FCC SAR TEST REPORT

FCC ID : XMR2023RM520NGLT
Equipment : 5G Sub-6 GHz M.2 Module
Brand Name : Quectel
Model Name : RM520N-GL
Applicant : Quectel Wireless Solutions Co., Ltd.
Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China, 200233
Manufacturer : Lenovo PC HK Limited
23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong, P.R. China
Standard : FCC 47 CFR Part 2 (2.1093)

The product was installed into Notebook Computer (Brand Name: Lenovo, Model Name: TP00159C, TP00159D, TP00159E) during test.

The product was received on Feb. 11, 2025 and testing was started from Feb. 11, 2025 and completed on Mar. 04, 2025. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

Sporton International Inc. Wensan Laboratory

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History of this test report

Report No.	Version	Description	Issued Date
FA3N1058-04	01	Initial issue of report	Mar. 27, 2025

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) for Quectel Wireless Solutions Co., Ltd., 5G Sub-6 GHz M.2 Module, RM520N-GL, are as follows.

Equipment Class	Frequency Band		Highest SAR Summary Body (Separation 0mm) 1g SAR (W/kg)	Highest Simultaneous Transmission 1g SAR (W/kg)
Licensed	WCDMA	WCDMA II	1.13	1.28
		WCDMA IV	1.14	
		WCDMA V	1.17	
	LTE	LTE Band 7	1.08	
		LTE Band 12/17	1.16	
		LTE Band 13	1.14	
		LTE Band 14	1.12	
		LTE Band 2/25	1.19	
		LTE Band 5/26	1.19	
		LTE Band 30	1.20	
		LTE Band 38/41	1.08	
		LTE Band 42	1.20	
		LTE Band 43	1.17	
		LTE Band 48	1.14	
		LTE Band 4/66	1.18	
		LTE Band 71	1.03	
	FR1	FR1 n7	1.16	
		FR1 n12	1.11	
		FR1 n13	1.12	
		FR1 n14	1.16	
		FR1 n2/n25	1.18	
		FR1 n5/n26	1.17	
		FR1 n30	1.28	
		FR1 n38/n41	1.17	
		FR1 n48	1.19	
		FR1 n66	1.08	
		FR1 n71	0.96	
		FR1 n77/n78	1.18	
Date of Testing:			2025/02/11 ~ 2025/03/04	

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang
Report Producer: Paula Chen

2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- 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 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	5G Sub-6 GHz M.2 Module
Brand Name	Quectel
Model Name	RM520N-GL
FCC ID	XMR2023RM520NGLT
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 14: 788 MHz ~ 798 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 ~ 3550 MHz LTE Band 43: 3700 MHz ~ 3800 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n13: 777 MHz ~ 787 MHz 5G NR n14 : 788 MHz ~ 798 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77 : 3700 MHz ~ 3980 MHz, 3450 MHz ~ 3550 MHz 5G NR n78 : 3700 MHz ~ 3800 MHz, 3450 MHz ~ 3550 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM
Remark: 1. WWAN based on original report, Sporton SAR Report, report number: FA3N1058 and FA3N1058-02 variant report to Spot check each band. The MediaTek MT7925B14L (FCC ID: RAS-MT7925B14L) also into this host, the Sim-Tx compliance with WWAN operation was addressed in section13. 2. There are four kinds of samples as below. First RF exposure selects sample 1 to test all exposure position and sample 2, 3 and 4 spot check worst case found sample 1.	

Sample List	Antenna Vendor	Platform
Sample 1	AWAN	AL
Sample 2	Amphenol	AL
Sample 3	AWAN	PPS
Sample 4	Amphenol	PPS

WWAN Antenna Information				
Main Antenna	Manufacturer	Amphenol Taiwan Corporation	Peak gain(dBi)	0.98
	Part number	DC330022K00 DC330022K70	Type	PIFA
	Manufacturer	AWAN	Peak gain(dBi)	1.66
	Part number	DC330022H00 DC330022H70	Type	PIFA
MIMO2 Antenna	Manufacturer	Amphenol Taiwan Corporation	Peak gain(dBi)	0.98
	Part number	DC330022K10	Type	PIFA
	Manufacturer	AWAN	Peak gain(dBi)	1.66
	Part number	DC330022H10	Type	PIFA
Auxiliary Antenna	Manufacturer	Amphenol Taiwan Corporation	Peak gain(dBi)	-3.34
	Part number	DC330022K10 DC330022K70	Type	PIFA
	Manufacturer	AWAN	Peak gain(dBi)	-3.34
	Part number	DC330022H10 DC330022H70	Type	PIFA

Host Information	
Brand Name	Lenovo
Model Name	TP00159C, TP00159D, TP00159E
Integrated WLAN Module	Brand Name: MediaTek Model Name: MT7925B14L
Integrated NFC Module	Brand Name: Foxconn Model Name: T77H747

Remark:
1. The MediaTek MT7925B14L (FCC ID: RAS-MT7925B14L) is integrated into this host
2. The FCC ID: MCLT77H747 NFC module is integrated into this host, and NFC transmitters are considered to be operating simultaneously when there is overlapping transmission with the exception of transmission during network hand-offs with maximum hand-off duration less than 30 seconds.

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	XMR2023RM520NGLT
Equipment Name	5G Sub-6 GHz M.2 Module
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 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 ~ 3550 MHz LTE Band 43: 3700 MHz ~ 3800 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 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 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, Proximity, G-Sensor and power verification refer to original report.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to the original report, report number: FA3N1058.
LTE Carrier Aggregation Additional Information	This device supports maximum of 5 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.
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)
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
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)
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)
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)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		

LTE Band 14				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Channel #	Channel #	Freq.(MHz)
L	23305	790.5	23330	793
M	23330	793		
H	23355	795.5		

LTE Band 17				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711

LTE Band 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)
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 42

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460
M	42590	3500	42590	3500	42590	3500	42590	3500
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540

LTE Band 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	44615	3702.5	44640	3705	44665	3707.5	44690	3710
M	45090	3750	45090	3750	45090	3750	45090	3750
H	45565	3797.5	45540	3795	45515	3792.5	45490	3790

LTE Band 48

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

LTE Band 66

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

LTE Band 71

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5
H	133447	695.5	133422	693	133397	690.5	133372	688

3.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
FCC ID	XMR2023RM520NGLT
Equipment Name	5G Sub-6 GHz M.2 Module
Operating Frequency Range of each 5G NR transmission band	5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n13: 777 MHz ~ 787 MHz 5G NR n14 : 788 MHz ~ 798 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77 : 3700 MHz ~ 3980 MHz, 3450 MHz ~ 3550 MHz 5G NR n78 : 3700 MHz ~ 3800 MHz, 3450 MHz ~ 3550 MHz
Channel Bandwidth	5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz 5G NR n12: 5MHz, 10MHz, 15MHz 5G NR n13: 5MHz, 10MHz 5G NR n14: 5MHz, 10MHz 5G NR n25: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz 30MHz, 40MHz 5G NR n26: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n30: 5MHz, 10MHz 5G NR n38: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n41: 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n48: 10MHz, 20MHz, 30MHz, 40MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n77: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n78: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz
SCS	FDD: SCS15KHz, TDD: SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B4/5/7/12/13/14/30/66/71
LTE Anchor Bands for n5	LTE B2/7/30/48/66
LTE Anchor Bands for n7	LTE B2/4/5/12/13/66/71
LTE Anchor Bands for n12	LTE B2/7/30/48/66
LTE Anchor Bands for n14	LTE B2/30/66
LTE Anchor Bands for n25	LTE B5/7/12/13/26/48/66/71
LTE Anchor Bands for n30	LTE B2/5/12/14/66
LTE Anchor Bands for n38	LTE B2/4/5/12/66/71
LTE Anchor Bands for n41	LTE B2/4/5/12/25/26/66/71
LTE Anchor Bands for n48	LTE B2/5/13/66
LTE Anchor Bands for n66	LTE B2/5/7/12/13/14/30/48/71
LTE Anchor Bands for n71	LTE B2/7/48/66
LTE Anchor Bands for n77	LTE B2/5/7/12/13/14/25/30/41/66/71
LTE Anchor Bands for n78	LTE B2/4/5/7/12/13/25/26/38/41/66/71

NR Band 2								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860
M	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900

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

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

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

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

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

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

NR Band 26								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
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 5MHz		Bandwidth 10MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	461500	2307.5	462000	2310
M	462000	2310		
H	462500	2312.5		

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

NR Band 41																		
	Bandwidth20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
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 48								
	Bandwidth10MHz		Bandwidth20MHz		Bandwidth30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	637000	3555	637334	3560.01	637668	3565.02	638000	3570
M	641666	3624.99	641666	3624.99	641666	3624.99	641666	3624.99
H	646332	3694.98	646000	3690	645666	3684.99	645332	3679.98

NR Band 66												
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	345000	1725	346000	1730
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353000	1765	352000	1760

NR Band 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	13410	670.5	134600	673
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5
H	139100	695.5	138600	693	13810	690.5	137600	688

NR Band 77																						
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930

NR Band 78																						
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		

NR Band 77/78(3450MHz ~ 3550MHz)																						
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	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	633332	3499.98	633332	3499.98
H	636332	3544.98	636166	3542.49	636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99		

4. RF Exposure Limits

4.1 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.

4.2 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

1. 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.

5. Specific Absorption Rate (SAR)

5.1 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.

5.2 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:

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

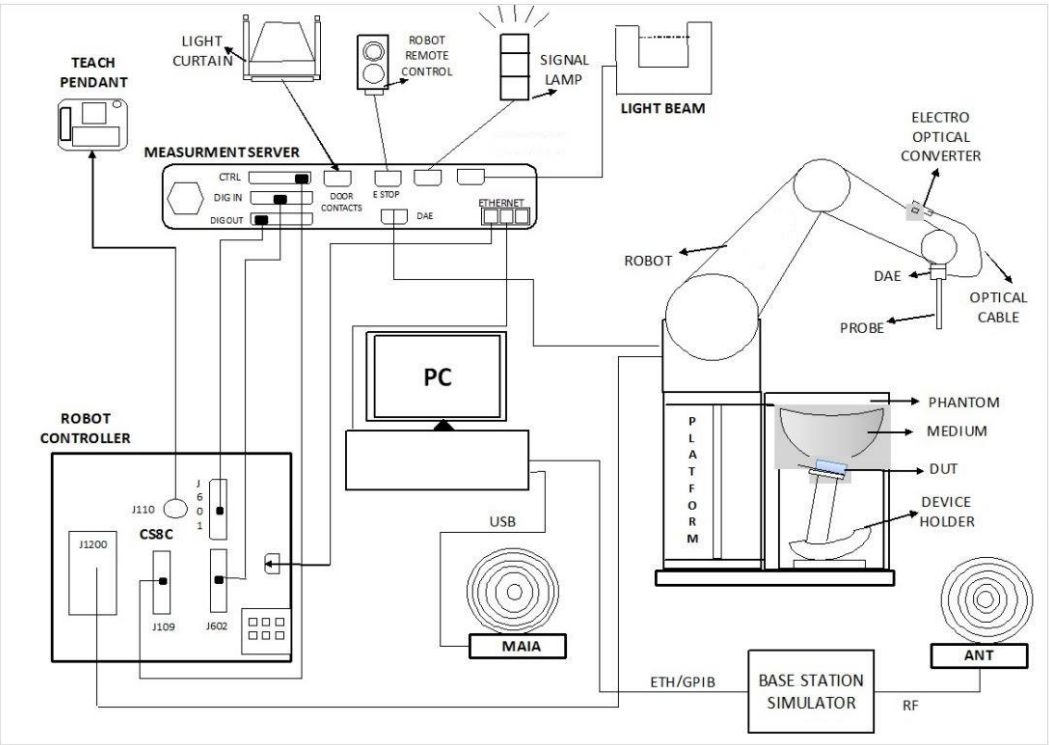
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

6. System Description and Setup

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



- The DASY system in SAR Configuration is shown above
- 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 windows software and the DASY software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

6.1 Test Site Location

The SAR measurement facilities used to collect data are within both Sporton Lab list below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Test Site	EMC & Wireless Communications Laboratory		Wensan Laboratory		
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010		
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	SAR16-HY
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	SAR17-HY
			SAR18-HY	SAR19-HY	SAR20-HY

6.2 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.

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)	
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 μW/g – >100 mW/g; Linearity: ±0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<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 – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 μW/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	

6.3 Data Acquisition Electronics (DAE)

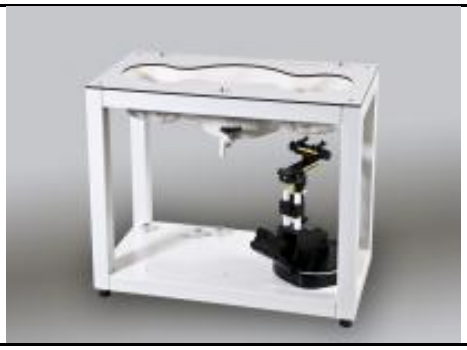
The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an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

Fig 5.1 Photo of DAE

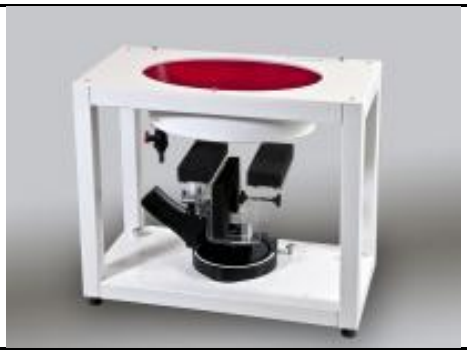
6.4 Phantom

<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 in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

6.5 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

7. Measurement Procedures

The measurement procedures are as follows:

(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

7.1 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 form 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

7.2 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.

7.3 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	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
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 ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

7.4 Zoom Scan

Zoom scans are used 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 shoes 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: Δx_{Zoom}, Δy_{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: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
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 *reported* SAR from the *area scan based 1-g SAR estimation* 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.

7.5 Volume Scan Procedures

The volume scan is used for 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.

7.6 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.

8. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	Aug. 22, 2024	Aug. 21, 2025
SPEAG	750MHz System Validation Kit(2)	D750V3	1107	Jun. 22, 2022	Jun. 19, 2025
SPEAG	835MHz System Validation Kit	D835V2	499	Aug. 22, 2024	Aug. 21, 2025
SPEAG	835MHz System Validation Kit(2)	D835V2	4d167	Nov. 24, 2022	Nov. 21, 2025
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1120	Mar. 25, 2022	Mar. 22, 2025
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1112	Jun. 22, 2022	Jun. 19, 2025
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Aug. 15, 2024	Aug. 14, 2025
SPEAG	1900MHz System Validation Kit(2)	D1900V2	5d093	Mar. 25, 2022	Mar. 22, 2025
SPEAG	2300MHz System Validation Kit	D2300V2	1006	Jan. 14, 2025	Jan. 13, 2026
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 15, 2024	Aug. 14, 2025
SPEAG	3300MHz System Validation Kit(2)	D3300V2	1034	Sep. 05, 2022	Sep. 02, 2025
SPEAG	3500MHz System Validation Kit	D3500V2	1014	Jan. 15, 2025	Jan. 14, 2026
SPEAG	3500MHz System Validation Kit(2)	D3500V2	1036	Mar. 23, 2022	Mar. 20, 2025
SPEAG	3700MHz System Validation Kit(2)	D3700V2	1006	Jun. 20, 2022	Jun. 17, 2025
SPEAG	3700MHz System Validation Kit	D3700V2	1022	Jul. 10, 2024	Jul. 09, 2025
SPEAG	3900MHz System Validation Kit(2)	D3900V2	1017	Apr. 22, 2022	Apr. 19, 2025
SPEAG	3900MHz System Validation Kit(2)	D3900V2	1092	May. 15, 2023	May. 13, 2025
SPEAG	Data Acquisition Electronics	DAE4	656	Jan. 16, 2025	Jan. 15, 2026
SPEAG	Data Acquisition Electronics	DAE4	661	May. 16, 2024	May. 15, 2025
SPEAG	Data Acquisition Electronics	DAE4	703	Apr. 22, 2024	Apr. 21, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Nov. 19, 2024	Nov. 18, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7439	Aug. 21, 2024	Aug. 20, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7700	Jan. 22, 2025	Jan. 21, 2026
Testo	Hygro meter	608-H1	45196600	Oct. 28, 2024	Oct. 27, 2025
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Nov. 12, 2024	Nov. 11, 2025
Keysight	5G Wireless Test Platform	E7515B	MY58300712	Apr. 22, 2024	Apr. 21, 2025
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 24, 2024	Sep. 23, 2025
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 20, 2024	Oct. 19, 2025
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 17, 2024	Sep. 16, 2025
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 07, 2024	Aug. 06, 2025
Anritsu	Power Meter	ML2495A	1419002	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Power Sensor	MA2411B	1911176	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 09, 2024	Jul. 08, 2025
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 23, 2024	Oct. 22, 2025
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. 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.

9. System Verification

9.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18℃ to 25℃, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18℃ to 25℃ and within ± 2℃ of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.
The liquid tissue depth was at least 15cm in the phantom for all SAR testing

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	22.1	0.887	42.432	0.89	41.90	-0.34	1.27	±5	2025/2/11
750	22.5	0.883	42.320	0.89	41.90	-0.79	1.00	±5	2025/2/15
835	22.1	0.921	42.136	0.90	41.50	2.33	1.53	±5	2025/2/11
835	22.5	0.916	42.024	0.90	41.50	1.78	1.26	±5	2025/2/15
1750	22.5	1.378	40.177	1.37	40.10	0.58	0.19	±5	2025/2/12
1750	22.5	1.376	40.165	1.37	40.10	0.44	0.16	±5	2025/2/16
1900	22.5	1.392	40.074	1.40	40.00	-0.57	0.18	±5	2025/2/12
1900	22.5	1.391	40.062	1.40	40.00	-0.64	0.15	±5	2025/2/16
2300	22.5	1.640	40.091	1.67	39.50	-1.80	1.50	±5	2025/2/13
2300	22.5	1.671	40.321	1.67	39.50	0.06	2.08	±5	2025/2/17
2600	22.5	1.991	38.996	1.96	39.00	1.58	-0.01	±5	2025/2/13
2600	22.5	2.001	39.206	1.96	39.00	2.09	0.53	±5	2025/2/17
2600	22.5	1.996	38.292	1.96	39.00	1.84	-1.82	±5	2025/3/3
3500	22.5	2.931	37.571	2.91	37.90	0.72	-0.87	±5	2025/2/14
3500	22.5	2.931	37.571	2.91	37.90	0.72	-0.87	±5	2025/2/14
3500	22.5	2.953	37.797	2.91	37.90	1.48	-0.27	±5	2025/2/18
3500	22.5	2.953	37.797	2.91	37.90	1.48	-0.27	±5	2025/2/18
3500	22.4	3.005	37.867	2.91	37.90	3.26	-0.09	±5	2025/3/4
3700	22.5	3.115	37.272	3.12	37.70	-0.16	-1.14	±5	2025/2/14
3700	22.5	3.115	37.272	3.12	37.70	-0.16	-1.14	±5	2025/2/14
3700	22.5	3.139	37.498	3.12	37.70	0.61	-0.54	±5	2025/2/18
3700	22.4	3.194	37.567	3.12	37.70	2.37	-0.35	±5	2025/3/4
3900	22.5	3.317	36.993	3.33	37.51	-0.39	-1.38	±5	2025/2/14
3900	22.5	3.341	37.219	3.33	37.51	0.33	-0.78	±5	2025/2/18

9.2 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.

Test Site	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 (%)
SAR-08	2025/2/11	750	50	D750V3-1012	EX3DV4 - SN7439	DAE4 Sn661	0.412	8.400	8.24	-1.90	0.271	5.410	5.42	0.18
SAR-09	2025/2/15	750	50	D750V3-1107	EX3DV4 - SN3931	DAE4 Sn703	0.392	8.540	7.84	-8.20	0.255	5.570	5.1	-8.44
SAR-08	2025/2/11	835	50	D835V2-499	EX3DV4 - SN7439	DAE4 Sn661	0.500	9.440	10	5.93	0.327	6.050	6.54	8.10
SAR-09	2025/2/15	835	50	D835V2-4d167	EX3DV4 - SN3931	DAE4 Sn703	0.489	9.800	9.78	-0.20	0.335	6.380	6.7	5.02
SAR-08	2025/2/12	1750	50	D1750V2-1120	EX3DV4 - SN7439	DAE4 Sn661	1.780	36.400	35.6	-2.20	0.953	19.100	19.06	-0.21
SAR-09	2025/2/16	1750	50	D1750V2-1112	EX3DV4 - SN3931	DAE4 Sn703	1.810	36.900	36.2	-1.90	1.010	19.400	20.2	4.12
SAR-08	2025/2/12	1900	50	D1900V2-5d093	EX3DV4 - SN7439	DAE4 Sn661	1.900	39.900	38	-4.76	0.988	20.700	19.76	-4.54
SAR-09	2025/2/16	1900	50	D1900V2-5d041	EX3DV4 - SN3931	DAE4 Sn703	1.790	39.200	35.8	-8.67	0.943	20.700	18.86	-8.89
SAR-08	2025/2/13	2300	50	D2300V2-1006	EX3DV4 - SN7439	DAE4 Sn661	2.230	48.200	44.6	-7.47	1.090	23.200	21.8	-6.03
SAR-09	2025/2/17	2300	50	D2300V2-1006	EX3DV4 - SN3931	DAE4 Sn703	2.350	48.200	47	-2.49	1.170	23.200	23.4	0.86
SAR-08	2025/2/13	2600	50	D2600V2-1008	EX3DV4 - SN7439	DAE4 Sn661	2.550	55.700	51	-8.44	1.150	25.300	23	-9.09
SAR-09	2025/2/17	2600	50	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn703	2.760	55.700	55.2	-0.90	1.290	25.300	25.8	1.98
SAR-08	2025/3/3	2600	50	D2600V2-1008	EX3DV4 - SN7439	DAE4 Sn661	2.560	55.700	51.2	-8.08	1.150	25.300	23	-9.09
SAR-08	2025/2/14	3500	50	D3500V2-1036	EX3DV4 - SN7439	DAE4 Sn661	3.340	67.400	66.8	-0.89	1.280	25.100	25.6	1.99
SAR-11	2025/2/14	3500	50	D3500V2-1014	EX3DV4 - SN7700	DAE4 Sn656	3.170	65.700	63.4	-3.50	1.200	24.900	24	-3.61
SAR-09	2025/2/18	3500	100	D3500V2-1014	EX3DV4 - SN3931	DAE4 Sn703	6.660	65.700	66.6	1.37	2.490	24.900	24.9	0.00
SAR-08	2025/2/18	3500	50	D3500V2-1036	EX3DV4 - SN7439	DAE4 Sn661	3.370	67.400	67.4	0.00	1.290	25.100	25.8	2.79
SAR-08	2025/3/4	3500	50	D3300V2-1034	EX3DV4 - SN7439	DAE4 Sn661	3.430	67.300	68.6	1.93	1.320	25.900	26.4	1.93
SAR-08	2025/2/14	3700	50	D3700V2-1022	EX3DV4 - SN7439	DAE4 Sn661	3.320	68.100	66.4	-2.50	1.250	25.200	25	-0.79
SAR-11	2025/2/14	3700	50	D3700V2-1006	EX3DV4 - SN7700	DAE4 Sn656	3.370	65.600	67.4	2.74	1.240	23.700	24.8	4.64
SAR-09	2025/2/18	3700	50	D3700V2-1006	EX3DV4 - SN3931	DAE4 Sn703	3.200	65.600	64	-2.44	1.180	23.700	23.6	-0.42
SAR-08	2025/3/4	3700	50	D3700V2-1022	EX3DV4 - SN7439	DAE4 Sn661	3.410	68.100	68.2	0.15	1.280	25.200	25.6	1.59
SAR-11	2025/2/14	3900	50	D3900V2-1017-3900	EX3DV4 - SN7700	DAE4 Sn656	3.100	68.700	62	-9.75	1.080	23.900	21.6	-9.62
SAR-09	2025/2/18	3900	50	D3900V2-1092	EX3DV4 - SN3931	DAE4 Sn703	3.250	67.000	65	-2.99	1.170	23.200	23.4	0.86

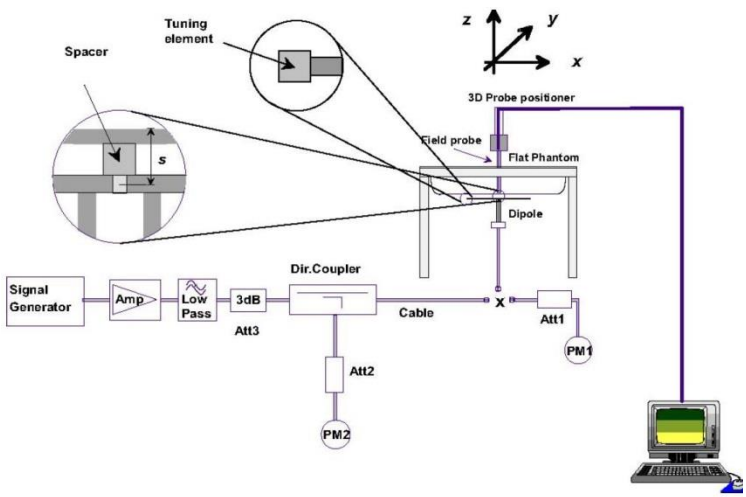


Fig 8.3.1 System Performance Check Setup

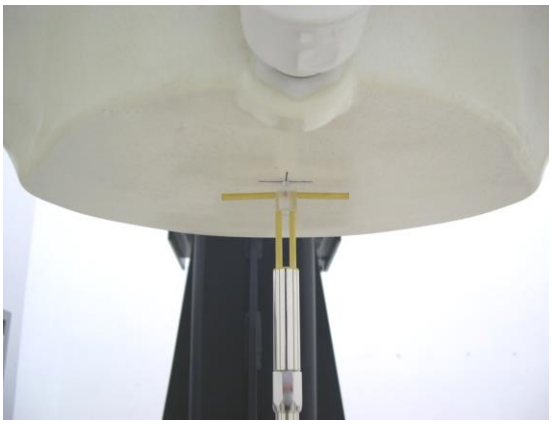


Fig 8.3.2 Setup Photo

10. UMTS/LTE/5G NR Output Power (Unit: dBm)

Band		WCDMA II_Ant Main_Sensor OFF			Tune-up Limit (dBm)	WCDMA IV_Ant Main_Sensor OFF			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	RMC 12.2Kbps	23.40	23.53	23.51	25.00	23.34	23.42	23.38	25.00
3GPP Rel 6	HSDPA Subtest-1	22.37	22.60	22.56	24.00	22.58	22.61	22.63	24.00
3GPP Rel 6	HSDPA Subtest-2	22.33	22.52	22.58	24.00	22.52	22.60	22.64	24.00
3GPP Rel 6	HSDPA Subtest-3	21.84	22.02	22.03	23.50	22.04	22.06	22.08	23.50
3GPP Rel 6	HSDPA Subtest-4	21.87	22.09	22.07	23.50	22.00	22.06	22.11	23.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.31	22.43	22.56	24.00	22.46	22.55	22.44	24.00
3GPP Rel 8	DC-HSDPA Subtest-2	22.23	22.35	22.50	24.00	22.36	22.45	22.46	24.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.78	21.86	21.89	23.50	22.03	21.89	22.07	23.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.87	22.06	22.06	23.50	21.80	22.01	22.11	23.50
3GPP Rel 6	HSUPA Subtest-1	22.41	22.61	22.61	24.00	22.54	22.58	22.65	24.00
3GPP Rel 6	HSUPA Subtest-2	20.37	20.59	20.54	22.00	20.53	20.62	20.64	22.00
3GPP Rel 6	HSUPA Subtest-3	21.37	21.59	21.57	23.00	21.51	21.62	21.59	23.00
3GPP Rel 6	HSUPA Subtest-4	20.38	20.55	20.59	22.00	20.55	20.62	20.68	22.00
3GPP Rel 6	HSUPA Subtest-5	22.40	22.60	22.60	24.00	22.60	22.60	22.60	24.00

Band		WCDMA II_Ant Main_Sensor ON			Tune-up Limit (dBm)	WCDMA IV_Ant Main_Sensor ON			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	RMC 12.2Kbps	17.01	17.10	17.03	17.50	16.64	16.69	16.68	17.00
3GPP Rel 6	HSDPA Subtest-1	16.16	16.22	16.17	16.50	15.72	15.78	15.78	16.00
3GPP Rel 6	HSDPA Subtest-2	16.18	16.21	16.16	16.50	15.75	15.80	15.77	16.00
3GPP Rel 6	HSDPA Subtest-3	15.61	15.72	15.65	16.00	15.25	15.26	15.31	15.50
3GPP Rel 6	HSDPA Subtest-4	15.64	15.70	15.62	16.00	15.25	15.28	15.27	15.50
3GPP Rel 8	DC-HSDPA Subtest-1	16.06	16.05	16.02	16.50	15.53	15.62	15.62	16.00
3GPP Rel 8	DC-HSDPA Subtest-2	15.98	16.02	16.02	16.50	15.61	15.69	15.60	16.00
3GPP Rel 8	DC-HSDPA Subtest-3	15.47	15.54	15.48	16.00	15.15	15.06	15.20	15.50
3GPP Rel 8	DC-HSDPA Subtest-4	15.51	15.57	15.45	16.00	15.08	15.12	15.13	15.50
3GPP Rel 6	HSUPA Subtest-1	16.17	16.25	16.22	16.50	15.77	15.82	15.72	16.00
3GPP Rel 6	HSUPA Subtest-2	14.23	14.20	14.25	14.50	13.79	13.83	13.76	14.00
3GPP Rel 6	HSUPA Subtest-3	15.22	15.20	15.19	15.50	14.72	14.78	14.72	15.00
3GPP Rel 6	HSUPA Subtest-4	14.17	14.29	14.23	14.50	13.77	13.83	13.73	14.00
3GPP Rel 6	HSUPA Subtest-5	16.17	16.25	16.25	16.50	15.80	15.80	15.80	16.00

Band		WCDMA V_Ant Main_Sensor ON			Tune-up Limit (dBm)
TX Channel		4132	4182	4233	
Rx Channel		4357	4407	4458	
Frequency (MHz)		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	22.79	22.84	22.82	24.00

<LTE Band 7_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	13.79	13.84	13.74	15

<LTE Band 7_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	16.21	16.28	16.25	17

<LTE Band 12_Ant Main_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	23.33	23.45	23.36	25
10	QPSK	1	25	23.29	23.40	23.30	
10	QPSK	1	49	23.23	23.39	23.29	
10	QPSK	25	0	22.38	22.47	22.43	24
10	QPSK	25	12	22.32	22.39	22.42	
10	QPSK	25	25	22.35	22.45	22.40	
10	QPSK	50	0	22.33	22.40	22.38	
10	16QAM	1	0	22.54	22.69	22.66	24
10	16QAM	1	25	22.66	22.67	22.74	
10	16QAM	1	49	22.67	22.75	22.70	
10	16QAM	25	0	21.27	21.38	21.34	23
10	16QAM	25	12	21.40	21.41	21.48	
10	16QAM	25	25	21.39	21.48	21.46	
10	16QAM	50	0	21.41	21.40	21.40	
10	64QAM	1	0	21.47	21.60	21.47	23
10	64QAM	1	25	21.57	21.63	21.54	
10	64QAM	1	49	21.60	21.60	21.55	
10	64QAM	25	0	20.35	20.37	20.31	22
10	64QAM	25	12	20.48	20.42	20.46	
10	64QAM	25	25	20.48	20.48	20.42	
10	64QAM	50	0	20.48	20.37	20.43	
10	256QAM	1	0	18.25	18.36	18.35	20
10	256QAM	1	25	18.32	18.35	18.31	
10	256QAM	1	49	18.33	18.32	18.18	
10	256QAM	25	0	18.24	18.23	18.23	20
10	256QAM	25	12	18.34	18.27	18.27	
10	256QAM	25	25	18.26	18.26	18.22	
10	256QAM	50	0	18.32	18.23	18.28	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	23.27	23.31	23.27	25
5	QPSK	1	12	23.35	23.40	23.34	
5	QPSK	1	24	23.32	23.31	23.27	
5	QPSK	12	0	22.34	22.30	22.26	24
5	QPSK	12	7	22.44	22.36	22.39	
5	QPSK	12	13	22.42	22.42	22.35	
5	QPSK	25	0	22.44	22.32	22.36	
5	16QAM	1	0	22.71	22.66	22.62	24
5	16QAM	1	12	22.77	22.67	22.67	
5	16QAM	1	24	22.69	22.67	22.68	

5	16QAM	12	0	21.38	21.37	21.30	23
5	16QAM	12	7	21.48	21.37	21.43	
5	16QAM	12	13	21.49	21.47	21.37	
5	16QAM	25	0	21.42	21.36	21.37	
5	64QAM	1	0	21.48	21.56	21.47	23
5	64QAM	1	12	21.60	21.65	21.44	
5	64QAM	1	24	21.55	21.64	21.54	
5	64QAM	12	0	20.33	20.34	20.30	22
5	64QAM	12	7	20.47	20.38	20.38	
5	64QAM	12	13	20.45	20.42	20.33	
5	64QAM	25	0	20.45	20.36	20.36	
5	256QAM	1	0	18.12	18.19	18.18	20
5	256QAM	1	12	18.15	18.21	18.15	
5	256QAM	1	24	18.23	18.17	18.08	
5	256QAM	12	0	18.09	18.06	18.09	20
5	256QAM	12	7	18.18	18.09	18.14	
5	256QAM	12	13	18.06	18.10	18.11	
5	256QAM	25	0	18.16	18.03	18.16	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	23.24	23.25	23.18	25
3	QPSK	1	8	23.39	23.38	23.32	
3	QPSK	1	14	23.29	23.29	23.21	
3	QPSK	8	0	22.40	22.32	22.27	24
3	QPSK	8	4	22.44	22.36	22.30	
3	QPSK	8	7	22.40	22.42	22.36	
3	QPSK	15	0	22.41	22.33	22.25	
3	16QAM	1	0	22.65	22.64	22.60	24
3	16QAM	1	8	22.70	22.72	22.72	
3	16QAM	1	14	22.63	22.64	22.65	
3	16QAM	8	0	21.48	21.40	21.32	23
3	16QAM	8	4	21.49	21.41	21.36	
3	16QAM	8	7	21.47	21.48	21.40	
3	16QAM	15	0	21.44	21.34	21.26	
3	64QAM	1	0	21.36	21.42	21.38	23
3	64QAM	1	8	21.50	21.56	21.58	
3	64QAM	1	14	21.45	21.48	21.50	
3	64QAM	8	0	20.31	20.33	20.31	22
3	64QAM	8	4	20.35	20.36	20.34	
3	64QAM	8	7	20.33	20.43	20.37	
3	64QAM	15	0	20.28	20.34	20.30	
3	256QAM	1	0	18.03	18.14	18.05	20
3	256QAM	1	8	18.15	18.25	18.15	
3	256QAM	1	14	18.15	18.12	18.02	
3	256QAM	8	0	18.09	18.10	18.06	20
3	256QAM	8	4	18.16	18.13	18.11	
3	256QAM	8	7	18.11	18.09	18.07	
3	256QAM	15	0	18.13	18.04	18.10	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	23.28	23.27	23.21	25
1.4	QPSK	1	3	23.29	23.32	23.27	
1.4	QPSK	1	5	23.26	23.31	23.18	
1.4	QPSK	3	0	23.33	23.31	23.26	
1.4	QPSK	3	1	23.35	23.34	23.26	
1.4	QPSK	3	3	23.34	23.33	23.25	
1.4	QPSK	6	0	22.37	22.27	22.27	24
1.4	16QAM	1	0	22.73	22.65	22.60	24
1.4	16QAM	1	3	22.74	22.71	22.67	
1.4	16QAM	1	5	22.66	22.75	22.61	
1.4	16QAM	3	0	22.54	22.47	22.43	
1.4	16QAM	3	1	22.50	22.50	22.36	
1.4	16QAM	3	3	22.49	22.51	22.43	

1.4	16QAM	6	0	21.41	21.39	21.34	23
1.4	64QAM	1	0	21.47	21.38	21.44	23
1.4	64QAM	1	3	21.64	21.48	21.47	
1.4	64QAM	1	5	21.61	21.44	21.51	
1.4	64QAM	3	0	21.45	21.43	21.40	
1.4	64QAM	3	1	21.45	21.45	21.36	
1.4	64QAM	3	3	21.45	21.43	21.34	
1.4	64QAM	6	0	20.39	20.33	20.34	22
1.4	256QAM	1	0	18.34	18.32	18.25	20
1.4	256QAM	1	3	18.33	18.30	18.30	
1.4	256QAM	1	5	18.35	18.29	18.21	
1.4	256QAM	3	0	18.32	18.20	18.27	
1.4	256QAM	3	1	18.40	18.32	18.26	
1.4	256QAM	3	3	18.31	18.27	18.28	
1.4	256QAM	6	0	18.28	18.20	18.17	20

<LTE Band 12_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	22.66	22.75	22.56	23
10	QPSK	1	25	22.65	22.74	22.68	
10	QPSK	1	49	22.48	22.55	22.47	
10	QPSK	25	0	21.54	21.77	21.51	22
10	QPSK	25	12	21.72	21.74	21.70	
10	QPSK	25	25	21.66	21.70	21.64	
10	QPSK	50	0	21.76	21.56	21.68	
10	16QAM	1	0	22.19	21.96	21.94	23
10	16QAM	1	25	21.86	22.36	21.90	
10	16QAM	1	49	22.29	22.54	21.87	
10	16QAM	25	0	20.59	20.73	20.63	21
10	16QAM	25	12	20.80	20.68	20.80	
10	16QAM	25	25	20.87	20.71	20.73	
10	16QAM	50	0	20.68	20.70	20.68	
10	64QAM	1	0	21.77	20.95	20.96	22
10	64QAM	1	25	21.81	20.95	20.85	
10	64QAM	1	49	21.61	20.55	20.41	
10	64QAM	25	0	20.61	19.61	19.56	21.5
10	64QAM	25	12	20.75	19.71	19.69	
10	64QAM	25	25	20.76	19.69	19.77	
10	64QAM	50	0	20.72	19.75	19.67	
10	256QAM	1	0	17.85	17.96	17.95	18
10	256QAM	1	25	17.92	17.95	17.91	
10	256QAM	1	49	17.93	17.92	17.78	
10	256QAM	25	0	17.84	17.83	17.83	18
10	256QAM	25	12	17.94	17.87	17.87	
10	256QAM	25	25	17.86	17.86	17.82	
10	256QAM	50	0	17.92	17.83	17.88	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	22.51	22.55	22.38	23
5	QPSK	1	12	22.46	22.64	22.55	
5	QPSK	1	24	22.29	22.36	22.36	
5	QPSK	12	0	21.37	21.66	21.32	22
5	QPSK	12	7	21.62	21.56	21.59	
5	QPSK	12	13	21.52	21.54	21.51	
5	QPSK	25	0	21.64	21.41	21.58	
5	16QAM	1	0	22.08	21.81	21.82	23
5	16QAM	1	12	21.67	22.23	21.75	
5	16QAM	1	24	22.15	22.43	21.73	

5	16QAM	12	0	20.43	20.61	20.53	21
5	16QAM	12	7	20.61	20.58	20.66	
5	16QAM	12	13	20.71	20.55	20.54	
5	16QAM	25	0	20.53	20.60	20.50	
5	64QAM	1	0	21.57	20.80	20.86	22
5	64QAM	1	12	21.65	20.77	20.72	
5	64QAM	1	24	21.50	20.36	20.24	
5	64QAM	12	0	20.50	19.52	19.56	21.5
5	64QAM	12	7	20.57	19.59	19.57	
5	64QAM	12	13	20.66	19.58	19.63	
5	64QAM	25	0	20.61	19.56	19.53	
5	256QAM	1	0	17.70	17.81	17.82	18
5	256QAM	1	12	17.79	17.77	17.72	
5	256QAM	1	24	17.79	17.72	17.60	
5	256QAM	12	0	17.64	17.64	17.70	18
5	256QAM	12	7	17.77	17.73	17.69	
5	256QAM	12	13	17.72	17.75	17.71	
5	256QAM	25	0	17.72	17.66	17.72	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	22.53	22.61	22.41	23
3	QPSK	1	8	22.51	22.60	22.49	
3	QPSK	1	14	22.34	22.38	22.37	
3	QPSK	8	0	21.38	21.59	21.39	22
3	QPSK	8	4	21.54	21.60	21.55	
3	QPSK	8	7	21.54	21.58	21.44	
3	QPSK	15	0	21.58	21.40	21.56	
3	16QAM	1	0	22.01	21.79	21.83	23
3	16QAM	1	8	21.73	22.23	21.78	
3	16QAM	1	14	22.09	22.44	21.67	
3	16QAM	8	0	20.46	20.54	20.46	21
3	16QAM	8	4	20.64	20.55	20.70	
3	16QAM	8	7	20.77	20.52	20.60	
3	16QAM	15	0	20.54	20.56	20.53	
3	64QAM	1	0	21.64	20.78	20.79	22
3	64QAM	1	8	21.64	20.77	20.75	
3	64QAM	1	14	21.49	20.38	20.27	
3	64QAM	8	0	20.45	19.51	19.54	21.5
3	64QAM	8	4	20.57	19.53	19.54	
3	64QAM	8	7	20.62	19.50	19.60	
3	64QAM	15	0	20.59	19.55	19.52	
3	256QAM	1	0	17.65	17.85	17.79	18
3	256QAM	1	8	17.72	17.78	17.71	
3	256QAM	1	14	17.79	17.80	17.63	
3	256QAM	8	0	17.64	17.70	17.67	18
3	256QAM	8	4	17.77	17.75	17.76	
3	256QAM	8	7	17.66	17.74	17.72	
3	256QAM	15	0	17.76	17.73	17.75	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	22.73	22.72	22.66	23
1.4	QPSK	1	3	22.74	22.77	22.72	
1.4	QPSK	1	5	22.71	22.76	22.63	
1.4	QPSK	3	0	22.78	22.76	22.71	
1.4	QPSK	3	1	22.80	22.79	22.71	
1.4	QPSK	3	3	22.79	22.78	22.70	
1.4	QPSK	6	0	21.82	21.72	21.72	22
1.4	16QAM	1	0	22.18	22.10	22.05	23
1.4	16QAM	1	3	22.19	22.16	22.12	
1.4	16QAM	1	5	22.11	22.20	22.06	
1.4	16QAM	3	0	21.99	21.92	21.88	
1.4	16QAM	3	1	21.95	21.95	21.81	
1.4	16QAM	3	3	21.94	21.96	21.88	

1.4	16QAM	6	0	20.86	20.84	20.79	21
1.4	64QAM	1	0	20.92	20.83	20.89	22
1.4	64QAM	1	3	20.99	20.93	20.92	
1.4	64QAM	1	5	20.96	20.89	20.96	
1.4	64QAM	3	0	20.90	20.88	20.85	
1.4	64QAM	3	1	20.90	20.90	20.81	
1.4	64QAM	3	3	20.90	20.88	20.79	
1.4	64QAM	6	0	19.84	19.78	19.79	21.5
1.4	256QAM	1	0	17.79	17.77	17.70	18
1.4	256QAM	1	3	17.78	17.75	17.75	
1.4	256QAM	1	5	17.80	17.74	17.66	
1.4	256QAM	3	0	17.77	17.65	17.72	
1.4	256QAM	3	1	17.85	17.77	17.71	
1.4	256QAM	3	3	17.76	17.72	17.73	
1.4	256QAM	6	0	17.73	17.65	17.62	18

<LTE Band 13_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23230			
Frequency (MHz)				782			
10	QPSK	1	0		22.47		23.5

<LTE Band 14_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23330			
Frequency (MHz)				793			
10	QPSK	1	0		22.42		23.5

<LTE Band 17_Ant Main_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.21	23.27	23.20	25
10	QPSK	1	25	23.15	23.19	23.01	
10	QPSK	1	49	23.21	23.26	23.16	
10	QPSK	25	0	22.23	22.09	22.32	24
10	QPSK	25	12	22.04	22.22	22.07	
10	QPSK	25	25	22.19	22.44	22.11	
10	QPSK	50	0	22.15	22.13	22.10	
10	16QAM	1	0	22.33	22.12	22.38	24
10	16QAM	1	25	22.32	22.44	22.02	
10	16QAM	1	49	22.40	22.13	22.28	
10	16QAM	25	0	21.01	21.45	21.04	23
10	16QAM	25	12	21.18	21.17	21.26	
10	16QAM	25	25	21.23	21.07	21.15	
10	16QAM	50	0	21.14	21.25	21.40	
10	64QAM	1	0	21.30	21.39	21.22	23
10	64QAM	1	25	21.26	21.26	21.10	
10	64QAM	1	49	21.14	21.44	21.07	
10	64QAM	25	0	20.32	20.27	20.26	22
10	64QAM	25	12	20.09	20.28	20.28	
10	64QAM	25	25	20.01	20.15	20.09	
10	64QAM	50	0	20.04	20.43	20.11	
10	256QAM	1	0	18.13	18.29	18.39	20
10	256QAM	1	25	18.20	18.45	18.16	
10	256QAM	1	49	18.24	18.07	18.19	

10	256QAM	25	0	18.31	18.29	18.39	20
10	256QAM	25	12	18.30	18.40	18.33	
10	256QAM	25	25	18.28	18.20	18.14	
10	256QAM	50	0	18.22	18.12	18.01	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	23.09	23.11	23.10	25
5	QPSK	1	12	23.05	23.03	23.00	
5	QPSK	1	24	23.02	23.12	23.05	
5	QPSK	12	0	22.04	22.06	22.14	24
5	QPSK	12	7	22.04	22.02	22.06	
5	QPSK	12	13	22.05	22.32	22.09	
5	QPSK	25	0	22.07	22.00	22.00	
5	16QAM	1	0	22.19	22.04	22.27	24
5	16QAM	1	12	22.16	22.33	22.03	
5	16QAM	1	24	22.21	22.08	22.17	
5	16QAM	12	0	21.04	21.32	21.02	23
5	16QAM	12	7	21.02	21.05	21.07	
5	16QAM	12	13	21.09	21.02	21.08	
5	16QAM	25	0	21.08	21.09	21.22	
5	64QAM	1	0	21.11	21.23	21.06	23
5	64QAM	1	12	21.10	21.16	21.07	
5	64QAM	1	24	21.08	21.33	21.05	
5	64QAM	12	0	20.17	20.11	20.10	22
5	64QAM	12	7	20.04	20.12	20.11	
5	64QAM	12	13	20.03	20.05	20.06	
5	64QAM	25	0	20.01	20.30	20.00	
5	256QAM	1	0	18.01	18.18	18.29	20
5	256QAM	1	12	18.10	18.32	18.06	
5	256QAM	1	24	18.05	18.04	18.00	
5	256QAM	12	0	18.17	18.12	18.19	20
5	256QAM	12	7	18.11	18.21	18.17	
5	256QAM	12	13	18.15	18.06	18.02	
5	256QAM	25	0	18.10	18.04	18.01	

<LTE Band 17_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	22.55	22.56	22.47	23
10	QPSK	1	25	22.40	22.38	22.36	
10	QPSK	1	49	22.43	22.38	22.27	
10	QPSK	25	0	21.40	21.41	21.46	22
10	QPSK	25	12	21.70	21.43	21.56	
10	QPSK	25	25	21.69	21.37	21.63	
10	QPSK	50	0	21.40	21.74	21.27	
10	16QAM	1	0	21.35	21.66	21.47	22
10	16QAM	1	25	21.47	21.47	21.44	
10	16QAM	1	49	21.42	21.38	21.53	
10	16QAM	25	0	20.47	20.61	20.55	21
10	16QAM	25	12	20.57	20.64	20.37	
10	16QAM	25	25	20.37	20.62	20.39	
10	16QAM	50	0	20.74	20.43	20.38	
10	64QAM	1	0	20.54	20.36	20.57	21
10	64QAM	1	25	20.70	20.51	20.38	
10	64QAM	1	49	20.64	20.76	20.48	
10	64QAM	25	0	19.58	19.37	19.42	20
10	64QAM	25	12	19.59	19.46	19.61	
10	64QAM	25	25	19.50	19.60	19.47	
10	64QAM	50	0	19.54	19.47	19.39	

10	256QAM	1	0	17.36	17.75	17.44	18
10	256QAM	1	25	17.58	17.46	17.64	
10	256QAM	1	49	17.55	17.59	17.40	
10	256QAM	25	0	17.62	17.51	17.61	18
10	256QAM	25	12	17.36	17.40	17.65	
10	256QAM	25	25	17.47	17.56	17.33	
10	256QAM	50	0	17.65	17.66	17.58	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	22.44	22.42	22.33	23
5	QPSK	1	12	22.23	22.25	22.23	
5	QPSK	1	24	22.25	22.28	22.17	
5	QPSK	12	0	21.20	21.24	21.35	22
5	QPSK	12	7	21.57	21.28	21.46	
5	QPSK	12	13	21.54	21.21	21.43	
5	QPSK	25	0	21.29	21.64	21.17	
5	16QAM	1	0	21.25	21.49	21.31	22
5	16QAM	1	12	21.27	21.33	21.32	
5	16QAM	1	24	21.30	21.21	21.37	
5	16QAM	12	0	20.33	20.51	20.39	21
5	16QAM	12	7	20.40	20.49	20.19	
5	16QAM	12	13	20.18	20.52	20.27	
5	16QAM	25	0	20.64	20.27	20.25	
5	64QAM	1	0	20.39	20.24	20.46	21
5	64QAM	1	12	20.60	20.33	20.26	
5	64QAM	1	24	20.53	20.63	20.34	
5	64QAM	12	0	19.40	19.27	19.31	20
5	64QAM	12	7	19.49	19.27	19.49	
5	64QAM	12	13	19.32	19.48	19.31	
5	64QAM	25	0	19.36	19.27	19.23	
5	256QAM	1	0	17.21	17.60	17.32	18
5	256QAM	1	12	17.38	17.34	17.49	
5	256QAM	1	24	17.40	17.39	17.27	
5	256QAM	12	0	17.42	17.38	17.49	18
5	256QAM	12	7	17.22	17.30	17.53	
5	256QAM	12	13	17.34	17.46	17.19	
5	256QAM	25	0	17.46	17.49	17.38	

<LTE Band 25_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	17.97	18.04	17.95	18.5

<LTE Band 25_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	18.31	18.31	18.33	18.5

<LTE Band 26_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	23.16	23.50	23.35	24.5

<LTE Band 30_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				27710			
Frequency (MHz)				2310			
10	QPSK	1	0		15.48		16

<LTE Band 30_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				27710			
Frequency (MHz)				2310			
10	QPSK	1	0		17.31		18

<LTE Band 41_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	15.31	15.22	15.40	15.49	15.38	16.5

<LTE Band 41_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	17.67	17.72	17.82	17.86	17.85	18.5

<LTE Band 42_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	17.12	17.18	17.16	18

<LTE Band 42_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	16.21	16.10	16.15	16.5

<LTE Band 43_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				44690	45090	45490	
Frequency (MHz)				3710	3750	3790	
20	QPSK	1	0	16.08	16.13	16.15	17

<LTE Band 48_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	17.13	17.17	17.16	17.14	17.5

<LTE Band 48_Ant MIMO 2_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	20.51	20.70	20.54	20.53	22
20	QPSK	1	49	20.33	20.69	20.49	20.44	
20	QPSK	1	99	20.23	20.51	20.32	20.28	
20	QPSK	50	0	19.43	19.67	19.59	19.56	21
20	QPSK	50	24	19.41	19.64	19.52	19.53	
20	QPSK	50	50	19.40	19.63	19.51	19.48	
20	QPSK	100	0	19.42	19.66	19.58	19.52	
20	16QAM	1	0	19.47	19.67	19.64	19.54	21
20	16QAM	1	49	19.35	19.66	19.55	19.47	
20	16QAM	1	99	19.22	19.50	19.32	19.23	
20	16QAM	50	0	18.39	18.66	18.56	18.52	20
20	16QAM	50	24	18.43	18.69	18.53	18.56	
20	16QAM	50	50	18.40	18.64	18.53	18.48	
20	16QAM	100	0	18.45	18.66	18.62	18.54	
20	64QAM	1	0	18.40	18.64	18.53	18.52	20
20	64QAM	1	49	18.30	18.59	18.48	18.40	
20	64QAM	1	99	18.18	18.47	18.29	18.17	
20	64QAM	50	0	17.40	17.67	17.58	17.51	19
20	64QAM	50	24	17.43	17.70	17.52	17.54	
20	64QAM	50	50	17.40	17.63	17.54	17.46	
20	64QAM	100	0	17.45	17.67	17.60	17.53	
20	256QAM	1	0	15.16	15.02	15.14	15.03	17
20	256QAM	1	49	15.05	15.03	15.08	15.06	
20	256QAM	1	99	15.11	15.13	15.05	15.07	
20	256QAM	50	0	15.04	15.03	15.08	15.07	17
20	256QAM	50	24	15.07	15.01	15.00	15.01	
20	256QAM	50	50	15.10	15.03	15.06	15.04	
20	256QAM	100	0	15.08	15.09	15.04	15.05	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	20.45	20.67	20.51	20.49	22
15	QPSK	1	37	20.30	20.64	20.47	20.41	
15	QPSK	1	74	20.19	20.49	20.27	20.23	
15	QPSK	36	0	19.37	19.65	19.53	19.51	21
15	QPSK	36	20	19.35	19.61	19.47	19.48	
15	QPSK	36	39	19.34	19.60	19.48	19.46	
15	QPSK	75	0	19.38	19.61	19.52	19.46	
15	16QAM	1	0	19.41	19.61	19.59	19.52	21
15	16QAM	1	37	19.29	19.61	19.50	19.41	
15	16QAM	1	74	19.17	19.46	19.28	19.21	
15	16QAM	36	0	18.37	18.61	18.51	18.50	20
15	16QAM	36	20	18.38	18.64	18.48	18.51	
15	16QAM	36	39	18.38	18.58	18.51	18.45	
15	16QAM	75	0	18.41	18.63	18.56	18.50	
15	64QAM	1	0	18.37	18.58	18.50	18.48	20
15	64QAM	1	37	18.26	18.55	18.42	18.38	
15	64QAM	1	74	18.14	18.44	18.23	18.14	
15	64QAM	36	0	17.34	17.61	17.56	17.45	19

15	64QAM	36	20	17.41	17.68	17.48	17.52	
15	64QAM	36	39	17.34	17.60	17.52	17.41	
15	64QAM	75	0	17.39	17.61	17.55	17.47	
15	256QAM	1	0	15.11	15.02	15.12	15.03	17
15	256QAM	1	37	15.03	15.00	15.02	15.04	
15	256QAM	1	74	15.06	15.08	15.04	15.04	
15	256QAM	36	0	15.01	15.01	15.06	15.01	17
15	256QAM	36	20	15.01	15.00	15.00	15.01	
15	256QAM	36	39	15.08	15.04	15.01	15.00	
15	256QAM	75	0	15.03	15.07	15.01	15.02	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	20.46	20.65	20.49	20.47	22
10	QPSK	1	25	20.27	20.65	20.45	20.40	
10	QPSK	1	49	20.21	20.45	20.27	20.24	
10	QPSK	25	0	19.40	19.64	19.56	19.52	21
10	QPSK	25	12	19.37	19.58	19.48	19.51	
10	QPSK	25	25	19.38	19.58	19.48	19.45	
10	QPSK	50	0	19.38	19.64	19.53	19.47	
10	16QAM	1	0	19.42	19.62	19.62	19.48	21
10	16QAM	1	25	19.32	19.60	19.50	19.41	
10	16QAM	1	49	19.20	19.48	19.28	19.18	
10	16QAM	25	0	18.34	18.60	18.51	18.50	20
10	16QAM	25	12	18.38	18.67	18.49	18.51	
10	16QAM	25	25	18.37	18.59	18.51	18.43	
10	16QAM	50	0	18.40	18.61	18.58	18.50	
10	64QAM	1	0	18.34	18.59	18.49	18.47	20
10	64QAM	1	25	18.26	18.56	18.42	18.37	
10	64QAM	1	49	18.13	18.44	18.27	18.11	
10	64QAM	25	0	17.36	17.63	17.53	17.49	19
10	64QAM	25	12	17.39	17.66	17.48	17.49	
10	64QAM	25	25	17.38	17.59	17.50	17.43	
10	64QAM	50	0	17.40	17.65	17.58	17.50	
10	256QAM	1	0	15.10	15.02	15.09	15.01	17
10	256QAM	1	25	15.03	15.02	15.03	15.01	
10	256QAM	1	49	15.09	15.10	15.04	15.03	
10	256QAM	25	0	15.03	15.03	15.04	15.02	17
10	256QAM	25	12	15.03	15.04	15.03	15.02	
10	256QAM	25	25	15.04	15.01	15.01	15.00	
10	256QAM	50	0	15.03	15.05	15.03	15.03	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	20.45	20.64	20.49	20.49	22
5	QPSK	1	12	20.29	20.67	20.47	20.42	
5	QPSK	1	24	20.21	20.45	20.27	20.26	
5	QPSK	12	0	19.37	19.61	19.56	19.54	21
5	QPSK	12	7	19.38	19.60	19.50	19.51	
5	QPSK	12	13	19.35	19.60	19.49	19.43	
5	QPSK	25	0	19.37	19.62	19.56	19.50	
5	16QAM	1	0	19.44	19.63	19.62	19.52	21
5	16QAM	1	12	19.29	19.62	19.50	19.43	
5	16QAM	1	24	19.16	19.48	19.30	19.21	
5	16QAM	12	0	18.37	18.61	18.50	18.49	20
5	16QAM	12	7	18.40	18.67	18.48	18.51	
5	16QAM	12	13	18.38	18.60	18.48	18.44	
5	16QAM	25	0	18.43	18.64	18.57	18.48	
5	64QAM	1	0	18.37	18.58	18.51	18.46	20
5	64QAM	1	12	18.25	18.53	18.43	18.35	
5	64QAM	1	24	18.12	18.41	18.27	18.13	
5	64QAM	12	0	17.38	17.65	17.54	17.48	19
5	64QAM	12	7	17.37	17.67	17.48	17.52	
5	64QAM	12	13	17.37	17.60	17.51	17.44	
5	64QAM	25	0	17.43	17.61	17.54	17.50	

5	256QAM	1	0	15.11	15.03	15.10	15.03	17
5	256QAM	1	12	15.03	15.01	15.05	15.04	
5	256QAM	1	24	15.08	15.10	15.00	15.03	
5	256QAM	12	0	15.00	15.02	15.04	15.05	17
5	256QAM	12	7	15.03	15.04	15.02	15.00	
5	256QAM	12	13	15.05	15.04	15.03	15.04	
5	256QAM	25	0	15.04	15.05	15.02	15.00	

<LTE Band 48_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	14.73	15.23	15.06	15.05	15.5
20	QPSK	1	49	14.82	15.06	15.15	15.16	
20	QPSK	1	99	14.58	14.83	14.70	14.81	
20	QPSK	50	0	13.72	14.15	14.05	14.11	14.5
20	QPSK	50	24	13.80	14.14	14.11	14.15	
20	QPSK	50	50	13.85	14.08	14.15	14.15	
20	QPSK	100	0	13.73	14.10	14.05	13.98	
20	16QAM	1	0	14.14	14.48	14.30	14.24	14.5
20	16QAM	1	49	13.80	14.28	13.98	14.20	
20	16QAM	1	99	13.28	13.82	13.70	14.02	
20	16QAM	50	0	12.70	12.99	13.07	13.15	13.5
20	16QAM	50	24	12.86	13.13	13.16	13.13	
20	16QAM	50	50	12.87	12.90	13.14	13.18	
20	16QAM	100	0	12.74	13.12	13.02	13.10	
20	64QAM	1	0	12.41	13.20	13.49	12.60	13.5
20	64QAM	1	49	12.88	13.33	13.14	12.88	
20	64QAM	1	99	12.08	12.84	13.04	12.86	
20	64QAM	50	0	11.71	11.99	11.99	12.17	12.5
20	64QAM	50	24	11.94	12.23	12.10	12.19	
20	64QAM	50	50	11.67	11.98	12.11	12.12	
20	64QAM	100	0	11.82	12.04	12.12	12.01	
20	256QAM	1	0	9.76	9.62	9.74	9.63	10.5
20	256QAM	1	49	9.65	9.63	9.68	9.66	
20	256QAM	1	99	9.71	9.73	9.65	9.67	
20	256QAM	50	0	9.64	9.63	9.68	9.67	10.5
20	256QAM	50	24	9.67	9.61	9.60	9.61	
20	256QAM	50	50	9.70	9.63	9.66	9.64	
20	256QAM	100	0	9.68	9.69	9.64	9.65	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	14.61	14.93	14.88	15.09	15.5
15	QPSK	1	37	14.69	14.95	15.04	15.06	
15	QPSK	1	74	14.40	14.63	14.56	14.61	
15	QPSK	36	0	13.58	13.84	13.95	14.00	14.5
15	QPSK	36	20	13.68	13.98	13.92	14.02	
15	QPSK	36	39	13.71	13.96	13.96	14.01	
15	QPSK	75	0	13.61	13.78	13.87	13.91	
15	16QAM	1	0	14.03	14.33	14.19	14.09	14.5
15	16QAM	1	37	13.70	14.13	13.87	14.06	
15	16QAM	1	74	13.08	13.68	13.53	13.88	
15	16QAM	36	0	12.53	12.81	12.94	13.00	13.5
15	16QAM	36	20	12.68	12.96	13.01	13.02	
15	16QAM	36	39	12.74	12.80	12.96	13.04	
15	16QAM	75	0	12.58	13.02	12.86	12.95	
15	64QAM	1	0	12.29	13.04	13.30	12.45	13.5
15	64QAM	1	37	12.75	13.13	12.97	12.70	
15	64QAM	1	74	11.94	12.69	12.88	12.67	
15	64QAM	36	0	11.59	11.88	11.79	12.03	12.5

15	64QAM	36	20	11.81	12.06	11.90	12.06	
15	64QAM	36	39	11.47	11.79	12.00	12.00	
15	64QAM	75	0	11.64	11.85	11.97	11.81	
15	256QAM	1	0	9.57	9.43	9.63	9.44	10.5
15	256QAM	1	37	9.47	9.46	9.53	9.54	
15	256QAM	1	74	9.52	9.54	9.53	9.57	
15	256QAM	36	0	9.48	9.51	9.53	9.57	10.5
15	256QAM	36	20	9.53	9.42	9.47	9.46	
15	256QAM	36	39	9.56	9.43	9.47	9.46	
15	256QAM	75	0	9.48	9.53	9.50	9.55	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	14.56	14.93	14.87	15.04	15.5
10	QPSK	1	25	14.67	14.93	14.95	14.96	
10	QPSK	1	49	14.47	14.64	14.59	14.70	
10	QPSK	25	0	13.62	13.87	13.92	14.00	14.5
10	QPSK	25	12	13.62	13.98	14.01	14.02	
10	QPSK	25	25	13.65	13.91	13.99	14.04	
10	QPSK	50	0	13.61	13.84	13.94	13.94	
10	16QAM	1	0	14.02	14.38	14.10	14.07	14.5
10	16QAM	1	25	13.66	14.08	13.82	14.09	
10	16QAM	1	49	13.17	13.70	13.53	13.89	
10	16QAM	25	0	12.50	12.89	12.94	13.04	13.5
10	16QAM	25	12	12.66	12.93	13.01	12.99	
10	16QAM	25	25	12.70	12.79	12.99	12.98	
10	16QAM	50	0	12.64	12.96	12.92	12.91	
10	64QAM	1	0	12.22	13.08	13.33	12.43	13.5
10	64QAM	1	25	12.78	13.14	12.94	12.68	
10	64QAM	1	49	11.97	12.64	12.85	12.74	
10	64QAM	25	0	11.61	11.85	11.83	11.98	12.5
10	64QAM	25	12	11.80	12.11	11.94	11.99	
10	64QAM	25	25	11.52	11.78	11.97	12.02	
10	64QAM	50	0	11.68	11.92	11.96	11.84	
10	256QAM	1	0	9.58	9.50	9.59	9.51	10.5
10	256QAM	1	25	9.51	9.47	9.48	9.47	
10	256QAM	1	49	9.60	9.56	9.47	9.47	
10	256QAM	25	0	9.49	9.50	9.48	9.48	10.5
10	256QAM	25	12	9.49	9.49	9.41	9.46	
10	256QAM	25	25	9.53	9.47	9.54	9.46	
10	256QAM	50	0	9.57	9.55	9.47	9.52	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	14.62	14.90	14.87	15.11	15.5
5	QPSK	1	12	14.72	14.89	15.03	15.00	
5	QPSK	1	24	14.42	14.73	14.60	14.61	
5	QPSK	12	0	13.60	13.82	13.90	13.99	14.5
5	QPSK	12	7	13.64	13.98	13.95	13.97	
5	QPSK	12	13	13.66	13.92	14.02	14.01	
5	QPSK	25	0	13.63	13.85	13.86	13.90	
5	16QAM	1	0	14.04	14.28	14.12	14.13	14.5
5	16QAM	1	12	13.63	14.14	13.85	14.08	
5	16QAM	1	24	13.08	13.64	13.59	13.84	
5	16QAM	12	0	12.60	12.89	12.87	13.01	13.5
5	16QAM	12	7	12.67	13.02	12.99	12.93	
5	16QAM	12	13	12.69	12.74	13.03	13.06	
5	16QAM	25	0	12.61	13.02	12.87	12.91	
5	64QAM	1	0	12.24	13.05	13.36	12.47	13.5
5	64QAM	1	12	12.76	13.20	12.95	12.75	
5	64QAM	1	24	11.97	12.71	12.94	12.67	
5	64QAM	12	0	11.53	11.80	11.85	11.97	12.5
5	64QAM	12	7	11.74	12.04	11.94	12.05	
5	64QAM	12	13	11.47	11.87	11.96	11.98	
5	64QAM	25	0	11.68	11.92	11.93	11.82	

5	256QAM	1	0	9.58	9.44	9.64	9.45	10.5
5	256QAM	1	12	9.49	9.49	9.49	9.55	
5	256QAM	1	24	9.54	9.61	9.52	9.54	
5	256QAM	12	0	9.49	9.43	9.48	9.52	10.5
5	256QAM	12	7	9.57	9.43	9.50	9.45	
5	256QAM	12	13	9.52	9.51	9.54	9.50	
5	256QAM	25	0	9.53	9.49	9.53	9.54	

<LTE Band 66_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	17.60	17.73	17.64	18

<LTE Band 66_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	17.49	17.60	17.59	18

<LTE Band 71_Ant Main_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	23.48	23.51	23.38	25
20	QPSK	1	49	23.46	23.42	23.36	
20	QPSK	1	99	23.38	23.28	23.22	
20	QPSK	50	0	22.60	22.54	22.45	24
20	QPSK	50	24	22.58	22.49	22.43	
20	QPSK	50	50	22.55	22.50	22.43	
20	QPSK	100	0	22.60	22.64	22.43	
20	16QAM	1	0	22.75	22.67	22.61	24
20	16QAM	1	49	22.83	22.77	22.70	
20	16QAM	1	99	22.67	22.62	22.54	
20	16QAM	50	0	21.51	21.54	21.44	23
20	16QAM	50	24	21.63	21.50	21.44	
20	16QAM	50	50	21.52	21.48	21.48	
20	16QAM	100	0	21.61	21.52	21.45	
20	64QAM	1	0	21.68	21.61	21.49	23
20	64QAM	1	49	21.70	21.68	21.60	
20	64QAM	1	99	21.57	21.51	21.41	
20	64QAM	50	0	20.50	20.53	20.45	22
20	64QAM	50	24	20.62	20.51	20.44	
20	64QAM	50	50	20.54	20.47	20.46	
20	64QAM	100	0	20.62	20.48	20.45	
20	256QAM	1	0	18.17	18.67	18.53	20
20	256QAM	1	49	18.51	18.46	18.39	
20	256QAM	1	99	18.49	18.51	18.38	
20	256QAM	50	0	18.44	18.51	18.37	20
20	256QAM	50	24	18.48	18.35	18.37	
20	256QAM	50	50	18.43	18.34	18.41	
20	256QAM	100	0	18.47	18.39	18.41	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	23.41	23.44	23.32	25
15	QPSK	1	37	23.40	23.35	23.30	

15	QPSK	1	74	23.30	23.22	23.15	
15	QPSK	36	0	22.54	22.46	22.37	24
15	QPSK	36	20	22.52	22.43	22.36	
15	QPSK	36	39	22.48	22.43	22.36	
15	QPSK	75	0	22.54	22.56	22.35	
15	16QAM	1	0	22.68	22.61	22.53	24
15	16QAM	1	37	22.75	22.71	22.63	
15	16QAM	1	74	22.61	22.54	22.47	
15	16QAM	36	0	21.45	21.47	21.37	23
15	16QAM	36	20	21.57	21.42	21.37	
15	16QAM	36	39	21.46	21.42	21.41	
15	16QAM	75	0	21.55	21.46	21.37	
15	64QAM	1	0	21.60	21.54	21.42	23
15	64QAM	1	37	21.62	21.61	21.52	
15	64QAM	1	74	21.50	21.44	21.35	
15	64QAM	36	0	20.43	20.45	20.37	22
15	64QAM	36	20	20.55	20.45	20.37	
15	64QAM	36	39	20.48	20.40	20.40	
15	64QAM	75	0	20.54	20.41	20.37	
15	256QAM	1	0	18.16	18.55	18.33	20
15	256QAM	1	37	18.32	18.31	18.21	
15	256QAM	1	74	18.32	18.34	18.19	
15	256QAM	36	0	18.29	18.36	18.19	20
15	256QAM	36	20	18.34	18.25	18.20	
15	256QAM	36	39	18.25	18.19	18.25	
15	256QAM	75	0	18.28	18.23	18.21	
Channel				133172	133297	133422	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	23.42	23.45	23.32	25
10	QPSK	1	25	23.40	23.36	23.29	
10	QPSK	1	49	23.30	23.21	23.14	
10	QPSK	25	0	22.53	22.48	22.38	24
10	QPSK	25	12	22.51	22.41	22.36	
10	QPSK	25	25	22.49	22.42	22.35	
10	QPSK	50	0	22.54	22.56	22.36	
10	16QAM	1	0	22.68	22.59	22.54	24
10	16QAM	1	25	22.77	22.69	22.63	
10	16QAM	1	49	22.61	22.56	22.47	
10	16QAM	25	0	21.43	21.48	21.36	23
10	16QAM	25	12	21.57	21.43	21.37	
10	16QAM	25	25	21.46	21.41	21.41	
10	16QAM	50	0	21.53	21.45	21.38	
10	64QAM	1	0	21.60	21.53	21.41	23
10	64QAM	1	25	21.64	21.62	21.54	
10	64QAM	1	49	21.50	21.43	21.33	
10	64QAM	25	0	20.42	20.46	20.39	22
10	64QAM	25	12	20.56	20.45	20.38	
10	64QAM	25	25	20.47	20.40	20.39	
10	64QAM	50	0	20.56	20.40	20.37	
10	256QAM	1	0	18.15	18.54	18.34	20
10	256QAM	1	25	18.31	18.27	18.20	
10	256QAM	1	49	18.36	18.31	18.20	
10	256QAM	25	0	18.25	18.31	18.24	20
10	256QAM	25	12	18.34	18.25	18.26	
10	256QAM	25	25	18.23	18.24	18.24	
10	256QAM	50	0	18.30	18.21	18.23	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	23.40	23.43	23.32	25
5	QPSK	1	12	23.38	23.35	23.30	
5	QPSK	1	24	23.31	23.22	23.15	
5	QPSK	12	0	22.53	22.48	22.39	24
5	QPSK	12	7	22.50	22.43	22.35	

5	QPSK	12	13	22.49	22.43	22.37	
5	QPSK	25	0	22.52	22.58	22.35	
5	16QAM	1	0	22.67	22.59	22.55	24
5	16QAM	1	12	22.75	22.70	22.62	
5	16QAM	1	24	22.60	22.55	22.47	
5	16QAM	12	0	21.44	21.47	21.37	23
5	16QAM	12	7	21.57	21.44	21.37	
5	16QAM	12	13	21.45	21.42	21.42	
5	16QAM	25	0	21.53	21.45	21.38	
5	64QAM	1	0	21.62	21.53	21.41	23
5	64QAM	1	12	21.63	21.60	21.53	
5	64QAM	1	24	21.51	21.43	21.34	
5	64QAM	12	0	20.44	20.47	20.37	22
5	64QAM	12	7	20.54	20.43	20.37	
5	64QAM	12	13	20.47	20.40	20.40	
5	64QAM	25	0	20.56	20.41	20.39	
5	256QAM	1	0	18.19	18.47	18.42	20
5	256QAM	1	12	18.40	18.29	18.23	
5	256QAM	1	24	18.38	18.33	18.27	
5	256QAM	12	0	18.30	18.35	18.20	20
5	256QAM	12	7	18.28	18.22	18.20	
5	256QAM	12	13	18.23	18.18	18.26	
5	256QAM	25	0	18.30	18.25	18.21	

<LTE Band 71_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	23.21	23.30	23.14	23.5
20	QPSK	1	49	23.01	23.21	23.08	
20	QPSK	1	99	22.91	23.10	22.93	
20	QPSK	50	0	22.11	22.28	22.15	22.5
20	QPSK	50	24	22.11	22.23	22.06	
20	QPSK	50	50	22.11	22.23	22.11	
20	QPSK	100	0	22.11	22.26	22.14	
20	16QAM	1	0	22.30	22.49	22.38	23.5
20	16QAM	1	49	22.42	22.57	22.39	
20	16QAM	1	99	22.22	22.40	22.28	
20	16QAM	50	0	21.11	21.30	21.14	21.5
20	16QAM	50	24	21.13	21.26	21.12	
20	16QAM	50	50	21.11	21.25	21.09	
20	16QAM	100	0	21.04	21.23	21.06	
20	64QAM	1	0	21.08	21.23	21.11	21.5
20	64QAM	1	49	21.14	21.24	21.13	
20	64QAM	1	99	21.11	21.24	21.07	
20	64QAM	50	0	21.07	21.26	21.09	22.5
20	64QAM	50	24	21.05	21.25	21.07	
20	64QAM	50	50	21.08	21.23	21.11	
20	64QAM	100	0	21.04	21.23	21.03	
20	256QAM	1	0	18.07	18.47	18.33	18.5
20	256QAM	1	49	18.31	18.26	18.19	
20	256QAM	1	99	18.29	18.31	18.18	
20	256QAM	50	0	18.24	18.30	18.17	18.5
20	256QAM	50	24	18.28	18.15	18.12	
20	256QAM	50	50	18.23	18.14	18.21	
20	256QAM	100	0	18.27	18.19	18.20	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	23.10	23.14	22.98	23.5
15	QPSK	1	37	22.84	23.05	22.95	
15	QPSK	1	74	22.80	22.99	22.74	
15	QPSK	36	0	21.93	22.16	21.95	22.5
15	QPSK	36	20	21.97	22.11	21.95	
15	QPSK	36	39	22.01	22.10	21.95	
15	QPSK	75	0	21.95	22.08	21.98	
15	16QAM	1	0	22.17	22.35	22.27	23.5
15	16QAM	1	37	22.28	22.47	22.28	
15	16QAM	1	74	22.08	22.20	22.10	
15	16QAM	36	0	20.92	21.11	21.00	21.5
15	16QAM	36	20	20.93	21.09	20.93	
15	16QAM	36	39	21.01	21.10	20.97	
15	16QAM	75	0	20.93	21.10	20.92	
15	64QAM	1	0	20.98	21.04	20.97	21.5
15	64QAM	1	37	21.04	21.07	20.98	
15	64QAM	1	74	20.98	21.13	20.96	
15	64QAM	36	0	20.95	21.08	20.89	22.5
15	64QAM	36	20	20.94	21.08	20.89	
15	64QAM	36	39	20.89	21.13	21.01	
15	64QAM	75	0	20.87	21.10	20.89	
15	256QAM	1	0	17.90	18.28	18.23	18.5
15	256QAM	1	37	18.18	18.14	18.05	
15	256QAM	1	74	18.16	18.11	18.04	
15	256QAM	36	0	18.04	18.19	18.03	18.5
15	256QAM	36	20	18.13	17.95	17.93	

15	256QAM	36	39	18.04	18.02	18.09	
15	256QAM	75	0	18.12	18.07	18.04	
Channel				133172	133297	133422	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	23.09	23.10	23.03	23.5
10	QPSK	1	25	22.90	23.02	22.97	
10	QPSK	1	49	22.72	22.95	22.80	
10	QPSK	25	0	21.95	22.08	22.01	22.5
10	QPSK	25	12	21.98	22.13	21.91	
10	QPSK	25	25	22.00	22.08	21.92	
10	QPSK	50	0	22.01	22.09	21.96	
10	16QAM	1	0	22.17	22.33	22.20	23.5
10	16QAM	1	25	22.32	22.43	22.20	
10	16QAM	1	49	22.03	22.22	22.11	
10	16QAM	25	0	20.99	21.17	20.95	21.5
10	16QAM	25	12	21.02	21.11	20.95	
10	16QAM	25	25	20.97	21.06	20.99	
10	16QAM	50	0	20.94	21.03	20.88	
10	64QAM	1	0	20.92	21.03	20.94	21.5
10	64QAM	1	25	20.94	21.12	21.02	
10	64QAM	1	49	20.99	21.14	20.93	
10	64QAM	25	0	20.97	21.07	20.92	22.5
10	64QAM	25	12	20.86	21.11	20.93	
10	64QAM	25	25	20.96	21.08	20.96	
10	64QAM	50	0	20.94	21.04	20.93	
10	256QAM	1	0	17.95	18.28	18.16	18.5
10	256QAM	1	25	18.20	18.09	18.03	
10	256QAM	1	49	18.10	18.14	18.00	
10	256QAM	25	0	18.05	18.11	17.98	18.5
10	256QAM	25	12	18.17	17.95	17.93	
10	256QAM	25	25	18.10	18.01	18.01	
10	256QAM	50	0	18.16	18.09	18.05	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	23.06	23.15	22.94	23.5
5	QPSK	1	12	22.82	23.02	22.97	
5	QPSK	1	24	22.73	22.99	22.79	
5	QPSK	12	0	21.98	22.15	21.97	22.5
5	QPSK	12	7	21.91	22.10	21.88	
5	QPSK	12	13	21.98	22.05	21.94	
5	QPSK	25	0	21.96	22.13	21.97	
5	16QAM	1	0	22.14	22.37	22.19	23.5
5	16QAM	1	12	22.27	22.44	22.25	
5	16QAM	1	24	22.05	22.21	22.11	
5	16QAM	12	0	21.00	21.12	20.95	21.5
5	16QAM	12	7	21.00	21.09	21.00	
5	16QAM	12	13	20.92	21.08	20.96	
5	16QAM	25	0	20.94	21.13	20.92	
5	64QAM	1	0	20.98	21.13	20.97	21.5
5	64QAM	1	12	21.02	21.08	21.00	
5	64QAM	1	24	20.96	21.09	20.88	
5	64QAM	12	0	20.97	21.15	20.90	22.5
5	64QAM	12	7	20.89	21.14	20.96	
5	64QAM	12	13	20.89	21.03	20.95	
5	64QAM	25	0	20.86	21.10	20.87	
5	256QAM	1	0	17.89	18.30	18.21	18.5
5	256QAM	1	12	18.13	18.10	18.06	
5	256QAM	1	24	18.18	18.18	18.03	
5	256QAM	12	0	18.06	18.19	17.99	18.5
5	256QAM	12	7	18.15	17.97	17.99	
5	256QAM	12	13	18.08	17.94	18.06	
5	256QAM	25	0	18.10	18.03	18.04	

<FR1 n7_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				504000	507000	510000	
Frequency (MHz)				2520	2535	2550	
40	PI/2 BPSK	108	54	14.88	14.91	14.90	15.5

<FR1 n7_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				504000	507000	510000	
Frequency (MHz)				2520	2535	2550	
40	PI/2 BPSK	1	1	16.44	16.43	16.52	17.5

<FR1 n12_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				141300	141500	141700	
Frequency (MHz)				706.5	707.5	708.5	
15	PI/2 BPSK	36	22	22.17	22.19	22.18	22.5

<FR1 n13_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					156400		
Frequency (MHz)					782		
10	PI/2 BPSK	25	14		23.46		23.5

<FR1 n14_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					158600		
Frequency (MHz)					793		
10	PI/2 BPSK	1	1		23.82		24.0

<FR1 n25_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				374000	376500	379000	
Frequency (MHz)				1870	1882.5	1895	
40	PI/2 BPSK	108	54	16.98	16.89	16.95	18.0

<FR1 n25_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				374000	376500	379000	
Frequency (MHz)				1870	1882.5	1895	
40	PI/2 BPSK	108	54	17.88	18.66	17.85	19.0

<FR1 n26_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				164800	166300	167800	
Frequency (MHz)				824	831.5	839	
20	PI/2 BPSK	50	28	23.60	23.54	23.56	24.5

<FR1 n30_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					462000		
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		16.28		16.5

<FR1 n30_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					462000		
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		16.05		17.0

<FR1 n41_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	135	69	13.15	13.21	13.40	14.5

<FR1 n41_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	15.48	15.51	15.44	16.5

<FR1 n41_Ant MIMO 1_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	15.22	15.02	15.05	16.0

<FR1 n41_Ant Aux_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	12.76	12.79	12.64	13.5

<FR1 n48_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				638000	641666	645332	
Frequency (MHz)				3570	3624.99	3679.98	
40	PI/2 BPSK	50	28	15.21	15.15	15.16	15.5

<FR1 n48_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				638000	641666	645332	
Frequency (MHz)				3570	3624.99	3679.98	
40	PI/2 BPSK	1	1	13.92	13.98	13.97	14.5

<FR1 n48_Ant MIMO 1_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				638000	641666	645332	
Frequency (MHz)				3570	3624.99	3679.98	
40	PI/2 BPSK	1	1	8.51	8.59	8.58	9.5

<FR1 n48_Ant Aux_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				638000	641666	645332	
Frequency (MHz)				3570	3624.99	3679.98	
40	PI/2 BPSK	1	1	18.04	18.02	18.16	18.5

<FR1 n66_Ant Main_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	23.48	23.60	23.55	25.0
40	PI/2 BPSK	1	108	23.48	23.55	23.46	
40	PI/2 BPSK	1	214	23.46	23.46	23.47	
40	PI/2 BPSK	108	0	23.13	23.17	23.21	24.5
40	PI/2 BPSK	108	54	23.43	23.53	23.52	25.0
40	PI/2 BPSK	108	108	23.08	23.15	23.15	24.5
40	PI/2 BPSK	216	0	23.05	23.15	23.14	
40	QPSK	1	1	23.48	23.37	23.52	25.0
40	QPSK	1	108	23.51	23.48	23.56	
40	QPSK	1	214	23.51	23.52	23.55	
40	QPSK	108	0	22.62	22.67	22.74	24.0
40	QPSK	108	54	23.42	23.46	23.54	25.0
40	QPSK	108	108	22.60	22.63	22.70	24.0
40	QPSK	216	0	22.58	22.60	22.66	
40	16QAM	1	1	22.61	22.57	22.79	24.0
40	64QAM	1	1	20.93	20.96	21.16	22.5
40	256QAM	1	1	19.17	19.23	19.21	20.5
Channel				345500	349000	352500	Tune-up limit (dBm)
Frequency (MHz)				1727.5	1745	1762.5	
35	PI/2 BPSK	1	1	23.46	23.57	23.52	25.0
Channel				345000	349000	353000	Tune-up limit (dBm)
Frequency (MHz)				1725	1745	1765	
30	PI/2 BPSK	1	1	23.44	23.57	23.51	25.0
Channel				344500	349000	353500	Tune-up limit (dBm)
Frequency (MHz)				1722.5	1745	1767.5	
25	PI/2 BPSK	1	1	23.44	23.56	23.51	25.0
Channel				344000	349000	354000	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	23.42	23.54	23.51	25.0
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	23.46	23.58	23.53	25.0
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	23.45	23.56	23.52	25.0
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	23.46	23.58	23.53	25.0

<FR1 n66_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	17.59	17.60	17.52	18.0
40	PI/2 BPSK	1	108	17.26	17.36	17.17	
40	PI/2 BPSK	1	214	16.38	16.85	16.39	
40	PI/2 BPSK	108	0	17.48	17.59	17.45	18.0
40	PI/2 BPSK	108	54	17.42	17.59	17.45	18.0
40	PI/2 BPSK	108	108	16.39	16.50	16.40	18.0
40	PI/2 BPSK	216	0	16.70	16.87	16.70	
40	QPSK	1	1	17.35	17.51	17.35	18.0
40	QPSK	1	108	17.17	17.33	17.16	
40	QPSK	1	214	16.61	16.75	16.58	
40	QPSK	108	0	17.47	17.59	17.42	18.0
40	QPSK	108	54	17.45	17.57	17.40	18.0
40	QPSK	108	108	16.21	16.37	16.17	18.0
40	QPSK	216	0	16.71	16.83	16.63	
40	16QAM	1	1	17.23	17.42	17.31	18.0
40	64QAM	1	1	17.26	17.41	17.31	18.0
40	256QAM	1	1	17.37	17.55	17.41	18.0
Channel				345500	349000	352500	Tune-up limit (dBm)
Frequency (MHz)				1727.5	1745	1762.5	
35	PI/2 BPSK	1	1	17.40	17.44	17.39	18.0
Channel				345000	349000	353000	Tune-up limit (dBm)
Frequency (MHz)				1725	1745	1765	
30	PI/2 BPSK	1	1	17.39	17.40	17.39	18.0
Channel				344500	349000	353500	Tune-up limit (dBm)
Frequency (MHz)				1722.5	1745	1767.5	
25	PI/2 BPSK	1	1	17.49	17.48	17.34	18.0
Channel				344000	349000	354000	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	17.47	17.43	17.37	18.0
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	17.45	17.45	17.39	18.0
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	17.45	17.48	17.39	18.0
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	17.48	17.42	17.38	18.0

<FR1 n66_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	17.14	17.18	17.17	18.0

<FR1 n71_Ant Main_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	24.23	24.30	24.28	25.0
20	PI/2 BPSK	1	53	24.15	23.80	24.05	
20	PI/2 BPSK	1	104	23.95	23.78	23.81	
20	PI/2 BPSK	50	0	23.73	23.77	23.50	24.5
20	PI/2 BPSK	50	28	24.04	24.18	23.99	25.0
20	PI/2 BPSK	50	56	23.73	23.55	23.59	24.5
20	PI/2 BPSK	100	0	23.75	23.76	23.58	
20	QPSK	1	1	24.16	24.19	24.19	25.0
20	QPSK	1	53	24.14	24.01	24.10	
20	QPSK	1	104	23.95	23.93	23.90	
20	QPSK	50	0	23.24	23.31	23.09	24.0
20	QPSK	50	28	24.17	24.02	23.97	25.0
20	QPSK	50	56	23.23	23.02	22.98	24.0
20	QPSK	100	0	23.27	23.12	23.05	
20	16QAM	1	1	23.23	23.25	23.50	24.0
20	64QAM	1	1	21.90	21.80	21.59	22.5
20	256QAM	1	1	19.54	19.71	19.42	20.5
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	1	24.05	24.13	24.13	25.0
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	24.07	24.18	24.12	25.0
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	24.11	24.17	24.14	25.0

<FR1 n71_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	22.62	22.73	22.54	23.0
20	PI/2 BPSK	1	53	22.55	22.70	22.55	
20	PI/2 BPSK	1	104	22.32	22.47	22.33	
20	PI/2 BPSK	50	0	22.52	22.65	22.52	23.0
20	PI/2 BPSK	50	28	22.46	22.61	22.41	23.0
20	PI/2 BPSK	50	56	22.44	22.57	22.37	23.0
20	PI/2 BPSK	100	0	22.44	22.59	22.46	
20	QPSK	1	1	22.53	22.67	22.48	23.0
20	QPSK	1	53	22.37	22.52	22.41	
20	QPSK	1	104	22.30	22.48	22.34	
20	QPSK	50	0	22.53	22.71	22.55	23.0
20	QPSK	50	28	22.53	22.70	22.57	23.0
20	QPSK	50	56	22.43	22.56	22.36	23.0
20	QPSK	100	0	22.44	22.60	22.46	
20	16QAM	1	1	22.51	22.70	22.57	23.0
20	64QAM	1	1	21.53	21.72	21.52	23.0
20	256QAM	1	1	21.01	21.03	21.02	23.0
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	1	22.36	22.46	22.38	23.0
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	22.43	22.45	22.40	23.0
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	22.40	22.43	22.42	23.0

<FR1 n77_Ant Main_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		
Frequency (MHz)					3499.98		
100	PI/2 BPSK	135	69		13.86		15.0

<FR1 n77_Ant MIMO 2_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		
Frequency (MHz)					3499.98		
100	PI/2 BPSK	135	69		13.90		14.5

<FR1 n77_Ant MIMO 1_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		
Frequency (MHz)					3499.98		
100	PI/2 BPSK	135	69		7.87		9.0

<FR1 n77_Ant Aux_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		16.65		17.5

11. UL Carrier aggregation

<LTE UL carrier aggregation>

CA_48C_MIMO2_Sensor OFF										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	20.37	22
55830	55632	QPSK	1	0	1	99	2	0	20.52	22
56150	55952	QPSK	1	0	1	99	2	0	20.33	22
56640	56442	QPSK	1	0	1	99	2	0	20.32	22

CA_48C_MIMO2_ Sensor ON										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	14.52	15.5
55830	55632	QPSK	1	0	1	99	2	0	14.93	15.5
56150	55952	QPSK	1	0	1	99	2	0	14.72	15.5
56640	56442	QPSK	1	0	1	99	2	0	14.7	15.5

12. 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 WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   c. 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 = 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 ≥0.8W/kg.

12.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	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)
1	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9400	1880	Sample 1	17.10	17.50	1.096	0.06	1.030	1.129
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9262	1852.4	Sample 1	17.01	17.50	1.119	-0.08	0.945	1.058
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9538	1907.6	Sample 1	17.03	17.50	1.114	-0.03	0.944	1.052
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	24mm	OFF	9400	1880	Sample 1	23.53	25.00	1.403	0.08	0.150	0.210
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9400	1880	Sample 2	17.10	17.50	1.096	-0.04	0.862	0.945
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9262	1852.4	Sample 2	17.01	17.50	1.119	-0.04	0.773	0.865
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9538	1907.6	Sample 2	17.03	17.50	1.114	-0.05	0.924	1.030
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9400	1880	Sample 3	17.10	17.50	1.096	-0.16	0.902	0.989
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9262	1852.4	Sample 3	17.01	17.50	1.119	-0.11	0.869	0.973
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9538	1907.6	Sample 3	17.03	17.50	1.114	-0.15	0.938	1.045
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9400	1880	Sample 4	17.10	17.50	1.096	-0.06	0.845	0.927
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9262	1852.4	Sample 4	17.01	17.50	1.119	-0.02	0.830	0.929
	WCDMA II_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	9538	1907.6	Sample 4	17.03	17.50	1.114	0	0.924	1.030
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1413	1732.6	Sample 1	16.69	17.00	1.074	0	0.857	0.920
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1312	1712.4	Sample 1	16.64	17.00	1.086	-0.07	0.795	0.864
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1513	1752.6	Sample 1	16.68	17.00	1.076	-0.04	0.837	0.901
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	24mm	OFF	1413	1732.6	Sample 1	23.42	25.00	1.439	0.03	0.290	0.417
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1413	1732.6	Sample 2	16.69	17.00	1.074	0.03	0.774	0.831
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1312	1712.4	Sample 2	16.64	17.00	1.086	0	0.785	0.853
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1513	1752.6	Sample 2	16.68	17.00	1.076	-0.01	0.729	0.785
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1413	1732.6	Sample 3	16.69	17.00	1.074	-0.07	0.913	0.981
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1312	1712.4	Sample 3	16.64	17.00	1.086	-0.09	0.871	0.946
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1513	1752.6	Sample 3	16.68	17.00	1.076	-0.1	0.905	0.974
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1413	1732.6	Sample 4	16.69	17.00	1.074	-0.02	0.993	1.066
2	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1312	1712.4	Sample 4	16.64	17.00	1.086	0.02	1.050	1.141
	WCDMA IV_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	1513	1752.6	Sample 4	16.68	17.00	1.076	-0.06	0.903	0.972
	WCDMA V_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	4132	826.4	Sample 2	22.79	24.00	1.321	0.05	0.839	1.109
	WCDMA V_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	4182	836.4	Sample 2	22.84	24.00	1.306	0.06	0.863	1.127
3	WCDMA V_Ant Main	RMC 12.2Kbps	Bottom Side	0mm	ON	4233	846.6	Sample 2	22.82	24.00	1.312	-0.02	0.894	1.173

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	21100	2535	Sample 4	13.84	15.00	1.306			-0.07	0.323	0.422
4	LTE Band 7_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	21350	2560	Sample 4	16.25	17.00	1.189			-0.15	0.911	1.083
	LTE Band 7_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	20850	2510	Sample 4	16.21	17.00	1.199			0.01	0.799	0.958
	LTE Band 7_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	21100	2535	Sample 4	16.28	17.00	1.180			0.02	0.895	1.056
	LTE Band 12_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	23095	707.5	Sample 1	22.75	23.00	1.059			0.01	0.930	0.985
	LTE Band 12_Ant Main	10M	QPSK	25	0	Bottom Side	0mm	ON	23095	707.5	Sample 1	21.77	22.00	1.054			0.09	0.764	0.806
	LTE Band 12_Ant Main	10M	QPSK	50	0	Bottom Side	0mm	ON	23095	707.5	Sample 1	21.56	22.00	1.107			0.04	0.722	0.799
	LTE Band 12_Ant Main	10M	QPSK	1	0	Bottom Side	24mm	OFF	23095	707.5	Sample 1	23.45	25.00	1.429			-0.08	0.083	0.119
	LTE Band 12_Ant Main	10M	QPSK	25	0	Bottom Side	24mm	OFF	23095	707.5	Sample 1	22.47	24.00	1.422			0.1	0.067	0.095
	LTE Band 12_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	23095	707.5	Sample 2	22.75	23.00	1.059			0.03	1.080	1.144
5	LTE Band 12_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	23095	707.5	Sample 3	22.75	23.00	1.059			0.03	1.090	1.155
	LTE Band 12_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	23095	707.5	Sample 4	22.75	23.00	1.059			0.12	0.997	1.056
6	LTE Band 13_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	23230	782	Sample 4	22.47	23.50	1.268			-0.11	0.902	1.143
7	LTE Band 14_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	23330	793	Sample 4	22.42	23.50	1.282			-0.08	0.873	1.119
8	LTE Band 25_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	26590	1905	Sample 3	17.95	18.50	1.135			-0.02	1.050	1.192
	LTE Band 25_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	26140	1860	Sample 3	17.97	18.50	1.130			0.04	1.050	1.186
	LTE Band 25_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	26340	1880	Sample 3	18.04	18.50	1.112			0.05	1.040	1.156
	LTE Band 25_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	26340	1880	Sample 1	18.31	18.50	1.045			0.11	1.130	1.181
	LTE Band 25_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	26140	1860	Sample 1	18.31	18.50	1.045			0.06	1.120	1.170
	LTE Band 25_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	26590	1905	Sample 1	18.33	18.50	1.040			0.03	1.130	1.175
9	LTE Band 26_Ant Main	15M	QPSK	1	0	Bottom Side	0mm	ON	26865	831.5	Sample 2	23.50	24.50	1.259			-0.05	0.947	1.192
	LTE Band 30_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	27710	2310	Sample 3	15.48	16.00	1.127			-0.08	1.050	1.184
10	LTE Band 30_Ant MIMO 2	10M	QPSK	1	0	Bottom Side	0mm	ON	27710	2310	Sample 4	17.31	18.00	1.172			-0.03	1.020	1.196
	LTE Band 41_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	40185	2549.5	Sample 4	15.22	16.50	1.343	62.9	1.006	0.12	0.240	0.324
	LTE Band 41_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	40185	2549.5	Sample 4	17.72	18.50	1.197	62.9	1.006	0.1	0.729	0.878
	LTE Band 41_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	39750	2506	Sample 4	17.67	18.50	1.211	62.9	1.006	0.1	0.686	0.835
	LTE Band 41_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	41055	2636.5	Sample 4	17.86	18.50	1.159	62.9	1.006	0.12	0.778	0.907
	LTE Band 41_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	41490	2680	Sample 4	17.85	18.50	1.161	62.9	1.006	0.08	0.747	0.873
11	LTE Band 41_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	40620	2593	Sample 4	17.82	18.50	1.169	62.9	1.006	-0.11	0.778	0.915
	LTE Band 42_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	42990	3540	Sample 1	17.16	18.00	1.213	62.9	1.006	0.08	0.613	0.748
12	LTE Band 42_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	42990	3540	Sample 4	16.15	16.50	1.084	62.9	1.006	0.1	1.100	1.199
	LTE Band 42_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	42190	3460	Sample 4	16.21	16.50	1.069	62.9	1.006	0.11	0.925	0.995
	LTE Band 42_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	42590	3500	Sample 4	16.10	16.50	1.096	62.9	1.006	0.07	0.999	1.102
13	LTE Band 43_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	45490	3790	Sample 4	16.15	17.00	1.216	62.9	1.006	-0.11	0.957	1.171
	LTE Band 43_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	44690	3710	Sample 4	16.08	17.00	1.236	62.9	1.006	0.15	0.927	1.153
	LTE Band 43_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	45090	3750	Sample 4	16.13	17.00	1.222	62.9	1.006	0.12	0.848	1.042
	LTE Band 48_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	56150	3641	Sample 3	17.16	17.50	1.081	62.9	1.006	0.06	0.871	0.948
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55830	3609	Sample 1	15.23	15.50	1.064	62.9	1.006	0.12	0.805	0.862
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55340	3560	Sample 1	14.73	15.50	1.194	62.9	1.006	0.09	0.862	1.035
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	56150	3641	Sample 1	15.06	15.50	1.107	62.9	1.006	0.03	0.711	0.792
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	56640	3690	Sample 1	15.05	15.50	1.109	62.9	1.006	0.1	0.656	0.732
	LTE Band 48_Ant MIMO 2	20M	QPSK	50	0	Bottom Side	0mm	ON	55830	3609	Sample 1	14.15	14.50	1.084	62.9	1.006	0.16	0.623	0.679
	LTE Band 48_Ant MIMO 2	20M	QPSK	50	0	Bottom Side	0mm	ON	55340	3560	Sample 1	13.72	14.50	1.197	62.9	1.006	0.07	0.724	0.872
	LTE Band 48_Ant MIMO 2	20M	QPSK	50	0	Bottom Side	0mm	ON	56150	3641	Sample 1	14.05	14.50	1.109	62.9	1.006	0.12	0.566	0.632
	LTE Band 48_Ant MIMO 2	20M	QPSK	50	0	Bottom Side	0mm	ON	56640	3690	Sample 1	14.11	14.50	1.094	62.9	1.006	0.11	0.526	0.579
	LTE Band 48_Ant MIMO 2	20M	QPSK	100	0	Bottom Side	0mm	ON	55340	3560	Sample 1	13.73	14.50	1.194	62.9	1.006	0.12	0.732	0.879
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	16mm	OFF	55830	3609	Sample 1	20.70	22.00	1.349	62.9	1.006	0.12	0.122	0.166
	LTE Band 48_Ant MIMO 2	20M	QPSK	50	0	Bottom Side	16mm	OFF	55830	3609	Sample 1	19.67	21.00	1.358	62.9	1.006	0.08	0.086	0.118
	LTE Band 48C_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55830+55362	3641	Sample 1	14.93	15.50	1.140	62.9	1.006	-0.04	0.799	0.917
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55830	3609	Sample 2	15.23	15.50	1.064	62.9	1.006	0.19	0.806	0.863
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55340	3560	Sample 2	14.73	15.50	1.194	62.9	1.006	0.09	0.888	1.067

	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	56150	3641	Sample 2	15.06	15.50	1.107	62.9	1.006	0.11	0.767	0.854
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	56640	3690	Sample 2	15.05	15.50	1.109	62.9	1.006	0.13	0.775	0.865
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55830	3609	Sample 3	15.23	15.50	1.064	62.9	1.006	-0.12	0.764	0.818
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55340	3560	Sample 3	14.73	15.50	1.194	62.9	1.006	-0.18	0.919	1.104
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	56150	3641	Sample 3	15.06	15.50	1.107	62.9	1.006	-0.13	0.678	0.755
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	56640	3690	Sample 3	15.05	15.50	1.109	62.9	1.006	-0.15	0.691	0.771
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55830	3609	Sample 4	15.23	15.50	1.064	62.9	1.006	0.01	0.823	0.881
14	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	55340	3560	Sample 4	14.73	15.50	1.194	62.9	1.006	0.02	0.950	1.141
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	56150	3641	Sample 4	15.06	15.50	1.107	62.9	1.006	0.13	0.770	0.857
	LTE Band 48_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	56640	3690	Sample 4	15.05	15.50	1.109	62.9	1.006	0.15	0.701	0.782
	LTE Band 66_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	132072	1720	Sample 3	17.60	18.00	1.096			0.08	1.060	1.162
15	LTE Band 66_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	132322	1745	Sample 3	17.73	18.00	1.064			0.02	1.110	1.181
	LTE Band 66_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	132572	1770	Sample 3	17.64	18.00	1.086			0.01	1.080	1.173
	LTE Band 66_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	132572	1770	Sample 1	17.59	18.00	1.099			0.12	1.000	1.099
	LTE Band 66_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	132072	1720	Sample 1	17.49	18.00	1.125			0.07	0.788	0.886
	LTE Band 66_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	132322	1745	Sample 1	17.60	18.00	1.096			-0.06	0.847	0.929
	LTE Band 71_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	133297	680.5	Sample 1	23.30	23.50	1.047			-0.04	0.814	0.852
	LTE Band 71_Ant Main	20M	QPSK	50	0	Bottom Side	0mm	ON	133297	680.5	Sample 1	22.28	22.50	1.052			0.12	0.772	0.812
	LTE Band 71_Ant Main	20M	QPSK	100	0	Bottom Side	0mm	ON	133297	680.5	Sample 1	22.26	22.50	1.057			-0.03	0.761	0.804
	LTE Band 71_Ant Main	20M	QPSK	1	0	Bottom Side	24mm	OFF	133297	680.5	Sample 1	23.51	25.00	1.409			0.08	0.096	0.135
	LTE Band 71_Ant Main	20M	QPSK	50	0	Bottom Side	24mm	OFF	133297	680.5	Sample 1	22.54	24.00	1.400			0.01	0.090	0.126
	LTE Band 71_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	133297	680.5	Sample 2	23.30	23.50	1.047			-0.02	0.959	1.004
16	LTE Band 71_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	133297	680.5	Sample 3	23.30	23.50	1.047			0.15	0.981	1.027
	LTE Band 71_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	ON	133297	680.5	Sample 4	23.30	23.50	1.047			0.06	0.869	0.910

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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_Ant Main	40M	BPSK	108	54	Bottom Side	0mm	ON	507000	2535	Sample 1	14.91	15.50	1.146	-0.02	0.390	0.447
17	FR1 n7_Ant MIMO 2	40M	BPSK	1	1	Bottom Side	0mm	ON	507000	2535	Sample 2	16.43	17.50	1.279	0.05	0.600	0.768
18	FR1 n12_Ant Main	15M	BPSK	36	22	Bottom Side	0mm	ON	141500	707.5	Sample 3	22.19	22.50	1.074	-0.12	0.835	0.897
19	FR1 n13_Ant Main	10M	BPSK	25	14	Bottom Side	0mm	ON	156400	782	Sample 4	23.46	23.50	1.009	-0.01	0.910	0.918
20	FR1 n14_Ant Main	10M	BPSK	1	1	Bottom Side	0mm	ON	158600	793	Sample 4	23.82	24.00	1.042	-0.1	0.910	0.949
	FR1 n25_Ant Main	40M	BPSK	108	54	Bottom Side	0mm	ON	376500	1882.5	Sample 4	16.89	18.00	1.291	-0.07	0.809	1.045
21	FR1 n25_Ant MIMO 2	40M	BPSK	108	54	Bottom Side	0mm	ON	376500	1882.5	Sample 1	18.66	19.00	1.081	0.04	1.090	1.179
22	FR1 n26_Ant Main	20M	BPSK	50	28	Bottom Side	0mm	ON	166300	831.5	Sample 2	23.54	24.50	1.247	-0.04	0.941	1.174
23	FR1 n30_Ant Main	10M	BPSK	1	1	Bottom Side	0mm	ON	462000	2310	Sample 3	16.28	16.50	1.052	-0.1	1.220	1.283
	FR1 n30_Ant MIMO 2	10M	BPSK	1	1	Bottom Side	0mm	ON	462000	2310	Sample 4	16.05	17.00	1.245	0.01	0.843	1.049
	FR1 n41_Ant Main	100M	BPSK	135	69	Bottom Side	0mm	ON	518598	2592.99	Sample 4	13.21	14.50	1.346	-0.06	0.266	0.358
	FR1 n41_Ant MIMO 1	100M	BPSK	1	1	Bottom Side	0mm	ON	518598	2592.99	Sample 2	15.02	16.00	1.253	0.02	0.338	0.424
24	FR1 n41_Ant MIMO 2	100M	BPSK	1	1	Bottom Side	0mm	ON	518598	2592.99	Sample 4	15.51	16.50	1.256	-0.04	0.849	1.066
	FR1 n41_Ant Aux	100M	BPSK	1	1	Bottom Side	0mm	ON	518598	2592.99	Sample 1	12.79	13.50	1.178	-0.07	0.129	0.152
	FR1 n48_Ant Main	40M	BPSK	50	28	Bottom Side	0mm	ON	641666	3624.99	Sample 3	15.15	15.50	1.084	0.11	1.040	1.127
	FR1 n48_Ant Main	40M	BPSK	50	28	Bottom Side	0mm	ON	638000	3570	Sample 3	15.21	15.50	1.069	-0.05	0.967	1.034
25	FR1 n48_Ant Main	40M	BPSK	50	28	Bottom Side	0mm	ON	645332	3679.98	Sample 3	15.16	15.50	1.081	-0.11	1.100	1.190
	FR1 n48_Ant MIMO 1	40M	BPSK	1	1	Bottom Side	0mm	ON	641666	3624.99	Sample 4	8.59	9.50	1.233	0.07	0.346	0.427
	FR1 n48_Ant MIMO 2	40M	BPSK	1	1	Bottom Side	0mm	ON	638000	3570	Sample 4	13.92	14.50	1.143	0.01	1.040	1.189
	FR1 n48_Ant MIMO 2	40M	BPSK	1	1	Bottom Side	0mm	ON	641666	3624.99	Sample 4	13.98	14.50	1.127	0.09	0.853	0.961
	FR1 n48_Ant MIMO 2	40M	BPSK	1	1	Bottom Side	0mm	ON	645332	3679.98	Sample 4	13.97	14.50	1.130	0.01	0.713	0.806
	FR1 n48_Ant Aux	40M	BPSK	1	1	Bottom Side	0mm	ON	645332	3679.98	Sample 1	18.02	18.50	1.117	0.16	0.515	0.575
	FR1 n66_Ant Main	40M	BPSK	1	1	Bottom Side	0mm	ON	349000	1745	Sample 1	17.60	18.00	1.096	0.03	0.842	0.923
	FR1 n66_Ant Main	40M	BPSK	1	1	Bottom Side	0mm	ON	346000	1730	Sample 1	17.59	18.00	1.099	-0.04	0.834	0.917
	FR1 n66_Ant Main	40M	BPSK	1	1	Bottom Side	0mm	ON	352000	1760	Sample 1	17.52	18.00	1.117	0.01	0.834	0.931
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	349000	1745	Sample 1	17.59	18.00	1.099	-0.09	0.834	0.917

26	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	346000	1730	Sample 1	17.48	18.00	1.127	0.02	0.874	0.985
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	352000	1760	Sample 1	17.45	18.00	1.135	-0.11	0.817	0.927
	FR1 n66_Ant Main	40M	BPSK	216	0	Bottom Side	0mm	ON	349000	1745	Sample 1	16.87	18.00	1.297	0.04	0.755	0.979
	FR1 n66_Ant Main	40M	BPSK	1	1	Bottom Side	24mm	OFF	349000	1745	Sample 1	23.60	25.00	1.380	0.14	0.263	0.363
	FR1 n66_Ant Main	40M	BPSK	1	1	Bottom Side	24mm	OFF	349000	1745	Sample 1	23.60	25.00	1.380	0.11	0.256	0.353
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	349000	1745	Sample 2	17.59	18.00	1.099	0.04	0.817	0.898
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	346000	1730	Sample 2	17.48	18.00	1.127	-0.12	0.793	0.894
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	352000	1760	Sample 2	17.45	18.00	1.135	-0.03	0.850	0.965
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	349000	1745	Sample 3	17.59	18.00	1.099	0.09	0.874	0.961
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	346000	1730	Sample 3	17.48	18.00	1.127	-0.1	0.825	0.930
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	352000	1760	Sample 3	17.45	18.00	1.135	-0.08	0.817	0.927
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	346000	1730	Sample 4	17.48	18.00	1.127	0.05	0.756	0.852
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	352000	1760	Sample 4	17.45	18.00	1.135	-0.09	0.746	0.847
	FR1 n66_Ant Main	40M	BPSK	108	0	Bottom Side	0mm	ON	349000	1745	Sample 4	17.59	18.00	1.099	0.07	0.787	0.865
	FR1 n66_Ant MIMO 2	40M	BPSK	1	1	Bottom Side	0mm	ON	349000	1745	Sample 1	17.18	18.00	1.208	-0.09	0.736	0.889
	FR1 n71_Ant Main	20M	BPSK	1	1	Bottom Side	0mm	ON	136100	680.5	Sample 1	22.73	23.00	1.064	0.03	0.755	0.803
	FR1 n71_Ant Main	20M	BPSK	50	0	Bottom Side	0mm	ON	136100	680.5	Sample 1	22.65	23.00	1.084	-0.08	0.839	0.909
27	FR1 n71_Ant Main	20M	BPSK	100	0	Bottom Side	0mm	ON	136100	680.5	Sample 1	22.59	23.00	1.099	0.05	0.877	0.964
	FR1 n71_Ant Main	20M	BPSK	1	1	Bottom Side	24mm	OFF	136100	680.5	Sample 1	24.30	25.00	1.175	0.14	0.091	0.107
	FR1 n71_Ant Main	20M	BPSK	50	0	Bottom Side	24mm	OFF	136100	680.5	Sample 1	23.77	24.50	1.183	-0.17	0.087	0.103
	FR1 n71_Ant Main	20M	BPSK	100	0	Bottom Side	0mm	ON	136100	680.5	Sample 2	22.59	23.00	1.099	0.08	0.818	0.899
	FR1 n71_Ant Main	20M	BPSK	100	0	Bottom Side	0mm	ON	136100	680.5	Sample 3	22.59	23.00	1.099	0.01	0.827	0.909
	FR1 n71_Ant Main	20M	BPSK	100	0	Bottom Side	0mm	ON	136100	680.5	Sample 4	22.59	23.00	1.099	0.03	0.805	0.885
	FR1 n77_Ant Main	100M	BPSK	135	69	Bottom Side	0mm	ON	633332	3499.98	Sample 2	13.86	15.00	1.300	0.02	0.516	0.671
	FR1 n77_Ant MIMO 1	100M	BPSK	135	69	Bottom Side	0mm	ON	633332	3499.98	Sample 4	7.87	9.00	1.297	0.04	0.286	0.371
28	FR1 n77_Ant MIMO 2	100M	BPSK	135	69	Bottom Side	0mm	ON	633332	3499.98	Sample 4	13.90	14.50	1.148	0.05	1.030	1.183
	FR1 n77_Ant AUX	100M	BPSK	1	1	Bottom Side	0mm	ON	633332	3499.98	Sample 1	16.65	17.50	1.216	0.05	0.472	0.574

12.2 Repeated SAR Measurement

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	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)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 7_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	21350	2560	Sample 4	16.25	17.00	1.189			-0.15	0.911	-	1.083
2nd	LTE Band 7_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	21350	2560	Sample 4	16.25	17.00	1.189			-0.07	0.904	1.01	1.074
1st	LTE Band 12_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	23095	707.5	Sample 3	22.75	23.00	1.059			0.03	1.090	-	1.155
2nd	LTE Band 12_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	ON	23095	707.5	Sample 3	22.75	23.00	1.059			-0.06	1.070	1.02	1.133
1st	LTE Band 25_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	26340	1880	Sample 1	18.31	18.50	1.045			0.11	1.130	-	1.181
2nd	LTE Band 25_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	26340	1880	Sample 1	18.31	18.50	1.045			-0.08	1.110	1.02	1.160
1st	LTE Band 26_Ant Main	15M	QPSK	1	0	Bottom Side	0mm	ON	26865	831.5	Sample 2	23.50	24.50	1.259			-0.05	0.947	-	1.192
2nd	LTE Band 26_Ant Main	15M	QPSK	1	0	Bottom Side	0mm	ON	26865	831.5	Sample 2	23.50	24.50	1.259			0.02	0.938	1.01	1.181
1st	LTE Band 42_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	42990	3540	Sample 4	16.15	16.50	1.084	62.9	1.006	0.1	1.100	-	1.199
2nd	LTE Band 42_Ant MIMO 2	20M	QPSK	1	0	Bottom Side	0mm	ON	42990	3540	Sample 4	16.15	16.50	1.084	62.9	1.006	-0.03	0.996	1.10	1.086
1st	FR1 n30_Ant Main	10M	BPSK	1	1	Bottom Side	0mm	ON	462000	2310	Sample 3	16.28	16.50	1.052			-0.1	1.220	-	1.283
2nd	FR1 n30_Ant Main	10M	BPSK	1	1	Bottom Side	0mm	ON	462000	2310	Sample 3	16.28	16.50	1.052			0.04	1.090	1.12	1.147
1st	FR1 n48_Ant Main	40M	BPSK	50	28	Bottom Side	0mm	ON	645332	3679.98	Sample 3	15.16	15.50	1.081			-0.11	1.100	-	1.190
2nd	FR1 n48_Ant Main	40M	BPSK	50	28	Bottom Side	0mm	ON	645332	3679.98	Sample 3	15.16	15.50	1.081			0.03	1.040	1.06	1.125

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

13. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN Main + WWAN MIMO 2 + WLAN Main	Yes
2.	WWAN Main + WWAN MIMO 2 + WLAN/BT Aux	Yes
3.	WWAN MIMO 1 + WLAN Main	Yes
4.	WWAN MIMO 1 + WLAN/BT Aux	Yes
5.	WWAN Aux + WLAN Main	Yes
6.	WWAN Aux + WLAN/BT Aux	Yes

General Note:

1. The MediaTek MT7925B14L WLAN/BT module (FCC ID:RAS-MT7925B14L) is integrated into this host.
2. WiFi/BT SAR of 1.59 W/kg for each transmit antenna was used conservatively for the purpose of simultaneous transmission analysis.
3. The worst case WWAN SAR is using for Sim-Tx analysis.
4. The Scaled SAR summation is calculated based on the same configuration and test position.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = (SAR1 + SAR2)^1.5 / (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.
   iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
   v) The SPLSR calculated results please refer to section 13.2.

13.1 Body Exposure Conditions

<AL Platform>

WWAN Antenna		Exposure Position	1 Max WWAN 1g SAR (W/kg)	2 Max WWAN 1g SAR (W/kg)	3 WLAN Main 1g SAR (W/kg)	4 WLAN Aux/BT 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	Case No.	1+2+3 SPLSR	Case No.	1+2+4 SPLSR
Maximum WWAN Main Antenna	Maximum WWAN MIMO2 Antenna	Bottom Side at 0mm	1.283	1.199	1.590	1.590	4.072	4.072	**Case 1**	**0.020**	**Case 2**	**0.020**
Maximum WWAN MIMO1 Antenna		Bottom Side at 0mm	0.700		1.590	1.590	2.290	2.290	**Case 3**	**0.010**	**Case 4**	**0.020**
Maximum WWAN Aux Antenna		Bottom Side at 0mm	1.038		1.590	1.590	2.628	2.628	**Case 5**	**0.020**	**Case 6**	**0.020**

<PPS Platform>

WWAN Antenna		Exposure Position	1 Max WWAN 1g SAR (W/kg)	2 Max WWAN 1g SAR (W/kg)	3 WLAN Main 1g SAR (W/kg)	4 WLAN Aux/BT 1g SAR (W/kg)	1+2+3 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	Case No.	1+2+3 SPLSR	Case No.	1+2+4 SPLSR
Maximum WWAN Main Antenna	Maximum WWAN MIMO2 Antenna	Bottom Side at 0mm	1.283	1.199	1.590	1.590	4.072	4.072	**Case 1**	**0.020**	**Case 2**	**0.020**
Maximum WWAN MIMO1 Antenna		Bottom Side at 0mm	0.700		1.590	1.590	2.290	2.290	**Case 3**	**0.010**	**Case 4**	**0.010**
Maximum WWAN Aux Antenna		Bottom Side at 0mm	1.038		1.590	1.590	2.628	2.628	**Case 5**	**0.010**	**Case 6**	**0.010**

13.2 SPLSR Evaluation and Analysis

General Note:

1. According to antenna location of Appendix D, the minimum distance between each transmit antenna is using for SPLSR analysis.
2. SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*). If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.

<AL Platform>

	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 1	Maximum WWAN Main Ant.	Bottom Side	1.283	0mm	280.0	2.48	0.01	Not required
	Maximum WWAN MIMO2 Ant.		1.199	0mm				
	Maximum WWAN Main Ant.	Bottom Side	1.283	0mm	275.0	2.87	0.02	Not required
	WLAN Main Ant.		1.59	0mm				
	Maximum WWAN MIMO2 Ant.	Bottom Side	1.199	0mm	190.0	2.79	0.02	Not required
	WLAN Main Ant.		1.59	0mm				
Case 2	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN Main Ant.	Bottom Side	1.283	0mm	280.0	2.48	0.01	Not required
	Maximum WWAN MIMO2 Ant.		1.199	0mm				
	Maximum WWAN Main Ant.	Bottom Side	1.283	0mm	220.0	2.87	0.02	Not required
	WLAN/BT Aux Ant.		1.59	0mm				
	Maximum WWAN MIMO2 Ant.	Bottom Side	1.199	0mm	240.0	2.79	0.02	Not required
	WLAN/BT Aux Ant.		1.59	0mm				
Case 3	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN MIMO1 Ant.	Bottom Side	0.7	0mm	270.0	2.29	0.01	Not required
	WLAN Main Ant.		1.59	0mm				
Case 4	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN MIMO1 Ant.	Bottom Side	0.7	0mm	225.0	2.29	0.02	Not required
	WLAN/BT Aux Ant.		1.59	0mm				
Case 5	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN Aux Ant.	Bottom Side	1.038	0mm	225.0	2.63	0.02	Not required
	WLAN Main Ant.		1.59	0mm				
Case 6	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN Aux Ant.	Bottom Side	1.038	0mm	270.0	2.63	0.02	Not required
	WLAN/BT Aux Ant.		1.59	0mm				

<PPS Platform>

	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
Case 1	Maximum WWAN Main Ant.	Bottom Side	1.283	0mm	280.0	2.48	0.01	Not required
	Maximum WWAN MIMO2 Ant.		1.199	0mm				
	Maximum WWAN Main Ant.	Bottom Side	1.283	0mm	370.0	2.87	0.01	Not required
	WLAN Main Ant.		1.59	0mm				
	Maximum WWAN MIMO2 Ant.	Bottom Side	1.199	0mm	280.0	2.79	0.02	Not required
	WLAN Main Ant.		1.59	0mm				
Case 2	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN Main Ant.	Bottom Side	1.283	0mm	280.0	2.48	0.01	Not required
	Maximum WWAN MIMO2 Ant.		1.199	0mm				
	Maximum WWAN Main Ant.	Bottom Side	1.283	0mm	300.0	2.87	0.02	Not required
	WLAN/BT Aux Ant.		1.59	0mm				
	Maximum WWAN MIMO2 Ant.	Bottom Side	1.199	0mm	360.0	2.79	0.01	Not required
	WLAN/BT Aux Ant.		1.59	0mm				
Case 3	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN MIMO1 Ant.	Bottom Side	0.7	0mm	360.0	2.29	0.01	Not required
	WLAN Main Ant.		1.59	0mm				
Case 4	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN MIMO1 Ant.	Bottom Side	0.7	0mm	300.0	2.29	0.01	Not required
	WLAN/BT Aux Ant.		1.59	0mm				
Case 5	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN Aux Ant.	Bottom Side	1.038	0mm	300.0	2.63	0.01	Not required
	WLAN Main Ant.		1.59	0mm				
Case 6	Band	Position	SAR (W/kg)	Gap (mm)	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
	Maximum WWAN Aux Ant.	Bottom Side	1.038	0mm	360.0	2.63	0.01	Not required
	WLAN/BT Aux Ant.		1.59	0mm				

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14. 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 ≤ 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. 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.

15. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] SPEAG DASY System Handbook

[5] FCC KDB 447498 D01 v06, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Oct 2015

[6] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[7] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[8] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

[9] FCC KDB 616217 D04 v01r02, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, Oct 2015

[10] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[11] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.