	1.208	0.00	0.053	0.064
	FR1 n26	20M	BPSK	50	28	Right Side	10mm	Ant 0	Hotspot on	166300	831.5	1	22.12	23.00	1.225	0.17	0.065	0.080
	FR1 n26	20M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	166300	831.5	1	22.18	23.00	1.208	0.04	0.077	0.093
	FR1 n26	20M	BPSK	50	28	Top Side	10mm	Ant 0	Hotspot on	166300	831.5	1	22.12	23.00	1.225	0.07	0.046	0.056
	FR1 n30	10M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	462000	2310	1	16.65	17.50	1.216	-0.02	0.014	0.017
	FR1 n30	10M	BPSK	25	14	Front	10mm	Ant 0	Hotspot on	462000	2310	1	16.58	17.50	1.236	0.01	0.014	0.017
	FR1 n30	10M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	462000	2310	1	16.65	17.50	1.216	0.01	0.303	0.368
20	FR1 n30	10M	BPSK	25	14	Back	10mm	Ant 0	Hotspot on	462000	2310	1	16.58	17.50	1.236	-0.04	0.299	0.370
	FR1 n30	10M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	462000	2310	1	16.65	17.50	1.216	0.10	0.299	0.364
	FR1 n30	10M	BPSK	25	14	Left Side	10mm	Ant 0	Hotspot on	462000	2310	1	16.58	17.50	1.236	0.05	0.275	0.340
	FR1 n30	10M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	462000	2310	1	16.65	17.50	1.216	-0.15	0.001	0.001
	FR1 n30	10M	BPSK	25	14	Right Side	10mm	Ant 0	Hotspot on	462000	2310	1	16.58	17.50	1.236	0.05	0.001	0.001
	FR1 n30	10M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	462000	2310	1	16.65	17.50	1.216	0.05	0.020	0.024
	FR1 n30	10M	BPSK	25	14	Top Side	10mm	Ant 0	Hotspot on	462000	2310	1	16.58	17.50	1.236	0.14	0.020	0.025
	FR1 n30	10M	BPSK	1	1	Front	10mm	Ant 1	Hotspot on	462000	2310	1	19.78	20.50	1.18	0.01	0.081	0.096
	FR1 n30	10M	BPSK	25	14	Front	10mm	Ant 1	Hotspot on	462000	2310	1	19.76	20.50	1.186	-0.07	0.080	0.095
	FR1 n30	10M	BPSK	1	1	Back	10mm	Ant 1	Hotspot on	462000	2310	1	19.78	20.50	1.18	0.13	0.138	0.163
	FR1 n30	10M	BPSK	25	14	Back	10mm	Ant 1	Hotspot on	462000	2310	1	19.76	20.50	1.186	-0.06	0.140	0.166
	FR1 n30	10M	BPSK	1	1	Left Side	10mm	Ant 1	Hotspot on	462000	2310	1	19.78	20.50	1.18	-0.17	0.110	0.130
	FR1 n30	10M	BPSK	25	14	Left Side	10mm	Ant 1	Hotspot on	462000	2310	1	19.76	20.50	1.186	0.16	0.104	0.123
	FR1 n30	10M	BPSK	1	1	Right Side	10mm	Ant 1	Hotspot on	462000	2310	1	19.78	20.50	1.18	-0.06	0.021	0.025
	FR1 n30	10M	BPSK	25	14	Right Side	10mm	Ant 1	Hotspot on	462000	2310	1	19.76	20.50	1.186	0.06	0.020	0.024
	FR1 n30	10M	BPSK	1	1	Top Side	10mm	Ant 1	Hotspot on	462000	2310	1	19.78	20.50	1.18	-0.18	0.001	0.001
	FR1 n30	10M	BPSK	25	14	Top Side	10mm	Ant 1	Hotspot on	462000	2310	1	19.76	20.50	1.186	-0.04	0.001	0.001
	FR1 n30	10M	BPSK	1	1	Front	10mm	Ant 4	Hotspot on	462000	2310	1	23.22	24.00	1.197	0.02	0.001	0.001
	FR1 n30	10M	BPSK	25	14	Front	10mm	Ant 4	Hotspot on	462000	2310	1	22.95	24.00	1.274	0.03	0.001	0.001
	FR1 n30	10M	BPSK	1	1	Back	10mm	Ant 4	Hotspot on	462000	2310	1	23.22	24.00	1.197	-0.17	0.137	0.164
	FR1 n30	10M	BPSK	25	14	Back	10mm	Ant 4	Hotspot on	462000	2310	1	22.95	24.00	1.274	-0.01	0.130	0.166
	FR1 n30	10M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	462000	2310	1	23.22	24.00	1.197	-0.12	0.201	0.241
	FR1 n30	10M	BPSK	25	14	Left Side	10mm	Ant 4	Hotspot on	462000	2310	1	22.95	24.00	1.274	-0.11	0.199	0.254
	FR1 n30	10M	BPSK	1	1	Right Side	10mm	Ant 4	Hotspot on	462000	2310	1	23.22	24.00	1.197	0.07	0.001	0.001
	FR1 n30	10M	BPSK	25	14	Right Side	10mm	Ant 4	Hotspot on	462000	2310	1	22.95	24.00	1.274	0.17	0.001	0.001
	FR1 n30	10M	BPSK	1	1	Top Side	10mm	Ant 4	Hotspot on	462000	2310	1	23.22	24.00	1.197	0.15	0.001	0.001
	FR1 n30	10M	BPSK	25	14	Top Side	10mm	Ant 4	Hotspot on	462000	2310	1	22.95	24.00	1.274	-0.01	0.001	0.001
	FR1 n30	10M	BPSK	1	1	Front	10mm	Ant 5	Hotspot on	462000	2310	1	17.36	18.00	1.159	-0.18	0.040	0.046
	FR1 n30	10M	BPSK	25	14	Front	10mm	Ant 5	Hotspot on	462000	2310	1	17.35	18.00	1.161	0.09	0.039	0.045
	FR1 n30	10M	BPSK	1	1	Back	10mm	Ant 5	Hotspot on	462000	2310	1	17.36	18.00	1.159	-0.01	0.053	0.061
	FR1 n30	10M	BPSK	25	14	Back	10mm	Ant 5	Hotspot on	462000	2310	1	17.35	18.00	1.161	-0.06	0.055	0.064
	FR1 n30	10M	BPSK	1	1	Left Side	10mm	Ant 5	Hotspot on	462000	2310	1	17.36	18.00	1.159	0.10	0.006	0.007
	FR1 n30	10M	BPSK	25	14	Left Side	10mm	Ant 5	Hotspot on	462000	2310	1	17.35	18.00	1.161	-0.01	0.006	0.007
	FR1 n30	10M	BPSK	1	1	Right Side	10mm	Ant 5	Hotspot on	462000	2310	1	17.36	18.00	1.159	-0.04	0.147	0.170
	FR1 n30	10M	BPSK	25	14	Right Side	10mm	Ant 5	Hotspot on	462000	2310	1	17.35	18.00	1.161	-0.12	0.144	0.167
	FR1 n30	10M	BPSK	1	1	Top Side	10mm	Ant 5	Hotspot on	462000	2310	1	17.36	18.00	1.159	-0.11	0.020	0.023
	FR1 n30	10M	BPSK	25	14	Top Side	10mm	Ant 5	Hotspot on	462000	2310	1	17.35	18.00	1.161	0.01	0.020	0.023
	FR1 n66	30M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	349000	1745	1	15.85	17.00	1.303	-0.03	0.023	0.030
	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 0	Hotspot on	349000	1745	1	15.81	17.00	1.315	0.11	0.023	0.030
	FR1 n66	30M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	349000	1745	1	15.85	17.00	1.303	0.01	0.191	0.249
	FR1 n66	30M	BPSK	80	40	Back	10mm	Ant 0	Hotspot on	349000	1745	1	15.81	17.00	1.315	0.04	0.185	0.243
	FR1 n66	30M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	349000	1745	1	15.85	17.00	1.303	-0.14	0.294	0.383
	FR1 n66	30M	BPSK	80	40	Left Side	10mm	Ant 0	Hotspot on	349000	1745	1	15.81	17.00	1.315	0.18	0.285	0.375
	FR1 n66	30M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	349000	1745	1	15.85	17.00	1.303	-0.02	0.038	0.050
	FR1 n66	30M	BPSK	80	40	Right Side	10mm	Ant 0	Hotspot on	349000	1745	1	15.81	17.00	1.315	0.16	0.035	0.046
	FR1 n66	30M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	349000	1745	1	15.85	17.00	1.303	-0.02	0.037	0.048
	FR1 n66	30M	BPSK	80	40	Top Side	10mm	Ant 0	Hotspot on	349000	1745	1	15.81	17.00	1.315	-0.03	0.033	0.043
	FR1 n66	30M	BPSK	1	1	Front	10mm	Ant 1	Hotspot on	349000	1745	1	19.49	20.00	1.125	0.15	0.054	0.061



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	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 1	Hotspot on	349000	1745	1	19.48	20.00	1.127	-0.18	0.042	0.047
	FR1 n66	30M	BPSK	1	1	Back	10mm	Ant 1	Hotspot on	349000	1745	1	19.49	20.00	1.125	-0.15	0.145	0.163
	FR1 n66	30M	BPSK	80	40	Back	10mm	Ant 1	Hotspot on	349000	1745	1	19.48	20.00	1.127	-0.07	0.155	0.175
	FR1 n66	30M	BPSK	1	1	Left Side	10mm	Ant 1	Hotspot on	349000	1745	1	19.49	20.00	1.125	0.18	0.118	0.133
	FR1 n66	30M	BPSK	80	40	Left Side	10mm	Ant 1	Hotspot on	349000	1745	1	19.48	20.00	1.127	0.09	0.109	0.123
	FR1 n66	30M	BPSK	1	1	Right Side	10mm	Ant 1	Hotspot on	349000	1745	1	19.49	20.00	1.125	0.12	0.001	0.001
	FR1 n66	30M	BPSK	80	40	Right Side	10mm	Ant 1	Hotspot on	349000	1745	1	19.48	20.00	1.127	-0.04	0.001	0.001
	FR1 n66	30M	BPSK	1	1	Top Side	10mm	Ant 1	Hotspot on	349000	1745	1	19.49	20.00	1.125	-0.18	0.001	0.001
	FR1 n66	30M	BPSK	80	40	Top Side	10mm	Ant 1	Hotspot on	349000	1745	1	19.48	20.00	1.127	-0.02	0.001	0.001
	FR1 n66	30M	BPSK	1	1	Front	10mm	Ant 4	Hotspot on	349000	1745	1	21.03	21.50	1.114	-0.18	0.048	0.053
	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 4	Hotspot on	349000	1745	1	20.91	21.50	1.146	-0.16	0.047	0.054
	FR1 n66	30M	BPSK	1	1	Back	10mm	Ant 4	Hotspot on	349000	1745	1	21.03	21.50	1.114	0.01	0.120	0.134
	FR1 n66	30M	BPSK	80	40	Back	10mm	Ant 4	Hotspot on	349000	1745	1	20.91	21.50	1.146	0.17	0.112	0.128
21	FR1 n66	30M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	349000	1745	1	21.03	21.50	1.114	0.01	0.366	0.408
	FR1 n66	30M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	349000	1745	4	21.03	21.50	1.114	0.07	0.342	0.381
	FR1 n66	30M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	349000	1745	6	21.03	21.50	1.114	-0.16	0.355	0.395
	FR1 n66	30M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	345000	1725	1	20.87	21.5	1.156	0.05	0.345	0.399
	FR1 n66	30M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	353000	1765	1	20.89	21.5	1.151	-0.14	0.337	0.388
	FR1 n66	30M	BPSK	80	40	Left Side	10mm	Ant 4	Hotspot on	349000	1745	1	20.91	21.50	1.146	0.05	0.336	0.385
	FR1 n66	30M	BPSK	1	1	Right Side	10mm	Ant 4	Hotspot on	349000	1745	1	21.03	21.50	1.114	0.17	0.055	0.061
	FR1 n66	30M	BPSK	80	40	Right Side	10mm	Ant 4	Hotspot on	349000	1745	1	20.91	21.50	1.146	0.08	0.055	0.063
	FR1 n66	30M	BPSK	1	1	Top Side	10mm	Ant 4	Hotspot on	349000	1745	1	21.03	21.50	1.114	0.01	0.025	0.028
	FR1 n66	30M	BPSK	80	40	Top Side	10mm	Ant 4	Hotspot on	349000	1745	1	20.91	21.50	1.146	0.10	0.001	0.001
	FR1 n71	20M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	136100	680.5	1	23.76	24.50	1.186	0.05	0.111	0.132
	FR1 n71	20M	BPSK	50	28	Front	10mm	Ant 0	Hotspot on	136100	680.5	1	23.63	24.50	1.222	0.01	0.086	0.105
	FR1 n71	20M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	136100	680.5	1	23.76	24.50	1.186	-0.05	0.161	0.191
	FR1 n71	20M	BPSK	50	28	Back	10mm	Ant 0	Hotspot on	136100	680.5	1	23.63	24.50	1.222	0.00	0.150	0.183
22	FR1 n71	20M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	136100	680.5	1	23.76	24.50	1.186	-0.10	0.251	0.298
	FR1 n71	20M	BPSK	50	28	Left Side	10mm	Ant 0	Hotspot on	136100	680.5	1	23.63	24.50	1.222	0.10	0.236	0.288
	FR1 n71	20M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	136100	680.5	1	23.76	24.50	1.186	0.01	0.002	0.002
	FR1 n71	20M	BPSK	50	28	Right Side	10mm	Ant 0	Hotspot on	136100	680.5	1	23.63	24.50	1.222	-0.13	0.002	0.002
	FR1 n71	20M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	136100	680.5	1	23.76	24.50	1.186	-0.15	0.080	0.095
	FR1 n71	20M	BPSK	50	28	Top Side	10mm	Ant 0	Hotspot on	136100	680.5	1	23.63	24.50	1.222	-0.15	0.075	0.092
	FR1 n41_HPUE	100M	BPSK	1	1	Front	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.16	25.50	1.361	0.09	0.025	0.034
	FR1 n41_HPUE	100M	BPSK	135	69	Front	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.13	25.50	1.371	0.00	0.032	0.044
	FR1 n41_HPUE	100M	BPSK	1	1	Back	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.16	25.50	1.361	0.01	0.160	0.218
	FR1 n41_HPUE	100M	BPSK	135	69	Back	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.13	25.50	1.371	0.02	0.152	0.208
	FR1 n41_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.16	25.50	1.361	0.17	0.134	0.182
	FR1 n41_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.13	25.50	1.371	0.04	0.209	0.287
	FR1 n41_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.16	25.50	1.361	-0.08	0.001	0.001
	FR1 n41_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.13	25.50	1.371	-0.06	0.001	0.001
	FR1 n41_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.16	25.50	1.361	0.13	0.001	0.001
	FR1 n41_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 0	Hotspot on	518598	2592.99	1	24.13	25.50	1.371	-0.14	0.001	0.001
	FR1 n41_HPUE	100M	BPSK	1	1	Front	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.88	13.50	1.153	-0.05	0.039	0.045
	FR1 n41_HPUE	100M	BPSK	135	69	Front	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.85	13.50	1.161	-0.18	0.037	0.043
	FR1 n41_HPUE	100M	BPSK	1	1	Back	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.88	13.50	1.153	0.14	0.032	0.037
	FR1 n41_HPUE	100M	BPSK	135	69	Back	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.85	13.50	1.161	0.02	0.035	0.041
	FR1 n41_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.88	13.50	1.153	-0.13	0.154	0.178
	FR1 n41_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.85	13.50	1.161	-0.01	0.158	0.183
	FR1 n41_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.88	13.50	1.153	-0.12	0.011	0.013
	FR1 n41_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.85	13.50	1.161	-0.05	0.009	0.010
	FR1 n41_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.88	13.50	1.153	0.11	0.004	0.005
	FR1 n41_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 1	Hotspot on	518598	2592.99	1	12.85	13.50	1.161	-0.16	0.001	0.001
	FR1 n41_HPUE	100M	BPSK	1	1	Front	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.30	23.00	1.175	-0.10	0.067	0.079
	FR1 n41_HPUE	100M	BPSK	135	69	Front	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.28	23.00	1.18	0.05	0.058	0.068
	FR1 n41_HPUE	100M	BPSK	1	1	Back	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.30	23.00	1.175	-0.04	0.155	0.182
	FR1 n41_HPUE	100M	BPSK	135	69	Back	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.28	23.00	1.18	0.12	0.128	0.151
23	FR1 n41_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.30	23.00	1.175	0.01	0.339	0.398
	FR1 n41_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	518598	2592.99	4	22.30	23.00	1.175	0.06	0.322	0.378
	FR1 n41_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	518598	2592.99	6	22.30	23.00	1.175	-0.17	0.313	0.368
	FR1 n41_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.28	23.00	1.18	-0.11	0.326	0.385
	FR1 n41_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.30	23.00	1.175	-0.04	0.057	0.067
	FR1 n41_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.28	23.00	1.18	-0.03	0.044	0.052
	FR1 n41_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.30	23.00	1.175	-0.15	0.059	0.069
	FR1 n41_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 4	Hotspot on	518598	2592.99	1	22.28	23.00	1.18	-0.13	0.056	0.066
	FR1 n48	40M	BPSK	1	1	Front	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.83	14.50	1.167	-0.04	0.095	0.111
	FR1 n48	40M	BPSK	50	28	Front	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.82	14.50	1.169	-0.11	0.091	0.106
	FR1 n48	40M	BPSK	1	1	Back	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.83	14.50	1.167	0.03	0.045	0.053
	FR1 n48	40M	BPSK	50	28	Back	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.82	14.50	1.169	0.09	0.050	0.058
	FR1 n48	40M	BPSK	1	1	Left Side	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.83	14.50	1.167	-0.18	0.030	0.035
	FR1 n48	40M	BPSK	50	28	Left Side	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.82	14.50	1.169	0.13	0.032	0.037
	FR1 n48	40M	BPSK	1	1	Right Side	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.83	14.50	1.167	-0.09	0.256	0.299
	FR1 n48	40M	BPSK	50	28	Right Side	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.82	14.50	1.169	-0.14	0.297	0.347



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	FR1 n48	40M	BPSK	1	1	Top Side	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.83	14.50	1.167	0.03	0.069	0.081
	FR1 n48	40M	BPSK	50	28	Top Side	10mm	Ant 5	Hotspot on	641666	3624.99	1	13.82	14.50	1.169	-0.13	0.074	0.087
	FR1 n48	40M	BPSK	1	1	Front	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.88	16.50	1.153	-0.10	0.030	0.035
	FR1 n48	40M	BPSK	50	28	Front	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.85	16.50	1.161	0.05	0.039	0.045
	FR1 n48	40M	BPSK	1	1	Back	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.88	16.50	1.153	0.03	0.025	0.029
	FR1 n48	40M	BPSK	50	28	Back	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.85	16.50	1.161	0.08	0.033	0.038
	FR1 n48	40M	BPSK	1	1	Left Side	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.88	16.50	1.153	0.12	0.322	0.371
24	FR1 n48	40M	BPSK	50	28	Left Side	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.85	16.50	1.161	0.18	0.328	0.381
	FR1 n48	40M	BPSK	1	1	Right Side	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.88	16.50	1.153	-0.06	0.019	0.022
	FR1 n48	40M	BPSK	50	28	Right Side	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.85	16.50	1.161	-0.16	0.026	0.030
	FR1 n48	40M	BPSK	1	1	Top Side	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.88	16.50	1.153	0.18	0.068	0.078
	FR1 n48	40M	BPSK	50	28	Top Side	10mm	Ant 7	Hotspot on	641666	3624.99	1	15.85	16.50	1.161	-0.14	0.069	0.080
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.17	16.00	1.211	-0.13	0.031	0.038
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.12	16.00	1.225	0.12	0.030	0.037
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.17	16.00	1.211	-0.06	0.041	0.050
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.12	16.00	1.225	-0.14	0.039	0.048
	FR1 n77_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.17	16.00	1.211	0.02	0.139	0.168
	FR1 n77_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.12	16.00	1.225	-0.04	0.121	0.148
	FR1 n77_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.17	16.00	1.211	0.10	0.008	0.010
	FR1 n77_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.12	16.00	1.225	0.06	0.007	0.009
	FR1 n77_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.17	16.00	1.211	-0.13	0.008	0.010
	FR1 n77_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 4	Hotspot on	633332	3499.98	1	15.12	16.00	1.225	-0.06	0.007	0.009
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.01	10.00	1.256	0.05	0.005	0.006
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.00	10.00	1.259	0.07	0.007	0.009
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.01	10.00	1.256	0.01	0.017	0.021
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.00	10.00	1.259	-0.11	0.020	0.025
	FR1 n77_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.01	10.00	1.256	0.05	0.002	0.003
	FR1 n77_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.00	10.00	1.259	-0.16	0.003	0.004
	FR1 n77_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.01	10.00	1.256	-0.05	0.022	0.028
	FR1 n77_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.00	10.00	1.259	0.04	0.020	0.025
	FR1 n77_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.01	10.00	1.256	0.19	0.009	0.011
	FR1 n77_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 5	Hotspot on	633332	3499.98	1	9.00	10.00	1.259	-0.06	0.010	0.013
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.67	12.50	1.211	0.12	0.008	0.010
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.54	12.50	1.247	-0.08	0.010	0.012
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.67	12.50	1.211	0.00	0.014	0.017
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.54	12.50	1.247	0.06	0.017	0.021
	FR1 n77_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.67	12.50	1.211	0.01	0.001	0.001
	FR1 n77_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.54	12.50	1.247	-0.14	0.001	0.001
	FR1 n77_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.67	12.50	1.211	-0.12	0.058	0.070
	FR1 n77_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.54	12.50	1.247	-0.18	0.078	0.097
	FR1 n77_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.67	12.50	1.211	-0.11	0.003	0.004
	FR1 n77_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 6	Hotspot on	633332	3499.98	1	11.54	12.50	1.247	0.17	0.004	0.005
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.16	14.00	1.213	0.11	0.016	0.019
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.15	14.00	1.216	-0.09	0.020	0.024
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.16	14.00	1.213	0.11	0.010	0.012
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.15	14.00	1.216	-0.14	0.015	0.018
	FR1 n77_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.16	14.00	1.213	-0.14	0.086	0.104
	FR1 n77_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.15	14.00	1.216	0.02	0.106	0.129
	FR1 n77_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.16	14.00	1.213	0.18	0.008	0.010
	FR1 n77_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.15	14.00	1.216	0.10	0.009	0.011
	FR1 n77_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.16	14.00	1.213	-0.02	0.017	0.021
	FR1 n77_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 7	Hotspot on	633332	3499.98	1	13.15	14.00	1.216	-0.18	0.020	0.024
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 4	Hotspot on	656000	3840	1	15.35	16.00	1.161	-0.07	0.020	0.023
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 4	Hotspot on	656000	3840	1	15.30	16.00	1.175	0.15	0.014	0.016
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 4	Hotspot on	656000	3840	1	15.35	16.00	1.161	-0.01	0.015	0.017
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 4	Hotspot on	656000	3840	1	15.30	16.00	1.175	-0.10	0.015	0.018
25	FR1 n77_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 4	Hotspot on	656000	3840	1	15.35	16.00	1.161	0.05	0.174	0.202
	FR1 n77_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 4	Hotspot on	656000	3840	1	15.30	16.00	1.175	0.05	0.152	0.179
	FR1 n77_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 4	Hotspot on	656000	3840	1	15.35	16.00	1.161	-0.07	0.011	0.013
	FR1 n77_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 4	Hotspot on	656000	3840	1	15.30	16.00	1.175	0.16	0.012	0.014
	FR1 n77_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 4	Hotspot on	656000	3840	1	15.35	16.00	1.161	-0.16	0.022	0.026
	FR1 n77_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 4	Hotspot on	656000	3840	1	15.30	16.00	1.175	-0.18	0.018	0.021
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 5	Hotspot on	656000	3840	1	9.03	10.00	1.25	0.16	0.040	0.050
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 5	Hotspot on	656000	3840	1	9.01	10.00	1.256	-0.01	0.047	0.059
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 5	Hotspot on	656000	3840	1	9.03	10.00	1.25	-0.16	0.031	0.039
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 5	Hotspot on	656000	3840	1	9.01	10.00	1.256	-0.06	0.029	0.036
	FR1 n77_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 5	Hotspot on	656000	3840	1	9.03	10.00	1.25	0.12	0.013	0.016
	FR1 n77_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 5	Hotspot on	656000	3840	1	9.01	10.00	1.256	0.05	0.014	0.018
	FR1 n77_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 5	Hotspot on	656000	3840	1	9.03	10.00	1.25	0.11	0.127	0.159
	FR1 n77_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 5	Hotspot on	656000	3840	1	9.01	10.00	1.256	0.06	0.141	0.177
	FR1 n77_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 5	Hotspot on	656000	3840	1	9.03	10.00	1.25	0.07	0.015	0.019
	FR1 n77_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 5	Hotspot on	656000	3840	1	9.01	10.00	1.256	0.11	0.015	0.019
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 6	Hotspot on	656000	3840	1	12.09	12.50	1.099	0.09	0.013	0.014



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	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 6	Hotspot on	656000	3840	1	12.06	12.50	1.107	0.03	0.019	0.021
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 6	Hotspot on	656000	3840	1	12.09	12.50	1.099	0.15	0.008	0.009
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 6	Hotspot on	656000	3840	1	12.06	12.50	1.107	0.01	0.012	0.013
	FR1 n77_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 6	Hotspot on	656000	3840	1	12.09	12.50	1.099	0.12	0.004	0.004
	FR1 n77_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 6	Hotspot on	656000	3840	1	12.06	12.50	1.107	-0.11	0.005	0.006
	FR1 n77_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 6	Hotspot on	656000	3840	1	12.09	12.50	1.099	0.16	0.067	0.074
	FR1 n77_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 6	Hotspot on	656000	3840	1	12.06	12.50	1.107	-0.17	0.098	0.108
	FR1 n77_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 6	Hotspot on	656000	3840	1	12.09	12.50	1.099	-0.03	0.001	0.001
	FR1 n77_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 6	Hotspot on	656000	3840	1	12.06	12.50	1.107	0.18	0.001	0.001
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 7	Hotspot on	656000	3840	1	12.95	14.00	1.274	0.11	0.032	0.041
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 7	Hotspot on	656000	3840	1	12.92	14.00	1.282	-0.10	0.024	0.031
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 7	Hotspot on	656000	3840	1	12.95	14.00	1.274	0.04	0.023	0.029
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 7	Hotspot on	656000	3840	1	12.92	14.00	1.282	0.05	0.023	0.029
	FR1 n77_HPUE	100M	BPSK	1	1	Left Side	10mm	Ant 7	Hotspot on	656000	3840	1	12.95	14.00	1.274	-0.03	0.133	0.169
	FR1 n77_HPUE	100M	BPSK	135	69	Left Side	10mm	Ant 7	Hotspot on	656000	3840	1	12.92	14.00	1.282	0.06	0.109	0.140
	FR1 n77_HPUE	100M	BPSK	1	1	Right Side	10mm	Ant 7	Hotspot on	656000	3840	1	12.95	14.00	1.274	0.07	0.005	0.006
	FR1 n77_HPUE	100M	BPSK	135	69	Right Side	10mm	Ant 7	Hotspot on	656000	3840	1	12.92	14.00	1.282	-0.13	0.006	0.008
	FR1 n77_HPUE	100M	BPSK	1	1	Top Side	10mm	Ant 7	Hotspot on	656000	3840	1	12.95	14.00	1.274	-0.05	0.017	0.022
	FR1 n77_HPUE	100M	BPSK	135	69	Top Side	10mm	Ant 7	Hotspot on	656000	3840	1	12.92	14.00	1.282	0.04	0.012	0.015

【WLAN 2.4GHz SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant MIMO(2)	Hotspot on	6	2437	1	18.80	20.00	1.318	99.09	1.009	0.12	0.063	0.084
26	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant MIMO(2)	Hotspot on	6	2437	1	18.80	20.00	1.318	99.09	1.009	-0.01	0.224	0.298
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant MIMO(2)	Hotspot on	6	2437	4	18.80	20.00	1.318	99.09	1.009	-0.05	0.206	0.274
	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant MIMO(2)	Hotspot on	6	2437	6	18.80	20.00	1.318	99.09	1.009	0.02	0.211	0.281
	WLAN2.4GHz	802.11b 1Mbps	Left Side	10mm	Ant MIMO(2)	Hotspot on	6	2437	1	18.80	20.00	1.318	99.09	1.009	-0.10	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Right Side	10mm	Ant MIMO(2)	Hotspot on	6	2437	1	18.80	20.00	1.318	99.09	1.009	-0.06	0.218	0.290
	WLAN2.4GHz	802.11b 1Mbps	Top Side	10mm	Ant MIMO(2)	Hotspot on	6	2437	1	18.80	20.00	1.318	99.09	1.009	-0.17	0.102	0.136

【Bluetooth SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Ant 2	Full Power	39	2441	1	6.23	7.50	1.34	76.78	1.085	0.01	0.001	0.001
	Bluetooth	1Mbps	Back	10mm	Ant 2	Full Power	39	2441	1	6.23	7.50	1.34	76.78	1.085	0.01	0.001	0.001
	Bluetooth	1Mbps	Left Side	10mm	Ant 2	Full Power	39	2441	1	6.23	7.50	1.34	76.78	1.085	0.01	0.001	0.001
27	Bluetooth	1Mbps	Right Side	10mm	Ant 2	Full Power	39	2441	1	6.23	7.50	1.34	76.78	1.085	0.04	0.005	0.007
	Bluetooth	1Mbps	Top Side	10mm	Ant 2	Full Power	39	2441	1	6.23	7.50	1.34	76.78	1.085	0.01	0.001	0.001



15.2 Body Worn Accessory SAR

【WCDMA SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
28	WCDMA II	RMC 12.2Kbps	Front	10mm	Ant 0	Sensor off	9400	1880	1	23.25	24.00	1.189	0.02	0.098	0.117
	WCDMA II	RMC 12.2Kbps	Back	10mm	Ant 0	Sensor on	9400	1880	1	16.31	17.00	1.172	-0.17	0.218	0.255
	WCDMA II	RMC 12.2Kbps	Back	26mm	Ant 0	Full Power	9400	1880	1	23.25	24.00	1.189	0.02	0.209	0.249
29	WCDMA IV	RMC 12.2Kbps	Front	10mm	Ant 0	Sensor off	1413	1732.6	1	22.89	24.00	1.291	0.01	0.001	0.001
	WCDMA IV	RMC 12.2Kbps	Back	10mm	Ant 0	Sensor on	1413	1732.6	1	21.44	22.50	1.276	-0.16	0.272	0.347
	WCDMA IV	RMC 12.2Kbps	Back	26mm	Ant 0	Full Power	1413	1732.6	1	22.89	24.00	1.291	0.01	0.129	0.167
	WCDMA V	RMC 12.2Kbps	Front	10mm	Ant 0	Sensor off	4182	836.4	1	23.23	24.00	1.194	0.09	0.129	0.154
30	WCDMA V	RMC 12.2Kbps	Back	10mm	Ant 0	Sensor on	4182	836.4	1	22.29	23.00	1.178	-0.01	0.214	0.252
	WCDMA V	RMC 12.2Kbps	Back	26mm	Ant 0	Full Power	4182	836.4	1	23.23	24.00	1.194	0.09	0.077	0.092

【LTE SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	21100	2535	1	24.04	25.00	1.247			-0.12	0.070	0.087
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 0	Sensor off	21100	2535	1	23.03	24.00	1.25			-0.11	0.056	0.070
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	21100	2535	1	15.58	16.50	1.236			0.03	0.125	0.155
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 0	Sensor on	21100	2535	1	15.55	16.50	1.245			-0.19	0.096	0.120
	LTE Band 7	20M	QPSK	1	0	Back	26mm	Ant 0	Full Power	21100	2535	1	24.04	25.00	1.247			0.09	0.165	0.206
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 1	Sensor off	21100	2535	1	23.52	24.00	1.117			-0.06	0.193	0.216
31	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 1	Sensor off	21100	2535	1	22.50	23.00	1.122			0.04	0.154	0.173
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 1	Sensor on	21100	2535	1	19.13	19.50	1.089			-0.02	0.118	0.129
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 1	Sensor on	21100	2535	1	19.11	19.50	1.094			0.08	0.089	0.097
	LTE Band 7	20M	QPSK	1	0	Back	27mm	Ant 1	Full Power	21100	2535	1	23.52	24.00	1.117			0.02	0.153	0.171
	LTE Band 7	20M	QPSK	1	0	Front	10mm	Ant 4	Sensor off	21100	2535	1	22.58	24.00	1.387			-0.17	0.077	0.107
	LTE Band 7	20M	QPSK	50	0	Front	10mm	Ant 4	Sensor off	21100	2535	1	21.45	23.00	1.429			0.10	0.063	0.090
	LTE Band 7	20M	QPSK	1	0	Back	10mm	Ant 4	Sensor on	21100	2535	1	19.65	21.00	1.365			-0.02	0.111	0.152
	LTE Band 7	20M	QPSK	50	0	Back	10mm	Ant 4	Sensor on	21100	2535	1	19.62	21.00	1.374			-0.02	0.092	0.126
	LTE Band 7	20M	QPSK	1	0	Back	12mm	Ant 4	Full Power	21100	2535	1	22.58	24.00	1.387			0.02	0.156	0.216
	LTE Band 12	10M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	23095	707.5	1	23.87	24.50	1.156			-0.19	0.095	0.110
	LTE Band 12	10M	QPSK	25	0	Front	10mm	Ant 0	Sensor off	23095	707.5	1	22.74	23.50	1.191			-0.05	0.088	0.105
	LTE Band 12	10M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	23095	707.5	1	21.47	22.00	1.13			0.02	0.099	0.112
32	LTE Band 12	10M	QPSK	25	0	Back	10mm	Ant 0	Sensor on	23095	707.5	1	21.39	22.00	1.151			0.04	0.082	0.094
	LTE Band 12	10M	QPSK	1	0	Back	26mm	Ant 0	Full Power	23095	707.5	1	23.87	24.50	1.156			0.02	0.065	0.075
	LTE Band 13	10M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	23230	782	1	23.62	24.50	1.225			-0.18	0.084	0.103
	LTE Band 13	10M	QPSK	25	0	Front	10mm	Ant 0	Sensor off	23230	782	1	22.73	23.50	1.194			0.04	0.066	0.079
	LTE Band 13	10M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	23230	782	1	21.66	22.50	1.213			-0.03	0.122	0.148
	LTE Band 13	10M	QPSK	25	0	Back	10mm	Ant 0	Sensor on	23230	782	1	21.63	22.50	1.222			0.12	0.098	0.120
	LTE Band 13	10M	QPSK	1	0	Back	26mm	Ant 0	Full Power	23230	782	1	23.62	24.50	1.225			0.08	0.065	0.080
	LTE Band 25	20M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	26340	1880	1	23.28	24.00	1.18			-0.03	0.085	0.100
	LTE Band 25	20M	QPSK	50	0	Front	10mm	Ant 0	Sensor off	26340	1880	1	22.34	23.00	1.164			-0.02	0.068	0.079
	LTE Band 25	20M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	26340	1880	1	15.37	16.00	1.156			0.08	0.137	0.158
	LTE Band 25	20M	QPSK	50	0	Back	10mm	Ant 0	Sensor on	26340	1880	1	15.35	16.00	1.161			-0.16	0.132	0.153
	LTE Band 25	20M	QPSK	1	0	Back	26mm	Ant 0	Full Power	26340	1880	1	23.28	24.00	1.18			0.02	0.204	0.241
	LTE Band 25	20M	QPSK	1	0	Front	10mm	Ant 1	Sensor off	26340	1880	1	23.13	24.00	1.222			-0.10	0.222	0.271
	LTE Band 25	20M	QPSK	50	0	Front	10mm	Ant 1	Sensor off	26340	1880	1	22.34	23.00	1.164			0.08	0.180	0.210
	LTE Band 25	20M	QPSK	1	0	Back	10mm	Ant 1	Sensor on	26340	1880	1	23.13	24.00	1.222			0.04	0.295	0.360
	LTE Band 25	20M	QPSK	50	0	Back	10mm	Ant 1	Sensor on	26340	1880	1	22.34	23.00	1.164			0.09	0.248	0.289
	LTE Band 25	20M	QPSK	1	0	Back	27mm	Ant 1	Full Power	26340	1880	1	23.13	24.00	1.222			0.01	0.073	0.089
	LTE Band 25	20M	QPSK	1	0	Front	10mm	Ant 4	Sensor off	26340	1880	1	23.06	24.00	1.242			0.05	0.098	0.122
	LTE Band 25	20M	QPSK	50	0	Front	10mm	Ant 4	Sensor off	26340	1880	1	22.18	23.00	1.208			-0.18	0.092	0.111
	LTE Band 25	20M	QPSK	1	0	Back	10mm	Ant 4	Sensor on	26340	1880	1	19.62	20.50	1.225			0.14	0.101	0.124
	LTE Band 25	20M	QPSK	50	0	Back	10mm	Ant 4	Sensor on	26340	1880	1	19.60	20.50	1.23			0.14	0.085	0.105
	LTE Band 25	20M	QPSK	1	0	Back	12mm	Ant 4	Full Power	26340	1880	1	23.06	24.00	1.242			0.03	0.193	0.240
	LTE Band 26	15M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	26865	831.5	1	23.35	24.00	1.161			-0.06	0.101	0.117
	LTE Band 26	15M	QPSK	36	0	Front	10mm	Ant 0	Sensor off	26865	831.5	1	22.43	23.00	1.14			-0.04	0.093	0.106
35	LTE Band 26	15M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	26865	831.5	1	19.43	20.00	1.14			-0.06	0.105	0.120
	LTE Band 26	15M	QPSK	36	0	Back	10mm	Ant 0	Sensor on	26865	831.5	1	19.41	20.00	1.146			-0.06	0.080	0.092
	LTE Band 26	15M	QPSK	1	0	Back	26mm	Ant 0	Full Power	26865	831.5	1	23.35	24.00	1.161			0.02	0.086	0.100
	LTE Band 30	10M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	27710	2310	1	24.41	25.00	1.146			-0.08	0.099	0.113
	LTE Band 30	10M	QPSK	25	0	Front	10mm	Ant 0	Sensor off	27710	2310	1	23.38	24.00	1.153			0.09	0.072	0.083
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	27710	2310	1	14.51	15.00	1.119			0.03	0.156	0.175



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	LTE Band 30	10M	QPSK	25	0	Back	10mm	Ant 0	Sensor on	27710	2310	1	14.48	15.00	1.127			0.02	0.123	0.139
36	LTE Band 30	10M	QPSK	1	0	Back	26mm	Ant 0	Full Power	27710	2310	1	24.41	25.00	1.146			0.05	0.591	0.677
	LTE Band 30	10M	QPSK	1	0	Back	26mm	Ant 0	Full Power	27710	2310	4	24.41	25.00	1.146			0.08	0.573	0.657
	LTE Band 30	10M	QPSK	1	0	Back	26mm	Ant 0	Full Power	27710	2310	6	24.41	25.00	1.146			-0.12	0.564	0.646
	LTE Band 30	10M	QPSK	1	0	Front	10mm	Ant 1	Sensor off	27710	2310	1	23.56	24.00	1.107			-0.10	0.249	0.276
	LTE Band 30	10M	QPSK	25	0	Front	10mm	Ant 1	Sensor off	27710	2310	1	22.54	23.00	1.112			0.07	0.188	0.209
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 1	Sensor on	27710	2310	1	21.58	22.00	1.102			0.02	0.337	0.371
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 1	Sensor on	27710	2310	4	21.58	22.00	1.102			0.13	0.321	0.354
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 1	Sensor on	27710	2310	6	21.58	22.00	1.102			-0.01	0.326	0.359
	LTE Band 30	10M	QPSK	25	0	Back	10mm	Ant 1	Sensor on	27710	2310	1	21.53	22.00	1.114			0.09	0.282	0.314
	LTE Band 30	10M	QPSK	1	0	Back	27mm	Ant 1	Full Power	27710	2310	1	23.56	24.00	1.107			0.05	0.135	0.149
	LTE Band 30	10M	QPSK	1	0	Front	10mm	Ant 4	Sensor off	27710	2310	1	23.13	24.00	1.222			0.13	0.046	0.056
	LTE Band 30	10M	QPSK	25	0	Front	10mm	Ant 4	Sensor off	27710	2310	1	22.09	23.00	1.233			-0.04	0.001	0.001
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 4	Sensor on	27710	2310	1	23.13	24.00	1.222			0.05	0.142	0.174
	LTE Band 30	10M	QPSK	25	0	Back	10mm	Ant 4	Sensor on	27710	2310	1	22.09	23.00	1.233			0.07	0.117	0.144
	LTE Band 30	10M	QPSK	1	0	Back	12mm	Ant 4	Full Power	27710	2310	1	23.13	24.00	1.222			0.08	0.124	0.152
	LTE Band 30	10M	QPSK	1	0	Front	10mm	Ant 5	Full Power	27710	2310	1	23.11	24.00	1.227			-0.14	0.273	0.335
	LTE Band 30	10M	QPSK	25	0	Front	10mm	Ant 5	Full Power	27710	2310	1	23.06	24.00	1.242			-0.06	0.272	0.338
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 5	Full Power	27710	2310	1	23.11	24.00	1.227			0.01	0.293	0.360
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 5	Full Power	27710	2310	4	23.11	24.00	1.227			0.01	0.285	0.35
	LTE Band 30	10M	QPSK	1	0	Back	10mm	Ant 5	Full Power	27710	2310	6	23.11	24.00	1.227			-0.07	0.277	0.34
	LTE Band 30	10M	QPSK	25	0	Back	10mm	Ant 5	Full Power	27710	2310	1	23.06	24.00	1.242			-0.01	0.280	0.348
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	132322	1745	1	23.20	24.00	1.202			0.13	0.075	0.090
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 0	Sensor off	132322	1745	1	22.05	23.00	1.245			-0.13	0.054	0.067
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	132322	1745	1	12.77	13.50	1.183			0.01	0.090	0.106
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 0	Sensor on	132322	1745	1	12.71	13.50	1.199			0.03	0.072	0.086
	LTE Band 66	20M	QPSK	1	0	Back	26mm	Ant 0	Full Power	132322	1745	1	23.20	24.00	1.202			0.02	0.084	0.101
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 1	Sensor off	132322	1745	1	22.93	24.00	1.279			0.12	0.001	0.001
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 1	Sensor off	132322	1745	1	21.96	23.00	1.271			-0.09	0.001	0.001
37	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 1	Sensor on	132322	1745	1	22.93	24.00	1.279			-0.06	0.137	0.175
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 1	Sensor on	132322	1745	1	21.96	23.00	1.271			-0.11	0.111	0.141
	LTE Band 66	20M	QPSK	1	0	Back	27mm	Ant 1	Full Power	132322	1745	1	22.93	24.00	1.279			0.05	0.044	0.056
	LTE Band 66	20M	QPSK	1	0	Front	10mm	Ant 4	Sensor off	132322	1745	1	23.13	24.00	1.222			-0.07	0.103	0.126
	LTE Band 66	20M	QPSK	50	0	Front	10mm	Ant 4	Sensor off	132322	1745	1	21.89	23.00	1.291			-0.18	0.092	0.119
	LTE Band 66	20M	QPSK	1	0	Back	10mm	Ant 4	Sensor on	132322	1745	1	19.21	20.00	1.199			-0.18	0.107	0.128
	LTE Band 66	20M	QPSK	50	0	Back	10mm	Ant 4	Sensor on	132322	1745	1	19.20	20.00	1.202			-0.10	0.089	0.107
	LTE Band 66	20M	QPSK	1	0	Back	12mm	Ant 4	Full Power	132322	1745	1	23.13	24.00	1.222			0.05	0.130	0.159
	LTE Band 71	20M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	133297	680.5	1	23.59	24.00	1.099			-0.07	0.065	0.071
	LTE Band 71	20M	QPSK	50	0	Front	10mm	Ant 0	Sensor off	133297	680.5	1	22.59	23.00	1.099			0.09	0.062	0.068
38	LTE Band 71	20M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	133297	680.5	1	23.59	24.00	1.099			-0.16	0.157	0.173
	LTE Band 71	20M	QPSK	50	0	Back	10mm	Ant 0	Sensor on	133297	680.5	1	22.59	23.00	1.099			-0.17	0.122	0.134
	LTE Band 71	20M	QPSK	1	0	Back	26mm	Ant 0	Full Power	133297	680.5	1	23.59	24.00	1.099			0.05	0.001	0.001
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 0	Sensor off	40620	2593	1	24.21	25.00	1.199	62.9	1.006	-0.11	0.056	0.068
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 0	Sensor off	40620	2593	1	23.14	24.00	1.219	62.9	1.006	-0.02	0.046	0.056
	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 0	Sensor on	40620	2593	1	18.20	19.00	1.202	62.9	1.006	0.05	0.139	0.168
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 0	Sensor on	40620	2593	1	18.17	19.00	1.211	62.9	1.006	-0.03	0.112	0.136
	LTE Band 41	20M	QPSK	1	0	Back	26mm	Ant 0	Full Power	40620	2593	1	24.21	25.00	1.199	62.9	1.006	0.05	0.133	0.160
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 1	Sensor off	40620	2593	1	23.52	24.00	1.117	62.9	1.006	0.04	0.089	0.100
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 1	Sensor off	40620	2593	1	22.61	23.00	1.094	62.9	1.006	-0.17	0.081	0.089
	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 1	Sensor on	40620	2593	1	18.63	19.00	1.089	62.9	1.006	-0.09	0.092	0.101
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 1	Sensor on	40620	2593	1	18.60	19.00	1.096	62.9	1.006	-0.05	0.074	0.082
	LTE Band 41	20M	QPSK	1	0	Back	27mm	Ant 1	Full Power	40620	2593	1	23.52	24.00	1.117	62.9	1.006	0.09	0.106	0.119
	LTE Band 41	20M	QPSK	1	0	Front	10mm	Ant 4	Sensor off	40620	2593	1	23.03	24.00	1.25	62.9	1.006	-0.07	0.056	0.070
	LTE Band 41	20M	QPSK	50	0	Front	10mm	Ant 4	Sensor off	40620	2593	1	22.05	23.00	1.245	62.9	1.006	-0.00	0.046	0.058
39	LTE Band 41	20M	QPSK	1	0	Back	10mm	Ant 4	Sensor on	40620	2593	1	20.06	21.00	1.242	62.9	1.006	0.02	0.294	0.367
	LTE Band 41	20M	QPSK	50	0	Back	10mm	Ant 4	Sensor on	40620	2593	1	20.05	21.00	1.245	62.9	1.006	0.17	0.236	0.296
	LTE Band 41	20M	QPSK	1	0	Back	12mm	Ant 4	Full Power	40620	2593	1	23.03	24.00	1.25	62.9	1.006	0.05	0.161	0.202
	LTE Band 42	20M	QPSK	1	0	Front	10mm	Ant 5	Full Power	42590	3500	1	20.51	21.00	1.119	62.9	1.006	0.11	0.047	0.053
	LTE Band 42	20M	QPSK	50	0	Front	10mm	Ant 5	Full Power	42590	3500	1	19.53	20.00	1.114	62.9	1.006	0.04	0.033	0.037
	LTE Band 42	20M	QPSK	1	0	Back	10mm	Ant 5	Full Power	42590	3500	1	20.51	21.00	1.119	62.9	1.006	-0.01	0.077	0.087
	LTE Band 42	20M	QPSK	50	0	Back	10mm	Ant 5	Full Power	42590	3500	1								



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LTE Band 48	20M	QPSK	50	0	Back	10mm	Ant 7	Full Power	55990	3625	1	17.58	18.50	1.236	62.9	1.006	-0.09	0.039	0.048
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【FR1 SAR】

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n7	20M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	507000	2535	1	23.03	24.00	1.25	0.03	0.075	0.094
	FR1 n7	20M	BPSK	50	28	Front	10mm	Ant 0	Sensor off	507000	2535	1	22.79	24.00	1.321	-0.14	0.069	0.091
	FR1 n7	20M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	507000	2535	1	19.13	20.00	1.222	-0.12	0.267	0.326
42	FR1 n7	20M	BPSK	50	28	Back	10mm	Ant 0	Sensor on	507000	2535	1	19.11	20.00	1.227	0.06	0.275	0.337
	FR1 n7	20M	BPSK	1	1	Back	26mm	Ant 0	Full Power	507000	2535	1	23.03	24.00	1.25	0.09	0.213	0.266
	FR1 n7	20M	BPSK	50	28	Back	26mm	Ant 0	Full Power	507000	2535	1	22.79	24.00	1.321	0.02	0.210	0.277
	FR1 n7	20M	BPSK	1	1	Front	10mm	Ant 1	Sensor off	507000	2535	1	23.33	24.00	1.167	0.09	0.042	0.049
	FR1 n7	20M	BPSK	50	28	Front	10mm	Ant 1	Sensor off	507000	2535	1	23.15	24.00	1.216	0.14	0.054	0.066
	FR1 n7	20M	BPSK	1	1	Back	10mm	Ant 1	Sensor on	507000	2535	1	17.39	18.00	1.151	-0.10	0.205	0.236
	FR1 n7	20M	BPSK	50	28	Back	10mm	Ant 1	Sensor on	507000	2535	1	17.30	18.00	1.175	0.12	0.188	0.221
	FR1 n7	20M	BPSK	1	1	Back	27mm	Ant 1	Full Power	507000	2535	1	23.33	24.00	1.167	0.05	0.197	0.230
	FR1 n7	20M	BPSK	1	1	Front	10mm	Ant 4	Sensor off	507000	2535	1	22.95	24.00	1.274	-0.10	0.054	0.069
	FR1 n7	20M	BPSK	50	28	Front	10mm	Ant 4	Sensor off	507000	2535	1	22.72	24.00	1.343	-0.17	0.054	0.073
	FR1 n7	20M	BPSK	1	1	Back	10mm	Ant 4	Sensor on	507000	2535	1	21.46	22.50	1.271	0.18	0.117	0.149
	FR1 n7	20M	BPSK	50	28	Back	10mm	Ant 4	Sensor on	507000	2535	1	21.44	22.50	1.276	0.01	0.119	0.152
	FR1 n7	20M	BPSK	1	1	Back	12mm	Ant 4	Full Power	507000	2535	1	22.95	24.00	1.274	0.08	0.104	0.132
	FR1 n12	15M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	141500	707.5	1	23.66	24.50	1.213	0.09	0.129	0.156
	FR1 n12	15M	BPSK	36	22	Front	10mm	Ant 0	Sensor off	141500	707.5	1	23.34	24.50	1.306	0.14	0.126	0.165
	FR1 n12	15M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	141500	707.5	1	23.66	24.50	1.213	0.10	0.144	0.175
43	FR1 n12	15M	BPSK	36	22	Back	10mm	Ant 0	Sensor on	141500	707.5	1	23.34	24.50	1.306	-0.06	0.169	0.221
	FR1 n13	10M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	156400	782	1	23.06	24.00	1.242	0.08	0.111	0.138
	FR1 n13	10M	BPSK	25	14	Front	10mm	Ant 0	Sensor off	156400	782	1	22.94	24.00	1.276	-0.15	0.103	0.131
44	FR1 n13	10M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	156400	782	1	23.06	24.00	1.242	-0.02	0.185	0.230
	FR1 n13	10M	BPSK	25	14	Back	10mm	Ant 0	Sensor on	156400	782	1	22.94	24.00	1.276	0.01	0.168	0.214
	FR1 n13	10M	BPSK	1	1	Back	26mm	Ant 0	Full Power	156400	782	1	23.06	24.00	1.242	0.07	0.046	0.057
	FR1 n25	30M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	376500	1882.5	1	23.23	24.50	1.34	-0.19	0.099	0.133
	FR1 n25	30M	BPSK	80	40	Front	10mm	Ant 0	Sensor off	376500	1882.5	1	23.18	24.50	1.355	0.01	0.086	0.117
	FR1 n25	30M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	376500	1882.5	1	14.80	16.00	1.318	-0.08	0.169	0.223
	FR1 n25	30M	BPSK	80	40	Back	10mm	Ant 0	Sensor on	376500	1882.5	1	14.78	16.00	1.324	0.10	0.152	0.201
	FR1 n25	30M	BPSK	1	1	Back	26mm	Ant 0	Full Power	376500	1882.5	1	23.23	24.50	1.34	-0.06	0.118	0.158
	FR1 n25	30M	BPSK	1	1	Front	10mm	Ant 1	Sensor off	376500	1882.5	1	23.17	24.00	1.211	0.15	0.160	0.194
	FR1 n25	30M	BPSK	80	40	Front	10mm	Ant 1	Sensor off	376500	1882.5	1	23.15	24.00	1.216	-0.09	0.142	0.173
45	FR1 n25	30M	BPSK	1	1	Back	10mm	Ant 1	Sensor on	376500	1882.5	1	23.17	24.00	1.211	0.01	0.301	0.365
	FR1 n25	30M	BPSK	80	40	Back	10mm	Ant 1	Sensor on	376500	1882.5	1	23.19	24.00	1.205	-0.11	0.231	0.278
	FR1 n25	30M	BPSK	1	1	Front	10mm	Ant 4	Sensor off	376500	1882.5	1	23.78	24.50	1.18	-0.18	0.066	0.078
	FR1 n25	30M	BPSK	80	40	Front	10mm	Ant 4	Sensor off	376500	1882.5	1	23.58	24.50	1.236	-0.13	0.061	0.075
	FR1 n25	30M	BPSK	1	1	Back	10mm	Ant 4	Sensor on	376500	1882.5	1	20.84	21.50	1.164	-0.06	0.101	0.118
	FR1 n25	30M	BPSK	80	40	Back	10mm	Ant 4	Sensor on	376500	1882.5	1	20.79	21.50	1.178	0.06	0.103	0.121
	FR1 n25	30M	BPSK	1	1	Back	12mm	Ant 4	Full Power	376500	1882.5	1	23.78	24.50	1.18	0.05	0.094	0.111
	FR1 n25	30M	BPSK	80	40	Back	12mm	Ant 4	Full Power	376500	1882.5	1	23.58	24.50	1.236	0.01	0.099	0.122
	FR1 n26	20M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	166300	831.5	1	23.09	24.00	1.233	0.07	0.145	0.179
	FR1 n26	20M	BPSK	50	28	Front	10mm	Ant 0	Sensor off	166300	831.5	1	23.08	24.00	1.236	0.06	0.082	0.101
	FR1 n26	20M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	166300	831.5	1	22.18	23.00	1.208	0.02	0.154	0.186
46	FR1 n26	20M	BPSK	50	28	Back	10mm	Ant 0	Sensor on	166300	831.5	1	22.12	23.00	1.225	0.01	0.217	0.266
	FR1 n26	20M	BPSK	1	1	Back	26mm	Ant 0	Full Power	166300	831.5	1	23.09	24.00	1.233	0.06	0.073	0.090
	FR1 n26	20M	BPSK	50	28	Back	26mm	Ant 0	Full Power	166300	831.5	1	23.08	24.00	1.236	0.09	0.081	0.100
	FR1 n30	10M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	462000	2310	1	23.12	24.00	1.225	-0.02	0.044	0.054
	FR1 n30	10M	BPSK	25	14	Front	10mm	Ant 0	Sensor off	462000	2310	1	22.84	24.00	1.306	0.17	0.044	0.057
	FR1 n30	10M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	462000	2310	1	16.65	17.50	1.216	0.01	0.303	0.368
47	FR1 n30	10M	BPSK	25	14	Back	10mm	Ant 0	Sensor on	462000	2310	1	16.58	17.50	1.236	-0.04	0.299	0.370
	FR1 n30	10M	BPSK	1	1	Back	26mm	Ant 0	Full Power	462000	2310	1	23.12	24.00	1.225	0.06	0.261	0.320
	FR1 n30	10M	BPSK	25	14	Back	26mm	Ant 0	Full Power	462000	2310	1	22.84	24.00	1.306	0.05	0.252	0.329
	FR1 n30	10M	BPSK	1	1	Front	10mm	Ant 1	Sensor off	462000	2310	1	23.21	24.00	1.199	0.11	0.147	0.176
	FR1 n30	10M	BPSK	25	14	Front	10mm	Ant 1	Sensor off	462000	2310	1	22.99	24.00	1.262	-0.15	0.144	0.182
	FR1 n30	10M	BPSK	1	1	Back	10mm	Ant 1	Sensor on	462000	2310	1	19.78	20.50	1.18	0.13	0.138	0.163
	FR1 n30	10M	BPSK	25	14	Back	10mm	Ant 1	Sensor on	462000	2310	1	19.76	20.50	1.186	-0.06	0.140	0.166
	FR1 n30	10M	BPSK	1	1	Back	27mm	Ant 1	Full Power	462000	2310	1	23.21	24.00	1.199	0.05	0.115	0.138
	FR1 n30	10M	BPSK	25	14	Back	27mm	Ant 1	Full Power	462000	2310	1	22.99	24.00	1.262	0.09	0.119	0.150
	FR1 n30	10M	BPSK	1	1	Front	10mm	Ant 4	Sensor off	462000	2310	1	23.22	24.00	1.197	0.03	0.001	0.001
	FR1 n30	10M	BPSK	25	14	Front	10mm	Ant 4	Sensor off	462000	2310	1	22.95	24.00	1.274	0.12	0.001	0.001
	FR1 n30	10M	BPSK	1	1	Back	10mm	Ant 4	Sensor on	462000	2310	1	23.22	24.00	1.197	-0.17	0.137	0.164
	FR1 n30	10M	BPSK	25	14	Back	10mm	Ant 4	Sensor on	462000	2310	1	22.95	24.00	1.274	-0.01	0.130	0.166
	FR1 n30	10M	BPSK	1	1	Front	10mm	Ant 5	Full Power	462000	2310	1	23.41	24.00	1.146	-0.07	0.226	0.259
	FR1 n30	10M	BPSK	25	14	Front	10mm	Ant 5	Full Power	462000	2310	1	23.38	24.00	1.153	-0.11	0.219	0.253
	FR1 n30	10M	BPSK	1	1	Back	10mm	Ant 5	Full Power	462000	2310	1	23.41	24.00	1.146	-0.12	0.297	0.340



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	FR1 n30	10M	BPSK	25	14	Back	10mm	Ant 5	Full Power	462000	2310	1	23.38	24.00	1.153	0.02	0.310	0.357
	FR1 n66	30M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	349000	1745	1	22.77	24.00	1.327	0.11	0.079	0.105
	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 0	Sensor off	349000	1745	1	22.30	24.00	1.479	-0.02	0.081	0.120
	FR1 n66	30M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	349000	1745	1	15.85	17.00	1.303	0.01	0.191	0.249
	FR1 n66	30M	BPSK	80	40	Back	10mm	Ant 0	Sensor on	349000	1745	1	15.81	17.00	1.315	0.04	0.185	0.243
	FR1 n66	30M	BPSK	1	1	Back	26mm	Ant 0	Full Power	349000	1745	1	22.77	24.00	1.327	0.05	0.165	0.219
	FR1 n66	30M	BPSK	1	1	Front	10mm	Ant 1	Sensor off	349000	1745	1	23.41	24.00	1.146	-0.16	0.560	0.642
48	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 1	Sensor off	349000	1745	1	23.26	24.00	1.186	0.12	0.565	0.670
	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 1	Sensor off	349000	1745	4	23.26	24.00	1.186	0.06	0.534	0.633
	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 1	Sensor off	349000	1745	6	23.26	24.00	1.186	-0.02	0.546	0.648
	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 1	Sensor off	345000	1725	1	23.12	24	1.225	0.07	0.521	0.638
	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 1	Sensor off	353000	1765	1	23.15	24	1.216	0.13	0.533	0.648
	FR1 n66	30M	BPSK	1	1	Back	10mm	Ant 1	Sensor on	349000	1745	1	19.49	20.00	1.125	-0.15	0.145	0.163
	FR1 n66	30M	BPSK	80	40	Back	10mm	Ant 1	Sensor on	349000	1745	1	19.48	20.00	1.127	-0.07	0.155	0.175
	FR1 n66	30M	BPSK	1	1	Back	27mm	Ant 1	Full Power	349000	1745	1	23.41	24.00	1.146	0.09	0.109	0.125
	FR1 n66	30M	BPSK	80	40	Back	27mm	Ant 1	Full Power	349000	1745	1	23.26	24.00	1.186	0.01	0.115	0.136
	FR1 n66	30M	BPSK	1	1	Front	10mm	Ant 4	Sensor off	349000	1745	1	23.94	24.50	1.138	-0.10	0.089	0.101
	FR1 n66	30M	BPSK	80	40	Front	10mm	Ant 4	Sensor off	349000	1745	1	23.79	24.50	1.178	-0.19	0.087	0.102
	FR1 n66	30M	BPSK	1	1	Back	10mm	Ant 4	Sensor on	349000	1745	1	21.03	21.50	1.114	0.01	0.120	0.134
	FR1 n66	30M	BPSK	80	40	Back	10mm	Ant 4	Sensor on	349000	1745	1	20.91	21.50	1.146	0.17	0.112	0.128
	FR1 n66	30M	BPSK	1	1	Back	12mm	Ant 4	Full Power	349000	1745	1	23.94	24.50	1.138	0.02	0.219	0.249
	FR1 n71	20M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	136100	680.5	1	23.76	24.50	1.186	0.05	0.111	0.132
	FR1 n71	20M	BPSK	50	28	Front	10mm	Ant 0	Sensor off	136100	680.5	1	23.63	24.50	1.222	0.01	0.086	0.105
49	FR1 n71	20M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	136100	680.5	1	23.76	24.50	1.186	-0.05	0.161	0.191
	FR1 n71	20M	BPSK	50	28	Back	10mm	Ant 0	Sensor on	136100	680.5	1	23.63	24.50	1.222	-0.00	0.150	0.183
	FR1 n41_HPUE	100M	BPSK	1	1	Front	10mm	Ant 0	Sensor off	518598	2592.99	1	25.59	27.00	1.384	0.07	0.046	0.064
	FR1 n41_HPUE	100M	BPSK	135	69	Front	10mm	Ant 0	Sensor off	518598	2592.99	1	25.46	27.00	1.426	0.07	0.058	0.083
50	FR1 n41_HPUE	100M	BPSK	1	1	Back	10mm	Ant 0	Sensor on	518598	2592.99	1	24.16	25.50	1.361	0.01	0.160	0.218
	FR1 n41_HPUE	100M	BPSK	135	69	Back	10mm	Ant 0	Sensor on	518598	2592.99	1	24.13	25.50	1.371	0.02	0.152	0.208
	FR1 n41_HPUE	100M	BPSK	1	1	Back	26mm	Ant 0	Full Power	518598	2592.99	1	25.59	27.00	1.384	-0.12	0.042	0.058
	FR1 n41_HPUE	100M	BPSK	1	1	Front	10mm	Ant 1	Sensor off	518598	2592.99	1	26.34	27.00	1.164	0.05	0.178	0.207
	FR1 n41_HPUE	100M	BPSK	135	69	Front	10mm	Ant 1	Sensor off	518598	2592.99	1	26.30	27.00	1.175	0.05	0.167	0.196
	FR1 n41_HPUE	100M	BPSK	1	1	Back	10mm	Ant 1	Sensor on	518598	2592.99	1	12.88	13.50	1.153	0.14	0.036	0.042
	FR1 n41_HPUE	100M	BPSK	135	69	Back	10mm	Ant 1	Sensor on	518598	2592.99	1	12.85	13.50	1.161	0.02	0.035	0.041
	FR1 n41_HPUE	100M	BPSK	1	1	Back	27mm	Ant 1	Full Power	518598	2592.99	1	26.34	27.00	1.164	0.05	0.028	0.033
	FR1 n41_HPUE	100M	BPSK	1	1	Front	10mm	Ant 4	Sensor off	518598	2592.99	1	26.25	27.00	1.189	0.14	0.131	0.156
	FR1 n41_HPUE	100M	BPSK	135	69	Front	10mm	Ant 4	Sensor off	518598	2592.99	1	26.18	27.00	1.208	-0.08	0.112	0.135
	FR1 n41_HPUE	100M	BPSK	1	1	Back	10mm	Ant 4	Sensor on	518598	2592.99	1	22.30	23.00	1.175	-0.04	0.155	0.182
	FR1 n41_HPUE	100M	BPSK	135	69	Back	10mm	Ant 4	Sensor on	518598	2592.99	1	22.28	23.00	1.18	0.12	0.128	0.151
	FR1 n41_HPUE	100M	BPSK	1	1	Back	12mm	Ant 4	Full Power	518598	2592.99	1	26.25	27.00	1.189	0.08	0.118	0.140
51	FR1 n48	40M	BPSK	1	1	Front	10mm	Ant 5	Full Power	641666	3624.99	1	23.35	24.00	1.161	0.02	0.477	0.554
	FR1 n48	40M	BPSK	1	1	Front	10mm	Ant 5	Full Power	641666	3624.99	4	23.35	24.00	1.161	0.06	0.451	0.524
	FR1 n48	40M	BPSK	1	1	Front	10mm	Ant 5	Full Power	641666	3624.99	6	23.35	24.00	1.161	-0.11	0.455	0.528
	FR1 n48	40M	BPSK	50	28	Front	10mm	Ant 5	Full Power	641666	3624.99	1	23.17	24.00	1.211	0.12	0.456	0.552
	FR1 n48	40M	BPSK	1	1	Back	10mm	Ant 5	Full Power	641666	3624.99	1	23.35	24.00	1.161	0.17	0.389	0.452
	FR1 n48	40M	BPSK	50	28	Back	10mm	Ant 5	Full Power	641666	3624.99	1	23.17	24.00	1.211	-0.00	0.432	0.523
	FR1 n48	40M	BPSK	1	1	Front	10mm	Ant 7	Full Power	641666	3624.99	1	15.88	16.50	1.153	0.02	0.030	0.035
	FR1 n48	40M	BPSK	50	28	Front	10mm	Ant 7	Full Power	641666	3624.99	1	15.85	16.50	1.161	-0.08	0.039	0.045
	FR1 n48	40M	BPSK	1	1	Back	10mm	Ant 7	Full Power	641666	3624.99	1	15.88	16.50	1.153	0.03	0.025	0.029
	FR1 n48	40M	BPSK	50	28	Back	10mm	Ant 7	Full Power	641666	3624.99	1	15.85	16.50	1.161	0.08	0.033	0.038
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 4	Sensor off	633332	3499.98	1	26.11	27.00	1.227	-0.03	0.205	0.252
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 4	Sensor off	633332	3499.98	1	25.89	27.00	1.291	-0.00	0.193	0.249
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 4	Sensor on	633332	3499.98	1	15.17	16.00	1.211	-0.06	0.041	0.050
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 4	Sensor on	633332	3499.98	1	15.12	16.00	1.225	-0.14	0.039	0.048
	FR1 n77_HPUE	100M	BPSK	1	1	Back	12mm	Ant 4	Full Power	633332	3499.98	1	26.11	27.00	1.227	0.08	0.221	0.271
	FR1 n77_HPUE	100M	BPSK	1	1	Back	12mm	Ant 4	Full Power	633332	3499.98	4	26.11	27.00	1.227	0.07	0.208	0.255
	FR1 n77_HPUE	100M	BPSK	1	1	Back	12mm	Ant 4	Full Power	633332	3499.98	6	26.11	27.00	1.227	-0.14	0.212	0.26
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 5	Full Power	633332	3499.98	1	18.03	19.00	1.25	0.02	0.120	0.150
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 5	Full Power	633332	3499.98	1	18.02	19.00	1.253	0.05	0.109	0.137
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 5	Full Power	633332	3499.98	1	18.03	19.00	1.25	-0.06	0.095	0.119
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 5	Full Power	633332	3499.98	1	18.02	19.00	1.253	-0.05	0.097	0.122
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 6	Sensor off	633332	3499.98	1	21.58	22.50	1.236	-0.16	0.089	0.110
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 6	Sensor off	633332	3499.98	1	21.51	22.50	1.256	0.08	0.115	0.144
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 6	Sensor on	633332	3499.98	1	11.67	12.50	1.211	-0.00	0.018	0.022
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 6	Sensor on	633332	3499.98	1	11.54	12.50	1.247	0.06	0.017	0.021
	FR1 n77_HPUE	100M	BPSK	1	1	Back	18mm	Ant 6	Full Power	633332	3499.98	1	21.58	22.50	1.236	0.08	0.086	0.106
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 7	Full Power	633332	3499.98	1	13.16	14.00	1.213	-0.15	0.016	0.019
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 7	Full Power	633332	3499.98	1	13.15	14.00	1.216	-0.08	0.020	0.024
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 7	Full Power	633332	3499.98	1	13.16	14.00	1.213	0.11	0.010	0.012
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 7	Full Power	633332	3499.98	1	13.15	14.00	1.216	-0.14	0.015	0.018
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 4	Sensor off	656000	3840	1	26.28	27.00	1.18	-0.04	0.075	0.089
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 4	Sensor off	656000	3840	1	26.25	27.00	1.189	0.14	0.054	0.064



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	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 4	Sensor on	656000	3840	1	15.35	16.00	1.161	0.08	0.015	0.017
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 4	Sensor on	656000	3840	1	15.30	16.00	1.175	0.05	0.015	0.018
	FR1 n77_HPUE	100M	BPSK	1	1	Back	12mm	Ant 4	Full Power	656000	3840	1	26.28	27.00	1.18	0.01	0.114	0.135
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 5	Full Power	656000	3840	1	18.03	19.00	1.25	0.16	0.273	0.341
52	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 5	Full Power	656000	3840	1	18.02	19.00	1.253	-0.02	0.365	0.457
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 5	Full Power	656000	3840	1	18.03	19.00	1.25	0.09	0.241	0.301
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 5	Full Power	656000	3840	1	18.02	19.00	1.253	0.16	0.229	0.287
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 6	Sensor off	656000	3840	1	22.13	22.50	1.089	-0.03	0.096	0.105
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 6	Sensor off	656000	3840	1	22.09	22.50	1.099	0.02	0.148	0.163
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 6	Sensor on	656000	3840	1	12.09	12.50	1.099	0.15	0.018	0.020
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 6	Sensor on	656000	3840	1	12.06	12.50	1.107	0.01	0.012	0.013
	FR1 n77_HPUE	100M	BPSK	1	1	Back	18mm	Ant 6	Full Power	656000	3840	1	22.13	22.50	1.089	0.08	0.078	0.085
	FR1 n77_HPUE	100M	BPSK	1	1	Front	10mm	Ant 7	Full Power	656000	3840	1	12.95	14.00	1.274	-0.13	0.032	0.041
	FR1 n77_HPUE	100M	BPSK	135	69	Front	10mm	Ant 7	Full Power	656000	3840	1	12.92	14.00	1.282	-0.19	0.024	0.031
	FR1 n77_HPUE	100M	BPSK	1	1	Back	10mm	Ant 7	Full Power	656000	3840	1	12.95	14.00	1.274	0.04	0.023	0.029
	FR1 n77_HPUE	100M	BPSK	135	69	Back	10mm	Ant 7	Full Power	656000	3840	1	12.92	14.00	1.282	0.05	0.023	0.029

【WLAN 2.4GHz_5GHz SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	10mm	Ant MIMO(2)	Sensor off	6	2437	1	18.80	20.00	1.318	99.09	1.009	0.14	0.063	0.084
53	WLAN2.4GHz	802.11b 1Mbps	Back	10mm	Ant MIMO(2)	Sensor on	6	2437	1	18.80	20.00	1.318	99.09	1.009	-0.01	0.224	0.298
	WLAN2.4GHz	802.11b 1Mbps	Back	22mm	Ant MIMO(2)	Full Power	6	2437	1	18.80	20.00	1.318	99.09	1.009	0.09	0.095	0.126
	WLAN5GHz	802.11n-HT40 MCS0	Front	10mm	Ant MIMO(3)	Sensor off	54	5270	1	19.01	20.00	1.256	100.0	1.0	0.01	0.116	0.146
54	WLAN5GHz	802.11n-HT40 MCS0	Back	10mm	Ant MIMO(2)	Sensor on	54	5270	1	18.61	19.50	1.227	100.0	1.0	-0.14	0.442	0.542
	WLAN5GHz	802.11n-HT40 MCS0	Back	22mm	Ant MIMO(3)	Full Power	54	5270	1	19.01	20.00	1.256	100.0	1.0	0.01	0.411	0.516
	WLAN5GHz	802.11n-HT40 MCS0	Front	10mm	Ant MIMO(3)	Sensor off	126	5630	1	19.18	20.50	1.355	100.0	1.0	0.08	0.106	0.144
55	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant MIMO(3)	Sensor on	122	5610	1	16.71	18.00	1.346	100.0	1.0	0.13	0.416	0.560
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant MIMO(3)	Sensor on	122	5610	4	16.71	18.00	1.346	100.0	1.0	-0.05	0.405	0.545
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant MIMO(3)	Sensor on	122	5610	6	16.71	18.00	1.346	100.0	1.0	0.11	0.411	0.553
	WLAN5GHz	802.11n-HT40 MCS0	Back	22mm	Ant MIMO(3)	Full Power	126	5630	1	19.18	20.50	1.355	100.0	1.0	0.01	0.405	0.549
	WLAN5GHz	802.11a 6Mbps	Front	10mm	Ant MIMO(2)	Sensor off	149	5745	1	20.11	21.00	1.227	99.32	1.007	0.16	0.118	0.146
56	WLAN5GHz	802.11ac-VHT80 MCS0	Back	10mm	Ant MIMO(3)	Sensor on	155	5775	1	16.18	17.50	1.355	100.0	1.0	0.07	0.398	0.539
	WLAN5GHz	802.11a 6Mbps	Back	22mm	Ant MIMO(2)	Full Power	149	5745	1	20.11	21.00	1.227	99.32	1.007	0.05	0.381	0.471

【Bluetooth SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	10mm	Ant 2	Full Power	39	2441	1	6.23	7.50	1.34	76.78	1.085	0.01	0.001	0.001
57	Bluetooth	1Mbps	Back	10mm	Ant 2	Full Power	39	2441	1	6.23	7.50	1.34	76.78	1.085	0.08	0.003	0.004

【WLAN 6GHz SAR】

Plot No.	Band	BW (MHz)	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Measured APD (W/m^2)
	WLAN6GHz	802.11ax-HE160 MCS0	Front	10mm	Ant 2+3(3)	Sensor off	47	6185	1	19.13	20.50	1.371	100	1.000	0.01	0.151	0.207	1.4
	WLAN6GHz	802.11ax-HE160 MCS0	Front	10mm	Ant 2+3(2)	Sensor off	15	6025	1	18.23	19.50	1.340	100	1.000	0.1	0.136	0.182	1.26
	WLAN6GHz	802.11ax-HE160 MCS0	Front	10mm	Ant 2+3(3)	Sensor off	111	6505	1	19.01	20.00	1.256	100	1.000	-0.17	0.141	0.177	1.3
	WLAN6GHz	802.11ax-HE160 MCS0	Front	10mm	Ant 2+3(2)	Sensor off	143	6665	1	19.04	20.00	1.247	100	1.000	0.04	0.131	0.163	1.21
	WLAN6GHz	802.11ax-HE160 MCS0	Front	10mm	Ant 2+3(2)	Sensor off	207	6985	1	15.01	16.00	1.256	100	1.000	0.03	0.089	0.112	0.823
	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 2+3(2)	Sensor on	207	6985	1	13.52	14.50	1.253	100	1.000	0.01	0.133	0.167	1.23
	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 2+3(3)	Sensor on	15	6025	1	11.11	12.00	1.227	100	1.000	0.06	0.115	0.141	1.08
	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 2+3(2)	Sensor on	47	6185	1	12.06	13.00	1.242	100	1.000	0.01	0.157	0.195	1.4
	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 2+3(2)	Sensor on	111	6505	1	11.23	12.50	1.340	100	1.000	0.07	0.144	0.193	1.29
	WLAN6GHz	802.11ax-HE160 MCS0	Back	10mm	Ant 2+3(3)	Sensor on	143	6665	1	11.43	12.50	1.279	100	1.000	0.02	0.126	0.161	1.14
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(2)	Full Power	15	6025	1	18.23	19.50	1.340	100	1.000	-0.18	0.338	0.453	3.06
58	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(3)	Full Power	47	6185	1	19.13	20.50	1.371	100	1.000	-0.12	0.371	0.509	3.36
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(2)	Full Power	111	6505	1	14.13	15.50	1.371	100	1.000	0.04	0.157	0.215	1.42
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(2)	Full Power	143	6665	1	19.04	20.00	1.247	100	1.000	0.08	0.357	0.445	3.23
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(2)	Full Power	207	6985	1	15.01	16.00	1.256	100	1.000	-0.17	0.265	0.333	2.4



15.3 Extremity SAR

【WLAN 5GHz SAR】

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5GHz	802.11n-HT40 MCS0	Front	0mm	Ant MIMO(3)	Sensor off	54	5270	1	19.01	20.00	1.256	100.0	1.0	-0.02	0.100	0.126
	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant MIMO(2)	Sensor on	54	5270	1	18.61	19.50	1.227	100.0	1.0	-0.01	0.481	0.590
	WLAN5GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant MIMO(3)	Sensor off	54	5270	1	19.01	20.00	1.256	100.0	1.0	-0.15	0.043	0.054
59	WLAN5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant MIMO(2)	Sensor on	54	5270	1	18.61	19.50	1.227	100.0	1.0	0.04	0.783	0.961
	WLAN5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant MIMO(3)	Sensor off	54	5270	1	19.01	20.00	1.256	100.0	1.0	0.07	0.169	0.212
	WLAN5GHz	802.11n-HT40 MCS0	Back	22mm	Ant MIMO(3)	Full Power	54	5270	1	19.01	20	1.256	100	1.000	-0.04	0.116	0.146
	WLAN5GHz	802.11n-HT40 MCS0	Right Side	22mm	Ant MIMO(3)	Full Power	54	5270	1	19.01	20	1.256	100	1.000	0.07	0.201	0.252
	WLAN5GHz	802.11n-HT40 MCS0	Front	0mm	Ant MIMO(3)	Sensor off	126	5630	1	19.18	20.50	1.355	100.0	1.0	-0.17	0.107	0.145
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant MIMO(3)	Sensor on	122	5610	1	16.71	18.00	1.346	100.0	1.0	-0.10	0.310	0.417
	WLAN5GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant MIMO(3)	Sensor off	126	5630	1	19.18	20.50	1.355	100.0	1.0	-0.18	0.035	0.047
60	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant MIMO(3)	Sensor on	122	5610	1	16.71	18.00	1.346	100.0	1.0	0.14	0.723	0.973
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant MIMO(3)	Sensor on	122	5610	4	16.71	18.00	1.346	100.0	1.0	0.08	0.687	0.925
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant MIMO(3)	Sensor on	122	5610	6	16.71	18.00	1.346	100.0	1.0	-0.14	0.716	0.964
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant MIMO(3)	Sensor on	106	5530	1	16.69	18.00	1.352	100.0	1.0	0.02	0.687	0.929
	WLAN5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant MIMO(3)	Sensor off	126	5630	1	19.18	20.50	1.355	100.0	1.0	-0.08	0.227	0.308
	WLAN5GHz	802.11n-HT40 MCS0	Back	22mm	Ant MIMO(3)	Full Power	126	5630	1	19.18	20.5	1.355	100	1.000	0.03	0.076	0.103
	WLAN5GHz	802.11n-HT40 MCS0	Right Side	22mm	Ant MIMO(3)	Full Power	126	5630	1	19.18	20.5	1.355	100	1.000	0.03	0.193	0.262

【WLAN 6GHz SAR】

Plot No.	Band	BW (MHz)	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)	Measured APD (W/m^2)
	WLAN6GHz	802.11ax-HE160 MCS0	Front	0mm	Ant 2+3(3)	Sensor off	47	6185	1	19.13	20.50	1.371	100	1.000	-0.03	0.131	0.180	3.05
	WLAN6GHz	802.11ax-HE160 MCS0	Back	0mm	Ant 2+3(2)	Sensor on	207	6985	1	13.52	14.50	1.253	100	1.000	0.14	0.065	0.081	1.51
	WLAN6GHz	802.11ax-HE160 MCS0	Left Side	0mm	Ant 2+3(3)	Sensor off	47	6185	1	19.13	20.50	1.371	100	1.000	0.11	0.063	0.086	1.47
61	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 2+3(2)	Sensor on	207	6985	1	13.52	14.50	1.253	100	1.000	-0.05	0.220	0.276	5.12
	WLAN6GHz	802.11ax-HE160 MCS0	Top Side	0mm	Ant 2+3(3)	Sensor off	47	6185	1	19.13	20.50	1.371	100	1.000	0.18	0.093	0.128	2.16
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 2+3(3)	Sensor on	15	6025	1	11.11	12.00	1.227	100	1.000	0.14	0.192	0.236	4.46
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 2+3(3)	Sensor on	47	6185	1	12.06	13.00	1.242	100	1.000	-0.17	0.197	0.245	4.56
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 2+3(2)	Sensor on	111	6505	1	11.23	12.50	1.340	100	1.000	0.17	0.200	0.268	4.61
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	0mm	Ant 2+3(3)	Sensor on	143	6665	1	11.43	12.50	1.279	100	1.000	-0.05	0.154	0.197	3.42
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(2)	Full Power	15	6025	1	18.23	19.50	1.340	100	1.000	-0.18	0.167	0.224	3.02
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(3)	Full Power	47	6185	1	19.13	20.50	1.371	100	1.000	-0.12	0.186	0.255	3.36
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(2)	Full Power	111	6505	1	14.13	15.50	1.371	100	1.000	0.02	0.063	0.086	1.14
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(2)	Full Power	143	6665	1	19.04	20.00	1.247	100	1.000	0.08	0.174	0.217	3.14
	WLAN6GHz	802.11ax-HE160 MCS0	Back	22mm	Ant 2+3(2)	Full Power	207	6985	1	15.01	16.00	1.256	100	1.000	-0.17	0.137	0.172	2.47
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	22mm	Ant 2+3(2)	Full Power	15	6025	1	18.23	19.50	1.340	100	1.000	-0.03	0.142	0.190	2.57
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	22mm	Ant 2+3(3)	Full Power	47	6185	1	19.13	20.50	1.371	100	1.000	0.14	0.163	0.223	2.94
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	22mm	Ant 2+3(2)	Full Power	111	6505	1	14.13	15.50	1.371	100	1.000	0.06	0.054	0.074	0.975
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	22mm	Ant 2+3(2)	Full Power	143	6665	1	19.04	20.00	1.247	100	1.000	-0.05	0.156	0.195	2.82
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	22mm	Ant 2+3(2)	Full Power	207	6985	1	15.01	16.00	1.256	100	1.000	0.18	0.123	0.154	2.22



15.4 6GHz PD Test Result

WLAN PD

Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Grid Step (λ)	iPDn	iPD ratio (≥ -1)	Normal psPD (W/m ²)	Total psPD (W/m ²)
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 2+3(3)	Sensor on	15	6025	1	11.11	0.0625	3.02	0.91	2.820	3.080
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	10mm	Ant 2+3(3)	Sensor on	15	6025	1	11.11	0.15	2.45		1.640	1.850
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 2+3(2)	Sensor on	207	6985	1	13.52	0.0625	2.86	0.93	2.390	2.750
WLAN6GHz	802.11ax-HE160 MCS0	Right Side	8.59mm	Ant 2+3(2)	Sensor on	207	6985	1	13.52	0.15	2.31		1.590	1.730

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Power State	Ch.	Freq. (MHz)	Sample	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Grid Step (λ)	Scaling Factor for measurement uncertainty	Power Drift (dB)	Normal psPD (W/m ²)	Scaled Normal psPD (W/m ²)	Total psPD (W/m ²)	Scaled Total psPD (W/m ²)
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 2+3(3)	Sensor on	15	6025	1	11.11	12.00	1.227	100	1.000	0.0625	1.5535	-0.02	2.820	5.38	3.080	5.87
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 2+3(2)	Sensor on	47	6185	1	12.06	13.00	1.242	100	1.000	0.0625	1.5535	-0.15	2.890	5.57	3.140	6.06
01	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 2+3(2)	Sensor on	111	6505	1	11.23	12.50	1.340	100	1.000	0.0625	1.5535	0.06	3.190	6.64	3.560	7.41
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 2+3(3)	Sensor on	143	6665	1	11.43	12.50	1.279	100	1.000	0.0625	1.5535	0.01	3.040	6.04	3.610	7.17
	WLAN6GHz	802.11ax-HE160 MCS0	Right Side	2mm	Ant 2+3(2)	Sensor on	207	6985	1	13.52	14.50	1.253	100	1.000	0.0625	1.5535	0.08	2.390	4.65	2.750	5.35

16. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	MOBILE COMPUTER/BARCODE READER		
		Hotspot	Body-worn	Extremity
1.	WWAN + WLAN2.4GHz	Yes	Yes	Yes
2.	WWAN + WLAN5GHz		Yes	Yes
3.	WWAN + WLAN6GHz		Yes	Yes
4.	WWAN + Bluetooth	Yes	Yes	Yes
5.	WWAN + WLAN2.4GHz + Bluetooth	Yes	Yes	Yes
6.	WWAN + WLAN5GHz + Bluetooth		Yes	Yes
7.	WWAN + WLAN6GHz + Bluetooth		Yes	Yes
8.	WWAN + WLAN2.4GHz + WLAN5GHz		Yes	Yes
9.	WWAN + WLAN2.4GHz + WLAN6GHz		Yes	Yes
10.	WWAN + WLAN2.4GHz + WLAN5GHz + Bluetooth		Yes	Yes
11.	WWAN + WLAN2.4GHz + WLAN6GHz + Bluetooth		Yes	Yes
12.	WWAN + WLAN2.4GHz + NFC			Yes
13.	WWAN + WLAN5GHz + NFC			Yes
14.	WWAN + WLAN6GHz + NFC			Yes
15.	WWAN + Bluetooth + NFC			Yes
16.	WWAN + WLAN2.4GHz + Bluetooth + NFC			Yes
17.	WWAN + WLAN5GHz + Bluetooth + NFC			Yes
18.	WWAN + WLAN6GHz + Bluetooth + NFC			Yes
19.	WWAN + WLAN2.4GHz + WLAN5GHz + NFC			Yes
20.	WWAN + WLAN2.4GHz + WLAN6GHz + NFC			Yes
21.	WWAN + WLAN2.4GHz + WLAN5GHz + Bluetooth + NFC			Yes
22.	WWAN + WLAN2.4GHz + WLAN6GHz + Bluetooth + NFC			Yes

General Note:

- WWAN above includes 5G NR bands and EN-DC combination.
- EUT will choose each WCDMA, LTE, and 5G NR according to the network signal condition; therefore, they will not operate simultaneously at any moment.
- WLAN2.4GHz/5GHz/6GHz MIMO SAR can represent SISO SAR to do co-located SAR analysis.
- Bluetooth and WLAN2.4GHz Ant2 share the same antenna, and they cannot transmit simultaneously. Bluetooth and WLAN2.4GHz Ant3 are located on different antennas, they can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz/6GHz and Bluetooth can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz/6GHz and WLAN 2.4GHz can transmit simultaneously.
- According to the EUT characteristic, WLAN 5GHz and WLAN 6GHz can't transmit simultaneously.
- NFC can transmit simultaneously with other Radios in extremity exposure condition.
- For co-located SAR with WWAN, always choose higher SAR among WLAN5GHz, WLAN 6GHz, it is the worst co-located analysis and can represent each WLAN5GHz and WLAN 6GHz bands.
- For standalone WWAN, always choose the highest SAR among the selected WWAN bands within the selected antenna for each exposure position to perform simultaneous transmission analysis with WLAN/BT. This is the worst co-located analysis and can represent each band.
- For EN-DC SAR co-located with WLAN/Bluetooth, choose the worst SAR among the selected LTE bands within the selected antenna per each test position and also the worst SAR of the selected 5G NR Bands within the selected antenna to do co-located with WLAN/Bluetooth. This is the worst co-located analysis and can represent each LTE bands and each 5G NR bands.
- All licensed modes share the same antenna part and cannot transmit simultaneously.
- The reported SAR summation is calculated based on the same configuration and test position
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - If $SPLSR \leq 0.04$ for 1g SAR and $SPLSR \leq 0.10$ for 10g SAR, simultaneously transmission SAR measurement is not necessary.



- iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.

16.1 Hotspot Exposure Conditions

WWAN1		Exposure Position	1	2	3	1+2+3 Summed 1g SAR (W/kg)
			WWAN1	2.4GHz WLAN Ant MIMO	Bluetooth Ant 2	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
All	All	Front	0.271	0.084	0.001	0.36
		Back	0.371	0.298	0.001	0.67
		Left Side	0.408	0.001	0.001	0.41
		Right Side	0.354	0.290	0.007	0.65
		Top Side	0.105	0.136	0.001	0.24

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WWAN1		WWAN2		Exposure Position	1	2	3	4	1+2+3+4 Summed 1g SAR (W/kg)
					WWAN1	WWAN2	2.4GHz WLAN Ant MIMO	Bluetooth Ant 2	
					1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n26 FR1 n41 FR1 n25	Ant 1	Front	0.092	0.194	0.084	0.001	0.37
				Back	0.175	0.365	0.298	0.001	0.84
				Left Side	0.215	0.349	0.001	0.001	0.57
				Right Side	0.046	0.099	0.290	0.007	0.44
				Top Side	0.052	0.054	0.136	0.001	0.24
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27O)	Ant 7	Front	0.092	0.041	0.084	0.001	0.22
				Back	0.175	0.038	0.298	0.001	0.51
				Left Side	0.215	0.169	0.001	0.001	0.39
				Right Side	0.046	0.011	0.290	0.007	0.35
				Top Side	0.052	0.029	0.136	0.001	0.22
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27O)	Ant 4	Front	0.092	0.038	0.084	0.001	0.22
				Back	0.175	0.050	0.298	0.001	0.52
				Left Side	0.215	0.202	0.001	0.001	0.42
				Right Side	0.046	0.014	0.290	0.007	0.36
				Top Side	0.052	0.026	0.136	0.001	0.22
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27O)	Ant 5	Front	0.092	0.059	0.084	0.001	0.24
				Back	0.175	0.054	0.298	0.001	0.53
				Left Side	0.215	0.019	0.001	0.001	0.24
				Right Side	0.046	0.185	0.290	0.007	0.53
				Top Side	0.052	0.034	0.136	0.001	0.22
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27O)	Ant 6	Front	0.092	0.050	0.084	0.001	0.23
				Back	0.175	0.030	0.298	0.001	0.50
				Left Side	0.215	0.014	0.001	0.001	0.23
				Right Side	0.046	0.199	0.290	0.007	0.54
				Top Side	0.052	0.005	0.136	0.001	0.19
LTE Band 7 LTE Band 41 LTE Band 25 LTE Band 66	Ant 1	FR1 n26	Ant 0	Front	0.271	0.175	0.084	0.001	0.53
				Back	0.360	0.266	0.298	0.001	0.93
				Left Side	0.366	0.348	0.001	0.001	0.72
				Right Side	0.025	0.107	0.290	0.007	0.43
				Top Side	0.001	0.105	0.136	0.001	0.24
LTE Band 7 LTE Band 41 LTE Band 25 LTE Band 66	Ant 1	FR1 n77 (27Q) FR1 n77 (27O)	Ant 5	Front	0.271	0.059	0.084	0.001	0.42
				Back	0.360	0.054	0.298	0.001	0.71
				Left Side	0.366	0.019	0.001	0.001	0.39
				Right Side	0.025	0.185	0.290	0.007	0.51
				Top Side	0.001	0.034	0.136	0.001	0.17
LTE Band 30	Ant 5	FR1 n26	Ant 0	Front	0.057	0.175	0.084	0.001	0.32
				Back	0.060	0.266	0.298	0.001	0.63
				Left Side	0.001	0.348	0.001	0.001	0.35

				Right Side	0.193	0.107	0.290	0.007	0.60
				Top Side	0.029	0.105	0.136	0.001	0.27
FR1 n77 (27Q) FR1 n77 (27O)	Ant 5	FR1 n77 (27Q) FR1 n77 (27O)	Ant 7	Front	0.059	0.041	0.084	0.001	0.19
				Back	0.054	0.038	0.298	0.001	0.39
				Left Side	0.019	0.169	0.001	0.001	0.19
				Right Side	0.185	0.011	0.290	0.007	0.49
				Top Side	0.034	0.029	0.136	0.001	0.20

16.2 Body-Worn Exposure Conditions

WWAN1		Exposure Position	1	2	3	4	1+2+3+4 Summed 1g SAR (W/kg)
			WWAN1	2.4GHz WLAN Ant MIMO	5GHz/6GHz WLAN Ant MIMO	Bluetooth Ant 2	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
All	All	Front	0.67	0.084	0.207	0.001	0.96
		Back	0.523	0.298	0.560	0.004	1.39

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WWAN1		WWAN2		Exposure Position	1	2	3	4	5	1+2+3+4+5 Summed 1g SAR (W/kg)
					WWAN1	WWAN2	2.4GHz WLAN Ant MIMO	5GHz/6GHz WLAN Ant MIMO	Bluetooth Ant 2	
					1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n41 FR1 n25 FR1 n66	Ant 1	Front	0.117	0.67	0.084	0.207	0.001	1.08
				Back	0.175	0.365	0.298	0.56	0.004	1.40
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27O)	Ant 7	Front	0.117	0.041	0.084	0.207	0.001	0.45
				Back	0.175	0.038	0.298	0.56	0.004	1.08
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27O)	Ant 4	Front	0.117	0.252	0.084	0.207	0.001	0.66
				Back	0.175	0.05	0.298	0.56	0.004	1.09
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27O)	Ant 5	Front	0.117	0.476	0.084	0.207	0.001	0.89
				Back	0.175	0.34	0.298	0.56	0.004	1.38
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27O)	Ant 6	Front	0.117	0.301	0.084	0.207	0.001	0.71
				Back	0.175	0.032	0.298	0.56	0.004	1.07
LTE Band 7 LTE Band 41 LTE Band 25 LTE Band 66	Ant 1	FR1 n26	Ant 0	Front	0.271	0.179	0.084	0.207	0.001	0.74
				Back	0.36	0.266	0.298	0.56	0.004	1.49
LTE Band 7 LTE Band 41 LTE Band 25 LTE Band 66	Ant 1	FR1 n77 (27Q) FR1 n77 (27O)	Ant 5	Front	0.271	0.476	0.084	0.207	0.001	1.04
				Back	0.36	0.34	0.298	0.56	0.004	1.56
LTE Band 30	Ant 5	FR1 n26	Ant 0	Front	0.338	0.179	0.084	0.146	0.001	0.75
				Back	0.36	0.266	0.298	0.56	0.004	1.49
FR1 n77 (27Q) FR1 n77 (27O)	Ant 5	FR1 n77 (27Q) FR1 n77 (27O)	Ant 7	Front	0.476	0.041	0.084	0.207	0.001	0.81
				Back	0.34	0.038	0.298	0.56	0.004	1.24

<Sensor Off>

WWAN1		Exposure Position	1	2	3	4	1+2+3+4 Summed 1g SAR (W/kg)
			WWAN1	2.4GHz WLAN Ant MIMO	5GHz/6GHz WLAN Ant MIMO	Bluetooth Ant 2	
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
All	All	Back	0.677	0.126	0.516	0.004	1.32

<ENDC&UL MIMO>

WWAN1		WWAN2		Exposure Position	1	2	3	4	5	1+2+3+4+5 Summed 1g SAR (W/kg)
					WWAN1	WWAN2	2.4GHz WLAN Ant MIMO	5GHz/6GHz WLAN Ant MIMO	Bluetooth Ant 2	
					1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n41 FR1 n25 FR1 n66	Ant 1	Back	0.677	0.219	0.126	0.516	0.004	1.54
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27Q)	Ant 4	Back	0.677	0.271	0.126	0.516	0.004	1.59
LTE Band 26 LTE Band 12 LTE Band 13 LTE Band 30	Ant 0	FR1 n77 (27Q) FR1 n77 (27Q)	Ant 6	Back	0.677	0.147	0.126	0.516	0.004	1.47
LTE Band 7 LTE Band 41 LTE Band 25 LTE Band 66	Ant 1	FR1 n26	Ant 0	Back	0.295	0.100	0.126	0.516	0.004	1.04

16.3 Extremity Exposure Conditions

Exposure Position	1	2	1+2 Summed 1g SAR (W/kg)
	5GHz/6GHz WLAN Ant MIMO	NFC	
	10g SAR (W/kg)	10g SAR (W/kg)	
Front	0.145	0.005	0.15
Back	0.59	0.027	0.62
Left Side	0.054	0.000	0.05
Right Side	0.973	0.000	0.97
Top Side	0.308	0.045	0.35

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

17. Uncertainty Assessment

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

Declaration of Conformity:

The test results with all measurement uncertainty excluded is 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.

The component of uncertainty may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainty by the statistical analysis of a series of observations is termed a Type A evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor ^(a)	$1/k^{(b)}$	$1/\sqrt{3}$	$1/\sqrt{6}$	$1/\sqrt{2}$

- 1) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity
- 2) κ is the coverage factor

Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

The judgment of conformity in the report is based on the measurement results excluding the measurement uncertainty.

Uncertainty Budget

According to IEC/IEEE 62209-1528 (Frequency band: 4 MHz - 10 GHz range)							
Error Description	Uncert. Value (±%)	Prob. Dist.	Div.	(Ci) 1g	(Ci) 10g	Standard Uncertainty (1g) (±%)	Standard Uncertainty (10g) (±%)
Measurement System errors							
Probe calibration	18.6	N	2	1	1	9.3	9.3
Probe calibration drift	1.7	R	1.732	1	1	1.0	1.0
Probe linearity and detection Limit	4.7	R	1.732	1	1	2.7	2.7
Broadband signal	2.8	R	1.732	1	1	1.6	1.6
Probe isotropy	7.6	R	1.732	1	1	4.4	4.4
Other probe and data acquisition errors	2.4	N	1	1	1	2.4	2.4
RF ambient and noise	1.8	N	1	1	1	1.8	1.8
Probe positioning errors	0.006	N	1	0.5	0.5	0.0	0.0
Data processing errors	4.0	N	1	1	1	4.0	4.0
Phantom and Device Errors							
Measurement of phantom conductivity (σ)	2.5	N	1	0.78	0.71	2.0	1.8
Temperature effects (medium)	5.4	R	1.732	0.78	0.71	2.4	2.2
Shell permittivity	14.0	R	1.732	0.5	0.5	4.0	4.0
Distance between the radiating element of the DUT and the phantom medium	2.0	N	1	2	2	4.0	4.0
Repeatability of positioning the DUT or source against the phantom	1.0	N	1	1	1	1.0	1.0
Device holder effects	3.6	N	1	1	1	3.6	3.6
Effect of operating mode on probe sensitivity	2.4	R	1.732	1	1	1.4	1.4
Time-average SAR	1.7	R	1.732	1	1	1.0	1.0
Variation in SAR due to drift in output of DUT	2.5	N	1	1	1	2.5	2.5
Validation antenna uncertainty (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Uncertainty in accepted power (validation measurement only)	0.0	N	1	1	1	0.0	0.0
Correction to the SAR results							
Phantom deviation from target (ϵ', σ)	1.9	N	1	1	0.84	1.9	1.6
SAR scaling	0.0	R	1.732	1	1	0.0	0.0
Combined Std. Uncertainty						14.5%	14.4%
Coverage Factor for 95 %						K=2	K=2
Expanded STD Uncertainty						29.0%	28.8%

SAR Uncertainty Budget for frequency range 4MHz to 10GHz

cDASY6 Module mmWave Uncertainty Budget Evaluation Distances to the Antennas $\lambda/2\pi$ In Compliance with IEC TR 63170					
Error Description	Uncertainty Value	Probability	Divisor	(Ci)	Standard Uncertainty



	(±dB)				(±dB)
Uncertainty terms dep endent on the measurement system					
Probe Calibration	0.49	N	1	1	0.49
Probe correction	0.00	R	1.732	1	0.00
Frequency response	0.20	R	1.732	1	0.12
Sensor cross coupling	0.00	R	1.732	1	0.00
Isotropy	0.50	R	1.732	1	0.29
Linearity	0.20	R	1.732	1	0.12
Probe scattering	0.00	R	1.732	1	0.00
Probe positioning offset	0.30	R	1.732	1	0.17
Probe positioning repeatability	0.04	R	1.732	1	0.02
Sensor mechanical offset	0.00	R	1.732	1	0.00
Probe spatial resolution	0.00	R	1.732	1	0.00
Field impedance dependence	0.00	R	1.732	1	0.00
Amplitude and phase drift	0.00	R	1.732	1	0.00
Amplitude and phase noise	0.04	R	1.732	1	0.02
Measurement area truncation	0.00	R	1.732	1	0.00
Data acquisition	0.03	N	1	1	0.03
Sampling	0.00	R	1.732	1	0.00
Field reconstruction	2.00	R	1.732	1	1.15
Forward transformation	0.00	R	1.732	1	0.00
Power density scaling	0.00	R	1.732	1	0.00
Spatial averaging	0.10	R	1.732	1	0.06
System detection limit	0.04	R	1.732	1	0.02
Uncertainty terms dep endent on the DUT and environmental factors					
Probe coupling with DUT	0.00	R	1.732	1	0.0
Modulation response	0.40	R	1.732	1	0.2
Integration time	0.00	R	1.732	1	0.0
Response time	0.00	R	1.732	1	0.0
Device holder influence	0.10	R	1.732	1	0.1
DUT alignment	0.00	R	1.732	1	0.0
RF ambient conditions	0.04	R	1.732	1	0.0
Ambient reflections	0.04	R	1.732	1	0.0
Immunity / secondary reception	0.00	R	1.732	1	0.0
Drift of the DUT		R	1.732	1	
Combined Std. Uncertainty					1.34
Expanded STD Uncertainty (95%)					2.68

PD Uncertainty Budget

18. References

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- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
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- [15] IEC 62479:2010 Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)
- [16] IEC TR 63170: 2018 Measurement procedure for the evaluation of power density related to human exposure to radio frequency fields from wireless communication devices operating between 6 GHz and 100 GHz
- [17] SPEAG DASY System Handbook
- [18] SPEAG DASY6 Application Note (Interim Procedures for Devices Operating at 6-10 GHz)

Appendixes

Please refer to separated files for the following appendixes

Appendix A. Plots of System Performance Check

Appendix B. Plots of High SAR Measurement

Appendix C. DASY Calibration Certificate

Appendix D. Test Setup Photos

Appendix E. Conducted RF Output Power Table

Appendix F. Power reduction mechanism verification

Appendix G. Power measurement connection diagram and CA Conducted RF Output Power Table

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