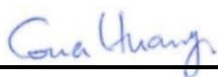


FCC SAR TEST REPORT

FCC ID : B94HNI65C4KLR
Equipment : Notebook Computer
Brand Name : HP
Model Name : HSN-I65C-4
Applicant : HP Inc.
1501 Page Mill Road, Palo Alto CA, 94304, USA
Standard : FCC 47 CFR Part 2 (2.1093)

The product was received on Sep. 22, 2025 and testing was started from Sep. 26, 2025 and completed on Oct. 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

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan

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History of this test report

Report No.	Version	Description	Issued Date
FA591806A	01	Initial issue of report	Nov. 05, 2025

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) for HP Inc., Notebook Computer, HSN-I65C-4, are as follows.

Frequency Band		Highest SAR Summary	
		Body (Separation 0mm)	
		1g SAR (W/kg)	
WCDMA	WCDMA II		0.36
WCDMA	WCDMA IV		0.51
WCDMA	WCDMA V		0.27
LTE	LTE Band 7		0.20
LTE	LTE Band 12		0.35
LTE	LTE Band 13		0.21
LTE	LTE Band 14		0.21
LTE	LTE Band 17		0.20
LTE	LTE Band 2/25		0.38
LTE	LTE Band 5/26		0.29
LTE	LTE Band 30		0.34
LTE	LTE Band 38		0.15
LTE	LTE Band 41		0.37
LTE	LTE Band 48		0.04
LTE	LTE Band 4/66		0.40
LTE	LTE Band 71		0.50
LTE	LTE Band 42		0.06
LTE	LTE Band 43		0.03
FR1	FR1 n5		0.23
FR1	FR1 n7		0.23
FR1	FR1 n12		0.37
FR1	FR1 n14		0.20
FR1	FR1 n2/n25		0.41
FR1	FR1 n26		0.33
FR1	FR1 n30		0.38
FR1	FR1 n38		0.18
FR1	FR1 n41		0.86
FR1	FR1 n48		0.08
FR1	FR1 n66		0.23
FR1	FR1 n71		0.51
FR1	FR1 n77		0.41
FR1	FR1 n78		0.07
Date of Testing:		2025/09/26 ~ 2025/10/04	

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) 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: Carlie Tsai

2. Equipment Under Test (EUT) Information

2.1 General Information

Product Feature & Specification	
Equipment Name	Notebook Computer
Brand Name	HP
Model Name	HSN-I65C-4
FCC ID	B94HNI65C4KLR
Integrated WWAN Module	Brand Name: Rolling Wireless Model Name: RW350R-GL
Integrated WLAN Module	Brand Name: Intel Model Name: BE211D2W
Integrated NFC Module	Brand Name: WNC Model Name: XRAV-1
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 ~ 3600 MHz LTE Band 43: 3600 MHz ~ 3700 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR 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 WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 5.9 GHz Band: 5850 MHz ~ 5895 MHz WLAN 6GHz Band: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC: 13.56 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN: 802.11a/b/g/n/ac/ax/be HT20/HT40/VHT20/VHT80/VHT160/HE20/HE40/HE80/HE160/EHT20/EHT40/EHT80/EHT160/EHT320 Bluetooth BR/EDR/LE NFC: ASK
EUT Stage	Production Unit
Remark: 1. There are two kinds of antenna vendor, RF exposure evaluation is selected Vendor 1 as the main test, Vendor 2 will spot check worst case found in Vendor 1 2. The device implements Intel TAS feature for SAR compliance, the validation result includes in part2 report no.: FA591806B 3. The WLAN Intel BE211D2W module is integrated into this model. The antenna is located at the top of the panel, where the distance is greater than 20 cm from the human body (refer to Section 13). SAR testing is not required. Sim-Tx analysis also not necessary, due to WWAN and WLAN antennas are not in the same location. 4. NFC (XRAV-1) transmissions do not overlap with other radio transmitters for more than 30 seconds. Therefore, per FCC KDB 447498 D01v06, additional simultaneous transmission analysis between NFC and other radios is not required.	

Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D Tx Antenna Gain (dBi) Ant5
5G NR FR1	2	1850	1910	Ant5 : 6036B0383901 (260-27594)	Vendor 1	PIFA	0.15
WCDMA/ LTE/5G NR FR1	5	824	849				-1.86
WCDMA/ LTE/5G NR FR1	8	880	915				-2.34
LTE/5G NR FR1	12	699	716				0.26
LTE	13	777	787				-0.13
LTE/5G NR FR1	14	788	798				-0.93
LTE	17	704	716				0.26
LTE	18	815	830				-1.47
LTE	19	830	845				-2.12
LTE/5G NR FR1	20	832	862				-2.18
5G NR FR1	25	1850	1915				0.15
LTE/5G NR FR1	26	814	849				-1.47
LTE/5G NR FR1	28	703	748				0.46
LTE/5G NR FR1	41	2496	2690				0.39
LTE	42	3400	3600				2.92
LTE/5G NR FR1	48	3550	3700				0.94
LTE/5G NR FR1	71	663	698				0.09
5G NR FR1	77	3300	4200				2.95
5G NR FR1	78	3300	3800				2.95
5G NR FR1	79	4400	5000				1.8

Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D Tx Antenna Gain (dBi) Ant8
WCDMA/LTE/5G NR FR1	1	1920	1980	Ant8 : 6036B0383701 (260-27596)	Vendor 1	PIFA	-2.40
WCDMA/LTE/5G NR FR1	2	1850	1910				-2.21
LTE/5G NR FR1	3	1710	1785				-2.67
WCDMA/LTE	4	1710	1755				-2.67
LTE/5G NR FR1	7	2500	2570				-3.98
LTE/5G NR FR1	25	1850	1915				-2.21
LTE/5G NR FR1	30	2305	2315				-5.28
LTE	34	2010	2025				-4.21
LTE/5G NR FR1	38	2570	2620				-3.24
LTE	39	1880	1920				-2.21
LTE/5G NR FR1	40	2300	2400				-2.58
LTE/5G NR FR1	41	2496	2690				-2.93
LTE	42	3400	3600				-3.75
LTE	43	3600	3800				-3.24
LTE/5G NR FR1	48	3550	3700				-3.8
LTE/5G NR FR1	66	1710	1780				-2.67
5G NR FR1	77	3300	4200				-2.56
5G NR FR1	78	3300	3800				-3.24
5G NR FR1	79	4400	5000				-3.27

Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D Tx Antenna Gain (dBi) Ant5
5G NR FR1	2	1850	1910	Ant5 : 6036B0385001 (81EACC15.G29)	Vendor 2	PIFA	-0.06
WCDMA/LTE/5G NR FR1	5	824	849				-3.54
WCDMA/LTE/5G NR FR1	8	880	915				-2.05
LTE/5G NR FR1	12	699	716				-1.6
LTE	13	777	787				-1.73
LTE/5G NR FR1	14	788	798				-2.4
LTE	17	704	716				-1.6
LTE	18	815	830				-3.42
LTE	19	830	845				-3.63
LTE/5G NR FR1	20	832	862				-3.63
5G NR FR1	25	1850	1915				-0.06
LTE/5G NR FR1	26	814	849				-3.36
LTE/5G NR FR1	28	703	748				-1.6
LTE/5G NR FR1	41	2496	2690				-3.54
LTE	42	3400	3600				-2.96
LTE/5G NR FR1	48	3550	3700				-1.22
LTE/5G NR FR1	71	663	698				-2.56
5G NR FR1	77	3300	4200				-1.22
5G NR FR1	78	3300	3800				-1.22
5G NR FR1	79	4400	5000				-3.01

Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D Tx Antenna Gain (dBi) Ant8
WCDMA/LTE/5G NR FR1	1	1920	1980	Ant8 : 6036B0384801 (81EACC15.G31)	Vendor 2	PIFA	-0.54
WCDMA/LTE/5G NR FR1	2	1850	1910				-0.8
LTE/5G NR FR1	3	1710	1785				-0.69
WCDMA/LTE	4	1710	1755				-1.29
LTE/5G NR FR1	7	2500	2570				0.17
LTE/5G NR FR1	25	1850	1915				-0.8
LTE/5G NR FR1	30	2305	2315				-0.27
LTE	34	2010	2025				0.15
LTE/5G NR FR1	38	2570	2620				-0.34
LTE	39	1880	1920				-0.8
LTE/5G NR FR1	40	2300	2400				-0.27
LTE/5G NR FR1	41	2496	2690				0.17
LTE	42	3400	3600				-1.68
LTE	43	3600	3800				-0.34
LTE/5G NR FR1	48	3550	3700				-0.34
LTE/5G NR FR1	66	1710	1780				-0.69
5G NR FR1	77	3300	4200				1.04
5G NR FR1	78	3300	3800				-0.34
5G NR FR1	79	4400	5000				2.2



WLAN Antenna Information									
Vendor 1	Ant. Type	PIFA			Vendor 1	Ant. Type	PIFA		
	Model No.	(Main/Tx2) 6036B0384001 (260-27593)				Model No.	(Aux/Tx1) 6036B0384201 (260-27592)		
	Peak Gain (dBi)					Peak Gain (dBi)			
	2400~2483.5MHz	1.17	5725~5850MHz	1.28		2400~2483.5MHz	-0.47	5725~5850MHz	0.93
	5150~5250MHz	1.53	5850~5895MHz	1.28		5150~5250MHz	1.05	5850~5895MHz	0.93
	5250~5350MHz	0.53	5925~7125MHz	2.11		5250~5350MHz	1.05	5925~7125MHz	1.94
	5470~5725MHz	1.28				5470~5725MHz	0.93		
Vendor 2	Ant. Type	PIFA			Vendor 2	Ant. Type	PIFA		
	Model No.	(Main/Tx2) 6036B0385201 (81EACC15.G27)				Model No.	(Aux/Tx1) 6036B0385101 (81EACC15.G28)		
	Peak Gain (dBi)					Peak Gain (dBi)			
	2400~2483.5MHz	1.94	5725~5850MHz	0.57		2400~2483.5MHz	1.63	5725~5850MHz	-0.26
	5150~5250MHz	1.17	5850~5895MHz	0.57		5150~5250MHz	-0.65	5850~5895MHz	-0.26
	5250~5350MHz	1.58	5925~7125MHz	2.28		5250~5350MHz	-0.16	5925~7125MHz	-0.93
	5470~5725MHz	0.88				5470~5725MHz	-0.5		

2.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05									
FCC ID		B94HNI65C4KLR							
Equipment Name		Notebook Computer							
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 ~ 3600 MHz LTE Band 43: 3600 MHz ~ 3700 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz							
Channel Bandwidth		LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 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.							
LTE Carrier Aggregation Combinations		Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 11.							
LTE Carrier Aggregation Additional Information		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)	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510						
M	21100	2535	21100	2535	21100	2535	21100	2535						
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560						
LTE Band 12														
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	23017	699.7	23025	700.5	23035	701.5	23060	704						
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5						
H	23173	715.3	23165	714.5	23155	713.5	23130	711						
LTE Band 13														
	Bandwidth 5 MHz				Bandwidth 10 MHz									
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)							
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)	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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
	40620	2593	40620	2593	40620	2593	40620	2593				
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 42_Part 96												
	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	43315	3552.5	43140	3555	43165	3557.5	43190	3560				
M	43340	3575	43340	3575	43340	3575	43340	3575				
H	43565	3597.5	43540	3595	43515	3592.5	43490	3590				
LTE Band 42_Part 27Q												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460				
M	42590	3500	42590	3500	42590	3500	42590	3500				
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540				
LTE Band 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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	43615	3602.5	43640	3605	43665	3607.5	43690	3610				
M	44090	3650	44090	3650	44090	3650	44090	3650				
H	44565	3697.5	44540	3695	44515	3692.5	44490	3690				

LTE Band 48												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560				
LM	55810	3607	55815	3607.5	55820	3608	55830	3609				
	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				

2.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information																		
FCC ID	B94HNI65C4KLR																	
Equipment Name	Notebook Computer																	
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 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, 25 MHz, 30MHz 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 35MHz, 40MHz, 50MHz 5G NR n12: 5MHz, 10MHz, 15MHz 5G NR n14: 5MHz, 10MHz 5G NR n25: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 40MHz, 45MHz 5G NR n26: 3MHz, 5MHz, 10MHz, 15MHz, 20MHz 5G NR n30: 5MHz, 10MHz 5G NR n38: 5MHz, 10MHz, 15MHz, 20MHz, 25MHz, 30MHz, 40MHz 5G NR n41: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n48: 5MHz, 10MHz, 15MHz, 20MHz, 30MHz, 40MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz, 30MHz, 35MHz, 40MHz, 45MHz 5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n77/n78: 10MHz, 15MHz, 20MHz, 25MHz, 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 B5/12/13																	
LTE Anchor Bands for n5	LTE B2/30/48/66																	
LTE Anchor Bands for n41	LTE B41																	
LTE Anchor Bands for n66	LTE B5/12/13/48																	
LTE Anchor Bands for n77	LTE B41																	
LTE Anchor Bands for n78	LTE B2/5/38																	
NR Band 2																		
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865						
M	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880	376000	1880						
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900	379500	1897.5	379000	1895						
NR Band 5																		
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	165300	826.5	165800	829	166300	831.5	166800	834	167300	836.5								
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5										
H	169300	846.5	168800	844	168300	841.5	167800	839										
NR Band 7																		
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 50MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	503500	2517.5	504000	2520	505000	2525
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510500	2552.5	510000	2550	509000	2545



NR Band 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 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		Bandwidth 45MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	374000	1870	374500	1872.5						
M	376500	1882.5	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	378500	1892.5						
NR Band 26																						
	Bandwidth 3MHz		Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz													
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)												
L	163100	815.5	163300	816.5	163800	819	164300	821.5	164800	824												
M	166300	831.5	166300	831.5	166300	831.5	166300	831.5	166300	831.5												
H	169500	847.5	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 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	514500	2572.5	515000	2575	515500	2577.5	516000	2580	516500	2582.5	517000	2585	518000	2590								
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595								
H	523500	2617.5	523000	2615	522500	2612.5	522000	2610	521500	2607.5	521000	2605	520000	2600								
NR Band 41																						
	Bandwidth10MHz		Bandwidth15MHz		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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	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																						
	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	636834	3552.51	637000	3555	637168	3557.52	637334	3560.01	637668	3565.02	638000	3570										
M	641666	3624.99	641666	3624.99	641666	3624.99	641666	3624.99	641666	3624.99	641666	3624.99										
H	646500	3697.5	646332	3694.98	646166	3692.49	646000	3690	645666	3684.99	645332	3679.98										
NR Band 66																						
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 35MHz		Bandwidth 40MHz		Bandwidth 45MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	345500	1727.5	346000	1730	346500	1732.5				
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745				
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352500	1762.5	352000	1760	351500	1757.5				



NR Band 71																								
	Bandwidth 5MHz				Bandwidth 10MHz				Bandwidth 15MHz				Bandwidth 20MHz											
	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_Part 270																								
	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_Part 270																								
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth 25MHz		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	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	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	652500	3787.5	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98		
NR Band 77/78_Part 27Q																								
	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	633332	3499.98		
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				
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				

3. 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

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:

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

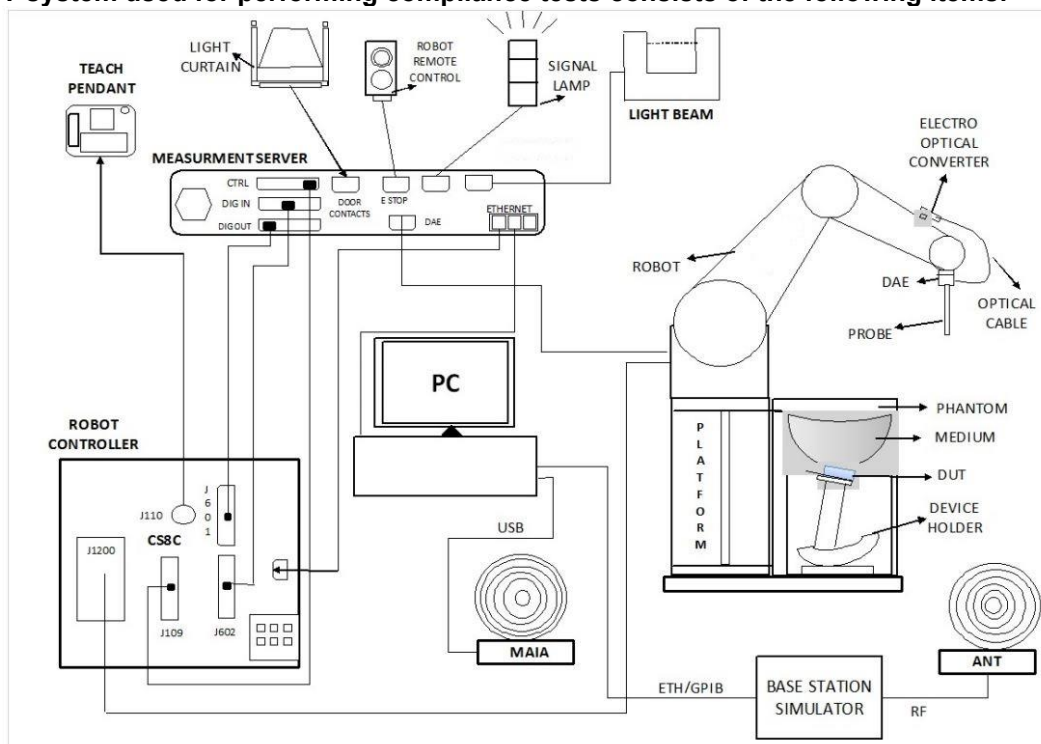
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

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.

Laboratory	EMC & Wireless Communications Laboratory		Wensan Laboratory				
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan				
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY	SAR18-HY	SAR21-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	SAR16-HY	SAR19-HY	SAR22-HY
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	SAR17-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 μ W/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 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

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 from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

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

7.4 Zoom Scan

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

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

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

7.5 Volume Scan Procedures

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

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	Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1107	Jun. 11, 2025	Jun. 10, 2026
SPEAG	835MHz System Validation Kit ⁽²⁾	D835V2	4d167	Nov. 24, 2022	Nov. 21, 2025
SPEAG	1750MHz System Validation Kit	D1750V2	1112	Feb. 20, 2025	Feb. 19, 2026
SPEAG	1900MHz System Validation Kit	D1900V2	5d185	Jun. 11, 2025	Jun. 10, 2026
SPEAG	2300MHz System Validation Kit	D2300V2	1006	Jan. 14, 2025	Jan. 13, 2026
SPEAG	2600MHz System Validation Kit ⁽²⁾	D2600V2	1008	Aug. 15, 2024	Aug. 13, 2026
SPEAG	3500MHz System Validation Kit	D3500V2	1014	Jan. 15, 2025	Jan. 14, 2026
SPEAG	3700MHz System Validation Kit	D3700V2	1006	Jun. 12, 2025	Jun. 11, 2026
SPEAG	3900MHz System Validation Kit ⁽²⁾	D3900V2	1092	May. 15, 2023	May. 12, 2026
SPEAG	Data Acquisition Electronics	DAE4	1707	Dec. 04, 2024	Dec. 03, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7625	Dec. 13, 2024	Dec. 12, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7590	Mar. 19, 2025	Mar. 18, 2026
SPEAG	Dielectric Probe Kit	DAK-3.5	1270	May. 19, 2025	May. 18, 2026
Testo	Hygro meter	608-H1	45196600	Oct. 28, 2024	Oct. 27, 2025
Testo	Hygro meter	608-H1	45207528	Oct. 28, 2024	Oct. 27, 2025
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Nov. 12, 2024	Nov. 11, 2025
Keysight	5G Wireless Test Platform	E7515B	MY59321595	Jun. 20, 2025	Jun. 19, 2026
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 24, 2025	Sep. 23, 2026
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 20, 2024	Oct. 19, 2025
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3902	Feb. 19, 2025	Feb. 18, 2026
Anritsu	Power Meter	ML2496A	2119003	Jul. 14, 2025	Jul. 13, 2026
R&S	Power Sensor	NRP8S	109687	Sep. 22, 2025	Sep. 21, 2026
Anritsu	Spectrum Analyzer	N9010A	MY53470118	Sep. 09, 2025	Sep. 08, 2026
Mini-Circuits	Power Amplifier	ZVE-8G+	D120604	Oct. 16, 2024	Oct. 15, 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°C to 25°C, 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°C to 25°C and within $\pm 2^\circ\text{C}$ 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 (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	22.5	0.931	43.8	0.89	41.9	4.61	4.53	± 10.0	2025-09-26
750	22.7	0.906	42.9	0.89	41.9	1.80	2.39	± 10.0	2025-09-27
750	22.1	0.902	42.3	0.89	41.9	1.35	0.95	± 10.0	2025-09-30
750	22.2	0.905	43.3	0.89	41.9	1.69	3.34	± 10.0	2025-10-01
835	22.5	0.96	43.6	0.9	41.5	6.67	5.06	± 10.0	2025-09-26
835	22.7	0.938	42.7	0.9	41.5	4.22	2.89	± 10.0	2025-09-27
835	22.1	0.934	42.1	0.9	41.5	3.78	1.45	± 10.0	2025-09-30
835	22.2	0.933	43.1	0.9	41.5	3.67	3.86	± 10.0	2025-10-01
1750	22.5	1.38	41.9	1.37	40.1	0.73	4.49	± 10.0	2025-09-26
1750	22.1	1.37	40.3	1.37	40.1	0.00	0.50	± 10.0	2025-09-30
1750	22.2	1.34	41.5	1.37	40.1	-2.19	3.49	± 10.0	2025-10-01
1750	22.4	1.38	40.9	1.37	40.1	0.73	2.00	± 10.0	2025-10-04
1900	22.5	1.47	41.7	1.4	40.0	5.00	4.25	± 10.0	2025-09-26
1900	22.1	1.45	40.1	1.4	40.0	3.57	0.25	± 10.0	2025-09-30
1900	22.2	1.43	41.3	1.4	40.0	2.14	3.25	± 10.0	2025-10-01
1900	22.4	1.47	40.7	1.4	40.0	5.00	1.75	± 10.0	2025-10-04
2300	22.5	1.73	41.1	1.67	39.5	3.59	4.05	± 10.0	2025-09-26
2300	22.1	1.72	39.5	1.67	39.5	2.99	0.00	± 10.0	2025-09-30
2300	22.4	1.74	40.1	1.67	39.5	4.19	1.52	± 10.0	2025-10-04
2600	22.5	1.96	40.7	1.96	39.0	0.00	4.36	± 10.0	2025-09-26
2600	22.1	1.95	39.0	1.96	39.0	-0.51	0.00	± 10.0	2025-09-30
2600	22.2	1.91	40.4	1.96	39.0	-2.55	3.59	± 10.0	2025-10-01
2600	22.5	1.93	40.5	1.96	39.0	-1.53	3.85	± 10.0	2025-10-02
2600	22.3	1.98	39.7	1.96	39.0	1.02	1.79	± 10.0	2025-10-03
2600	22.4	1.97	39.6	1.96	39.0	0.51	1.54	± 10.0	2025-10-04
3500	22.5	2.72	39.1	2.91	37.9	-6.53	3.17	± 10.0	2025-09-26
3500	22.5	2.66	39.0	2.91	37.9	-8.59	2.90	± 10.0	2025-10-02
3500	22.3	2.75	38.1	2.91	37.9	-5.50	0.53	± 10.0	2025-10-03
3500	22.4	2.74	38.0	2.91	37.9	-5.84	0.26	± 10.0	2025-10-04
3700	22.5	2.9	38.8	3.12	37.7	-7.05	2.92	± 10.0	2025-09-26
3700	22.5	2.84	38.7	3.12	37.7	-8.97	2.65	± 10.0	2025-10-02
3700	22.3	2.93	37.7	3.12	37.7	-6.09	0.00	± 10.0	2025-10-03
3900	22.5	3.03	38.4	3.33	37.51	-9.01	2.37	± 10.0	2025-10-02
3900	22.3	3.13	37.4	3.33	37.51	-6.01	-0.29	± 10.0	2025-10-03

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 (%)
SAR17	2025-09-26	750	250.00	D750V3 - 1107	EX3DV4 - SN7590	DAE4 Sn1707	2.030	8.840	8.120	-8.14	1.410	5.810	5.640	-2.93
SAR17	2025-09-27	750	250.00	D750V3 - 1107	EX3DV4 - SN7590	DAE4 Sn1707	2.050	8.840	8.200	-7.24	1.420	5.810	5.680	-2.24
SAR17	2025-09-30	750	250.00	D750V3 - 1107	EX3DV4 - SN7590	DAE4 Sn1707	2.030	8.840	8.120	-8.14	1.410	5.810	5.640	-2.93
SAR17	2025-10-01	750	250.00	D750V3 - 1107	EX3DV4 - SN7590	DAE4 Sn1707	2.040	8.840	8.160	-7.69	1.420	5.810	5.680	-2.24
SAR17	2025-09-26	835	250.00	D835V2 - 4d167	EX3DV4 - SN7590	DAE4 Sn1707	2.490	9.800	9.960	1.63	1.730	6.380	6.920	8.46
SAR17	2025-09-27	835	250.00	D835V2 - 4d167	EX3DV4 - SN7590	DAE4 Sn1707	2.390	9.800	9.560	-2.45	1.670	6.380	6.680	4.70
SAR17	2025-09-30	835	250.00	D835V2 - 4d167	EX3DV4 - SN7590	DAE4 Sn1707	2.390	9.800	9.560	-2.45	1.660	6.380	6.640	4.08
SAR17	2025-10-01	835	250.00	D835V2 - 4d167	EX3DV4 - SN7590	DAE4 Sn1707	2.390	9.800	9.560	-2.45	1.670	6.380	6.680	4.70
SAR17	2025-09-26	1750	250.00	D1750V2 - 1112	EX3DV4 - SN7590	DAE4 Sn1707	9.700	36.300	38.800	6.89	5.290	19.300	21.160	9.64
SAR17	2025-09-30	1750	250.00	D1750V2 - 1112	EX3DV4 - SN7590	DAE4 Sn1707	9.530	36.300	38.120	5.01	5.200	19.300	20.800	7.77
SAR17	2025-10-01	1750	250.00	D1750V2 - 1112	EX3DV4 - SN7590	DAE4 Sn1707	9.560	36.300	38.240	5.34	5.240	19.300	20.960	8.60
SAR17	2025-10-04	1750	50.00	D1750V2 - 1112	EX3DV4 - SN7590	DAE4 Sn1707	1.770	36.300	35.400	-2.48	1.000	19.300	20.000	3.63
SAR17	2025-09-26	1900	250.00	D1900V2 - 5d185	EX3DV4 - SN7590	DAE4 Sn1707	10.500	39.600	42.000	6.06	5.720	20.800	22.880	10.00
SAR17	2025-09-30	1900	250.00	D1900V2 - 5d185	EX3DV4 - SN7590	DAE4 Sn1707	10.400	39.600	41.600	5.05	5.710	20.800	22.840	9.81
SAR17	2025-10-01	1900	250.00	D1900V2 - 5d185	EX3DV4 - SN7590	DAE4 Sn1707	10.100	39.600	40.400	2.02	5.610	20.800	22.440	7.88
SAR17	2025-10-04	1900	50.00	D1900V2 - 5d185	EX3DV4 - SN7590	DAE4 Sn1707	2.060	39.600	41.200	4.04	1.140	20.800	22.800	9.62
SAR17	2025-09-26	2300	250.00	D2300V2 - 1006	EX3DV4 - SN7590	DAE4 Sn1707	12.600	48.200	50.400	4.56	6.320	23.200	25.280	8.97
SAR17	2025-09-30	2300	250.00	D2300V2 - 1006	EX3DV4 - SN7590	DAE4 Sn1707	12.500	48.200	50.000	3.73	6.290	23.200	25.160	8.45
SAR17	2025-10-04	2300	50.00	D2300V2 - 1006	EX3DV4 - SN7590	DAE4 Sn1707	2.530	48.200	50.600	4.98	1.270	23.200	25.400	9.48
SAR17	2025-09-26	2600	250.00	D2600V2 - 1008	EX3DV4 - SN7590	DAE4 Sn1707	14.300	55.700	57.200	2.69	6.780	25.300	27.120	7.19
SAR17	2025-09-30	2600	250.00	D2600V2 - 1008	EX3DV4 - SN7590	DAE4 Sn1707	14.100	55.700	56.400	1.26	6.740	25.300	26.960	6.56
SAR17	2025-10-01	2600	250.00	D2600V2 - 1008	EX3DV4 - SN7590	DAE4 Sn1707	14.000	55.700	56.000	0.54	6.620	25.300	26.480	4.66
SAR17	2025-10-02	2600	250.00	D2600V2 - 1008	EX3DV4 - SN7590	DAE4 Sn1707	14.200	55.700	56.800	1.97	6.690	25.300	26.760	5.77
SAR18	2025-10-03	2600	50.00	D2600V2 - 1008	EX3DV4 - SN7625	DAE4 Sn1707	2.830	55.700	56.600	1.62	1.370	25.300	27.400	8.30
SAR17	2025-10-04	2600	50.00	D2600V2 - 1008	EX3DV4 - SN7590	DAE4 Sn1707	2.870	55.700	57.400	3.05	1.370	25.300	27.400	8.30
SAR17	2025-09-26	3500	100.00	D3500V2 - 1014	EX3DV4 - SN7590	DAE4 Sn1707	6.560	65.700	65.600	-0.15	2.610	24.900	26.100	4.82
SAR18	2025-10-02	3500	50.00	D3500V2 - 1014	EX3DV4 - SN7625	DAE4 Sn1707	3.270	65.700	65.400	-0.46	1.320	24.900	26.400	6.02
SAR18	2025-10-03	3500	50.00	D3500V2 - 1014	EX3DV4 - SN7625	DAE4 Sn1707	3.300	65.700	66.000	0.46	1.350	24.900	27.000	8.43
SAR17	2025-10-04	3500	50.00	D3500V2 - 1014	EX3DV4 - SN7590	DAE4 Sn1707	3.390	65.700	67.800	3.20	1.360	24.900	27.200	9.24
SAR17	2025-09-26	3700	50.00	D3700V2 - 1006	EX3DV4 - SN7590	DAE4 Sn1707	3.520	69.900	70.400	0.72	1.360	25.600	27.200	6.25
SAR18	2025-10-02	3700	50.00	D3700V2 - 1006	EX3DV4 - SN7625	DAE4 Sn1707	3.350	69.900	67.000	-4.15	1.310	25.600	26.200	2.34
SAR18	2025-10-03	3700	50.00	D3700V2 - 1006	EX3DV4 - SN7625	DAE4 Sn1707	3.230	69.900	64.600	-7.58	1.250	25.600	25.000	-2.34
SAR18	2025-10-02	3900	50.00	D3900V2 - 1092	EX3DV4 - SN7625	DAE4 Sn1707	3.120	67.000	62.400	-6.87	1.160	23.200	23.200	0.00
SAR18	2025-10-03	3900	50.00	D3900V2 - 1092	EX3DV4 - SN7625	DAE4 Sn1707	3.210	67.000	64.200	-4.18	1.210	23.200	24.200	4.31

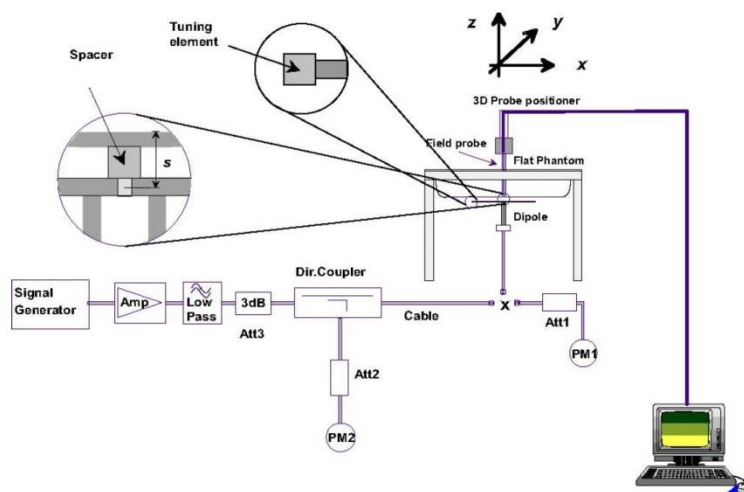


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

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

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For HSPA+ devices supporting 16 QAM in the uplink, power measurements procedure is according to the configurations in Table C.11.1.4 of 3GPP TS 34.121-1.
4. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

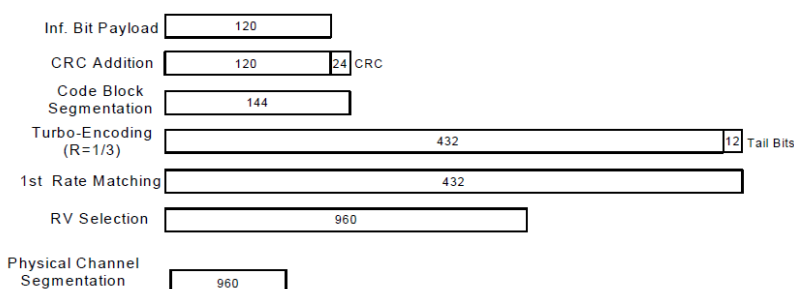
DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

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

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


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

HSPA+ 3GPP release 7 (uplink category 7) 16QAM, Setup Configuration:

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting * :
 - i. Call Configs = 5.2E:HSPA+:UL with 16QAM
 - ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.4, quoted from the TS 34.121-1 s5.2E
 - iii. Set Channel Params
 - iv. Set Cell Power = -86 dBm
 - v. Set Channel Type = HSPA
 - vi. Set UE Target Power =21 dBm
 - vii. Power Ctrl Mode= All Up Bits
 - viii. Set Manual Uplink DPCH Bc/Bd = Manual
 - ix. Set Manual Uplink DPCH Bc and Bd=15,15(for 34.121-1 v8.10.0 table C11.1.4 sub-test 1)
 - x. Set HSPA Conn DL Channel Levels
 - xi. Set HS-SCCH Configs
 - xii. Set RB Test Mode Setup
 - xiii. Set Common HSUPA Parameters
 - xiv. Set Serving Grant
 - xv. Confirm that E-TFCI is equal to the target E-TFCI of 105 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

Table C.11.1.4: β values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM

Sub-test	β_c (Note 3)	β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed1} : 30/15 β_{ed2} : 30/15	β_{ed3} : 24/15 β_{ed4} : 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$.
 Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
 Note 3: DPDCH is not configured, therefore the β_c is set to 1 and $\beta_d = 0$ by default.
 Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
 Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signaled to use the extrapolation algorithm.

Setup Configuration

<WCDMA Conducted Power>
General Note:

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

【WCDMA II_Ant 8】

TX Channel		9262	9400	9538	Tune-up Limit (dBm)
Frequency (MHz)		1852.4	1880	1907.6	
3GPP Rel 99	RMC 12.2Kbps	13.79	13.63	13.69	14.00
3GPP Rel 6	HSDPA Subtest-1	13.49	13.32	13.41	13.50
3GPP Rel 6	HSDPA Subtest-2	13.49	13.33	13.41	13.50
3GPP Rel 6	HSDPA Subtest-3	12.99	12.86	12.92	13.00
3GPP Rel 6	HSDPA Subtest-4	12.96	12.84	12.91	13.00
3GPP Rel 8	DC-HSDPA Subtest-1	13.33	13.29	13.32	13.50
3GPP Rel 8	DC-HSDPA Subtest-2	13.38	13.25	13.25	13.50
3GPP Rel 8	DC-HSDPA Subtest-3	12.77	12.77	12.77	13.00
3GPP Rel 8	DC-HSDPA Subtest-4	12.79	12.71	12.71	13.00
3GPP Rel 6	HSUPA Subtest-1	11.54	11.39	11.46	13.00
3GPP Rel 6	HSUPA Subtest-2	10.96	10.91	10.95	11.00
3GPP Rel 6	HSUPA Subtest-3	11.08	10.93	10.96	12.00
3GPP Rel 6	HSUPA Subtest-4	10.97	10.84	10.98	11.00
3GPP Rel 6	HSUPA Subtest-5	12.95	12.90	12.90	13.00
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	10.45	10.35	10.28	10.50

【WCDMA IV_Ant 8】

TX Channel		1312	1413	1513	Tune-up Limit (dBm)
Frequency (MHz)		1712.4	1732.6	1752.6	
3GPP Rel 99	RMC 12.2Kbps	14.36	14.22	14.31	15.00
3GPP Rel 6	HSDPA Subtest-1	14.24	14.14	14.25	14.50
3GPP Rel 6	HSDPA Subtest-2	14.25	14.13	14.25	14.50
3GPP Rel 6	HSDPA Subtest-3	13.79	13.68	13.77	14.00
3GPP Rel 6	HSDPA Subtest-4	13.75	13.62	13.71	14.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.20	14.09	14.05	14.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.05	14.02	14.00	14.50
3GPP Rel 8	DC-HSDPA Subtest-3	13.62	13.61	13.56	14.00
3GPP Rel 8	DC-HSDPA Subtest-4	13.59	13.55	13.56	14.00
3GPP Rel 6	HSUPA Subtest-1	12.29	12.19	12.29	14.00
3GPP Rel 6	HSUPA Subtest-2	11.79	11.68	11.81	12.00
3GPP Rel 6	HSUPA Subtest-3	11.81	11.69	11.82	13.00
3GPP Rel 6	HSUPA Subtest-4	11.82	11.70	11.83	12.00
3GPP Rel 6	HSUPA Subtest-5	13.70	13.70	13.80	14.00
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	11.36	11.32	11.26	11.50

【WCDMA V_Ant 5】

TX Channel		4132	4182	4233	Tune-up Limit (dBm)
Frequency (MHz)		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	15.77	15.66	15.67	16.50
3GPP Rel 6	HSDPA Subtest-1	15.56	15.57	15.60	16.00
3GPP Rel 6	HSDPA Subtest-2	15.65	15.57	15.59	16.00
3GPP Rel 6	HSDPA Subtest-3	15.22	15.10	15.13	15.50
3GPP Rel 6	HSDPA Subtest-4	15.16	15.08	15.10	15.50
3GPP Rel 8	DC-HSDPA Subtest-1	15.45	15.47	15.41	16.00
3GPP Rel 8	DC-HSDPA Subtest-2	15.50	15.41	15.34	16.00
3GPP Rel 8	DC-HSDPA Subtest-3	14.98	15.02	14.94	15.50
3GPP Rel 8	DC-HSDPA Subtest-4	14.96	14.98	14.85	15.50
3GPP Rel 6	HSUPA Subtest-1	13.69	13.59	13.61	15.50
3GPP Rel 6	HSUPA Subtest-2	12.48	12.54	12.49	13.50
3GPP Rel 6	HSUPA Subtest-3	13.13	13.11	13.08	14.50
3GPP Rel 6	HSUPA Subtest-4	12.04	12.05	11.97	13.50
3GPP Rel 6	HSUPA Subtest-5	15.15	15.10	15.07	15.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	12.97	12.95	12.86	13.00

<LTE Conducted Power>**General Note:**

1. A Base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion
 - b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

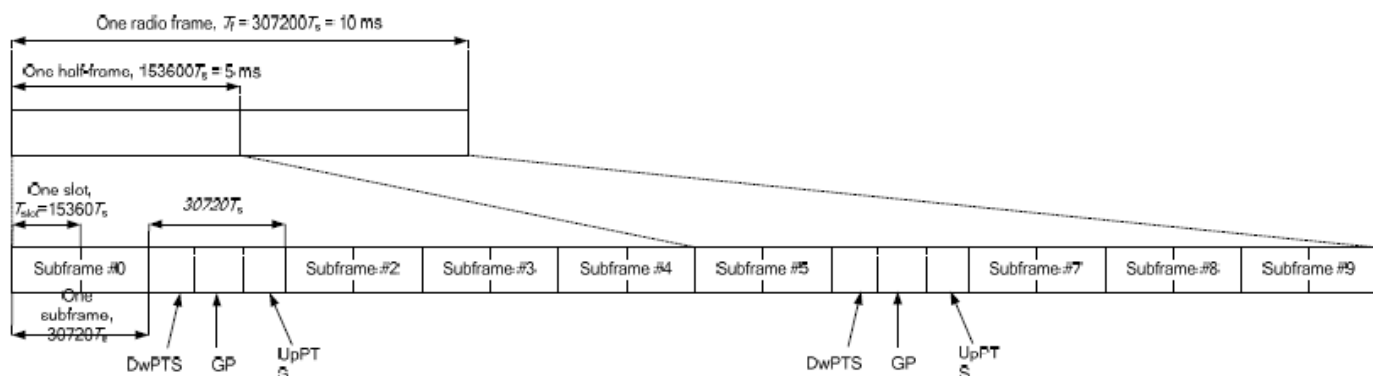


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

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

**【LTE Band 2_Ant 8】**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	Tune-up limit (dBm)
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	13.42	13.48	13.23	14.00
20	QPSK	1	49	13.31	13.41	13.22	14.00
20	QPSK	1	99	13.31	13.21	13.21	14.00
20	QPSK	50	0	13.45	13.45	13.29	14.00
20	QPSK	50	24	13.40	13.44	13.26	14.00
20	QPSK	50	50	13.39	13.40	13.26	14.00
20	QPSK	100	0	13.35	13.39	13.30	14.00
20	16QAM	1	0	13.63	13.70	13.52	14.00
20	16QAM	1	49	13.77	13.75	13.54	14.00
20	16QAM	1	99	13.62	13.55	13.54	14.00
20	16QAM	50	0	13.42	13.43	13.31	14.00
20	16QAM	50	24	13.46	13.45	13.25	14.00
20	16QAM	50	50	13.41	13.39	13.25	14.00
20	16QAM	100	0	13.39	13.39	13.28	14.00
20	64QAM	1	0	13.50	13.57	13.36	14.00
20	64QAM	1	49	13.63	13.66	13.44	14.00
20	64QAM	1	99	13.49	13.45	13.39	14.00
20	64QAM	50	0	13.40	13.43	13.30	14.00
20	64QAM	50	24	13.50	13.45	13.25	14.00
20	64QAM	50	50	13.38	13.40	13.24	14.00
20	64QAM	100	0	13.37	13.41	13.29	14.00
20	256QAM	1	0	13.23	13.47	13.11	14.00
20	256QAM	1	49	13.18	13.32	13.12	14.00
20	256QAM	1	99	13.33	13.32	13.14	14.00
20	256QAM	50	0	13.42	13.49	13.24	14.00
20	256QAM	50	24	13.26	13.56	13.24	14.00
20	256QAM	50	50	13.36	13.32	13.08	14.00
20	256QAM	100	0	13.28	13.36	13.16	14.00
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	13.34	13.40	13.13	14.00
15	QPSK	1	37	13.44	13.43	13.20	14.00
15	QPSK	1	74	13.36	13.31	13.24	14.00
15	QPSK	36	0	13.43	13.45	13.23	14.00
15	QPSK	36	20	13.41	13.41	13.23	14.00
15	QPSK	36	39	13.38	13.41	13.21	14.00
15	QPSK	75	0	13.41	13.41	13.22	14.00
15	16QAM	1	0	13.71	13.76	13.46	14.00
15	16QAM	1	37	13.79	13.77	13.53	14.00
15	16QAM	1	74	13.71	13.64	13.56	14.00
15	16QAM	36	0	13.44	13.44	13.25	14.00
15	16QAM	36	20	13.45	13.46	13.26	14.00
15	16QAM	36	39	13.41	13.42	13.25	14.00
15	16QAM	75	0	13.42	13.38	13.24	14.00
15	64QAM	1	0	13.56	13.60	13.33	14.00
15	64QAM	1	37	13.67	13.67	13.44	14.00
15	64QAM	1	74	13.59	13.54	13.44	14.00
15	64QAM	36	0	13.43	13.48	13.27	14.00
15	64QAM	36	20	13.45	13.47	13.26	14.00
15	64QAM	36	39	13.48	13.45	13.27	14.00
15	64QAM	75	0	13.43	13.43	13.23	14.00
15	256QAM	1	0	13.16	13.35	13.09	14.00
15	256QAM	1	37	13.08	13.22	13.03	14.00
15	256QAM	1	74	13.30	13.26	13.08	14.00
15	256QAM	36	0	13.30	13.45	13.17	14.00
15	256QAM	36	20	13.20	13.46	13.14	14.00
15	256QAM	36	39	13.33	13.21	12.97	14.00
15	256QAM	75	0	13.26	13.26	13.12	14.00
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	13.40	13.38	13.17	14.00
10	QPSK	1	25	13.15	13.28	13.02	14.00
10	QPSK	1	49	13.19	13.34	12.93	14.00
10	QPSK	25	0	13.22	13.38	13.15	14.00
10	QPSK	25	12	13.21	13.29	13.11	14.00
10	QPSK	25	25	13.12	13.28	13.01	14.00
10	QPSK	50	0	13.22	13.45	13.13	14.00
10	16QAM	1	0	13.51	13.49	13.26	14.00
10	16QAM	1	25	13.59	13.69	13.31	14.00
10	16QAM	1	49	13.52	13.52	13.32	14.00
10	16QAM	25	0	13.29	13.31	13.02	14.00



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10	16QAM	25	12	13.34	13.28	13.05	14.00
10	16QAM	25	25	13.21	13.36	13.05	14.00
10	16QAM	50	0	13.21	13.33	13.09	14.00
10	64QAM	1	0	13.39	13.33	13.17	14.00
10	64QAM	1	25	13.47	13.39	13.29	14.00
10	64QAM	1	49	13.39	13.49	13.21	14.00
10	64QAM	25	0	13.35	13.25	13.08	14.00
10	64QAM	25	12	13.25	13.27	13.08	14.00
10	64QAM	25	25	13.24	13.42	13.02	14.00
10	64QAM	50	0	13.25	13.31	13.11	14.00
10	256QAM	1	0	13.13	13.31	13.04	14.00
10	256QAM	1	25	13.15	13.32	13.02	14.00
10	256QAM	1	49	13.32	13.22	13.12	14.00
10	256QAM	25	0	13.38	13.49	13.16	14.00
10	256QAM	25	12	13.26	13.47	13.24	14.00
10	256QAM	25	25	13.23	13.24	13.05	14.00
10	256QAM	50	0	13.14	13.27	13.10	14.00
Channel				18625	18900	19175	Tune-up limit
Frequency (MHz)				1852.5	1880	1907.5	(dBm)
5	QPSK	1	0	13.30	13.42	13.20	14.00
5	QPSK	1	12	13.15	13.32	13.03	14.00
5	QPSK	1	24	13.14	13.26	12.98	14.00
5	QPSK	12	0	13.18	13.33	13.00	14.00
5	QPSK	12	7	13.14	13.25	13.02	14.00
5	QPSK	12	13	13.19	13.27	13.05	14.00
5	QPSK	25	0	13.22	13.29	13.16	14.00
5	16QAM	1	0	13.50	13.51	13.32	14.00
5	16QAM	1	12	13.62	13.51	13.27	14.00
5	16QAM	1	24	13.47	13.68	13.39	14.00
5	16QAM	12	0	13.23	13.25	13.08	14.00
5	16QAM	12	7	13.31	13.20	13.12	14.00
5	16QAM	12	13	13.26	13.42	13.00	14.00
5	16QAM	25	0	13.17	13.37	13.20	14.00
5	64QAM	1	0	13.39	13.29	13.13	14.00
5	64QAM	1	12	13.40	13.39	13.21	14.00
5	64QAM	1	24	13.33	13.40	13.17	14.00
5	64QAM	12	0	13.32	13.28	13.18	14.00
5	64QAM	12	7	13.23	13.35	13.08	14.00
5	64QAM	12	13	13.13	13.31	13.10	14.00
5	64QAM	25	0	13.23	13.37	13.17	14.00
5	256QAM	1	0	13.13	13.41	13.02	14.00
5	256QAM	1	12	13.19	13.36	12.93	14.00
5	256QAM	1	24	13.25	13.25	13.04	14.00
5	256QAM	12	0	13.41	13.45	13.14	14.00
5	256QAM	12	7	13.21	13.49	13.20	14.00
5	256QAM	12	13	13.20	13.22	12.99	14.00
5	256QAM	25	0	13.09	13.19	13.07	14.00
Channel				18615	18900	19185	Tune-up limit
Frequency (MHz)				1851.5	1880	1908.5	(dBm)
3	QPSK	1	0	13.32	13.36	13.11	14.00
3	QPSK	1	8	13.22	13.31	13.06	14.00
3	QPSK	1	14	13.16	13.29	13.05	14.00
3	QPSK	8	0	13.30	13.36	13.08	14.00
3	QPSK	8	4	13.15	13.27	13.15	14.00
3	QPSK	8	7	13.14	13.31	13.04	14.00
3	QPSK	15	0	13.32	13.36	13.11	14.00
3	16QAM	1	0	13.41	13.46	13.22	14.00
3	16QAM	1	8	13.62	13.62	13.29	14.00
3	16QAM	1	14	13.37	13.56	13.33	14.00
3	16QAM	8	0	13.28	13.30	13.00	14.00
3	16QAM	8	4	13.24	13.23	13.10	14.00
3	16QAM	8	7	13.19	13.38	13.07	14.00
3	16QAM	15	0	13.24	13.32	13.16	14.00
3	64QAM	1	0	13.34	13.27	13.04	14.00
3	64QAM	1	8	13.48	13.48	13.20	14.00
3	64QAM	1	14	13.34	13.48	13.34	14.00
3	64QAM	8	0	13.27	13.33	13.13	14.00
3	64QAM	8	4	13.23	13.33	13.16	14.00
3	64QAM	8	7	13.20	13.27	13.04	14.00
3	64QAM	15	0	13.21	13.42	13.01	14.00
3	256QAM	1	0	13.18	13.34	13.04	14.00
3	256QAM	1	8	13.10	13.25	13.00	14.00
3	256QAM	1	14	13.24	13.33	13.01	14.00
3	256QAM	8	0	13.37	13.46	13.20	14.00
3	256QAM	8	4	13.19	13.44	13.22	14.00
3	256QAM	8	7	13.21	13.31	13.02	14.00
3	256QAM	15	0	13.26	13.24	13.00	14.00
Channel				18607	18900	19193	Tune-up limit



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Frequency (MHz)				1850.7	1880	1909.3	(dBm)
1.4	QPSK	1	0	13.30	13.36	13.21	14.00
1.4	QPSK	1	3	13.09	13.23	13.09	14.00
1.4	QPSK	1	5	13.14	13.28	12.97	14.00
1.4	QPSK	3	0	13.21	13.32	13.04	14.00
1.4	QPSK	3	1	13.19	13.18	13.04	14.00
1.4	QPSK	3	3	13.15	13.18	12.99	14.00
1.4	QPSK	6	0	13.29	13.45	13.12	14.00
1.4	16QAM	1	0	13.53	13.54	13.36	14.00
1.4	16QAM	1	3	13.61	13.69	13.36	14.00
1.4	16QAM	1	5	13.48	13.57	13.29	14.00
1.4	16QAM	3	0	13.24	13.36	13.07	14.00
1.4	16QAM	3	1	13.26	13.28	13.11	14.00
1.4	16QAM	3	3	13.23	13.42	13.08	14.00
1.4	16QAM	6	0	13.23	13.38	13.00	14.00
1.4	64QAM	1	0	13.36	13.37	13.08	14.00
1.4	64QAM	1	3	13.47	13.39	13.25	14.00
1.4	64QAM	1	5	13.40	13.52	13.24	14.00
1.4	64QAM	3	0	13.23	13.21	13.19	14.00
1.4	64QAM	3	1	13.20	13.36	13.11	14.00
1.4	64QAM	3	3	13.22	13.34	13.04	14.00
1.4	64QAM	6	0	13.24	13.32	13.02	14.00
1.4	256QAM	1	0	13.12	13.31	13.05	14.00
1.4	256QAM	1	3	13.21	13.18	13.02	14.00
1.4	256QAM	1	5	13.32	13.25	13.11	14.00
1.4	256QAM	3	0	13.40	13.38	13.18	14.00
1.4	256QAM	3	1	13.20	13.44	13.19	14.00
1.4	256QAM	3	3	13.35	13.23	12.95	14.00
1.4	256QAM	6	0	13.23	13.27	13.11	14.00

【LTE Band 4_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	14.67	14.60	14.68	15.00
20	QPSK	1	49	14.66	14.51	14.65	15.00
20	QPSK	1	99	14.48	14.51	14.56	15.00
20	QPSK	50	0	14.71	14.66	14.70	15.00
20	QPSK	50	24	14.65	14.61	14.64	15.00
20	QPSK	50	50	14.61	14.60	14.74	15.00
20	QPSK	100	0	14.64	14.62	14.67	15.00
20	16QAM	1	0	14.98	14.81	14.84	15.00
20	16QAM	1	49	14.96	14.90	14.97	15.00
20	16QAM	1	99	14.79	14.80	14.84	15.00
20	16QAM	50	0	14.73	14.63	14.63	15.00
20	16QAM	50	24	14.66	14.61	14.65	15.00
20	16QAM	50	50	14.58	14.60	14.72	15.00
20	16QAM	100	0	14.62	14.61	14.66	15.00
20	64QAM	1	0	14.82	14.71	14.73	15.00
20	64QAM	1	49	14.83	14.76	14.88	15.00
20	64QAM	1	99	14.65	14.69	14.76	15.00
20	64QAM	50	0	14.69	14.64	14.63	15.00
20	64QAM	50	24	14.68	14.61	14.70	15.00
20	64QAM	50	50	14.60	14.61	14.72	15.00
20	64QAM	100	0	14.64	14.60	14.66	15.00
20	256QAM	1	0	14.55	14.60	14.64	15.00
20	256QAM	1	49	14.57	14.53	14.50	15.00
20	256QAM	1	99	14.47	14.52	14.55	15.00
20	256QAM	50	0	14.67	14.63	14.66	15.00
20	256QAM	50	24	14.63	14.64	14.62	15.00
20	256QAM	50	50	14.43	14.50	14.51	15.00
20	256QAM	100	0	14.48	14.48	14.54	15.00
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	14.69	14.61	14.61	15.00
15	QPSK	1	37	14.68	14.61	14.71	15.00
15	QPSK	1	74	14.54	14.55	14.63	15.00
15	QPSK	36	0	14.72	14.60	14.63	15.00
15	QPSK	36	20	14.67	14.57	14.71	15.00
15	QPSK	36	39	14.60	14.64	14.69	15.00
15	QPSK	75	0	14.67	14.61	14.72	15.00
15	16QAM	1	0	14.99	14.90	14.95	15.00
15	16QAM	1	37	14.96	14.88	14.99	15.00
15	16QAM	1	74	14.83	14.81	14.97	15.00
15	16QAM	36	0	14.71	14.62	14.72	15.00



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15	16QAM	36	20	14.69	14.57	14.71	15.00
15	16QAM	36	39	14.66	14.64	14.68	15.00
15	16QAM	75	0	14.71	14.60	14.71	15.00
15	64QAM	1	0	14.94	14.77	14.83	15.00
15	64QAM	1	37	14.84	14.77	14.89	15.00
15	64QAM	1	74	14.70	14.69	14.84	15.00
15	64QAM	36	0	14.76	14.67	14.73	15.00
15	64QAM	36	20	14.71	14.62	14.73	15.00
15	64QAM	36	39	14.67	14.66	14.72	15.00
15	64QAM	75	0	14.71	14.62	14.72	15.00
15	256QAM	1	0	14.41	14.57	14.51	15.00
15	256QAM	1	37	14.42	14.42	14.41	15.00
15	256QAM	1	74	14.33	14.44	14.47	15.00
15	256QAM	36	0	14.59	14.56	14.64	15.00
15	256QAM	36	20	14.51	14.52	14.54	15.00
15	256QAM	36	39	14.36	14.46	14.47	15.00
15	256QAM	75	0	14.36	14.41	14.49	15.00
Channel				20000	20175	20350	Tune-up limit
Frequency (MHz)				1715	1732.5	1750	(dBm)
10	QPSK	1	0	14.52	14.52	14.54	15.00
10	QPSK	1	25	14.52	14.48	14.56	15.00
10	QPSK	1	49	14.42	14.38	14.47	15.00
10	QPSK	25	0	14.67	14.53	14.55	15.00
10	QPSK	25	12	14.59	14.55	14.57	15.00
10	QPSK	25	25	14.54	14.57	14.73	15.00
10	QPSK	50	0	14.59	14.61	14.64	15.00
10	16QAM	1	0	14.89	14.73	14.77	15.00
10	16QAM	1	25	14.85	14.85	14.96	15.00
10	16QAM	1	49	14.74	14.78	14.80	15.00
10	16QAM	25	0	14.63	14.61	14.61	15.00
10	16QAM	25	12	14.58	14.54	14.61	15.00
10	16QAM	25	25	14.49	14.58	14.68	15.00
10	16QAM	50	0	14.59	14.48	14.64	15.00
10	64QAM	1	0	14.70	14.62	14.67	15.00
10	64QAM	1	25	14.74	14.73	14.86	15.00
10	64QAM	1	49	14.54	14.60	14.66	15.00
10	64QAM	25	0	14.60	14.52	14.61	15.00
10	64QAM	25	12	14.59	14.52	14.60	15.00
10	64QAM	25	25	14.45	14.46	14.65	15.00
10	64QAM	50	0	14.59	14.58	14.52	15.00
10	256QAM	1	0	14.50	14.56	14.59	15.00
10	256QAM	1	25	14.48	14.42	14.49	15.00
10	256QAM	1	49	14.39	14.49	14.47	15.00
10	256QAM	25	0	14.61	14.53	14.56	15.00
10	256QAM	25	12	14.51	14.54	14.59	15.00
10	256QAM	25	25	14.36	14.49	14.39	15.00
10	256QAM	50	0	14.45	14.35	14.45	15.00
Channel				19975	20175	20375	Tune-up limit
Frequency (MHz)				1712.5	1732.5	1752.5	(dBm)
5	QPSK	1	0	14.53	14.57	14.66	15.00
5	QPSK	1	12	14.54	14.48	14.50	15.00
5	QPSK	1	24	14.46	14.43	14.44	15.00
5	QPSK	12	0	14.61	14.55	14.67	15.00
5	QPSK	12	7	14.61	14.58	14.51	15.00
5	QPSK	12	13	14.53	14.54	14.70	15.00
5	QPSK	25	0	14.56	14.48	14.54	15.00
5	16QAM	1	0	14.93	14.71	14.79	15.00
5	16QAM	1	12	14.81	14.84	14.95	15.00
5	16QAM	1	24	14.67	14.78	14.70	15.00
5	16QAM	12	0	14.64	14.58	14.55	15.00
5	16QAM	12	7	14.61	14.53	14.56	15.00
5	16QAM	12	13	14.45	14.55	14.67	15.00
5	16QAM	25	0	14.50	14.47	14.55	15.00
5	64QAM	1	0	14.78	14.67	14.61	15.00
5	64QAM	1	12	14.79	14.69	14.84	15.00
5	64QAM	1	24	14.52	14.55	14.63	15.00
5	64QAM	12	0	14.64	14.57	14.59	15.00
5	64QAM	12	7	14.63	14.58	14.67	15.00
5	64QAM	12	13	14.50	14.46	14.57	15.00
5	64QAM	25	0	14.58	14.47	14.55	15.00
5	256QAM	1	0	14.53	14.50	14.60	15.00
5	256QAM	1	12	14.44	14.41	14.37	15.00
5	256QAM	1	24	14.39	14.42	14.49	15.00
5	256QAM	12	0	14.61	14.60	14.61	15.00
5	256QAM	12	7	14.51	14.56	14.56	15.00
5	256QAM	12	13	14.32	14.41	14.39	15.00
5	256QAM	25	0	14.44	14.39	14.45	15.00
Channel				19965	20175	20385	Tune-up limit



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Frequency (MHz)				1711.5	1732.5	1753.5	(dBm)
3	QPSK	1	0	14.58	14.46	14.66	15.00
3	QPSK	1	8	14.58	14.41	14.57	15.00
3	QPSK	1	14	14.43	14.41	14.52	15.00
3	QPSK	8	0	14.66	14.58	14.57	15.00
3	QPSK	8	4	14.52	14.55	14.49	15.00
3	QPSK	8	7	14.49	14.58	14.72	15.00
3	QPSK	15	0	14.61	14.51	14.64	15.00
3	16QAM	1	0	14.96	14.71	14.73	15.00
3	16QAM	1	8	14.89	14.79	14.88	15.00
3	16QAM	1	14	14.64	14.77	14.83	15.00
3	16QAM	8	0	14.71	14.56	14.56	15.00
3	16QAM	8	4	14.61	14.59	14.55	15.00
3	16QAM	8	7	14.57	14.56	14.70	15.00
3	16QAM	15	0	14.52	14.54	14.58	15.00
3	64QAM	1	0	14.72	14.62	14.61	15.00
3	64QAM	1	8	14.75	14.69	14.77	15.00
3	64QAM	1	14	14.54	14.54	14.66	15.00
3	64QAM	8	0	14.63	14.58	14.62	15.00
3	64QAM	8	4	14.57	14.58	14.64	15.00
3	64QAM	8	7	14.52	14.60	14.58	15.00
3	64QAM	15	0	14.58	14.57	14.61	15.00
3	256QAM	1	0	14.50	14.57	14.49	15.00
3	256QAM	1	8	14.45	14.42	14.40	15.00
3	256QAM	1	14	14.37	14.43	14.47	15.00
3	256QAM	8	0	14.66	14.55	14.57	15.00
3	256QAM	8	4	14.59	14.61	14.60	15.00
3	256QAM	8	7	14.30	14.44	14.41	15.00
3	256QAM	15	0	14.33	14.46	14.51	15.00
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	14.58	14.58	14.55	15.00
1.4	QPSK	1	3	14.54	14.47	14.62	15.00
1.4	QPSK	1	5	14.34	14.43	14.43	15.00
1.4	QPSK	3	0	14.64	14.62	14.60	15.00
1.4	QPSK	3	1	14.58	14.47	14.54	15.00
1.4	QPSK	3	3	14.57	14.51	14.63	15.00
1.4	QPSK	6	0	14.60	14.52	14.55	15.00
1.4	16QAM	1	0	14.90	14.77	14.80	15.00
1.4	16QAM	1	3	14.86	14.79	14.89	15.00
1.4	16QAM	1	5	14.73	14.76	14.80	15.00
1.4	16QAM	3	0	14.59	14.56	14.56	15.00
1.4	16QAM	3	1	14.53	14.47	14.57	15.00
1.4	16QAM	3	3	14.54	14.54	14.60	15.00
1.4	16QAM	6	0	14.47	14.47	14.63	15.00
1.4	64QAM	1	0	14.81	14.63	14.71	15.00
1.4	64QAM	1	3	14.82	14.70	14.84	15.00
1.4	64QAM	1	5	14.58	14.56	14.63	15.00
1.4	64QAM	3	0	14.62	14.60	14.51	15.00
1.4	64QAM	3	1	14.56	14.54	14.63	15.00
1.4	64QAM	3	3	14.56	14.52	14.70	15.00
1.4	64QAM	6	0	14.52	14.50	14.54	15.00
1.4	256QAM	1	0	14.54	14.51	14.55	15.00
1.4	256QAM	1	3	14.47	14.43	14.46	15.00
1.4	256QAM	1	5	14.38	14.48	14.45	15.00
1.4	256QAM	3	0	14.54	14.53	14.61	15.00
1.4	256QAM	3	1	14.59	14.58	14.48	15.00
1.4	256QAM	3	3	14.37	14.46	14.47	15.00
1.4	256QAM	6	0	14.34	14.38	14.52	15.00

【LTE Band 5_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	15.51	15.46	15.50	16.50
10	QPSK	1	25	15.38	15.43	15.47	16.50
10	QPSK	1	49	15.35	15.40	15.35	16.50
10	QPSK	25	0	15.44	15.47	15.45	16.50
10	QPSK	25	12	15.41	15.40	15.46	16.50
10	QPSK	25	25	15.39	15.39	15.43	16.50
10	QPSK	50	0	15.49	15.49	15.50	16.50
10	16QAM	1	0	15.69	15.65	15.67	16.50
10	16QAM	1	25	15.81	15.73	15.73	16.50
10	16QAM	1	49	15.66	15.74	15.76	16.50
10	16QAM	25	0	15.49	15.44	15.47	16.50



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10	16QAM	25	12	15.46	15.40	15.52	16.50
10	16QAM	25	25	15.43	15.51	15.44	16.50
10	16QAM	50	0	15.45	15.44	15.49	16.50
10	64QAM	1	0	15.56	15.48	15.53	16.50
10	64QAM	1	25	15.67	15.59	15.61	16.50
10	64QAM	1	49	15.54	15.61	15.65	16.50
10	64QAM	25	0	15.48	15.42	15.48	16.50
10	64QAM	25	12	15.45	15.43	15.52	16.50
10	64QAM	25	25	15.42	15.49	15.44	16.50
10	64QAM	50	0	15.47	15.48	15.47	16.50
10	256QAM	1	0	15.30	15.45	15.42	16.50
10	256QAM	1	25	15.33	15.35	15.41	16.50
10	256QAM	1	49	15.52	15.37	15.37	16.50
10	256QAM	25	0	15.52	15.48	15.52	16.50
10	256QAM	25	12	15.39	15.57	15.50	16.50
10	256QAM	25	25	15.43	15.32	15.36	16.50
10	256QAM	50	0	15.36	15.32	15.39	16.50
Channel				20425	20525	20625	Tune-up limit
Frequency (MHz)				826.5	836.5	846.5	(dBm)
5	QPSK	1	0	15.41	15.31	15.42	16.50
5	QPSK	1	12	15.28	15.31	15.35	16.50
5	QPSK	1	24	15.33	15.33	15.24	16.50
5	QPSK	12	0	15.34	15.43	15.40	16.50
5	QPSK	12	7	15.31	15.30	15.44	16.50
5	QPSK	12	13	15.36	15.28	15.38	16.50
5	QPSK	25	0	15.37	15.46	15.46	16.50
5	16QAM	1	0	15.67	15.50	15.64	16.50
5	16QAM	1	12	15.67	15.70	15.69	16.50
5	16QAM	1	24	15.62	15.67	15.70	16.50
5	16QAM	12	0	15.41	15.31	15.45	16.50
5	16QAM	12	7	15.33	15.32	15.49	16.50
5	16QAM	12	13	15.28	15.41	15.41	16.50
5	16QAM	25	0	15.42	15.30	15.41	16.50
5	64QAM	1	0	15.48	15.37	15.50	16.50
5	64QAM	1	12	15.53	15.52	15.54	16.50
5	64QAM	1	24	15.46	15.47	15.60	16.50
5	64QAM	12	0	15.42	15.38	15.45	16.50
5	64QAM	12	7	15.33	15.30	15.48	16.50
5	64QAM	12	13	15.31	15.39	15.42	16.50
5	64QAM	25	0	15.45	15.44	15.42	16.50
5	256QAM	1	0	15.23	15.35	15.36	16.50
5	256QAM	1	12	15.31	15.27	15.30	16.50
5	256QAM	1	24	15.40	15.29	15.34	16.50
5	256QAM	12	0	15.43	15.45	15.46	16.50
5	256QAM	12	7	15.36	15.45	15.48	16.50
5	256QAM	12	13	15.41	15.29	15.27	16.50
5	256QAM	25	0	15.28	15.28	15.36	16.50
Channel				20415	20525	20635	Tune-up limit
Frequency (MHz)				825.5	836.5	847.5	(dBm)
3	QPSK	1	0	15.43	15.42	15.37	16.50
3	QPSK	1	8	15.28	15.39	15.35	16.50
3	QPSK	1	14	15.28	15.33	15.21	16.50
3	QPSK	8	0	15.30	15.44	15.41	16.50
3	QPSK	8	4	15.26	15.33	15.32	16.50
3	QPSK	8	7	15.34	15.25	15.33	16.50
3	QPSK	15	0	15.39	15.43	15.38	16.50
3	16QAM	1	0	15.60	15.51	15.64	16.50
3	16QAM	1	8	15.76	15.59	15.58	16.50
3	16QAM	1	14	15.53	15.71	15.65	16.50
3	16QAM	8	0	15.45	15.39	15.39	16.50
3	16QAM	8	4	15.43	15.34	15.42	16.50
3	16QAM	8	7	15.32	15.43	15.36	16.50
3	16QAM	15	0	15.38	15.40	15.38	16.50
3	64QAM	1	0	15.50	15.45	15.46	16.50
3	64QAM	1	8	15.60	15.49	15.52	16.50
3	64QAM	1	14	15.43	15.48	15.53	16.50
3	64QAM	8	0	15.34	15.33	15.41	16.50
3	64QAM	8	4	15.39	15.39	15.49	16.50
3	64QAM	8	7	15.39	15.35	15.40	16.50
3	64QAM	15	0	15.40	15.37	15.39	16.50
3	256QAM	1	0	15.20	15.30	15.33	16.50
3	256QAM	1	8	15.31	15.28	15.38	16.50
3	256QAM	1	14	15.48	15.32	15.23	16.50
3	256QAM	8	0	15.47	15.40	15.50	16.50
3	256QAM	8	4	15.28	15.51	15.38	16.50
3	256QAM	8	7	15.34	15.18	15.34	16.50
3	256QAM	15	0	15.33	15.19	15.32	16.50
Channel				20407	20525	20643	Tune-up limit

Frequency (MHz)				824.7	836.5	848.3	(dBm)
1.4	QPSK	1	0	15.46	15.36	15.42	16.50
1.4	QPSK	1	3	15.36	15.29	15.36	16.50
1.4	QPSK	1	5	15.31	15.34	15.26	16.50
1.4	QPSK	3	0	15.30	15.41	15.36	16.50
1.4	QPSK	3	1	15.35	15.33	15.39	16.50
1.4	QPSK	3	3	15.25	15.29	15.39	16.50
1.4	QPSK	6	0	15.39	15.44	15.41	16.50
1.4	16QAM	1	0	15.62	15.52	15.59	16.50
1.4	16QAM	1	3	15.68	15.72	15.65	16.50
1.4	16QAM	1	5	15.57	15.63	15.66	16.50
1.4	16QAM	3	0	15.38	15.40	15.39	16.50
1.4	16QAM	3	1	15.43	15.27	15.45	16.50
1.4	16QAM	3	3	15.38	15.36	15.36	16.50
1.4	16QAM	6	0	15.34	15.41	15.48	16.50
1.4	64QAM	1	0	15.53	15.39	15.43	16.50
1.4	64QAM	1	3	15.52	15.52	15.55	16.50
1.4	64QAM	1	5	15.40	15.55	15.53	16.50
1.4	64QAM	3	0	15.36	15.32	15.36	16.50
1.4	64QAM	3	1	15.33	15.39	15.42	16.50
1.4	64QAM	3	3	15.30	15.41	15.37	16.50
1.4	64QAM	6	0	15.36	15.38	15.36	16.50
1.4	256QAM	1	0	15.20	15.44	15.37	16.50
1.4	256QAM	1	3	15.29	15.20	15.29	16.50
1.4	256QAM	1	5	15.49	15.29	15.24	16.50
1.4	256QAM	3	0	15.46	15.37	15.50	16.50
1.4	256QAM	3	1	15.26	15.45	15.40	16.50
1.4	256QAM	3	3	15.41	15.22	15.22	16.50
1.4	256QAM	6	0	15.24	15.18	15.25	16.50

【LTE Band 7_Ant 8】

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	12.47	12.69	12.82	13.00
20	QPSK	1	49	12.42	12.61	12.53	13.00
20	QPSK	1	99	12.50	12.53	12.76	13.00
20	QPSK	50	0	12.53	12.68	12.80	13.00
20	QPSK	50	24	12.49	12.54	12.76	13.00
20	QPSK	50	50	12.52	12.67	12.80	13.00
20	QPSK	100	0	12.44	12.59	12.72	13.00
20	16QAM	1	0	12.56	12.62	12.65	13.00
20	16QAM	1	49	12.70	12.59	12.66	13.00
20	16QAM	1	99	12.66	12.70	12.78	13.00
20	16QAM	50	0	12.33	12.55	12.70	13.00
20	16QAM	50	24	12.40	12.66	12.78	13.00
20	16QAM	50	50	12.50	12.71	12.79	13.00
20	16QAM	100	0	12.37	12.62	12.69	13.00
20	64QAM	1	0	12.44	12.47	12.70	13.00
20	64QAM	1	49	12.58	12.59	12.73	13.00
20	64QAM	1	99	12.56	12.68	12.70	13.00
20	64QAM	50	0	12.34	12.55	12.66	13.00
20	64QAM	50	24	12.43	12.65	12.59	13.00
20	64QAM	50	50	12.50	12.59	12.73	13.00
20	64QAM	100	0	12.38	12.62	12.70	13.00
20	256QAM	1	0	12.28	12.62	12.68	13.00
20	256QAM	1	49	12.28	12.57	12.70	13.00
20	256QAM	1	99	12.39	12.56	12.78	13.00
20	256QAM	50	0	12.47	12.73	12.86	13.00
20	256QAM	50	24	12.31	12.74	12.91	13.00
20	256QAM	50	50	12.41	12.54	12.70	13.00
20	256QAM	100	0	12.31	12.60	12.77	13.00
Channel				20825	21100	21375	
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	12.38	12.43	12.68	13.00
15	QPSK	1	37	12.48	12.62	12.78	13.00
15	QPSK	1	74	12.45	12.69	12.84	13.00
15	QPSK	36	0	12.37	12.51	12.73	13.00
15	QPSK	36	20	12.45	12.62	12.79	13.00
15	QPSK	36	39	12.48	12.68	12.76	13.00
15	QPSK	75	0	12.44	12.60	12.76	13.00
15	16QAM	1	0	12.60	12.73	12.89	13.00
15	16QAM	1	37	12.73	12.91	12.99	13.00
15	16QAM	1	74	12.74	12.98	12.89	13.00
15	16QAM	36	0	12.38	12.55	12.75	13.00



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15	16QAM	36	20	12.44	12.63	12.77	13.00
15	16QAM	36	39	12.48	12.68	12.76	13.00
15	16QAM	75	0	12.41	12.63	12.74	13.00
15	64QAM	1	0	12.54	12.63	12.81	13.00
15	64QAM	1	37	12.62	12.80	12.92	13.00
15	64QAM	1	74	12.60	12.86	12.94	13.00
15	64QAM	36	0	12.38	12.61	12.76	13.00
15	64QAM	36	20	12.47	12.65	12.81	13.00
15	64QAM	36	39	12.51	12.74	12.82	13.00
15	64QAM	75	0	12.40	12.62	12.74	13.00
15	256QAM	1	0	12.31	12.67	12.72	13.00
15	256QAM	1	37	12.29	12.59	12.63	13.00
15	256QAM	1	74	12.48	12.59	12.72	13.00
15	256QAM	36	0	12.47	12.74	12.80	13.00
15	256QAM	36	20	12.31	12.76	12.84	13.00
15	256QAM	36	39	12.41	12.50	12.69	13.00
15	256QAM	75	0	12.33	12.52	12.76	13.00
Channel				20800	21100	21400	Tune-up limit
Frequency (MHz)				2505	2535	2565	(dBm)
10	QPSK	1	0	12.35	12.59	12.78	13.00
10	QPSK	1	25	12.17	12.54	12.71	13.00
10	QPSK	1	49	12.16	12.47	12.52	13.00
10	QPSK	25	0	12.34	12.49	12.61	13.00
10	QPSK	25	12	12.23	12.55	12.64	13.00
10	QPSK	25	25	12.23	12.51	12.59	13.00
10	QPSK	50	0	12.32	12.57	12.76	13.00
10	16QAM	1	0	12.52	12.80	12.79	13.00
10	16QAM	1	25	12.66	12.85	12.93	13.00
10	16QAM	1	49	12.57	12.87	12.98	13.00
10	16QAM	25	0	12.27	12.49	12.65	13.00
10	16QAM	25	12	12.25	12.50	12.80	13.00
10	16QAM	25	25	12.24	12.61	12.63	13.00
10	16QAM	50	0	12.23	12.48	12.66	13.00
10	64QAM	1	0	12.40	12.56	12.79	13.00
10	64QAM	1	25	12.46	12.79	12.72	13.00
10	64QAM	1	49	12.36	12.71	12.92	13.00
10	64QAM	25	0	12.33	12.50	12.66	13.00
10	64QAM	25	12	12.24	12.59	12.73	13.00
10	64QAM	25	25	12.29	12.63	12.59	13.00
10	64QAM	50	0	12.26	12.55	12.71	13.00
10	256QAM	1	0	12.21	12.60	12.65	13.00
10	256QAM	1	25	12.16	12.44	12.60	13.00
10	256QAM	1	49	12.34	12.53	12.64	13.00
10	256QAM	25	0	12.43	12.70	12.67	13.00
10	256QAM	25	12	12.21	12.69	12.83	13.00
10	256QAM	25	25	12.37	12.44	12.61	13.00
10	256QAM	50	0	12.24	12.48	12.73	13.00
Channel				20775	21100	21425	Tune-up limit
Frequency (MHz)				2502.5	2535	2567.5	(dBm)
5	QPSK	1	0	12.35	12.58	12.80	13.00
5	QPSK	1	12	12.29	12.47	12.70	13.00
5	QPSK	1	24	12.20	12.58	12.65	13.00
5	QPSK	12	0	12.28	12.56	12.67	13.00
5	QPSK	12	7	12.25	12.53	12.58	13.00
5	QPSK	12	13	12.23	12.50	12.68	13.00
5	QPSK	25	0	12.28	12.55	12.73	13.00
5	16QAM	1	0	12.53	12.80	12.89	13.00
5	16QAM	1	12	12.64	12.82	12.98	13.00
5	16QAM	1	24	12.59	12.78	12.94	13.00
5	16QAM	12	0	12.32	12.44	12.61	13.00
5	16QAM	12	7	12.28	12.45	12.75	13.00
5	16QAM	12	13	12.22	12.55	12.68	13.00
5	16QAM	25	0	12.27	12.55	12.73	13.00
5	64QAM	1	0	12.38	12.49	12.70	13.00
5	64QAM	1	12	12.52	12.67	12.80	13.00
5	64QAM	1	24	12.38	12.63	12.86	13.00
5	64QAM	12	0	12.32	12.56	12.69	13.00
5	64QAM	12	7	12.35	12.53	12.70	13.00
5	64QAM	12	13	12.27	12.61	12.55	13.00
5	64QAM	25	0	12.25	12.54	12.63	13.00
5	256QAM	1	0	12.22	12.61	12.69	13.00
5	256QAM	1	12	12.17	12.47	12.53	13.00
5	256QAM	1	24	12.37	12.53	12.61	13.00
5	256QAM	12	0	12.51	12.65	12.73	13.00
5	256QAM	12	7	12.34	12.62	12.77	13.00
5	256QAM	12	13	12.25	12.50	12.61	13.00
5	256QAM	25	0	12.29	12.57	12.77	13.00

**【LTE Band 12_Ant 5】**

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	Tune-up limit (dBm)
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	15.36	15.37	15.35	16.50
10	QPSK	1	25	15.30	15.34	15.33	16.50
10	QPSK	1	49	15.34	15.31	15.30	16.50
10	QPSK	25	0	15.35	15.36	15.31	16.50
10	QPSK	25	12	15.24	15.32	15.29	16.50
10	QPSK	25	25	15.32	15.29	15.27	16.50
10	QPSK	50	0	15.33	15.36	15.43	16.50
10	16QAM	1	0	15.71	15.61	15.58	16.50
10	16QAM	1	25	15.65	15.62	15.67	16.50
10	16QAM	1	49	15.64	15.70	15.76	16.50
10	16QAM	25	0	15.27	15.42	15.47	16.50
10	16QAM	25	12	15.41	15.39	15.40	16.50
10	16QAM	25	25	15.34	15.28	15.44	16.50
10	16QAM	50	0	15.31	15.38	15.45	16.50
10	64QAM	1	0	15.67	15.49	15.46	16.50
10	64QAM	1	25	15.52	15.51	15.58	16.50
10	64QAM	1	49	15.53	15.55	15.71	16.50
10	64QAM	25	0	15.27	15.40	15.45	16.50
10	64QAM	25	12	15.38	15.38	15.39	16.50
10	64QAM	25	25	15.34	15.30	15.45	16.50
10	64QAM	50	0	15.32	15.38	15.45	16.50
10	256QAM	1	0	15.17	15.36	15.28	16.50
10	256QAM	1	25	15.13	15.22	15.19	16.50
10	256QAM	1	49	15.30	15.23	15.24	16.50
10	256QAM	25	0	15.40	15.49	15.36	16.50
10	256QAM	25	12	15.19	15.41	15.43	16.50
10	256QAM	25	25	15.26	15.21	15.21	16.50
10	256QAM	50	0	15.17	15.21	15.27	16.50
Channel				23035	23095	23115	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	15.35	15.29	15.31	16.50
5	QPSK	1	12	15.24	15.28	15.24	16.50
5	QPSK	1	24	15.31	15.18	15.18	16.50
5	QPSK	12	0	15.34	15.32	15.18	16.50
5	QPSK	12	7	15.21	15.28	15.19	16.50
5	QPSK	12	13	15.19	15.21	15.16	16.50
5	QPSK	25	0	15.32	15.23	15.33	16.50
5	16QAM	1	0	15.65	15.56	15.47	16.50
5	16QAM	1	12	15.59	15.54	15.61	16.50
5	16QAM	1	24	15.54	15.58	15.67	16.50
5	16QAM	12	0	15.24	15.32	15.44	16.50
5	16QAM	12	7	15.30	15.30	15.36	16.50
5	16QAM	12	13	15.20	15.22	15.33	16.50
5	16QAM	25	0	15.20	15.34	15.39	16.50
5	64QAM	1	0	15.43	15.40	15.39	16.50
5	64QAM	1	12	15.42	15.40	15.43	16.50
5	64QAM	1	24	15.48	15.45	15.64	16.50
5	64QAM	12	0	15.14	15.33	15.41	16.50
5	64QAM	12	7	15.31	15.27	15.28	16.50
5	64QAM	12	13	15.24	15.27	15.42	16.50
5	64QAM	25	0	15.21	15.30	15.38	16.50
5	256QAM	1	0	15.08	15.26	15.24	16.50
5	256QAM	1	12	15.00	15.12	15.11	16.50
5	256QAM	1	24	15.23	15.17	15.09	16.50
5	256QAM	12	0	15.34	15.38	15.31	16.50
5	256QAM	12	7	15.08	15.30	15.39	16.50
5	256QAM	12	13	15.19	15.17	15.13	16.50
5	256QAM	25	0	15.04	15.13	15.22	16.50
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	15.30	15.34	15.27	16.50
3	QPSK	1	8	15.22	15.19	15.29	16.50
3	QPSK	1	14	15.30	15.22	15.20	16.50
3	QPSK	8	0	15.23	15.33	15.25	16.50
3	QPSK	8	4	15.21	15.18	15.24	16.50
3	QPSK	8	7	15.30	15.25	15.21	16.50
3	QPSK	15	0	15.26	15.33	15.38	16.50
3	16QAM	1	0	15.59	15.58	15.56	16.50
3	16QAM	1	8	15.50	15.50	15.58	16.50
3	16QAM	1	14	15.49	15.68	15.70	16.50
3	16QAM	8	0	15.21	15.30	15.44	16.50



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3	16QAM	8	4	15.29	15.24	15.28	16.50
3	16QAM	8	7	15.23	15.26	15.33	16.50
3	16QAM	15	0	15.30	15.23	15.33	16.50
3	64QAM	1	0	15.47	15.36	15.34	16.50
3	64QAM	1	8	15.38	15.43	15.56	16.50
3	64QAM	1	14	15.45	15.53	15.64	16.50
3	64QAM	8	0	15.16	15.26	15.35	16.50
3	64QAM	8	4	15.28	15.24	15.34	16.50
3	64QAM	8	7	15.26	15.15	15.34	16.50
3	64QAM	15	0	15.22	15.33	15.43	16.50
3	256QAM	1	0	15.08	15.28	15.14	16.50
3	256QAM	1	8	15.06	15.08	15.17	16.50
3	256QAM	1	14	15.17	15.21	15.19	16.50
3	256QAM	8	0	15.28	15.43	15.27	16.50
3	256QAM	8	4	15.13	15.30	15.40	16.50
3	256QAM	8	7	15.13	15.07	15.18	16.50
3	256QAM	15	0	15.09	15.20	15.14	16.50
Channel				23017	23095	23173	Tune-up limit
Frequency (MHz)				699.7	707.5	715.3	(dBm)
1.4	QPSK	1	0	15.35	15.24	15.20	16.50
1.4	QPSK	1	3	15.15	15.32	15.26	16.50
1.4	QPSK	1	5	15.31	15.30	15.26	16.50
1.4	QPSK	3	0	15.26	15.24	15.29	16.50
1.4	QPSK	3	1	15.10	15.23	15.15	16.50
1.4	QPSK	3	3	15.30	15.18	15.23	16.50
1.4	QPSK	6	0	15.32	15.23	15.40	16.50
1.4	16QAM	1	0	15.64	15.47	15.45	16.50
1.4	16QAM	1	3	15.56	15.61	15.64	16.50
1.4	16QAM	1	5	15.52	15.56	15.63	16.50
1.4	16QAM	3	0	15.14	15.35	15.43	16.50
1.4	16QAM	3	1	15.31	15.31	15.31	16.50
1.4	16QAM	3	3	15.25	15.14	15.38	16.50
1.4	16QAM	6	0	15.18	15.28	15.33	16.50
1.4	64QAM	1	0	15.48	15.40	15.34	16.50
1.4	64QAM	1	3	15.50	15.36	15.51	16.50
1.4	64QAM	1	5	15.41	15.47	15.67	16.50
1.4	64QAM	3	0	15.26	15.27	15.40	16.50
1.4	64QAM	3	1	15.37	15.33	15.38	16.50
1.4	64QAM	3	3	15.20	15.18	15.32	16.50
1.4	64QAM	6	0	15.27	15.33	15.38	16.50
1.4	256QAM	1	0	15.03	15.23	15.14	16.50
1.4	256QAM	1	3	15.07	15.11	15.04	16.50
1.4	256QAM	1	5	15.22	15.12	15.17	16.50
1.4	256QAM	3	0	15.28	15.38	15.28	16.50
1.4	256QAM	3	1	15.05	15.26	15.29	16.50
1.4	256QAM	3	3	15.14	15.19	15.14	16.50
1.4	256QAM	6	0	15.07	15.19	15.15	16.50

【LTE Band 13_Ant 5】

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		15.44		16.50
10	QPSK	1	25		15.32		16.50
10	QPSK	1	49		15.35		16.50
10	QPSK	25	0		15.43		16.50
10	QPSK	25	12		15.39		16.50
10	QPSK	25	25		15.29		16.50
10	QPSK	50	0		15.36		16.50
10	16QAM	1	0		15.60		16.50
10	16QAM	1	25		15.70		16.50
10	16QAM	1	49		15.65		16.50
10	16QAM	25	0		15.27		16.50
10	16QAM	25	12		15.42		16.50
10	16QAM	25	25		15.44		16.50
10	16QAM	50	0		15.34		16.50
10	64QAM	1	0		15.49		16.50
10	64QAM	1	25		15.58		16.50
10	64QAM	1	49		15.51		16.50
10	64QAM	25	0		15.29		16.50
10	64QAM	25	12		15.43		16.50
10	64QAM	25	25		15.48		16.50
10	64QAM	50	0		15.35		16.50
10	256QAM	1	0		15.41		16.50
10	256QAM	1	25		15.36		16.50

10	256QAM	1	49		15.34		16.50
10	256QAM	25	0		15.47		16.50
10	256QAM	25	12		15.49		16.50
10	256QAM	25	25		15.27		16.50
10	256QAM	50	0		15.33		16.50
Channel				23205	23230	23255	Tune-up limit
Frequency (MHz)				779.5	782	784.5	(dBm)
5	QPSK	1	0	15.31	15.40	15.34	16.50
5	QPSK	1	12	15.14	15.34	15.21	16.50
5	QPSK	1	24	15.11	15.34	15.15	16.50
5	QPSK	12	0	15.24	15.33	15.24	16.50
5	QPSK	12	7	15.20	15.28	15.27	16.50
5	QPSK	12	13	15.13	15.30	15.26	16.50
5	QPSK	25	0	15.29	15.41	15.33	16.50
5	16QAM	1	0	15.39	15.50	15.48	16.50
5	16QAM	1	12	15.60	15.59	15.57	16.50
5	16QAM	1	24	15.42	15.60	15.50	16.50
5	16QAM	12	0	15.27	15.34	15.30	16.50
5	16QAM	12	7	15.17	15.30	15.32	16.50
5	16QAM	12	13	15.23	15.40	15.28	16.50
5	16QAM	25	0	15.16	15.34	15.33	16.50
5	64QAM	1	0	15.34	15.36	15.36	16.50
5	64QAM	1	12	15.47	15.52	15.41	16.50
5	64QAM	1	24	15.25	15.49	15.39	16.50
5	64QAM	12	0	15.25	15.30	15.29	16.50
5	64QAM	12	7	15.17	15.33	15.26	16.50
5	64QAM	12	13	15.21	15.38	15.24	16.50
5	64QAM	25	0	15.21	15.34	15.27	16.50
5	256QAM	1	0	15.11	15.34	15.22	16.50
5	256QAM	1	12	15.12	15.33	15.18	16.50
5	256QAM	1	24	15.23	15.31	15.23	16.50
5	256QAM	12	0	15.35	15.49	15.30	16.50
5	256QAM	12	7	15.16	15.48	15.39	16.50
5	256QAM	12	13	15.17	15.20	15.22	16.50
5	256QAM	25	0	15.08	15.26	15.23	16.50

【LTE Band 14_Ant 5】

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		15.51		16.50
10	QPSK	1	25		15.43		16.50
10	QPSK	1	49		15.45		16.50
10	QPSK	25	0		15.50		16.50
10	QPSK	25	12		15.48		16.50
10	QPSK	25	25		15.46		16.50
10	QPSK	50	0		15.53		16.50
10	16QAM	1	0		15.69		16.50
10	16QAM	1	25		15.80		16.50
10	16QAM	1	49		15.74		16.50
10	16QAM	25	0		15.51		16.50
10	16QAM	25	12		15.50		16.50
10	16QAM	25	25		15.54		16.50
10	16QAM	50	0		15.53		16.50
10	64QAM	1	0		15.58		16.50
10	64QAM	1	25		15.68		16.50
10	64QAM	1	49		15.61		16.50
10	64QAM	25	0		15.50		16.50
10	64QAM	25	12		15.54		16.50
10	64QAM	25	25		15.56		16.50
10	64QAM	50	0		15.52		16.50
10	256QAM	1	0		15.43		16.50
10	256QAM	1	25		15.36		16.50
10	256QAM	1	49		15.46		16.50
10	256QAM	25	0		15.57		16.50
10	256QAM	25	12		15.58		16.50
10	256QAM	25	25		15.35		16.50
10	256QAM	50	0		15.41		16.50
Channel				23305	23330	23355	Tune-up limit
Frequency (MHz)				790.5	793	795.5	(dBm)
5	QPSK	1	0	15.36	15.47	15.40	16.50
5	QPSK	1	12	15.22	15.43	15.30	16.50
5	QPSK	1	24	15.16	15.32	15.24	16.50
5	QPSK	12	0	15.25	15.43	15.32	16.50
5	QPSK	12	7	15.20	15.39	15.34	16.50



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5	QPSK	12	13	15.24	15.32	15.27	16.50
5	QPSK	25	0	15.24	15.45	15.40	16.50
5	16QAM	1	0	15.49	15.61	15.48	16.50
5	16QAM	1	12	15.64	15.69	15.56	16.50
5	16QAM	1	24	15.51	15.67	15.60	16.50
5	16QAM	12	0	15.25	15.43	15.32	16.50
5	16QAM	12	7	15.23	15.39	15.42	16.50
5	16QAM	12	13	15.20	15.49	15.26	16.50
5	16QAM	25	0	15.21	15.41	15.39	16.50
5	64QAM	1	0	15.37	15.41	15.40	16.50
5	64QAM	1	12	15.51	15.60	15.43	16.50
5	64QAM	1	24	15.33	15.58	15.53	16.50
5	64QAM	12	0	15.27	15.34	15.34	16.50
5	64QAM	12	7	15.23	15.43	15.37	16.50
5	64QAM	12	13	15.18	15.44	15.27	16.50
5	64QAM	25	0	15.22	15.46	15.33	16.50
5	256QAM	1	0	15.19	15.48	15.25	16.50
5	256QAM	1	12	15.15	15.40	15.31	16.50
5	256QAM	1	24	15.32	15.39	15.27	16.50
5	256QAM	12	0	15.40	15.49	15.41	16.50
5	256QAM	12	7	15.22	15.52	15.46	16.50
5	256QAM	12	13	15.30	15.35	15.23	16.50
5	256QAM	25	0	15.17	15.41	15.38	16.50

【LTE Band 17_Ant 5】

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	Tune-up limit (dBm)
Frequency (MHz)				709	710	711	
10	QPSK	1	0	18.98	19.01	19.00	20.00
10	QPSK	1	25	18.92	18.95	18.98	20.00
10	QPSK	1	49	18.97	18.89	18.86	20.00
10	QPSK	25	0	18.96	18.98	18.95	20.00
10	QPSK	25	12	18.92	18.95	18.94	20.00
10	QPSK	25	25	18.92	18.98	18.90	20.00
10	QPSK	50	0	18.99	19.05	19.06	20.00
10	16QAM	1	0	19.14	19.11	19.15	20.00
10	16QAM	1	25	19.19	19.21	19.24	20.00
10	16QAM	1	49	19.27	19.29	19.31	20.00
10	16QAM	25	0	19.04	19.03	19.00	20.00
10	16QAM	25	12	18.95	18.96	18.97	20.00
10	16QAM	25	25	18.97	19.01	19.06	20.00
10	16QAM	50	0	19.00	19.05	19.03	20.00
10	64QAM	1	0	19.02	19.00	19.06	20.00
10	64QAM	1	25	19.06	19.11	19.12	20.00
10	64QAM	1	49	19.13	19.16	19.21	20.00
10	64QAM	25	0	19.04	19.03	19.02	20.00
10	64QAM	25	12	18.95	18.93	18.95	20.00
10	64QAM	25	25	18.93	19.00	19.05	20.00
10	64QAM	50	0	19.02	19.05	19.01	20.00
10	256QAM	1	0	18.84	19.03	18.88	20.00
10	256QAM	1	25	18.78	18.87	18.81	20.00
10	256QAM	1	49	18.98	18.88	18.96	20.00
10	256QAM	25	0	18.98	19.11	18.98	20.00
10	256QAM	25	12	18.90	19.09	19.09	20.00
10	256QAM	25	25	18.91	18.81	18.88	20.00
10	256QAM	50	0	18.84	18.92	18.98	20.00
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	18.88	18.96	18.95	20.00
5	QPSK	1	12	18.79	18.90	18.94	20.00
5	QPSK	1	24	18.84	18.85	18.76	20.00
5	QPSK	12	0	18.94	18.88	18.89	20.00
5	QPSK	12	7	18.77	18.92	18.90	20.00
5	QPSK	12	13	18.86	18.83	18.87	20.00
5	QPSK	25	0	18.95	18.93	18.92	20.00
5	16QAM	1	0	19.05	19.04	19.04	20.00
5	16QAM	1	12	19.17	19.19	19.17	20.00
5	16QAM	1	24	19.18	19.16	19.24	20.00
5	16QAM	12	0	18.95	18.89	18.85	20.00
5	16QAM	12	7	18.91	18.92	18.86	20.00
5	16QAM	12	13	18.92	18.91	19.00	20.00
5	16QAM	25	0	18.97	19.02	18.98	20.00
5	64QAM	1	0	18.87	18.95	19.04	20.00
5	64QAM	1	12	18.96	18.96	19.04	20.00
5	64QAM	1	24	19.12	19.02	19.16	20.00



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5	64QAM	12	0	18.90	18.89	18.88	20.00
5	64QAM	12	7	18.90	18.81	18.89	20.00
5	64QAM	12	13	18.80	18.98	18.92	20.00
5	64QAM	25	0	18.96	18.90	18.89	20.00
5	256QAM	1	0	18.79	18.95	18.86	20.00
5	256QAM	1	12	18.67	18.85	18.72	20.00
5	256QAM	1	24	18.89	18.79	18.87	20.00
5	256QAM	12	0	18.89	19.07	18.91	20.00
5	256QAM	12	7	18.78	19.01	19.01	20.00
5	256QAM	12	13	18.78	18.67	18.76	20.00
5	256QAM	25	0	18.81	18.81	18.93	20.00

【LTE Band 25 Ant 8】

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	Tune-up limit (dBm)
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	13.44	13.44	13.31	14.00
20	QPSK	1	49	13.38	13.37	13.22	14.00
20	QPSK	1	99	13.35	13.26	13.13	14.00
20	QPSK	50	0	13.46	13.48	13.27	14.00
20	QPSK	50	24	13.43	13.47	13.22	14.00
20	QPSK	50	50	13.40	13.39	13.16	14.00
20	QPSK	100	0	13.42	13.43	13.15	14.00
20	16QAM	1	0	13.72	13.67	13.45	14.00
20	16QAM	1	49	13.73	13.77	13.55	14.00
20	16QAM	1	99	13.65	13.54	13.64	14.00
20	16QAM	50	0	13.40	13.46	13.19	14.00
20	16QAM	50	24	13.48	13.46	13.23	14.00
20	16QAM	50	50	13.43	13.40	13.15	14.00
20	16QAM	100	0	13.41	13.42	13.12	14.00
20	64QAM	1	0	13.60	13.56	13.29	14.00
20	64QAM	1	49	13.63	13.60	13.42	14.00
20	64QAM	1	99	13.56	13.43	13.50	14.00
20	64QAM	50	0	13.43	13.45	13.19	14.00
20	64QAM	50	24	13.47	13.50	13.28	14.00
20	64QAM	50	50	13.42	13.40	13.17	14.00
20	64QAM	100	0	13.43	13.42	13.14	14.00
20	256QAM	1	0	13.34	13.41	13.23	14.00
20	256QAM	1	49	13.23	13.36	13.22	14.00
20	256QAM	1	99	13.24	13.35	13.21	14.00
20	256QAM	50	0	13.41	13.56	13.38	14.00
20	256QAM	50	24	13.42	13.51	13.25	14.00
20	256QAM	50	50	13.26	13.27	13.08	14.00
20	256QAM	100	0	13.17	13.28	13.03	14.00
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	13.40	13.37	13.09	14.00
15	QPSK	1	37	13.41	13.41	13.21	14.00
15	QPSK	1	74	13.32	13.27	13.27	14.00
15	QPSK	36	0	13.39	13.44	13.15	14.00
15	QPSK	36	20	13.41	13.41	13.23	14.00
15	QPSK	36	39	13.35	13.38	13.20	14.00
15	QPSK	75	0	13.41	13.43	13.17	14.00
15	16QAM	1	0	13.75	13.68	13.42	14.00
15	16QAM	1	37	13.76	13.75	13.53	14.00
15	16QAM	1	74	13.69	13.62	13.59	14.00
15	16QAM	36	0	13.40	13.46	13.14	14.00
15	16QAM	36	20	13.44	13.40	13.27	14.00
15	16QAM	36	39	13.40	13.42	13.22	14.00
15	16QAM	75	0	13.39	13.41	13.19	14.00
15	64QAM	1	0	13.60	13.56	13.28	14.00
15	64QAM	1	37	13.65	13.61	13.41	14.00
15	64QAM	1	74	13.53	13.48	13.48	14.00
15	64QAM	36	0	13.41	13.45	13.14	14.00
15	64QAM	36	20	13.46	13.45	13.29	14.00
15	64QAM	36	39	13.47	13.41	13.21	14.00
15	64QAM	75	0	13.36	13.40	13.18	14.00
15	256QAM	1	0	13.20	13.40	13.17	14.00
15	256QAM	1	37	13.09	13.34	13.17	14.00
15	256QAM	1	74	13.18	13.32	13.17	14.00
15	256QAM	36	0	13.34	13.50	13.36	14.00
15	256QAM	36	20	13.32	13.44	13.20	14.00
15	256QAM	36	39	13.20	13.22	12.94	14.00
15	256QAM	75	0	13.04	13.15	13.01	14.00
Channel				26090	26340	26640	Tune-up limit



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Frequency (MHz)				1855	1880	1910	(dBm)
10	QPSK	1	0	13.36	13.33	13.23	14.00
10	QPSK	1	25	13.33	13.35	13.20	14.00
10	QPSK	1	49	13.30	13.19	13.05	14.00
10	QPSK	25	0	13.37	13.36	13.13	14.00
10	QPSK	25	12	13.32	13.32	13.16	14.00
10	QPSK	25	25	13.35	13.37	13.12	14.00
10	QPSK	50	0	13.27	13.32	13.03	14.00
10	16QAM	1	0	13.62	13.60	13.31	14.00
10	16QAM	1	25	13.67	13.69	13.43	14.00
10	16QAM	1	49	13.64	13.43	13.50	14.00
10	16QAM	25	0	13.26	13.38	13.16	14.00
10	16QAM	25	12	13.40	13.41	13.11	14.00
10	16QAM	25	25	13.29	13.37	13.11	14.00
10	16QAM	50	0	13.39	13.30	13.04	14.00
10	64QAM	1	0	13.47	13.43	13.17	14.00
10	64QAM	1	25	13.50	13.50	13.36	14.00
10	64QAM	1	49	13.43	13.34	13.48	14.00
10	64QAM	25	0	13.35	13.37	13.11	14.00
10	64QAM	25	12	13.32	13.44	13.22	14.00
10	64QAM	25	25	13.40	13.27	13.07	14.00
10	64QAM	50	0	13.37	13.28	13.03	14.00
10	256QAM	1	0	13.30	13.27	13.10	14.00
10	256QAM	1	25	13.17	13.24	13.16	14.00
10	256QAM	1	49	13.20	13.24	13.08	14.00
10	256QAM	25	0	13.28	13.51	13.27	14.00
10	256QAM	25	12	13.37	13.40	13.14	14.00
10	256QAM	25	25	13.13	13.25	12.98	14.00
10	256QAM	50	0	13.09	13.21	12.92	14.00
Channel				26065	26340	26665	Tune-up limit
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	13.34	13.35	13.28	14.00
5	QPSK	1	12	13.33	13.34	13.16	14.00
5	QPSK	1	24	13.21	13.15	12.99	14.00
5	QPSK	12	0	13.36	13.43	13.24	14.00
5	QPSK	12	7	13.37	13.39	13.12	14.00
5	QPSK	12	13	13.36	13.28	13.15	14.00
5	QPSK	25	0	13.38	13.33	13.10	14.00
5	16QAM	1	0	13.62	13.58	13.34	14.00
5	16QAM	1	12	13.60	13.72	13.46	14.00
5	16QAM	1	24	13.59	13.53	13.58	14.00
5	16QAM	12	0	13.26	13.34	13.05	14.00
5	16QAM	12	7	13.37	13.45	13.16	14.00
5	16QAM	12	13	13.31	13.36	13.09	14.00
5	16QAM	25	0	13.26	13.39	12.97	14.00
5	64QAM	1	0	13.52	13.54	13.27	14.00
5	64QAM	1	12	13.54	13.48	13.36	14.00
5	64QAM	1	24	13.46	13.32	13.47	14.00
5	64QAM	12	0	13.32	13.36	13.14	14.00
5	64QAM	12	7	13.43	13.46	13.22	14.00
5	64QAM	12	13	13.34	13.32	13.09	14.00
5	64QAM	25	0	13.40	13.36	13.12	14.00
5	256QAM	1	0	13.22	13.37	13.12	14.00
5	256QAM	1	12	13.12	13.25	13.12	14.00
5	256QAM	1	24	13.14	13.27	13.20	14.00
5	256QAM	12	0	13.36	13.50	13.36	14.00
5	256QAM	12	7	13.39	13.40	13.14	14.00
5	256QAM	12	13	13.13	13.19	12.94	14.00
5	256QAM	25	0	13.07	13.20	12.99	14.00
Channel				26055	26340	26675	Tune-up limit
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	13.29	13.41	13.23	14.00
3	QPSK	1	8	13.34	13.28	13.16	14.00
3	QPSK	1	14	13.21	13.24	13.00	14.00
3	QPSK	8	0	13.37	13.41	13.23	14.00
3	QPSK	8	4	13.28	13.45	13.08	14.00
3	QPSK	8	7	13.27	13.29	13.01	14.00
3	QPSK	15	0	13.29	13.32	13.06	14.00
3	16QAM	1	0	13.68	13.61	13.30	14.00
3	16QAM	1	8	13.67	13.71	13.46	14.00
3	16QAM	1	14	13.53	13.44	13.54	14.00
3	16QAM	8	0	13.29	13.36	13.11	14.00
3	16QAM	8	4	13.47	13.36	13.21	14.00
3	16QAM	8	7	13.35	13.25	13.01	14.00
3	16QAM	15	0	13.37	13.27	13.03	14.00
3	64QAM	1	0	13.50	13.44	13.20	14.00
3	64QAM	1	8	13.59	13.50	13.30	14.00
3	64QAM	1	14	13.43	13.30	13.39	14.00



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3	64QAM	8	0	13.29	13.39	13.07	14.00
3	64QAM	8	4	13.38	13.43	13.22	14.00
3	64QAM	8	7	13.32	13.27	13.13	14.00
3	64QAM	15	0	13.38	13.33	13.02	14.00
3	256QAM	1	0	13.31	13.34	13.20	14.00
3	256QAM	1	8	13.16	13.24	13.21	14.00
3	256QAM	1	14	13.15	13.24	13.08	14.00
3	256QAM	8	0	13.39	13.54	13.36	14.00
3	256QAM	8	4	13.34	13.39	13.15	14.00
3	256QAM	8	7	13.21	13.19	13.02	14.00
3	256QAM	15	0	13.11	13.17	12.89	14.00
Channel				26047	26340	26683	Tune-up limit
Frequency (MHz)				1850.7	1880	1914.3	(dBm)
1.4	QPSK	1	0	13.41	13.35	13.28	14.00
1.4	QPSK	1	3	13.34	13.29	13.17	14.00
1.4	QPSK	1	5	13.32	13.20	13.04	14.00
1.4	QPSK	3	0	13.37	13.45	13.18	14.00
1.4	QPSK	3	1	13.31	13.43	13.11	14.00
1.4	QPSK	3	3	13.32	13.36	13.12	14.00
1.4	QPSK	6	0	13.30	13.40	13.05	14.00
1.4	16QAM	1	0	13.71	13.56	13.32	14.00
1.4	16QAM	1	3	13.63	13.72	13.52	14.00
1.4	16QAM	1	5	13.59	13.41	13.50	14.00
1.4	16QAM	3	0	13.27	13.42	13.07	14.00
1.4	16QAM	3	1	13.35	13.34	13.18	14.00
1.4	16QAM	3	3	13.41	13.39	13.05	14.00
1.4	16QAM	6	0	13.40	13.28	13.04	14.00
1.4	64QAM	1	0	13.47	13.48	13.28	14.00
1.4	64QAM	1	3	13.58	13.48	13.39	14.00
1.4	64QAM	1	5	13.41	13.29	13.38	14.00
1.4	64QAM	3	0	13.35	13.31	13.12	14.00
1.4	64QAM	3	1	13.33	13.35	13.20	14.00
1.4	64QAM	3	3	13.30	13.32	13.03	14.00
1.4	64QAM	6	0	13.37	13.34	13.12	14.00
1.4	256QAM	1	0	13.20	13.32	13.14	14.00
1.4	256QAM	1	3	13.17	13.26	13.16	14.00
1.4	256QAM	1	5	13.15	13.20	13.18	14.00
1.4	256QAM	3	0	13.27	13.49	13.25	14.00
1.4	256QAM	3	1	13.38	13.48	13.23	14.00
1.4	256QAM	3	3	13.20	13.24	12.96	14.00
1.4	256QAM	6	0	13.03	13.14	12.96	14.00

【LTE Band 26_FCC (814~849MHz)_Ant 5】

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	16.33	16.40	16.38	17.50
15	QPSK	1	37	16.24	16.29	16.29	17.50
15	QPSK	1	74	16.30	16.37	16.37	17.50
15	QPSK	36	0	16.37	16.39	16.39	17.50
15	QPSK	36	20	16.36	16.34	16.34	17.50
15	QPSK	36	39	16.32	16.35	16.35	17.50
15	QPSK	75	0	16.41	16.41	16.41	17.50
15	16QAM	1	0	16.55	16.57	16.57	17.50
15	16QAM	1	37	16.73	16.68	16.68	17.50
15	16QAM	1	74	16.66	16.73	16.73	17.50
15	16QAM	36	0	16.38	16.39	16.39	17.50
15	16QAM	36	20	16.41	16.41	16.41	17.50
15	16QAM	36	39	16.44	16.37	16.37	17.50
15	16QAM	75	0	16.41	16.37	16.37	17.50
15	64QAM	1	0	16.43	16.46	16.46	17.50
15	64QAM	1	37	16.60	16.58	16.58	17.50
15	64QAM	1	74	16.53	16.59	16.59	17.50
15	64QAM	36	0	16.39	16.41	16.41	17.50
15	64QAM	36	20	16.45	16.43	16.43	17.50
15	64QAM	36	39	16.46	16.40	16.40	17.50
15	64QAM	75	0	16.40	16.37	16.37	17.50
15	256QAM	1	0	16.12	16.36	16.23	17.50
15	256QAM	1	37	16.16	16.23	16.25	17.50
15	256QAM	1	74	16.24	16.29	16.25	17.50
15	256QAM	36	0	16.41	16.44	16.42	17.50
15	256QAM	36	20	16.24	16.49	16.37	17.50
15	256QAM	36	39	16.26	16.19	16.25	17.50
15	256QAM	75	0	16.12	16.31	16.26	17.50
Channel				26740	26865	26990	Tune-up limit



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Frequency (MHz)				819	831.5	844	(dBm)
10	QPSK	1	0	16.44	16.28	16.31	17.50
10	QPSK	1	25	16.51	16.43	16.42	17.50
10	QPSK	1	49	16.43	16.41	16.40	17.50
10	QPSK	25	0	16.38	16.39	16.41	17.50
10	QPSK	25	12	16.47	16.43	16.44	17.50
10	QPSK	25	25	16.52	16.42	16.38	17.50
10	QPSK	50	0	16.47	16.44	16.44	17.50
10	16QAM	1	0	16.73	16.59	16.61	17.50
10	16QAM	1	25	16.81	16.74	16.70	17.50
10	16QAM	1	49	16.70	16.68	16.69	17.50
10	16QAM	25	0	16.41	16.43	16.42	17.50
10	16QAM	25	12	16.48	16.45	16.45	17.50
10	16QAM	25	25	16.57	16.45	16.37	17.50
10	16QAM	50	0	16.47	16.46	16.41	17.50
10	64QAM	1	0	16.57	16.46	16.48	17.50
10	64QAM	1	25	16.68	16.61	16.57	17.50
10	64QAM	1	49	16.60	16.56	16.59	17.50
10	64QAM	25	0	16.40	16.41	16.42	17.50
10	64QAM	25	12	16.48	16.43	16.45	17.50
10	64QAM	25	25	16.58	16.44	16.37	17.50
10	64QAM	50	0	16.47	16.46	16.42	17.50
10	256QAM	1	0	16.15	16.35	16.31	17.50
10	256QAM	1	25	16.09	16.28	16.25	17.50
10	256QAM	1	49	16.28	16.25	16.27	17.50
10	256QAM	25	0	16.40	16.45	16.39	17.50
10	256QAM	25	12	16.19	16.44	16.44	17.50
10	256QAM	25	25	16.18	16.18	16.22	17.50
10	256QAM	50	0	16.18	16.23	16.30	17.50
Channel				26715	26865	27015	Tune-up limit
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	16.21	16.27	16.27	17.50
5	QPSK	1	12	16.06	16.25	16.21	17.50
5	QPSK	1	24	15.97	16.20	16.10	17.50
5	QPSK	12	0	16.20	16.33	16.20	17.50
5	QPSK	12	7	16.15	16.13	16.18	17.50
5	QPSK	12	13	16.08	16.17	16.20	17.50
5	QPSK	25	0	16.20	16.30	16.21	17.50
5	16QAM	1	0	16.33	16.37	16.33	17.50
5	16QAM	1	12	16.45	16.49	16.41	17.50
5	16QAM	1	24	16.30	16.62	16.60	17.50
5	16QAM	12	0	16.24	16.31	16.26	17.50
5	16QAM	12	7	16.20	16.13	16.30	17.50
5	16QAM	12	13	16.13	16.29	16.20	17.50
5	16QAM	25	0	16.16	16.31	16.26	17.50
5	64QAM	1	0	16.19	16.33	16.34	17.50
5	64QAM	1	12	16.38	16.42	16.38	17.50
5	64QAM	1	24	16.30	16.51	16.39	17.50
5	64QAM	12	0	16.16	16.19	16.24	17.50
5	64QAM	12	7	16.10	16.24	16.36	17.50
5	64QAM	12	13	16.16	16.30	16.25	17.50
5	64QAM	25	0	16.15	16.29	16.16	17.50
5	256QAM	1	0	16.11	16.20	16.20	17.50
5	256QAM	1	12	16.11	16.24	16.18	17.50
5	256QAM	1	24	16.27	16.27	16.19	17.50
5	256QAM	12	0	16.28	16.48	16.36	17.50
5	256QAM	12	7	16.10	16.35	16.34	17.50
5	256QAM	12	13	16.22	16.16	16.21	17.50
5	256QAM	25	0	16.12	16.21	16.23	17.50
Channel				26705	26865	27025	Tune-up limit
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	16.31	16.33	16.31	17.50
3	QPSK	1	8	16.08	16.28	16.24	17.50
3	QPSK	1	14	16.05	16.23	16.05	17.50
3	QPSK	8	0	16.18	16.23	16.21	17.50
3	QPSK	8	4	16.11	16.17	16.22	17.50
3	QPSK	8	7	16.11	16.18	16.26	17.50
3	QPSK	15	0	16.18	16.25	16.22	17.50
3	16QAM	1	0	16.41	16.48	16.37	17.50
3	16QAM	1	8	16.50	16.57	16.47	17.50
3	16QAM	1	14	16.37	16.59	16.53	17.50
3	16QAM	8	0	16.24	16.33	16.17	17.50
3	16QAM	8	4	16.15	16.13	16.32	17.50
3	16QAM	8	7	16.12	16.37	16.21	17.50
3	16QAM	15	0	16.11	16.22	16.23	17.50
3	64QAM	1	0	16.32	16.31	16.36	17.50
3	64QAM	1	8	16.36	16.34	16.31	17.50
3	64QAM	1	14	16.24	16.41	16.39	17.50

3	64QAM	8	0	16.18	16.25	16.30	17.50
3	64QAM	8	4	16.10	16.20	16.33	17.50
3	64QAM	8	7	16.08	16.27	16.24	17.50
3	64QAM	15	0	16.21	16.21	16.19	17.50
3	256QAM	1	0	16.10	16.36	16.13	17.50
3	256QAM	1	8	16.05	16.25	16.17	17.50
3	256QAM	1	14	16.25	16.23	16.24	17.50
3	256QAM	8	0	16.29	16.42	16.33	17.50
3	256QAM	8	4	16.14	16.40	16.27	17.50
3	256QAM	8	7	16.18	16.22	16.14	17.50
3	256QAM	15	0	16.06	16.14	16.29	17.50
Channel				26697	26865	27033	Tune-up limit
Frequency (MHz)				814.7	831.5	848.3	(dBm)
1.4	QPSK	1	0	16.21	16.29	16.35	17.50
1.4	QPSK	1	3	16.10	16.27	16.33	17.50
1.4	QPSK	1	5	15.98	16.15	16.08	17.50
1.4	QPSK	3	0	16.20	16.29	16.18	17.50
1.4	QPSK	3	1	16.07	16.15	16.22	17.50
1.4	QPSK	3	3	16.12	16.17	16.21	17.50
1.4	QPSK	6	0	16.22	16.24	16.26	17.50
1.4	16QAM	1	0	16.42	16.43	16.48	17.50
1.4	16QAM	1	3	16.45	16.50	16.57	17.50
1.4	16QAM	1	5	16.38	16.46	16.42	17.50
1.4	16QAM	3	0	16.19	16.18	16.20	17.50
1.4	16QAM	3	1	16.13	16.13	16.27	17.50
1.4	16QAM	3	3	16.06	16.26	16.12	17.50
1.4	16QAM	6	0	16.15	16.16	16.28	17.50
1.4	64QAM	1	0	16.22	16.30	16.27	17.50
1.4	64QAM	1	3	16.38	16.37	16.43	17.50
1.4	64QAM	1	5	16.24	16.35	16.47	17.50
1.4	64QAM	3	0	16.21	16.26	16.20	17.50
1.4	64QAM	3	1	16.14	16.21	16.35	17.50
1.4	64QAM	3	3	16.15	16.27	16.23	17.50
1.4	64QAM	6	0	16.23	16.24	16.25	17.50
1.4	256QAM	1	0	16.12	16.29	16.23	17.50
1.4	256QAM	1	3	16.09	16.23	16.18	17.50
1.4	256QAM	1	5	16.18	16.17	16.25	17.50
1.4	256QAM	3	0	16.25	16.44	16.30	17.50
1.4	256QAM	3	1	16.12	16.37	16.30	17.50
1.4	256QAM	3	3	16.18	16.10	16.16	17.50
1.4	256QAM	6	0	16.10	16.19	16.21	17.50

【LTE Band 30_Ant 8】

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		13.65		14.50
10	QPSK	1	25		13.62		14.50
10	QPSK	1	49		13.48		14.50
10	QPSK	25	0		13.60		14.50
10	QPSK	25	12		13.58		14.50
10	QPSK	25	25		13.56		14.50
10	QPSK	50	0		13.59		14.50
10	16QAM	1	0		13.93		14.50
10	16QAM	1	25		13.88		14.50
10	16QAM	1	49		13.74		14.50
10	16QAM	25	0		13.59		14.50
10	16QAM	25	12		13.61		14.50
10	16QAM	25	25		13.57		14.50
10	16QAM	50	0		13.60		14.50
10	64QAM	1	0		13.81		14.50
10	64QAM	1	25		13.80		14.50
10	64QAM	1	49		13.68		14.50
10	64QAM	25	0		13.56		14.50
10	64QAM	25	12		13.59		14.50
10	64QAM	25	25		13.57		14.50
10	64QAM	50	0		13.60		14.50
10	256QAM	1	0		13.58		14.50
10	256QAM	1	25		13.60		14.50
10	256QAM	1	49		13.60		14.50
10	256QAM	25	0		13.67		14.50
10	256QAM	25	12		13.68		14.50
10	256QAM	25	25		13.47		14.50
10	256QAM	50	0		13.59		14.50
Channel				27685	27710	27735	Tune-up limit

Frequency (MHz)				2307.5	2310	2312.5	(dBm)
5	QPSK	1	0	13.52	13.57	13.48	14.50
5	QPSK	1	12	13.32	13.58	13.40	14.50
5	QPSK	1	24	13.28	13.47	13.22	14.50
5	QPSK	12	0	13.33	13.48	13.45	14.50
5	QPSK	12	7	13.40	13.51	13.43	14.50
5	QPSK	12	13	13.26	13.51	13.35	14.50
5	QPSK	25	0	13.41	13.49	13.32	14.50
5	16QAM	1	0	13.65	13.77	13.63	14.50
5	16QAM	1	12	13.73	13.81	13.66	14.50
5	16QAM	1	24	13.59	13.86	13.68	14.50
5	16QAM	12	0	13.43	13.56	13.44	14.50
5	16QAM	12	7	13.47	13.46	13.40	14.50
5	16QAM	12	13	13.36	13.64	13.31	14.50
5	16QAM	25	0	13.37	13.48	13.41	14.50
5	64QAM	1	0	13.59	13.45	13.45	14.50
5	64QAM	1	12	13.62	13.60	13.56	14.50
5	64QAM	1	24	13.54	13.65	13.66	14.50
5	64QAM	12	0	13.50	13.49	13.43	14.50
5	64QAM	12	7	13.32	13.43	13.35	14.50
5	64QAM	12	13	13.40	13.62	13.42	14.50
5	64QAM	25	0	13.42	13.50	13.38	14.50
5	256QAM	1	0	13.26	13.56	13.40	14.50
5	256QAM	1	12	13.34	13.53	13.30	14.50
5	256QAM	1	24	13.44	13.44	13.37	14.50
5	256QAM	12	0	13.47	13.67	13.38	14.50
5	256QAM	12	7	13.33	13.63	13.60	14.50
5	256QAM	12	13	13.38	13.45	13.37	14.50
5	256QAM	25	0	13.28	13.40	13.40	14.50

【LTE Band 38_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	12.31	12.45	12.45	13.00
20	QPSK	1	49	12.27	12.25	12.38	13.00
20	QPSK	1	99	12.30	12.37	12.33	13.00
20	QPSK	50	0	12.35	12.55	12.57	13.00
20	QPSK	50	24	12.34	12.52	12.54	13.00
20	QPSK	50	50	12.40	12.51	12.55	13.00
20	QPSK	100	0	12.35	12.50	12.43	13.00
20	16QAM	1	0	12.42	12.43	12.35	13.00
20	16QAM	1	49	12.40	12.38	12.41	13.00
20	16QAM	1	99	12.31	12.30	12.44	13.00
20	16QAM	50	0	12.37	12.43	12.36	13.00
20	16QAM	50	24	12.43	12.37	12.39	13.00
20	16QAM	50	50	12.41	12.30	12.31	13.00
20	16QAM	100	0	12.40	12.39	12.36	13.00
20	64QAM	1	0	12.29	12.34	12.30	13.00
20	64QAM	1	49	12.38	12.33	12.33	13.00
20	64QAM	1	99	12.41	12.36	12.31	13.00
20	64QAM	50	0	12.37	12.39	12.38	13.00
20	64QAM	50	24	12.40	12.42	12.40	13.00
20	64QAM	50	50	12.40	12.31	12.43	13.00
20	64QAM	100	0	12.37	12.36	12.38	13.00
20	256QAM	1	0	12.16	12.45	12.28	13.00
20	256QAM	1	49	12.12	12.35	12.31	13.00
20	256QAM	1	99	12.28	12.35	12.34	13.00
20	256QAM	50	0	12.33	12.50	12.49	13.00
20	256QAM	50	24	12.14	12.49	12.52	13.00
20	256QAM	50	50	12.21	12.26	12.29	13.00
20	256QAM	100	0	12.15	12.34	12.33	13.00
Channel				37825	38000	38175	
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	12.35	12.51	12.56	13.00
15	QPSK	1	37	12.32	12.57	12.55	13.00
15	QPSK	1	74	12.36	12.50	12.45	13.00
15	QPSK	36	0	12.30	12.52	12.54	13.00
15	QPSK	36	20	12.28	12.50	12.50	13.00
15	QPSK	36	39	12.29	12.53	12.53	13.00
15	QPSK	75	0	12.35	12.51	12.50	13.00
15	16QAM	1	0	12.35	12.51	12.57	13.00
15	16QAM	1	37	12.38	12.62	12.65	13.00
15	16QAM	1	74	12.45	12.61	12.54	13.00
15	16QAM	36	0	12.30	12.53	12.53	13.00



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15	16QAM	36	20	12.31	12.52	12.48	13.00
15	16QAM	36	39	12.29	12.53	12.51	13.00
15	16QAM	75	0	12.38	12.54	12.55	13.00
15	64QAM	1	0	12.09	12.26	12.33	13.00
15	64QAM	1	37	12.13	12.36	12.38	13.00
15	64QAM	1	74	12.19	12.34	12.30	13.00
15	64QAM	36	0	12.34	12.54	12.56	13.00
15	64QAM	36	20	12.37	12.58	12.52	13.00
15	64QAM	36	39	12.33	12.53	12.52	13.00
15	64QAM	75	0	12.36	12.53	12.55	13.00
15	256QAM	1	0	12.06	12.38	12.19	13.00
15	256QAM	1	37	12.09	12.27	12.23	13.00
15	256QAM	1	74	12.17	12.31	12.24	13.00
15	256QAM	36	0	12.31	12.40	12.45	13.00
15	256QAM	36	20	12.10	12.42	12.47	13.00
15	256QAM	36	39	12.09	12.24	12.21	13.00
15	256QAM	75	0	12.03	12.22	12.30	13.00
Channel				37800	38000	38200	Tune-up limit
Frequency (MHz)				2575	2595	2615	(dBm)
10	QPSK	1	0	12.23	12.34	12.33	13.00
10	QPSK	1	25	12.00	12.23	12.21	13.00
10	QPSK	1	49	11.95	12.25	12.27	13.00
10	QPSK	25	0	12.04	12.30	12.30	13.00
10	QPSK	25	12	12.14	12.22	12.25	13.00
10	QPSK	25	25	12.10	12.26	12.23	13.00
10	QPSK	50	0	12.14	12.38	12.37	13.00
10	16QAM	1	0	12.39	12.49	12.50	13.00
10	16QAM	1	25	12.47	12.55	12.55	13.00
10	16QAM	1	49	12.30	12.67	12.56	13.00
10	16QAM	25	0	12.17	12.24	12.32	13.00
10	16QAM	25	12	12.12	12.33	12.33	13.00
10	16QAM	25	25	12.17	12.34	12.24	13.00
10	16QAM	50	0	12.14	12.28	12.35	13.00
10	64QAM	1	0	12.22	12.31	12.45	13.00
10	64QAM	1	25	12.31	12.45	12.48	13.00
10	64QAM	1	49	12.16	12.43	12.51	13.00
10	64QAM	25	0	12.14	12.30	12.31	13.00
10	64QAM	25	12	12.22	12.25	12.34	13.00
10	64QAM	25	25	12.04	12.34	12.22	13.00
10	64QAM	50	0	12.15	12.40	12.23	13.00
10	256QAM	1	0	12.02	12.37	12.29	13.00
10	256QAM	1	25	12.03	12.27	12.25	13.00
10	256QAM	1	49	12.28	12.31	12.33	13.00
10	256QAM	25	0	12.18	12.52	12.34	13.00
10	256QAM	25	12	12.10	12.50	12.43	13.00
10	256QAM	25	25	12.09	12.15	12.20	13.00
10	256QAM	50	0	12.06	12.28	12.32	13.00
Channel				37775	38000	38225	Tune-up limit
Frequency (MHz)				2572.5	2595	2617.5	(dBm)
5	QPSK	1	0	12.22	12.36	12.36	13.00
5	QPSK	1	12	12.01	12.25	12.33	13.00
5	QPSK	1	24	11.99	12.25	12.14	13.00
5	QPSK	12	0	12.07	12.39	12.36	13.00
5	QPSK	12	7	12.05	12.33	12.27	13.00
5	QPSK	12	13	12.03	12.24	12.33	13.00
5	QPSK	25	0	12.21	12.31	12.36	13.00
5	16QAM	1	0	12.29	12.51	12.48	13.00
5	16QAM	1	12	12.50	12.61	12.57	13.00
5	16QAM	1	24	12.34	12.60	12.63	13.00
5	16QAM	12	0	12.14	12.36	12.28	13.00
5	16QAM	12	7	12.12	12.29	12.39	13.00
5	16QAM	12	13	12.19	12.39	12.21	13.00
5	16QAM	25	0	12.23	12.37	12.30	13.00
5	64QAM	1	0	12.29	12.36	12.30	13.00
5	64QAM	1	12	12.38	12.48	12.44	13.00
5	64QAM	1	24	12.19	12.46	12.47	13.00
5	64QAM	12	0	12.14	12.31	12.36	13.00
5	64QAM	12	7	12.09	12.28	12.34	13.00
5	64QAM	12	13	12.12	12.39	12.32	13.00
5	64QAM	25	0	12.18	12.34	12.32	13.00
5	256QAM	1	0	12.12	12.35	12.34	13.00
5	256QAM	1	12	12.03	12.37	12.18	13.00
5	256QAM	1	24	12.15	12.30	12.34	13.00
5	256QAM	12	0	12.23	12.40	12.39	13.00
5	256QAM	12	7	12.16	12.42	12.38	13.00
5	256QAM	12	13	12.23	12.22	12.27	13.00
5	256QAM	25	0	12.09	12.33	12.26	13.00

**【LTE Band 41 _ FCC (2496~2690MHz) Ant 5】**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	18.00
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	16.77	16.94	17.00	16.83	16.74	18.00
20	QPSK	1	49	16.81	17.04	17.21	16.86	16.75	18.00
20	QPSK	1	99	16.76	16.91	17.15	16.78	16.65	18.00
20	QPSK	50	0	16.82	17.05	17.19	16.92	16.85	18.00
20	QPSK	50	24	16.85	17.07	17.19	16.91	16.78	18.00
20	QPSK	50	50	16.83	17.08	17.22	16.87	16.74	18.00
20	QPSK	100	0	16.82	17.05	17.18	16.88	16.77	18.00
20	16QAM	1	0	16.82	17.00	17.07	16.90	16.83	18.00
20	16QAM	1	49	16.86	17.12	17.27	16.93	16.79	18.00
20	16QAM	1	99	16.79	17.00	17.23	16.88	16.71	18.00
20	16QAM	50	0	16.85	17.10	17.21	16.94	16.83	18.00
20	16QAM	50	24	16.86	17.08	17.25	16.92	16.82	18.00
20	16QAM	50	50	16.83	17.07	17.27	16.90	16.72	18.00
20	16QAM	100	0	16.81	17.06	17.19	16.89	16.77	18.00
20	64QAM	1	0	16.55	16.76	16.82	16.62	16.57	18.00
20	64QAM	1	49	16.61	16.87	17.03	16.66	16.55	18.00
20	64QAM	1	99	16.55	16.74	16.95	16.59	16.42	18.00
20	64QAM	50	0	16.82	17.05	17.17	16.92	16.85	18.00
20	64QAM	50	24	16.84	17.09	17.21	16.92	16.78	18.00
20	64QAM	50	50	16.80	17.08	17.22	16.88	16.69	18.00
20	64QAM	100	0	16.81	17.06	17.18	16.87	16.76	18.00
20	256QAM	1	0	16.67	16.86	16.97	16.66	16.64	18.00
20	256QAM	1	49	16.67	16.82	16.92	16.72	16.52	18.00
20	256QAM	1	99	16.61	16.73	16.88	16.56	16.59	18.00
20	256QAM	50	0	16.75	16.90	17.09	16.77	16.81	18.00
20	256QAM	50	24	16.66	16.89	17.02	16.74	16.69	18.00
20	256QAM	50	50	16.58	16.71	16.84	16.66	16.56	18.00
20	256QAM	100	0	16.65	16.71	16.91	16.63	16.57	18.00
Channel				39725	40173	40620	41068	41515	18.00
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	16.74	16.83	16.95	16.69	16.69	18.00
15	QPSK	1	37	16.69	16.93	17.19	16.81	16.72	18.00
15	QPSK	1	74	16.67	16.85	17.13	16.77	16.56	18.00
15	QPSK	36	0	16.73	17.00	17.08	16.82	16.75	18.00
15	QPSK	36	20	16.79	16.95	17.05	16.86	16.77	18.00
15	QPSK	36	39	16.73	17.03	17.13	16.74	16.70	18.00
15	QPSK	75	0	16.74	17.00	17.17	16.79	16.75	18.00
15	16QAM	1	0	16.71	16.98	16.99	16.75	16.79	18.00
15	16QAM	1	37	16.72	17.10	17.20	16.83	16.71	18.00
15	16QAM	1	74	16.77	16.98	17.13	16.82	16.60	18.00
15	16QAM	36	0	16.78	17.09	17.09	16.81	16.76	18.00
15	16QAM	36	20	16.82	16.97	17.18	16.89	16.79	18.00
15	16QAM	36	39	16.78	16.99	17.15	16.82	16.59	18.00
15	16QAM	75	0	16.69	17.02	17.15	16.80	16.75	18.00
15	64QAM	1	0	16.50	16.64	16.79	16.58	16.55	18.00
15	64QAM	1	37	16.46	16.79	16.93	16.59	16.40	18.00
15	64QAM	1	74	16.45	16.67	16.94	16.44	16.36	18.00
15	64QAM	36	0	16.70	17.01	17.11	16.86	16.83	18.00
15	64QAM	36	20	16.69	17.03	17.20	16.90	16.71	18.00
15	64QAM	36	39	16.77	17.07	17.16	16.81	16.55	18.00
15	64QAM	75	0	16.79	16.96	17.12	16.75	16.75	18.00
15	256QAM	1	0	16.59	16.84	16.93	16.55	16.53	18.00
15	256QAM	1	37	16.65	16.81	16.83	16.67	16.38	18.00
15	256QAM	1	74	16.53	16.67	16.79	16.55	16.54	18.00
15	256QAM	36	0	16.67	16.81	16.99	16.69	16.70	18.00
15	256QAM	36	20	16.63	16.80	16.98	16.67	16.62	18.00
15	256QAM	36	39	16.46	16.70	16.82	16.59	16.43	18.00
15	256QAM	75	0	16.50	16.65	16.77	16.49	16.47	18.00
Channel				39700	40160	40620	41080	41540	18.00
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	16.71	16.90	16.97	16.75	16.61	18.00
10	QPSK	1	25	16.68	17.01	17.12	16.81	16.63	18.00
10	QPSK	1	49	16.68	16.89	17.07	16.70	16.58	18.00
10	QPSK	25	0	16.69	16.92	17.15	16.87	16.83	18.00
10	QPSK	25	12	16.81	16.93	17.10	16.82	16.65	18.00
10	QPSK	25	25	16.81	17.05	17.18	16.77	16.71	18.00
10	QPSK	50	0	16.76	16.98	17.05	16.74	16.66	18.00
10	16QAM	1	0	16.73	16.95	16.99	16.86	16.79	18.00
10	16QAM	1	25	16.83	17.11	17.19	16.82	16.74	18.00



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10	16QAM	1	49	16.65	16.94	17.15	16.82	16.66	18.00
10	16QAM	25	0	16.70	16.99	17.11	16.88	16.68	18.00
10	16QAM	25	12	16.83	17.05	17.23	16.87	16.74	18.00
10	16QAM	25	25	16.79	16.95	17.21	16.87	16.62	18.00
10	16QAM	50	0	16.76	17.00	17.11	16.81	16.71	18.00
10	64QAM	1	0	16.40	16.65	16.75	16.51	16.45	18.00
10	64QAM	1	25	16.57	16.72	17.01	16.52	16.49	18.00
10	64QAM	1	49	16.41	16.69	16.88	16.54	16.29	18.00
10	64QAM	25	0	16.79	16.93	17.10	16.85	16.71	18.00
10	64QAM	25	12	16.72	16.99	17.17	16.80	16.66	18.00
10	64QAM	25	25	16.78	16.96	17.13	16.75	16.63	18.00
10	64QAM	50	0	16.69	17.02	17.16	16.73	16.66	18.00
10	256QAM	1	0	16.54	16.80	16.92	16.59	16.51	18.00
10	256QAM	1	25	16.62	16.78	16.80	16.69	16.50	18.00
10	256QAM	1	49	16.56	16.59	16.75	16.41	16.51	18.00
10	256QAM	25	0	16.62	16.76	16.95	16.70	16.70	18.00
10	256QAM	25	12	16.53	16.79	16.94	16.64	16.64	18.00
10	256QAM	25	25	16.49	16.59	16.82	16.59	16.45	18.00
10	256QAM	50	0	16.52	16.57	16.81	16.53	16.51	18.00
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.3	2687.5	
5	QPSK	1	0	16.67	16.83	16.97	16.71	16.70	18.00
5	QPSK	1	12	16.72	17.01	17.15	16.76	16.62	18.00
5	QPSK	1	24	16.68	16.84	17.03	16.66	16.57	18.00
5	QPSK	12	0	16.81	16.95	17.06	16.80	16.76	18.00
5	QPSK	12	7	16.72	17.05	17.09	16.84	16.71	18.00
5	QPSK	12	13	16.70	16.93	17.14	16.83	16.70	18.00
5	QPSK	25	0	16.70	16.97	17.03	16.83	16.68	18.00
5	16QAM	1	0	16.79	16.92	17.06	16.78	16.73	18.00
5	16QAM	1	12	16.71	17.00	17.18	16.81	16.70	18.00
5	16QAM	1	24	16.76	16.87	17.18	16.77	16.70	18.00
5	16QAM	12	0	16.76	16.96	17.11	16.86	16.80	18.00
5	16QAM	12	7	16.75	17.05	17.19	16.78	16.72	18.00
5	16QAM	12	13	16.78	16.97	17.18	16.75	16.67	18.00
5	16QAM	25	0	16.67	16.93	17.08	16.76	16.65	18.00
5	64QAM	1	0	16.42	16.64	16.68	16.55	16.43	18.00
5	64QAM	1	12	16.58	16.76	16.92	16.53	16.49	18.00
5	64QAM	1	24	16.44	16.72	16.90	16.46	16.37	18.00
5	64QAM	12	0	16.78	16.98	17.07	16.85	16.77	18.00
5	64QAM	12	7	16.76	17.02	17.06	16.84	16.64	18.00
5	64QAM	12	13	16.76	16.97	17.07	16.87	16.61	18.00
5	64QAM	25	0	16.69	17.01	17.07	16.80	16.69	18.00
5	256QAM	1	0	16.55	16.80	16.89	16.60	16.56	18.00
5	256QAM	1	12	16.53	16.77	16.83	16.70	16.41	18.00
5	256QAM	1	24	16.58	16.64	16.84	16.52	16.51	18.00
5	256QAM	12	0	16.70	16.84	17.01	16.63	16.78	18.00
5	256QAM	12	7	16.63	16.76	16.95	16.65	16.57	18.00
5	256QAM	12	13	16.53	16.69	16.73	16.52	16.48	18.00
5	256QAM	25	0	16.60	16.70	16.81	16.50	16.45	18.00

【LTE Band 41_FCC (2496~2690MHz)_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power 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	11.69	11.87	11.98	11.72	11.59	12.50
20	QPSK	1	49	11.63	11.84	11.97	11.72	11.59	12.50
20	QPSK	1	99	11.62	11.65	11.93	11.71	11.54	12.50
20	QPSK	50	0	11.64	11.96	11.97	11.75	11.73	12.50
20	QPSK	50	24	11.58	11.95	11.94	11.74	11.73	12.50
20	QPSK	50	50	11.63	11.89	11.91	11.73	11.58	12.50
20	QPSK	100	0	11.61	11.82	11.97	11.73	11.64	12.50
20	16QAM	1	0	11.67	11.95	11.83	11.78	11.69	12.50
20	16QAM	1	49	11.74	11.96	11.93	11.84	11.78	12.50
20	16QAM	1	99	11.73	11.86	11.92	11.67	11.69	12.50
20	16QAM	50	0	11.56	11.93	11.91	11.78	11.49	12.50
20	16QAM	50	24	11.71	11.95	11.89	11.83	11.71	12.50
20	16QAM	50	50	11.63	11.87	11.91	11.76	11.70	12.50
20	16QAM	100	0	11.67	11.89	11.97	11.66	11.68	12.50
20	64QAM	1	0	11.31	11.52	11.64	11.51	11.43	12.50
20	64QAM	1	49	11.42	11.66	11.82	11.55	11.37	12.50
20	64QAM	1	99	11.36	11.41	11.77	11.40	11.23	12.50
20	64QAM	50	0	11.68	11.90	11.89	11.75	11.73	12.50
20	64QAM	50	24	11.72	11.89	11.95	11.76	11.67	12.50
20	64QAM	50	50	11.62	11.88	11.94	11.83	11.53	12.50



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20	64QAM	100	0	11.56	11.85	11.92	11.71	11.66	12.50
20	256QAM	1	0	11.65	11.83	12.00	11.72	11.49	12.50
20	256QAM	1	49	11.54	11.78	11.93	11.59	11.47	12.50
20	256QAM	1	99	11.48	11.63	11.85	11.58	11.34	12.50
20	256QAM	50	0	11.65	11.94	12.09	11.73	11.68	12.50
20	256QAM	50	24	11.57	11.84	12.00	11.69	11.47	12.50
20	256QAM	50	50	11.41	11.59	11.78	11.46	11.36	12.50
20	256QAM	100	0	11.50	11.57	11.82	11.51	11.32	12.50
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	11.68	11.79	11.87	11.69	11.56	12.50
15	QPSK	1	37	11.58	11.82	11.95	11.63	11.57	12.50
15	QPSK	1	74	11.60	11.60	11.84	11.59	11.48	12.50
15	QPSK	36	0	11.52	11.94	11.95	11.62	11.60	12.50
15	QPSK	36	20	11.47	11.81	11.82	11.64	11.62	12.50
15	QPSK	36	39	11.53	11.80	11.78	11.71	11.54	12.50
15	QPSK	75	0	11.52	11.72	11.96	11.59	11.60	12.50
15	16QAM	1	0	11.53	11.87	11.80	11.68	11.57	12.50
15	16QAM	1	37	11.67	11.87	11.91	11.82	11.67	12.50
15	16QAM	1	74	11.67	11.76	11.88	11.52	11.59	12.50
15	16QAM	36	0	11.45	11.85	11.83	11.70	11.40	12.50
15	16QAM	36	20	11.63	11.92	11.81	11.68	11.60	12.50
15	16QAM	36	39	11.51	11.82	11.90	11.71	11.65	12.50
15	16QAM	75	0	11.64	11.79	11.96	11.56	11.53	12.50
15	64QAM	1	0	11.23	11.44	11.58	11.47	11.33	12.50
15	64QAM	1	37	11.41	11.54	11.79	11.40	11.36	12.50
15	64QAM	1	74	11.29	11.39	11.63	11.39	11.11	12.50
15	64QAM	36	0	11.63	11.85	11.88	11.71	11.67	12.50
15	64QAM	36	20	11.59	11.76	11.84	11.63	11.63	12.50
15	64QAM	36	39	11.57	11.82	11.91	11.79	11.39	12.50
15	64QAM	75	0	11.44	11.83	11.86	11.69	11.51	12.50
15	256QAM	1	0	11.60	11.76	11.89	11.65	11.36	12.50
15	256QAM	1	37	11.47	11.73	11.87	11.56	11.46	12.50
15	256QAM	1	74	11.35	11.56	11.83	11.49	11.30	12.50
15	256QAM	36	0	11.58	11.93	12.04	11.64	11.57	12.50
15	256QAM	36	20	11.52	11.82	11.88	11.61	11.40	12.50
15	256QAM	36	39	11.39	11.57	11.71	11.34	11.31	12.50
15	256QAM	75	0	11.44	11.44	11.69	11.37	11.28	12.50
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	11.57	11.84	11.85	11.69	11.47	12.50
10	QPSK	1	25	11.52	11.79	11.88	11.58	11.50	12.50
10	QPSK	1	49	11.58	11.51	11.79	11.59	11.40	12.50
10	QPSK	25	0	11.54	11.92	11.93	11.67	11.62	12.50
10	QPSK	25	12	11.44	11.82	11.84	11.65	11.69	12.50
10	QPSK	25	25	11.50	11.81	11.88	11.67	11.56	12.50
10	QPSK	50	0	11.47	11.76	11.83	11.64	11.63	12.50
10	16QAM	1	0	11.62	11.87	11.71	11.68	11.65	12.50
10	16QAM	1	25	11.62	11.94	11.79	11.77	11.66	12.50
10	16QAM	1	49	11.72	11.74	11.86	11.59	11.58	12.50
10	16QAM	25	0	11.41	11.90	11.85	11.69	11.36	12.50
10	16QAM	25	12	11.60	11.85	11.83	11.77	11.69	12.50
10	16QAM	25	25	11.61	11.86	11.80	11.71	11.59	12.50
10	16QAM	50	0	11.66	11.78	11.93	11.59	11.67	12.50
10	64QAM	1	0	11.29	11.51	11.59	11.37	11.36	12.50
10	64QAM	1	25	11.31	11.55	11.71	11.41	11.31	12.50
10	64QAM	1	49	11.29	11.38	11.74	11.34	11.12	12.50
10	64QAM	25	0	11.60	11.86	11.79	11.63	11.62	12.50
10	64QAM	25	12	11.66	11.84	11.82	11.66	11.59	12.50
10	64QAM	25	25	11.56	11.77	11.85	11.70	11.41	12.50
10	64QAM	50	0	11.49	11.71	11.85	11.63	11.64	12.50
10	256QAM	1	0	11.55	11.70	11.98	11.61	11.37	12.50
10	256QAM	1	25	11.40	11.74	11.85	11.51	11.37	12.50
10	256QAM	1	49	11.35	11.48	11.79	11.56	11.29	12.50
10	256QAM	25	0	11.51	11.81	11.97	11.70	11.55	12.50
10	256QAM	25	12	11.55	11.76	11.98	11.65	11.41	12.50
10	256QAM	25	25	11.27	11.52	11.66	11.41	11.30	12.50
10	256QAM	50	0	11.39	11.50	11.71	11.43	11.20	12.50
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.3	2687.5	
5	QPSK	1	0	11.64	11.84	11.84	11.60	11.44	12.50
5	QPSK	1	12	11.61	11.80	11.92	11.71	11.56	12.50
5	QPSK	1	24	11.50	11.62	11.78	11.58	11.40	12.50
5	QPSK	12	0	11.51	11.87	11.94	11.62	11.64	12.50
5	QPSK	12	7	11.47	11.91	11.92	11.68	11.59	12.50

5	QPSK	12	13	11.49	11.76	11.89	11.58	11.46	12.50
5	QPSK	25	0	11.59	11.70	11.90	11.62	11.63	12.50
5	16QAM	1	0	11.63	11.93	11.70	11.72	11.65	12.50
5	16QAM	1	12	11.70	11.89	11.84	11.78	11.77	12.50
5	16QAM	1	24	11.72	11.74	11.91	11.56	11.58	12.50
5	16QAM	12	0	11.43	11.89	11.77	11.75	11.39	12.50
5	16QAM	12	7	11.63	11.91	11.87	11.71	11.59	12.50
5	16QAM	12	13	11.48	11.81	11.85	11.73	11.67	12.50
5	16QAM	25	0	11.65	11.78	11.89	11.60	11.60	12.50
5	64QAM	1	0	11.24	11.42	11.62	11.46	11.40	12.50
5	64QAM	1	12	11.29	11.59	11.81	11.46	11.30	12.50
5	64QAM	1	24	11.30	11.36	11.63	11.37	11.21	12.50
5	64QAM	12	0	11.54	11.84	11.80	11.73	11.64	12.50
5	64QAM	12	7	11.63	11.88	11.85	11.68	11.53	12.50
5	64QAM	12	13	11.58	11.78	11.81	11.79	11.47	12.50
5	64QAM	25	0	11.52	11.74	11.84	11.62	11.61	12.50
5	256QAM	1	0	11.51	11.78	11.93	11.67	11.37	12.50
5	256QAM	1	12	11.48	11.72	11.80	11.58	11.39	12.50
5	256QAM	1	24	11.39	11.48	11.81	11.44	11.22	12.50
5	256QAM	12	0	11.63	11.89	11.96	11.62	11.57	12.50
5	256QAM	12	7	11.54	11.82	11.94	11.55	11.37	12.50
5	256QAM	12	13	11.36	11.55	11.70	11.42	11.26	12.50
5	256QAM	25	0	11.49	11.49	11.75	11.38	11.30	12.50

【LTE Band 42 (27Q)_ FCC Part 27Q (3450~3550MHz)_ Ant 8】

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	9.31	9.47	9.43	10.00
20	QPSK	1	49	9.40	9.42	9.38	10.00
20	QPSK	1	99	9.18	9.22	9.24	10.00
20	QPSK	50	0	9.48	9.52	9.47	10.00
20	QPSK	50	24	9.49	9.54	9.46	10.00
20	QPSK	50	50	9.42	9.40	9.42	10.00
20	QPSK	100	0	9.40	9.44	9.42	10.00
20	16QAM	1	0	9.43	9.53	9.50	10.00
20	16QAM	1	49	9.52	9.61	9.67	10.00
20	16QAM	1	99	9.40	9.39	9.50	10.00
20	16QAM	50	0	9.41	9.45	9.42	10.00
20	16QAM	50	24	9.36	9.42	9.44	10.00
20	16QAM	50	50	9.36	9.37	9.46	10.00
20	16QAM	100	0	9.36	9.40	9.40	10.00
20	64QAM	1	0	9.27	9.36	9.34	10.00
20	64QAM	1	49	9.33	9.44	9.51	10.00
20	64QAM	1	99	9.24	9.23	9.33	10.00
20	64QAM	50	0	9.34	9.47	9.44	10.00
20	64QAM	50	24	9.39	9.40	9.42	10.00
20	64QAM	50	50	9.31	9.29	9.40	10.00
20	64QAM	100	0	9.32	9.34	9.40	10.00
20	256QAM	1	0	9.13	9.25	9.17	10.00
20	256QAM	1	49	9.19	9.32	9.40	10.00
20	256QAM	1	99	9.06	9.07	9.22	10.00
20	256QAM	50	0	9.20	9.33	9.24	10.00
20	256QAM	50	24	9.28	9.24	9.26	10.00
20	256QAM	50	50	9.14	9.15	9.20	10.00
20	256QAM	100	0	9.22	9.17	9.23	10.00
Channel				42165	42590	43015	
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	9.26	9.34	9.29	10.00
15	QPSK	1	37	9.27	9.33	9.26	10.00
15	QPSK	1	74	9.09	9.13	9.22	10.00
15	QPSK	36	0	9.46	9.39	9.33	10.00
15	QPSK	36	20	9.48	9.48	9.44	10.00
15	QPSK	36	39	9.28	9.30	9.28	10.00
15	QPSK	75	0	9.29	9.42	9.35	10.00
15	16QAM	1	0	9.41	9.51	9.39	10.00
15	16QAM	1	37	9.49	9.53	9.60	10.00
15	16QAM	1	74	9.36	9.31	9.38	10.00
15	16QAM	36	0	9.28	9.39	9.33	10.00
15	16QAM	36	20	9.30	9.32	9.39	10.00
15	16QAM	36	39	9.28	9.24	9.34	10.00
15	16QAM	75	0	9.26	9.30	9.32	10.00
15	64QAM	1	0	9.24	9.32	9.23	10.00
15	64QAM	1	37	9.25	9.39	9.36	10.00
15	64QAM	1	74	9.16	9.12	9.31	10.00



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15	64QAM	36	0	9.31	9.33	9.41	10.00
15	64QAM	36	20	9.25	9.29	9.33	10.00
15	64QAM	36	39	9.20	9.18	9.36	10.00
15	64QAM	75	0	9.18	9.21	9.25	10.00
15	256QAM	1	0	9.07	9.23	9.14	10.00
15	256QAM	1	37	9.09	9.19	9.35	10.00
15	256QAM	1	74	9.03	8.99	9.08	10.00
15	256QAM	36	0	9.06	9.21	9.19	10.00
15	256QAM	36	20	9.19	9.12	9.11	10.00
15	256QAM	36	39	9.04	9.10	9.10	10.00
15	256QAM	75	0	9.18	9.07	9.16	10.00
Channel				42140	42590	43040	Tune-up limit
Frequency (MHz)				3455	3500	3545	(dBm)
10	QPSK	1	0	9.27	9.45	9.40	10.00
10	QPSK	1	25	9.36	9.33	9.34	10.00
10	QPSK	1	49	9.13	9.11	9.12	10.00
10	QPSK	25	0	9.44	9.49	9.41	10.00
10	QPSK	25	12	9.47	9.41	9.34	10.00
10	QPSK	25	25	9.30	9.30	9.32	10.00
10	QPSK	50	0	9.35	9.32	9.40	10.00
10	16QAM	1	0	9.30	9.46	9.44	10.00
10	16QAM	1	25	9.48	9.52	9.58	10.00
10	16QAM	1	49	9.38	9.30	9.40	10.00
10	16QAM	25	0	9.31	9.39	9.38	10.00
10	16QAM	25	12	9.34	9.31	9.37	10.00
10	16QAM	25	25	9.31	9.34	9.36	10.00
10	16QAM	50	0	9.32	9.34	9.30	10.00
10	64QAM	1	0	9.14	9.23	9.26	10.00
10	64QAM	1	25	9.18	9.36	9.38	10.00
10	64QAM	1	49	9.20	9.12	9.29	10.00
10	64QAM	25	0	9.32	9.41	9.41	10.00
10	64QAM	25	12	9.36	9.32	9.30	10.00
10	64QAM	25	25	9.26	9.22	9.38	10.00
10	64QAM	50	0	9.28	9.32	9.34	10.00
10	256QAM	1	0	9.08	9.13	9.10	10.00
10	256QAM	1	25	9.12	9.26	9.29	10.00
10	256QAM	1	49	9.00	9.03	9.10	10.00
10	256QAM	25	0	9.11	9.29	9.15	10.00
10	256QAM	25	12	9.24	9.22	9.23	10.00
10	256QAM	25	25	9.02	9.07	9.14	10.00
10	256QAM	50	0	9.14	9.12	9.20	10.00
Channel				42115	42590	43065	Tune-up limit
Frequency (MHz)				3452.5	3500	3547.5	(dBm)
5	QPSK	1	0	9.18	9.36	9.41	10.00
5	QPSK	1	12	9.37	9.33	9.36	10.00
5	QPSK	1	24	9.07	9.11	9.22	10.00
5	QPSK	12	0	9.39	9.47	9.35	10.00
5	QPSK	12	7	9.42	9.52	9.34	10.00
5	QPSK	12	13	9.28	9.35	9.34	10.00
5	QPSK	25	0	9.38	9.33	9.37	10.00
5	16QAM	1	0	9.29	9.39	9.38	10.00
5	16QAM	1	12	9.38	9.53	9.57	10.00
5	16QAM	1	24	9.31	9.28	9.44	10.00
5	16QAM	12	0	9.27	9.43	9.27	10.00
5	16QAM	12	7	9.22	9.41	9.33	10.00
5	16QAM	12	13	9.26	9.34	9.39	10.00
5	16QAM	25	0	9.23	9.27	9.28	10.00
5	64QAM	1	0	9.15	9.24	9.23	10.00
5	64QAM	1	12	9.27	9.33	9.42	10.00
5	64QAM	1	24	9.15	9.12	9.25	10.00
5	64QAM	12	0	9.29	9.33	9.32	10.00
5	64QAM	12	7	9.33	9.38	9.38	10.00
5	64QAM	12	13	9.24	9.15	9.38	10.00
5	64QAM	25	0	9.21	9.20	9.36	10.00
5	256QAM	1	0	9.11	9.23	9.12	10.00
5	256QAM	1	12	9.11	9.28	9.25	10.00
5	256QAM	1	24	8.99	8.97	9.16	10.00
5	256QAM	12	0	9.12	9.18	9.21	10.00
5	256QAM	12	7	9.21	9.22	9.13	10.00
5	256QAM	12	13	9.06	9.07	9.05	10.00
5	256QAM	25	0	9.12	9.04	9.11	10.00

**【LTE Band 42 (96) _FCC_ Part 96 (3550~3600MHz) _Ant 8】**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				43190	43340	43490	Tune-up limit (dBm)
Frequency (MHz)				3560	3575	3590	
20	QPSK	1	0	9.48	9.50	9.49	10.00
20	QPSK	1	49	9.42	9.41	9.39	10.00
20	QPSK	1	99	9.22	9.21	9.19	10.00
20	QPSK	50	0	9.54	9.55	9.53	10.00
20	QPSK	50	24	9.51	9.51	9.46	10.00
20	QPSK	50	50	9.44	9.41	9.40	10.00
20	QPSK	100	0	9.45	9.44	9.45	10.00
20	16QAM	1	0	9.63	9.60	9.60	10.00
20	16QAM	1	49	9.69	9.66	9.65	10.00
20	16QAM	1	99	9.44	9.41	9.48	10.00
20	16QAM	50	0	9.51	9.50	9.51	10.00
20	16QAM	50	24	9.48	9.48	9.48	10.00
20	16QAM	50	50	9.41	9.40	9.43	10.00
20	16QAM	100	0	9.45	9.38	9.44	10.00
20	64QAM	1	0	9.47	9.44	9.43	10.00
20	64QAM	1	49	9.51	9.47	9.45	10.00
20	64QAM	1	99	9.27	9.27	9.32	10.00
20	64QAM	50	0	9.54	9.49	9.49	10.00
20	64QAM	50	24	9.42	9.44	9.46	10.00
20	64QAM	50	50	9.38	9.37	9.37	10.00
20	64QAM	100	0	9.43	9.42	9.40	10.00
20	256QAM	1	0	9.35	9.27	9.24	10.00
20	256QAM	1	49	9.40	9.28	9.33	10.00
20	256QAM	1	99	9.07	9.12	9.14	10.00
20	256QAM	50	0	9.39	9.34	9.32	10.00
20	256QAM	50	24	9.23	9.27	9.31	10.00
20	256QAM	50	50	9.27	9.23	9.24	10.00
20	256QAM	100	0	9.28	9.23	9.23	10.00
Channel				43165	43340	43515	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3575	3592.5	
15	QPSK	1	0	9.42	9.42	9.44	10.00
15	QPSK	1	37	9.39	9.38	9.27	10.00
15	QPSK	1	74	9.20	9.06	9.08	10.00
15	QPSK	36	0	9.50	9.41	9.39	10.00
15	QPSK	36	20	9.44	9.48	9.43	10.00
15	QPSK	36	39	9.34	9.34	9.37	10.00
15	QPSK	75	0	9.42	9.37	9.31	10.00
15	16QAM	1	0	9.61	9.59	9.52	10.00
15	16QAM	1	37	9.63	9.62	9.50	10.00
15	16QAM	1	74	9.37	9.30	9.36	10.00
15	16QAM	36	0	9.44	9.39	9.50	10.00
15	16QAM	36	20	9.40	9.35	9.37	10.00
15	16QAM	36	39	9.35	9.30	9.34	10.00
15	16QAM	75	0	9.43	9.31	9.37	10.00
15	64QAM	1	0	9.34	9.41	9.39	10.00
15	64QAM	1	37	9.43	9.40	9.42	10.00
15	64QAM	1	74	9.22	9.22	9.29	10.00
15	64QAM	36	0	9.51	9.39	9.38	10.00
15	64QAM	36	20	9.29	9.36	9.33	10.00
15	64QAM	36	39	9.34	9.28	9.35	10.00
15	64QAM	75	0	9.37	9.35	9.25	10.00
15	256QAM	1	0	9.32	9.17	9.14	10.00
15	256QAM	1	37	9.26	9.14	9.19	10.00
15	256QAM	1	74	9.02	9.07	9.05	10.00
15	256QAM	36	0	9.37	9.25	9.25	10.00
15	256QAM	36	20	9.17	9.16	9.26	10.00
15	256QAM	36	39	9.18	9.16	9.21	10.00
15	256QAM	75	0	9.17	9.12	9.13	10.00
Channel				43140	43340	43540	Tune-up limit (dBm)
Frequency (MHz)				3555	3575	3595	
10	QPSK	1	0	9.46	9.45	9.43	10.00
10	QPSK	1	25	9.39	9.32	9.37	10.00
10	QPSK	1	49	9.12	9.15	9.10	10.00
10	QPSK	25	0	9.49	9.44	9.51	10.00
10	QPSK	25	12	9.41	9.38	9.43	10.00
10	QPSK	25	25	9.31	9.26	9.38	10.00
10	QPSK	50	0	9.33	9.33	9.39	10.00
10	16QAM	1	0	9.50	9.46	9.51	10.00
10	16QAM	1	25	9.60	9.51	9.51	10.00
10	16QAM	1	49	9.36	9.39	9.44	10.00
10	16QAM	25	0	9.45	9.37	9.42	10.00



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10	16QAM	25	12	9.43	9.43	9.38	10.00
10	16QAM	25	25	9.37	9.31	9.32	10.00
10	16QAM	50	0	9.39	9.36	9.33	10.00
10	64QAM	1	0	9.46	9.33	9.31	10.00
10	64QAM	1	25	9.43	9.45	9.34	10.00
10	64QAM	1	49	9.25	9.13	9.19	10.00
10	64QAM	25	0	9.41	9.35	9.41	10.00
10	64QAM	25	12	9.30	9.34	9.44	10.00
10	64QAM	25	25	9.35	9.29	9.33	10.00
10	64QAM	50	0	9.34	9.36	9.28	10.00
10	256QAM	1	0	9.26	9.26	9.21	10.00
10	256QAM	1	25	9.27	9.17	9.28	10.00
10	256QAM	1	49	8.96	9.02	9.04	10.00
10	256QAM	25	0	9.38	9.25	9.23	10.00
10	256QAM	25	12	9.19	9.19	9.28	10.00
10	256QAM	25	25	9.24	9.14	9.22	10.00
10	256QAM	50	0	9.22	9.15	9.15	10.00
Channel				43115	43340	43565	Tune-up limit
Frequency (MHz)				3552.5	3575	3597.5	
5	QPSK	1	0	9.45	9.35	9.47	10.00
5	QPSK	1	12	9.40	9.36	9.32	10.00
5	QPSK	1	24	9.09	9.11	9.14	10.00
5	QPSK	12	0	9.45	9.49	9.51	10.00
5	QPSK	12	7	9.48	9.44	9.34	10.00
5	QPSK	12	13	9.33	9.40	9.37	10.00
5	QPSK	25	0	9.36	9.42	9.33	10.00
5	16QAM	1	0	9.50	9.58	9.54	10.00
5	16QAM	1	12	9.62	9.64	9.63	10.00
5	16QAM	1	24	9.37	9.26	9.34	10.00
5	16QAM	12	0	9.49	9.44	9.43	10.00
5	16QAM	12	7	9.45	9.33	9.33	10.00
5	16QAM	12	13	9.39	9.32	9.42	10.00
5	16QAM	25	0	9.33	9.34	9.29	10.00
5	64QAM	1	0	9.35	9.29	9.41	10.00
5	64QAM	1	12	9.43	9.44	9.39	10.00
5	64QAM	1	24	9.25	9.17	9.24	10.00
5	64QAM	12	0	9.46	9.44	9.48	10.00
5	64QAM	12	7	9.38	9.35	9.33	10.00
5	64QAM	12	13	9.31	9.35	9.26	10.00
5	64QAM	25	0	9.40	9.40	9.29	10.00
5	256QAM	1	0	9.24	9.13	9.11	10.00
5	256QAM	1	12	9.34	9.25	9.21	10.00
5	256QAM	1	24	9.00	8.99	9.07	10.00
5	256QAM	12	0	9.35	9.31	9.30	10.00
5	256QAM	12	7	9.09	9.16	9.17	10.00
5	256QAM	12	13	9.15	9.10	9.19	10.00
5	256QAM	25	0	9.18	9.14	9.17	10.00

【LTE Band 43 (96)_FCC_Part 96 (3600~3700MHz)_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				43690	44090	44490	
Frequency (MHz)				3610	3650	3690	
20	QPSK	1	0	8.60	8.58	8.61	9.00
20	QPSK	1	49	8.46	8.38	8.40	9.00
20	QPSK	1	99	8.27	8.18	8.17	9.00
20	QPSK	50	0	8.59	8.55	8.60	9.00
20	QPSK	50	24	8.55	8.50	8.49	9.00
20	QPSK	50	50	8.47	8.39	8.41	9.00
20	QPSK	100	0	8.51	8.44	8.47	9.00
20	16QAM	1	0	8.69	8.70	8.71	9.00
20	16QAM	1	49	8.76	8.69	8.70	9.00
20	16QAM	1	99	8.54	8.45	8.43	9.00
20	16QAM	50	0	8.63	8.56	8.57	9.00
20	16QAM	50	24	8.59	8.54	8.55	9.00
20	16QAM	50	50	8.51	8.43	8.43	9.00
20	16QAM	100	0	8.53	8.44	8.48	9.00
20	64QAM	1	0	8.55	8.54	8.56	9.00
20	64QAM	1	49	8.56	8.52	8.53	9.00
20	64QAM	1	99	8.37	8.30	8.27	9.00
20	64QAM	50	0	8.62	8.56	8.56	9.00
20	64QAM	50	24	8.59	8.53	8.49	9.00
20	64QAM	50	50	8.49	8.41	8.43	9.00
20	64QAM	100	0	8.52	8.42	8.47	9.00
20	256QAM	1	0	8.39	8.41	8.39	9.00
20	256QAM	1	49	8.41	8.33	8.38	9.00



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20	256QAM	1	99	8.24	8.19	8.11	9.00
20	256QAM	50	0	8.51	8.40	8.40	9.00
20	256QAM	50	24	8.48	8.40	8.36	9.00
20	256QAM	50	50	8.33	8.26	8.23	9.00
20	256QAM	100	0	8.35	8.29	8.31	9.00
Channel				43665	44090	44515	Tune-up limit
Frequency (MHz)				3607.5	3650	3692.5	(dBm)
15	QPSK	1	0	8.42	8.47	8.58	9.00
15	QPSK	1	37	8.40	8.36	8.38	9.00
15	QPSK	1	74	8.22	8.07	8.05	9.00
15	QPSK	36	0	8.55	8.43	8.55	9.00
15	QPSK	36	20	8.47	8.48	8.36	9.00
15	QPSK	36	39	8.37	8.31	8.35	9.00
15	QPSK	75	0	8.37	8.42	8.32	9.00
15	16QAM	1	0	8.62	8.56	8.60	9.00
15	16QAM	1	37	8.69	8.57	8.65	9.00
15	16QAM	1	74	8.48	8.30	8.30	9.00
15	16QAM	36	0	8.51	8.45	8.46	9.00
15	16QAM	36	20	8.55	8.46	8.53	9.00
15	16QAM	36	39	8.40	8.33	8.30	9.00
15	16QAM	75	0	8.49	8.31	8.33	9.00
15	64QAM	1	0	8.50	8.51	8.52	9.00
15	64QAM	1	37	8.51	8.44	8.49	9.00
15	64QAM	1	74	8.33	8.29	8.25	9.00
15	64QAM	36	0	8.53	8.43	8.42	9.00
15	64QAM	36	20	8.51	8.47	8.48	9.00
15	64QAM	36	39	8.35	8.35	8.36	9.00
15	64QAM	75	0	8.41	8.32	8.41	9.00
15	256QAM	1	0	8.27	8.29	8.36	9.00
15	256QAM	1	37	8.30	8.21	8.37	9.00
15	256QAM	1	74	8.22	8.12	8.02	9.00
15	256QAM	36	0	8.47	8.26	8.32	9.00
15	256QAM	36	20	8.45	8.38	8.28	9.00
15	256QAM	36	39	8.26	8.19	8.17	9.00
15	256QAM	75	0	8.21	8.19	8.18	9.00
Channel				43640	44090	44540	Tune-up limit
Frequency (MHz)				3605	3650	3695	(dBm)
10	QPSK	1	0	8.40	8.53	8.55	9.00
10	QPSK	1	25	8.38	8.30	8.30	9.00
10	QPSK	1	49	8.26	8.12	8.03	9.00
10	QPSK	25	0	8.57	8.44	8.45	9.00
10	QPSK	25	12	8.47	8.38	8.34	9.00
10	QPSK	25	25	8.44	8.36	8.31	9.00
10	QPSK	50	0	8.46	8.30	8.44	9.00
10	16QAM	1	0	8.59	8.65	8.58	9.00
10	16QAM	1	25	8.69	8.68	8.56	9.00
10	16QAM	1	49	8.52	8.43	8.41	9.00
10	16QAM	25	0	8.51	8.54	8.47	9.00
10	16QAM	25	12	8.52	8.47	8.42	9.00
10	16QAM	25	25	8.50	8.35	8.42	9.00
10	16QAM	50	0	8.51	8.32	8.44	9.00
10	64QAM	1	0	8.47	8.44	8.46	9.00
10	64QAM	1	25	8.50	8.44	8.45	9.00
10	64QAM	1	49	8.28	8.19	8.15	9.00
10	64QAM	25	0	8.47	8.51	8.53	9.00
10	64QAM	25	12	8.57	8.41	8.46	9.00
10	64QAM	25	25	8.43	8.34	8.32	9.00
10	64QAM	50	0	8.38	8.32	8.37	9.00
10	256QAM	1	0	8.24	8.39	8.34	9.00
10	256QAM	1	25	8.28	8.23	8.32	9.00
10	256QAM	1	49	8.20	8.16	8.00	9.00
10	256QAM	25	0	8.49	8.33	8.25	9.00
10	256QAM	25	12	8.44	8.27	8.29	9.00
10	256QAM	25	25	8.29	8.21	8.16	9.00
10	256QAM	50	0	8.26	8.28	8.17	9.00
Channel				43615	44090	44565	Tune-up limit
Frequency (MHz)				3602.5	3650	3697.5	(dBm)
5	QPSK	1	0	8.42	8.57	8.53	9.00
5	QPSK	1	12	8.38	8.24	8.37	9.00
5	QPSK	1	24	8.19	8.03	8.10	9.00
5	QPSK	12	0	8.45	8.46	8.57	9.00
5	QPSK	12	7	8.49	8.49	8.45	9.00
5	QPSK	12	13	8.45	8.30	8.36	9.00
5	QPSK	25	0	8.46	8.42	8.39	9.00
5	16QAM	1	0	8.67	8.57	8.65	9.00
5	16QAM	1	12	8.66	8.55	8.56	9.00
5	16QAM	1	24	8.46	8.35	8.37	9.00
5	16QAM	12	0	8.53	8.52	8.52	9.00



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5	16QAM	12	7	8.58	8.51	8.53	9.00
5	16QAM	12	13	8.45	8.41	8.34	9.00
5	16QAM	25	0	8.49	8.38	8.36	9.00
5	64QAM	1	0	8.51	8.44	8.47	9.00
5	64QAM	1	12	8.41	8.37	8.51	9.00
5	64QAM	1	24	8.33	8.27	8.24	9.00
5	64QAM	12	0	8.50	8.55	8.49	9.00
5	64QAM	12	7	8.51	8.41	8.39	9.00
5	64QAM	12	13	8.46	8.37	8.39	9.00
5	64QAM	25	0	8.47	8.32	8.36	9.00
5	256QAM	1	0	8.36	8.39	8.34	9.00
5	256QAM	1	12	8.27	8.20	8.26	9.00
5	256QAM	1	24	8.09	8.14	8.08	9.00
5	256QAM	12	0	8.44	8.35	8.35	9.00
5	256QAM	12	7	8.34	8.39	8.34	9.00
5	256QAM	12	13	8.19	8.22	8.12	9.00
5	256QAM	25	0	8.28	8.18	8.22	9.00

【LTE Band 48_FCC_Part 96
(3550~3700MHz)_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	55990	56150	56640	Tune-up limit (dBm)
Frequency (MHz)				3560	3609	3625	3641	3690	
20	QPSK	1	0	14.89	14.87	14.78	14.72	14.95	15.50
20	QPSK	1	49	14.82	14.85	14.77	14.73	14.90	15.50
20	QPSK	1	99	14.59	14.58	14.54	14.54	14.57	15.50
20	QPSK	50	0	14.99	15.00	14.87	14.82	15.03	15.50
20	QPSK	50	24	14.88	14.91	14.78	14.74	14.93	15.50
20	QPSK	50	50	14.80	14.81	14.69	14.68	14.80	15.50
20	QPSK	100	0	14.87	14.86	14.77	14.73	14.90	15.50
20	16QAM	1	0	14.96	14.94	14.85	14.77	15.01	15.50
20	16QAM	1	49	14.91	14.93	14.85	14.78	14.96	15.50
20	16QAM	1	99	14.62	14.62	14.59	14.59	14.63	15.50
20	16QAM	50	0	15.01	15.01	14.88	14.80	15.01	15.50
20	16QAM	50	24	14.93	14.96	14.84	14.80	14.97	15.50
20	16QAM	50	50	14.78	14.81	14.73	14.75	14.82	15.50
20	16QAM	100	0	14.89	14.92	14.81	14.73	14.95	15.50
20	64QAM	1	0	14.74	14.70	14.63	14.54	14.79	15.50
20	64QAM	1	49	14.64	14.68	14.58	14.55	14.75	15.50
20	64QAM	1	99	14.40	14.40	14.37	14.36	14.39	15.50
20	64QAM	50	0	14.99	14.97	14.83	14.78	15.04	15.50
20	64QAM	50	24	14.90	14.98	14.81	14.76	14.92	15.50
20	64QAM	50	50	14.79	14.78	14.72	14.72	14.86	15.50
20	64QAM	100	0	14.90	14.90	14.78	14.72	14.92	15.50
20	256QAM	1	0	14.77	14.77	14.79	14.67	14.88	15.50
20	256QAM	1	49	14.70	14.67	14.70	14.62	14.78	15.50
20	256QAM	1	99	14.80	14.76	14.74	14.63	14.86	15.50
20	256QAM	50	0	14.83	14.79	14.83	14.66	14.95	15.50
20	256QAM	50	24	14.86	14.77	14.80	14.64	14.94	15.50
20	256QAM	50	50	14.67	14.67	14.62	14.54	14.74	15.50
20	256QAM	100	0	14.76	14.74	14.69	14.54	14.76	15.50
Channel				55315	55820	55990	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3625	3642	3692.5	
15	QPSK	1	0	14.76	14.74	14.67	14.65	14.82	15.50
15	QPSK	1	37	14.81	14.77	14.74	14.71	14.88	15.50
15	QPSK	1	74	14.57	14.44	14.52	14.50	14.44	15.50
15	QPSK	36	0	14.90	14.91	14.74	14.77	14.89	15.50
15	QPSK	36	20	14.84	14.88	14.64	14.62	14.85	15.50
15	QPSK	36	39	14.69	14.69	14.65	14.59	14.71	15.50
15	QPSK	75	0	14.82	14.79	14.70	14.61	14.78	15.50
15	16QAM	1	0	14.90	14.84	14.73	14.62	14.92	15.50
15	16QAM	1	37	14.79	14.79	14.82	14.73	14.85	15.50
15	16QAM	1	74	14.59	14.55	14.48	14.54	14.60	15.50
15	16QAM	36	0	14.87	14.91	14.77	14.68	14.95	15.50
15	16QAM	36	20	14.82	14.94	14.72	14.72	14.92	15.50
15	16QAM	36	39	14.66	14.74	14.62	14.61	14.75	15.50
15	16QAM	75	0	14.79	14.87	14.68	14.60	14.86	15.50
15	64QAM	1	0	14.69	14.56	14.59	14.42	14.66	15.50
15	64QAM	1	37	14.50	14.60	14.46	14.50	14.66	15.50
15	64QAM	1	74	14.38	14.39	14.24	14.32	14.34	15.50
15	64QAM	36	0	14.91	14.85	14.70	14.71	14.94	15.50
15	64QAM	36	20	14.88	14.91	14.72	14.67	14.81	15.50
15	64QAM	36	39	14.65	14.71	14.57	14.59	14.72	15.50
15	64QAM	75	0	14.77	14.79	14.70	14.65	14.90	15.50



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15	256QAM	1	0	14.76	14.68	14.76	14.58	14.87	15.50
15	256QAM	1	37	14.67	14.61	14.60	14.51	14.66	15.50
15	256QAM	1	74	14.77	14.66	14.65	14.53	14.74	15.50
15	256QAM	36	0	14.78	14.68	14.76	14.53	14.85	15.50
15	256QAM	36	20	14.77	14.66	14.66	14.60	14.92	15.50
15	256QAM	36	39	14.61	14.54	14.53	14.48	14.68	15.50
15	256QAM	75	0	14.75	14.61	14.56	14.43	14.73	15.50
Channel				55290	55815	55990	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3625	3642.5	3695	
10	QPSK	1	0	14.82	14.78	14.73	14.58	14.81	15.50
10	QPSK	1	25	14.70	14.82	14.63	14.58	14.82	15.50
10	QPSK	1	49	14.52	14.50	14.40	14.41	14.49	15.50
10	QPSK	25	0	14.95	14.97	14.80	14.71	14.93	15.50
10	QPSK	25	12	14.82	14.77	14.72	14.73	14.89	15.50
10	QPSK	25	25	14.73	14.72	14.62	14.60	14.72	15.50
10	QPSK	50	0	14.77	14.77	14.69	14.63	14.86	15.50
10	16QAM	1	0	14.85	14.83	14.74	14.70	14.92	15.50
10	16QAM	1	25	14.86	14.81	14.74	14.69	14.88	15.50
10	16QAM	1	49	14.49	14.59	14.49	14.50	14.57	15.50
10	16QAM	25	0	14.90	14.99	14.74	14.78	14.96	15.50
10	16QAM	25	12	14.87	14.92	14.75	14.74	14.95	15.50
10	16QAM	25	25	14.64	14.73	14.63	14.61	14.79	15.50
10	16QAM	50	0	14.80	14.85	14.71	14.64	14.89	15.50
10	64QAM	1	0	14.61	14.62	14.50	14.48	14.75	15.50
10	64QAM	1	25	14.57	14.67	14.55	14.52	14.70	15.50
10	64QAM	1	49	14.35	14.29	14.31	14.31	14.32	15.50
10	64QAM	25	0	14.95	14.90	14.72	14.76	14.91	15.50
10	64QAM	25	12	14.84	14.96	14.73	14.74	14.79	15.50
10	64QAM	25	25	14.71	14.70	14.64	14.66	14.80	15.50
10	64QAM	50	0	14.83	14.86	14.69	14.59	14.86	15.50
10	256QAM	1	0	14.64	14.67	14.70	14.65	14.84	15.50
10	256QAM	1	25	14.64	14.65	14.68	14.47	14.74	15.50
10	256QAM	1	49	14.66	14.68	14.59	14.58	14.77	15.50
10	256QAM	25	0	14.80	14.66	14.73	14.61	14.84	15.50
10	256QAM	25	12	14.81	14.64	14.75	14.51	14.79	15.50
10	256QAM	25	25	14.62	14.53	14.53	14.39	14.72	15.50
10	256QAM	50	0	14.62	14.69	14.54	14.52	14.61	15.50
Channel				55265	55810	55990	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3625	3643	3697.5	
5	QPSK	1	0	14.75	14.74	14.68	14.62	14.84	15.50
5	QPSK	1	12	14.80	14.71	14.64	14.69	14.88	15.50
5	QPSK	1	24	14.50	14.55	14.52	14.42	14.50	15.50
5	QPSK	12	0	14.97	14.85	14.85	14.72	14.94	15.50
5	QPSK	12	7	14.79	14.83	14.69	14.65	14.82	15.50
5	QPSK	12	13	14.72	14.71	14.64	14.67	14.78	15.50
5	QPSK	25	0	14.81	14.73	14.68	14.64	14.79	15.50
5	16QAM	1	0	14.87	14.87	14.80	14.63	14.99	15.50
5	16QAM	1	12	14.84	14.92	14.77	14.73	14.83	15.50
5	16QAM	1	24	14.49	14.49	14.50	14.48	14.55	15.50
5	16QAM	12	0	14.90	14.97	14.86	14.68	14.97	15.50
5	16QAM	12	7	14.85	14.85	14.77	14.72	14.93	15.50
5	16QAM	12	13	14.63	14.70	14.67	14.66	14.75	15.50
5	16QAM	25	0	14.84	14.83	14.73	14.70	14.90	15.50
5	64QAM	1	0	14.72	14.66	14.48	14.45	14.73	15.50
5	64QAM	1	12	14.54	14.64	14.54	14.40	14.71	15.50
5	64QAM	1	24	14.34	14.28	14.31	14.32	14.29	15.50
5	64QAM	12	0	14.92	14.85	14.71	14.67	14.94	15.50
5	64QAM	12	7	14.89	14.88	14.72	14.65	14.87	15.50
5	64QAM	12	13	14.70	14.66	14.65	14.65	14.72	15.50
5	64QAM	25	0	14.84	14.85	14.70	14.65	14.80	15.50
5	256QAM	1	0	14.70	14.65	14.72	14.62	14.74	15.50
5	256QAM	1	12	14.55	14.65	14.58	14.59	14.67	15.50
5	256QAM	1	24	14.66	14.72	14.60	14.53	14.74	15.50
5	256QAM	12	0	14.72	14.64	14.68	14.51	14.83	15.50
5	256QAM	12	7	14.71	14.74	14.68	14.59	14.81	15.50
5	256QAM	12	13	14.53	14.58	14.61	14.41	14.65	15.50
5	256QAM	25	0	14.67	14.64	14.64	14.52	14.68	15.50

**【LTE Band 48 _FCC_Part 96
(3550~3700MHz)_Ant 8】**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	55990	56150	56640	
Frequency (MHz)				3560	3609	3625	3641	3690	
20	QPSK	1	0	9.16	9.32	9.30	9.23	9.38	9.50
20	QPSK	1	49	8.98	9.09	8.98	8.90	9.04	9.50
20	QPSK	1	99	8.76	8.78	8.78	8.74	8.78	9.50
20	QPSK	50	0	9.14	9.16	9.08	8.98	9.17	9.50
20	QPSK	50	24	9.04	9.06	9.01	8.90	9.05	9.50
20	QPSK	50	50	8.94	8.96	8.88	8.84	8.94	9.50
20	QPSK	100	0	9.02	9.05	8.97	8.91	9.03	9.50
20	16QAM	1	0	9.15	9.10	9.06	9.00	9.14	9.50
20	16QAM	1	49	9.07	9.13	9.04	8.94	9.09	9.50
20	16QAM	1	99	8.81	8.84	8.82	8.80	8.82	9.50
20	16QAM	50	0	9.17	9.17	9.10	9.02	9.19	9.50
20	16QAM	50	24	9.11	9.11	9.05	8.93	9.11	9.50
20	16QAM	50	50	8.95	8.98	8.95	8.88	8.98	9.50
20	16QAM	100	0	9.03	9.07	9.01	8.93	9.02	9.50
20	64QAM	1	0	8.93	8.87	8.85	8.80	8.92	9.50
20	64QAM	1	49	8.81	8.92	8.79	8.71	8.86	9.50
20	64QAM	1	99	8.57	8.61	8.61	8.56	8.59	9.50
20	64QAM	50	0	9.12	9.19	9.06	8.99	9.18	9.50
20	64QAM	50	24	9.08	9.11	9.03	8.92	9.09	9.50
20	64QAM	50	50	8.97	8.99	8.94	8.83	8.99	9.50
20	64QAM	100	0	9.05	9.07	8.99	8.90	9.06	9.50
20	256QAM	1	0	9.06	9.12	9.22	9.10	9.18	9.50
20	256QAM	1	49	8.99	9.20	9.24	9.05	9.24	9.50
20	256QAM	1	99	8.96	9.18	9.19	9.06	9.15	9.50
20	256QAM	50	0	9.18	9.24	9.33	9.18	9.34	9.50
20	256QAM	50	24	9.18	9.27	9.33	9.24	9.33	9.50
20	256QAM	50	50	8.85	9.06	9.13	9.00	9.09	9.50
20	256QAM	100	0	8.97	9.13	9.22	9.11	9.22	9.50
Channel				55315	55820	55990	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3625	3642	3692.5	
15	QPSK	1	0	8.63	8.59	8.50	8.41	8.58	9.50
15	QPSK	1	37	8.57	8.64	8.51	8.43	8.82	9.50
15	QPSK	1	74	8.38	8.41	8.36	8.33	8.88	9.50
15	QPSK	36	0	8.63	8.61	8.48	8.39	9.11	9.50
15	QPSK	36	20	8.50	8.57	8.46	8.38	9.05	9.50
15	QPSK	36	39	8.45	8.49	8.39	8.34	8.93	9.50
15	QPSK	75	0	8.57	8.59	8.49	8.38	9.01	9.50
15	16QAM	1	0	8.66	8.62	8.55	8.45	9.11	9.50
15	16QAM	1	37	8.58	8.64	8.54	8.45	9.05	9.50
15	16QAM	1	74	8.42	8.46	8.39	8.38	8.91	9.50
15	16QAM	36	0	8.56	8.61	8.46	8.45	9.06	9.50
15	16QAM	36	20	8.52	8.58	8.47	8.40	9.01	9.50
15	16QAM	36	39	8.44	8.47	8.34	8.33	8.93	9.50
15	16QAM	75	0	8.59	8.57	8.52	8.44	9.02	9.50
15	64QAM	1	0	8.45	8.41	8.33	8.25	8.92	9.50
15	64QAM	1	37	8.34	8.43	8.30	8.22	8.86	9.50
15	64QAM	1	74	8.19	8.24	8.18	8.16	8.70	9.50
15	64QAM	36	0	8.61	8.62	8.50	8.41	9.11	9.50
15	64QAM	36	20	8.51	8.60	8.46	8.39	9.04	9.50
15	64QAM	36	39	8.46	8.50	8.42	8.35	8.98	9.50
15	64QAM	75	0	8.56	8.58	8.51	8.39	9.01	9.50
15	256QAM	1	0	9.04	8.99	9.09	8.98	9.10	9.50
15	256QAM	1	37	8.85	9.13	9.10	9.02	9.14	9.50
15	256QAM	1	74	8.92	9.06	9.12	9.01	9.00	9.50
15	256QAM	36	0	9.15	9.14	9.32	9.11	9.25	9.50
15	256QAM	36	20	9.09	9.20	9.30	9.14	9.29	9.50
15	256QAM	36	39	8.76	9.00	9.07	8.89	8.98	9.50
15	256QAM	75	0	8.84	9.10	9.12	8.99	9.07	9.50
Channel				55290	55815	55990	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3625	3642.5	3695	
10	QPSK	1	0	9.02	9.31	9.21	9.11	9.36	9.50
10	QPSK	1	25	8.93	9.04	8.89	8.89	8.90	9.50
10	QPSK	1	49	8.69	8.65	8.64	8.66	8.65	9.50
10	QPSK	25	0	9.10	9.08	9.02	8.95	9.12	9.50
10	QPSK	25	12	9.03	8.99	8.95	8.84	8.91	9.50
10	QPSK	25	25	8.91	8.92	8.78	8.72	8.83	9.50
10	QPSK	50	0	8.96	8.94	8.93	8.78	8.97	9.50
10	16QAM	1	0	9.03	9.03	8.91	8.86	9.06	9.50



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10	16QAM	1	25	9.05	8.99	8.91	8.84	9.03	9.50
10	16QAM	1	49	8.67	8.75	8.74	8.69	8.77	9.50
10	16QAM	25	0	9.14	9.10	9.03	8.96	9.16	9.50
10	16QAM	25	12	9.00	9.07	8.91	8.81	8.98	9.50
10	16QAM	25	25	8.81	8.87	8.81	8.85	8.88	9.50
10	16QAM	50	0	8.89	8.96	8.87	8.86	8.92	9.50
10	64QAM	1	0	8.91	8.84	8.70	8.68	8.84	9.50
10	64QAM	1	25	8.79	8.83	8.75	8.60	8.80	9.50
10	64QAM	1	49	8.47	8.54	8.46	8.45	8.48	9.50
10	64QAM	25	0	8.98	9.18	9.03	8.86	9.13	9.50
10	64QAM	25	12	9.05	8.96	8.93	8.89	9.07	9.50
10	64QAM	25	25	8.93	8.90	8.88	8.79	8.86	9.50
10	64QAM	50	0	8.97	9.00	8.94	8.88	9.00	9.50
10	256QAM	1	0	9.00	9.00	9.20	9.07	9.10	9.50
10	256QAM	1	25	8.96	9.09	9.20	8.98	9.11	9.50
10	256QAM	1	49	8.87	9.05	9.16	8.99	9.12	9.50
10	256QAM	25	0	9.13	9.12	9.27	9.09	9.22	9.50
10	256QAM	25	12	9.04	9.14	9.25	9.17	9.32	9.50
10	256QAM	25	25	8.76	8.94	9.03	8.97	9.02	9.50
10	256QAM	50	0	8.95	9.11	9.18	8.96	9.17	9.50
Channel				55265	55810	55990	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3625	3643	3697.5	
5	QPSK	1	0	9.01	9.18	9.16	9.09	9.29	9.50
5	QPSK	1	12	8.88	9.00	8.86	8.82	8.98	9.50
5	QPSK	1	24	8.71	8.71	8.64	8.73	8.73	9.50
5	QPSK	12	0	9.10	9.02	9.03	8.88	9.07	9.50
5	QPSK	12	7	8.91	9.04	8.92	8.85	8.97	9.50
5	QPSK	12	13	8.80	8.82	8.86	8.71	8.79	9.50
5	QPSK	25	0	8.98	9.01	8.83	8.85	8.89	9.50
5	16QAM	1	0	9.12	9.09	8.98	8.96	9.08	9.50
5	16QAM	1	12	9.02	9.07	9.00	8.79	9.06	9.50
5	16QAM	1	24	8.75	8.78	8.76	8.70	8.68	9.50
5	16QAM	12	0	9.07	9.13	9.05	8.92	9.16	9.50
5	16QAM	12	7	9.10	9.02	8.92	8.86	9.00	9.50
5	16QAM	12	13	8.91	8.90	8.92	8.77	8.97	9.50
5	16QAM	25	0	9.02	9.00	8.95	8.86	8.92	9.50
5	64QAM	1	0	8.90	8.79	8.72	8.74	8.79	9.50
5	64QAM	1	12	8.78	8.78	8.75	8.70	8.74	9.50
5	64QAM	1	24	8.55	8.53	8.55	8.44	8.46	9.50
5	64QAM	12	0	9.04	9.05	9.04	8.85	9.08	9.50
5	64QAM	12	7	9.00	9.10	8.96	8.90	9.02	9.50
5	64QAM	12	13	8.89	8.86	8.79	8.73	8.97	9.50
5	64QAM	25	0	8.99	9.03	8.92	8.83	8.97	9.50
5	256QAM	1	0	8.96	9.10	9.19	9.04	9.13	9.50
5	256QAM	1	12	8.96	9.17	9.16	8.93	9.20	9.50
5	256QAM	1	24	8.86	9.06	9.10	8.95	9.13	9.50
5	256QAM	12	0	9.04	9.16	9.25	9.17	9.21	9.50
5	256QAM	12	7	9.05	9.13	9.24	9.16	9.27	9.50
5	256QAM	12	13	8.73	8.97	8.99	8.89	9.02	9.50
5	256QAM	25	0	8.93	9.11	9.21	9.08	9.17	9.50

【LTE Band 66_Ant 8】

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	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	14.21	14.27	14.24	15.00
20	QPSK	1	49	14.12	14.24	14.16	15.00
20	QPSK	1	99	14.03	14.11	14.09	15.00
20	QPSK	50	0	14.30	14.35	14.35	15.00
20	QPSK	50	24	14.29	14.25	14.28	15.00
20	QPSK	50	50	14.19	14.23	14.25	15.00
20	QPSK	100	0	14.23	14.23	14.28	15.00
20	16QAM	1	0	14.60	14.46	14.47	15.00
20	16QAM	1	49	14.51	14.54	14.56	15.00
20	16QAM	1	99	14.31	14.39	14.35	15.00
20	16QAM	50	0	14.26	14.23	14.34	15.00
20	16QAM	50	24	14.29	14.25	14.28	15.00
20	16QAM	50	50	14.20	14.21	14.25	15.00
20	16QAM	100	0	14.20	14.22	14.28	15.00
20	64QAM	1	0	14.43	14.29	14.35	15.00
20	64QAM	1	49	14.37	14.44	14.44	15.00
20	64QAM	1	99	14.17	14.33	14.25	15.00
20	64QAM	50	0	14.25	14.22	14.34	15.00
20	64QAM	50	24	14.28	14.22	14.28	15.00



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20	64QAM	50	50	14.17	14.26	14.25	15.00
20	64QAM	100	0	14.22	14.22	14.29	15.00
20	256QAM	1	0	14.03	14.25	14.09	15.00
20	256QAM	1	49	14.06	14.17	14.07	15.00
20	256QAM	1	99	14.18	14.23	14.17	15.00
20	256QAM	50	0	14.21	14.35	14.24	15.00
20	256QAM	50	24	14.05	14.37	14.23	15.00
20	256QAM	50	50	14.09	14.08	14.15	15.00
20	256QAM	100	0	14.01	14.15	14.12	15.00
Channel				132047	132322	132597	Tune-up limit
Frequency (MHz)				1717.5	1745	1772.5	(dBm)
15	QPSK	1	0	14.33	14.24	14.23	15.00
15	QPSK	1	37	14.24	14.30	14.23	15.00
15	QPSK	1	74	14.20	14.18	14.17	15.00
15	QPSK	36	0	14.30	14.31	14.30	15.00
15	QPSK	36	20	14.30	14.25	14.22	15.00
15	QPSK	36	39	14.22	14.26	14.19	15.00
15	QPSK	75	0	14.32	14.30	14.28	15.00
15	16QAM	1	0	14.63	14.60	14.55	15.00
15	16QAM	1	37	14.56	14.57	14.55	15.00
15	16QAM	1	74	14.49	14.49	14.45	15.00
15	16QAM	36	0	14.35	14.30	14.32	15.00
15	16QAM	36	20	14.30	14.31	14.28	15.00
15	16QAM	36	39	14.31	14.26	14.25	15.00
15	16QAM	75	0	14.30	14.27	14.30	15.00
15	64QAM	1	0	14.53	14.43	14.40	15.00
15	64QAM	1	37	14.43	14.48	14.46	15.00
15	64QAM	1	74	14.36	14.36	14.35	15.00
15	64QAM	36	0	14.39	14.33	14.29	15.00
15	64QAM	36	20	14.34	14.33	14.30	15.00
15	64QAM	36	39	14.27	14.28	14.28	15.00
15	64QAM	75	0	14.29	14.29	14.29	15.00
15	256QAM	1	0	13.93	14.14	14.07	15.00
15	256QAM	1	37	13.94	14.07	14.04	15.00
15	256QAM	1	74	14.10	14.14	14.07	15.00
15	256QAM	36	0	14.18	14.28	14.10	15.00
15	256QAM	36	20	14.04	14.33	14.26	15.00
15	256QAM	36	39	14.10	14.01	13.95	15.00
15	256QAM	75	0	13.96	14.04	14.05	15.00
Channel				132022	132322	132622	Tune-up limit
Frequency (MHz)				1715	1745	1775	(dBm)
10	QPSK	1	0	14.10	14.16	14.16	15.00
10	QPSK	1	25	13.96	14.06	14.09	15.00
10	QPSK	1	49	14.00	14.09	14.03	15.00
10	QPSK	25	0	14.00	14.16	14.07	15.00
10	QPSK	25	12	13.97	14.14	14.01	15.00
10	QPSK	25	25	13.97	14.08	14.02	15.00
10	QPSK	50	0	14.03	14.20	14.10	15.00
10	16QAM	1	0	14.21	14.26	14.23	15.00
10	16QAM	1	25	14.36	14.42	14.38	15.00
10	16QAM	1	49	14.30	14.41	14.37	15.00
10	16QAM	25	0	14.08	14.09	14.05	15.00
10	16QAM	25	12	13.99	14.17	14.11	15.00
10	16QAM	25	25	14.06	14.21	14.02	15.00
10	16QAM	50	0	14.04	14.09	14.04	15.00
10	64QAM	1	0	14.12	14.23	14.12	15.00
10	64QAM	1	25	14.20	14.29	14.24	15.00
10	64QAM	1	49	14.19	14.29	14.32	15.00
10	64QAM	25	0	14.13	14.14	14.14	15.00
10	64QAM	25	12	14.04	14.08	14.15	15.00
10	64QAM	25	25	14.00	14.12	13.99	15.00
10	64QAM	50	0	14.06	14.13	14.07	15.00
10	256QAM	1	0	14.00	14.16	14.06	15.00
10	256QAM	1	25	14.00	14.15	14.12	15.00
10	256QAM	1	49	14.10	14.18	14.10	15.00
10	256QAM	25	0	14.17	14.23	14.12	15.00
10	256QAM	25	12	13.95	14.26	14.21	15.00
10	256QAM	25	25	14.03	14.12	14.04	15.00
10	256QAM	50	0	14.00	14.12	14.14	15.00
Channel				131997	132322	132647	Tune-up limit
Frequency (MHz)				1712.5	1745	1777.5	(dBm)
5	QPSK	1	0	14.14	14.25	14.15	15.00
5	QPSK	1	12	13.98	14.17	14.02	15.00
5	QPSK	1	24	13.90	14.12	13.94	15.00
5	QPSK	12	0	14.01	14.22	14.07	15.00
5	QPSK	12	7	13.98	14.09	14.07	15.00
5	QPSK	12	13	13.98	14.06	14.01	15.00
5	QPSK	25	0	14.11	14.18	14.12	15.00



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5	16QAM	1	0	14.30	14.34	14.32	15.00
5	16QAM	1	12	14.37	14.44	14.36	15.00
5	16QAM	1	24	14.33	14.46	14.41	15.00
5	16QAM	12	0	14.04	14.15	14.14	15.00
5	16QAM	12	7	14.13	14.07	14.13	15.00
5	16QAM	12	13	14.05	14.25	14.09	15.00
5	16QAM	25	0	14.03	14.15	14.13	15.00
5	64QAM	1	0	14.20	14.16	14.17	15.00
5	64QAM	1	12	14.32	14.23	14.30	15.00
5	64QAM	1	24	14.19	14.33	14.19	15.00
5	64QAM	12	0	14.09	14.13	14.06	15.00
5	64QAM	12	7	13.98	14.12	14.15	15.00
5	64QAM	12	13	14.06	14.17	14.07	15.00
5	64QAM	25	0	14.02	14.13	14.07	15.00
5	256QAM	1	0	13.98	14.19	14.06	15.00
5	256QAM	1	12	13.89	14.11	14.01	15.00
5	256QAM	1	24	14.11	14.08	14.13	15.00
5	256QAM	12	0	14.22	14.29	14.14	15.00
5	256QAM	12	7	13.94	14.27	14.21	15.00
5	256QAM	12	13	14.08	14.05	14.02	15.00
5	256QAM	25	0	13.94	14.09	14.09	15.00
Channel				131987	132322	132657	Tune-up limit
Frequency (MHz)				1711.5	1745	1778.5	(dBm)
3	QPSK	1	0	14.09	14.21	14.12	15.00
3	QPSK	1	8	13.95	14.09	14.03	15.00
3	QPSK	1	14	13.89	14.00	13.99	15.00
3	QPSK	8	0	14.03	14.18	14.08	15.00
3	QPSK	8	4	13.99	14.08	14.08	15.00
3	QPSK	8	7	14.00	14.14	14.02	15.00
3	QPSK	15	0	14.08	14.20	14.13	15.00
3	16QAM	1	0	14.30	14.37	14.32	15.00
3	16QAM	1	8	14.36	14.45	14.35	15.00
3	16QAM	1	14	14.19	14.35	14.35	15.00
3	16QAM	8	0	14.08	14.12	14.03	15.00
3	16QAM	8	4	14.03	14.11	14.17	15.00
3	16QAM	8	7	14.06	14.19	14.11	15.00
3	16QAM	15	0	14.04	14.20	14.13	15.00
3	64QAM	1	0	14.22	14.22	14.13	15.00
3	64QAM	1	8	14.26	14.28	14.18	15.00
3	64QAM	1	14	14.13	14.27	14.30	15.00
3	64QAM	8	0	14.03	14.07	14.09	15.00
3	64QAM	8	4	13.95	14.11	14.08	15.00
3	64QAM	8	7	14.00	14.22	13.96	15.00
3	64QAM	15	0	14.04	14.14	14.13	15.00
3	256QAM	1	0	13.94	14.18	14.09	15.00
3	256QAM	1	8	13.89	14.10	14.07	15.00
3	256QAM	1	14	14.03	14.03	14.02	15.00
3	256QAM	8	0	14.19	14.28	14.16	15.00
3	256QAM	8	4	14.01	14.25	14.24	15.00
3	256QAM	8	7	14.08	14.01	14.01	15.00
3	256QAM	15	0	13.86	14.14	14.10	15.00
Channel				131979	132322	132665	Tune-up limit
Frequency (MHz)				1710.7	1745	1779.3	(dBm)
1.4	QPSK	1	0	14.18	14.22	14.20	15.00
1.4	QPSK	1	3	13.92	14.18	14.13	15.00
1.4	QPSK	1	5	13.96	14.10	13.95	15.00
1.4	QPSK	3	0	14.10	14.14	14.07	15.00
1.4	QPSK	3	1	14.07	14.10	14.11	15.00
1.4	QPSK	3	3	13.93	14.00	14.09	15.00
1.4	QPSK	6	0	13.99	14.14	14.09	15.00
1.4	16QAM	1	0	14.28	14.41	14.24	15.00
1.4	16QAM	1	3	14.43	14.44	14.35	15.00
1.4	16QAM	1	5	14.17	14.42	14.41	15.00
1.4	16QAM	3	0	14.13	14.07	14.06	15.00
1.4	16QAM	3	1	14.04	14.04	14.10	15.00
1.4	16QAM	3	3	14.02	14.22	14.13	15.00
1.4	16QAM	6	0	14.08	14.12	14.08	15.00
1.4	64QAM	1	0	14.17	14.09	14.15	15.00
1.4	64QAM	1	3	14.26	14.34	14.25	15.00
1.4	64QAM	1	5	14.13	14.35	14.23	15.00
1.4	64QAM	3	0	14.06	14.18	14.15	15.00
1.4	64QAM	3	1	14.02	14.18	14.08	15.00
1.4	64QAM	3	3	13.98	14.13	14.02	15.00
1.4	64QAM	6	0	14.03	14.12	14.09	15.00
1.4	256QAM	1	0	14.01	14.17	13.96	15.00
1.4	256QAM	1	3	14.04	14.15	13.97	15.00
1.4	256QAM	1	5	14.18	14.16	14.11	15.00
1.4	256QAM	3	0	14.16	14.24	14.11	15.00



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1.4	256QAM	3	1	14.02	14.27	14.16	15.00
1.4	256QAM	3	3	14.01	14.04	14.02	15.00
1.4	256QAM	6	0	13.95	14.06	14.07	15.00

【LTE Band 71_Ant 5】

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	Tune-up limit (dBm)
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	17.11	17.12	17.04	18.00
20	QPSK	1	49	17.05	17.02	16.95	18.00
20	QPSK	1	99	17.02	16.99	17.00	18.00
20	QPSK	50	0	17.17	17.24	17.11	18.00
20	QPSK	50	24	17.02	17.16	16.96	18.00
20	QPSK	50	50	17.08	17.22	17.03	18.00
20	QPSK	100	0	17.02	17.23	16.99	18.00
20	16QAM	1	0	17.32	17.30	17.24	18.00
20	16QAM	1	49	17.42	17.41	17.34	18.00
20	16QAM	1	99	17.34	17.30	17.28	18.00
20	16QAM	50	0	17.03	17.22	16.99	18.00
20	16QAM	50	24	17.18	17.15	17.09	18.00
20	16QAM	50	50	17.07	17.20	17.02	18.00
20	16QAM	100	0	17.02	17.19	17.00	18.00
20	64QAM	1	0	17.23	17.17	17.12	18.00
20	64QAM	1	49	17.27	17.26	17.20	18.00
20	64QAM	1	99	17.17	17.17	17.17	18.00
20	64QAM	50	0	17.01	17.24	16.97	18.00
20	64QAM	50	24	17.17	17.14	17.08	18.00
20	64QAM	50	50	17.07	17.25	17.01	18.00
20	64QAM	100	0	17.04	17.21	17.00	18.00
20	256QAM	1	0	16.88	17.08	16.87	18.00
20	256QAM	1	49	16.92	16.99	16.88	18.00
20	256QAM	1	99	17.03	17.08	17.00	18.00
20	256QAM	50	0	17.11	17.20	17.08	18.00
20	256QAM	50	24	16.95	17.21	17.04	18.00
20	256QAM	50	50	17.05	17.01	16.92	18.00
20	256QAM	100	0	16.88	16.96	16.94	18.00
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	17.09	17.03	17.02	18.00
15	QPSK	1	37	16.98	16.98	16.88	18.00
15	QPSK	1	74	16.97	16.96	16.88	18.00
15	QPSK	36	0	17.03	17.18	17.09	18.00
15	QPSK	36	20	16.96	17.15	16.85	18.00
15	QPSK	36	39	16.98	17.20	16.95	18.00
15	QPSK	75	0	17.01	17.09	16.84	18.00
15	16QAM	1	0	17.29	17.17	17.20	18.00
15	16QAM	1	37	17.31	17.33	17.22	18.00
15	16QAM	1	74	17.29	17.19	17.22	18.00
15	16QAM	36	0	17.00	17.17	16.92	18.00
15	16QAM	36	20	17.05	17.05	17.08	18.00
15	16QAM	36	39	17.04	17.11	17.00	18.00
15	16QAM	75	0	16.91	17.06	16.98	18.00
15	64QAM	1	0	17.14	17.07	17.08	18.00
15	64QAM	1	37	17.19	17.15	17.07	18.00
15	64QAM	1	74	17.10	17.10	17.13	18.00
15	64QAM	36	0	16.92	17.17	16.85	18.00
15	64QAM	36	20	17.03	17.01	16.96	18.00
15	64QAM	36	39	16.97	17.13	16.98	18.00
15	64QAM	75	0	16.92	17.11	16.96	18.00
15	256QAM	1	0	16.81	16.98	16.85	18.00
15	256QAM	1	37	16.82	16.89	16.78	18.00
15	256QAM	1	74	16.90	17.07	16.98	18.00
15	256QAM	36	0	17.05	17.17	16.93	18.00
15	256QAM	36	20	16.91	17.18	16.98	18.00
15	256QAM	36	39	16.99	16.97	16.90	18.00
15	256QAM	75	0	16.83	16.85	16.82	18.00
Channel				133172	133297	133422	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	17.07	17.06	16.90	18.00
10	QPSK	1	25	16.98	16.91	16.88	18.00
10	QPSK	1	49	16.92	16.86	16.87	18.00
10	QPSK	25	0	17.03	17.21	17.02	18.00
10	QPSK	25	12	16.90	17.04	16.91	18.00
10	QPSK	25	25	17.05	17.19	16.91	18.00
10	QPSK	50	0	16.89	17.13	16.91	18.00



FCC SAR TEST REPORT

Report No. : FA591806A

10	16QAM	1	0	17.27	17.17	17.14	18.00
10	16QAM	1	25	17.41	17.28	17.25	18.00
10	16QAM	1	49	17.32	17.23	17.23	18.00
10	16QAM	25	0	17.00	17.13	16.91	18.00
10	16QAM	25	12	17.15	17.01	17.06	18.00
10	16QAM	25	25	16.93	17.12	17.00	18.00
10	16QAM	50	0	16.94	17.17	16.87	18.00
10	64QAM	1	0	17.21	17.12	17.09	18.00
10	64QAM	1	25	17.18	17.15	17.11	18.00
10	64QAM	1	49	17.11	17.14	17.06	18.00
10	64QAM	25	0	16.96	17.17	16.87	18.00
10	64QAM	25	12	17.10	17.11	16.93	18.00
10	64QAM	25	25	16.99	17.23	16.91	18.00
10	64QAM	50	0	16.92	17.19	16.97	18.00
10	256QAM	1	0	16.86	16.96	16.82	18.00
10	256QAM	1	25	16.78	16.91	16.78	18.00
10	256QAM	1	49	16.95	17.00	16.92	18.00
10	256QAM	25	0	17.09	17.18	17.02	18.00
10	256QAM	25	12	16.82	17.17	16.95	18.00
10	256QAM	25	25	16.98	16.99	16.80	18.00
10	256QAM	50	0	16.82	16.90	16.91	18.00
Channel				133147	133297	133447	Tune-up limit
Frequency (MHz)				665.5	680.5	695.5	(dBm)
5	QPSK	1	0	17.07	17.03	16.99	18.00
5	QPSK	1	12	16.95	16.95	16.89	18.00
5	QPSK	1	24	16.87	16.94	16.94	18.00
5	QPSK	12	0	17.12	17.20	17.09	18.00
5	QPSK	12	7	16.87	17.14	16.85	18.00
5	QPSK	12	13	17.01	17.20	16.99	18.00
5	QPSK	25	0	16.88	17.17	16.87	18.00
5	16QAM	1	0	17.23	17.18	17.11	18.00
5	16QAM	1	12	17.30	17.32	17.20	18.00
5	16QAM	1	24	17.26	17.15	17.16	18.00
5	16QAM	12	0	16.90	17.20	16.85	18.00
5	16QAM	12	7	17.12	17.13	17.05	18.00
5	16QAM	12	13	17.00	17.15	16.93	18.00
5	16QAM	25	0	16.89	17.12	16.89	18.00
5	64QAM	1	0	17.17	17.09	17.08	18.00
5	64QAM	1	12	17.16	17.22	17.14	18.00
5	64QAM	1	24	17.09	17.13	17.12	18.00
5	64QAM	12	0	16.91	17.12	16.83	18.00
5	64QAM	12	7	17.11	17.05	16.97	18.00
5	64QAM	12	13	16.96	17.21	16.91	18.00
5	64QAM	25	0	16.97	17.16	16.87	18.00
5	256QAM	1	0	16.75	16.95	16.85	18.00
5	256QAM	1	12	16.77	16.91	16.80	18.00
5	256QAM	1	24	16.99	17.06	16.98	18.00
5	256QAM	12	0	17.08	17.11	16.97	18.00
5	256QAM	12	7	16.80	17.19	17.02	18.00
5	256QAM	12	13	16.96	16.99	16.82	18.00
5	256QAM	25	0	16.82	16.94	16.90	18.00

11. UL/DL Carrier aggregation

LTE DL Carrier Aggregation

General Note:

1. According to 202410 TCB workshop, the downlink (DL) pertains to receiver functionality, thus it is not related to RF exposure compliance limits related to cumulative effects of different transmitters.
2. According to 202410 TCB workshop, equipment authorization applications shall refer to the worst-case UL powers resulting from all the possible modes of operations. Accordingly, CA-DL cases do not need to be analyzed separately, unless pertinent to establishing UL power setting.
3. This device supports LTE carrier aggregation in the downlink. All uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded

LTE UL carrier aggregation

General Note:

1. The device supports intra-band uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
2. The device supports uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
3. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
4. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
5. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not 0.25dB higher than the maximum output power for UL CA active.

2CC Uplink Carrier Aggregation	
Number	Combination
1	5B
2	7C
3	38C
4	41C
5	42C
6	48C
7	66B
8	66C

CA_5B_Ant 5										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	15.12	16.5
20475	20574	QPSK	1	0	0	0	2	0	15.13	16.5
20600	20501	QPSK	1	0	0	0	2	0	15.07	16.5

CA_41C_Ant 5										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	16.68	18
40185	39987	QPSK	1	0	0	0	1	0	16.52	18
40620	40422	QPSK	1	0	0	0	1	0	16.73	18
41055	40857	QPSK	1	0	0	0	1	0	16.48	18
41490	41292	QPSK	1	0	0	0	1	0	16.5	18

CA_48C_Ant 5										
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
55632	55830	QPSK	1	0	0	0	1	0	14.49	15.5
55952	56150	QPSK	1	0	0	0	1	0	14.41	15.5
56442	56640	QPSK	1	0	0	0	1	0	14.44	15.5

CA_7C_Ant 8										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	12.25	13
21100	20902	QPSK	1	0	1	99	2	0	12.38	13
21350	21152	QPSK	1	0	1	99	2	0	12.43	13

CA_38C_Ant 8										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	12.21	13
37901	38000	QPSK	1	0	0	0	1	0	12.25	13
38150	37952	QPSK	1	0	0	0	1	0	12.24	13

CA_41C_Ant 8										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	11.64	12.5
40185	39987	QPSK	1	0	0	0	1	0	11.62	12.5
40620	40422	QPSK	1	0	0	0	1	0	11.68	12.5
41055	40857	QPSK	1	0	0	0	1	0	11.49	12.5
41490	41292	QPSK	1	0	0	0	1	0	11.22	12.5

CA_42C_Ant 8										
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				
43190	43388	QPSK	1	0	0	0	1	0	9.24	10
43241	43439	QPSK	1	0	0	0	1	0	9.13	10
43292	43490	QPSK	1	0	0	0	1	0	9.2	10

CA_48C_Ant 8										
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	9.04	9.5
55632	55830	QPSK	1	0	0	0	1	0	9.17	9.5
55952	56150	QPSK	1	0	0	0	1	0	9.14	9.5
56442	56640	QPSK	1	0	0	0	1	0	9.18	9.5

CA_66B_Ant 8										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	13.99	15
132229	132322	QPSK	1	0	0	0	1	0	14.08	15
132504	132597	QPSK	1	0	0	0	1	0	14.01	15

CA_66C_Ant 8										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	14	15
132322	132124	QPSK	1	0	1	99	2	0	14.1	15
132572	132374	QPSK	1	0	1	99	2	0	14.03	15

12. 5G NR Output Power (Unit: dBm)

General Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below
 - a. For DFT-OFDM output power measurement, full measurement was done for Pi/2 BPSK and QPSK and for the largest supported bandwidth, repeat test for 16QAM/64QAM/256QAM under 1RB 1Offset configuration. For smaller bandwidth, measure conducted power for Pi/2 BPSK and 1RB 1Offset configuration.
 - b. According to the tune-up, CP-OFDM output power is not ½ dB higher than DFT-OFDM mode, and the reported SAR of DFT-OFDM mode reported SAR is ≤ 1.45 W/kg, SAR test and thus conducted power for CP-OFDM mode is not required.
 - c. To start SAR test for the largest channel bandwidth for Pi/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for Pi/2 BPSK SAR testing using 1RB Pi/2 BPSK allocation procedure
 - d. For Pi/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is ≤ 1.45 W/kg, the remaining required test channels must also be tested.
 - e. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not ½ dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - f. Smaller bandwidth output power for each RB allocation configuration for this device is not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
2. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.

3GPP 38.101 MPR for EN-DC

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

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

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

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

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

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

【FR1 n2_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				373000	376000	379000	
Frequency (MHz)				1865	1880	1895	
30	PI/2 BPSK	1	1	15.84	16.02	16.24	16.50
30	PI/2 BPSK	1	80	16.26	16.50	16.50	16.50
30	PI/2 BPSK	1	158	16.05	16.26	16.35	16.50
30	PI/2 BPSK	80	0	16.12	16.34	16.48	16.50
30	PI/2 BPSK	80	40	16.20	16.45	16.49	16.50
30	PI/2 BPSK	80	80	16.08	16.40	16.48	16.50
30	PI/2 BPSK	160	0	16.06	16.37	16.46	16.50
30	QPSK	1	1	15.67	15.98	16.16	16.50
30	QPSK	1	80	16.17	16.49	16.48	16.50
30	QPSK	1	158	16.06	16.26	16.38	16.50
30	QPSK	80	0	16.10	16.32	16.49	16.50
30	QPSK	80	40	16.26	16.46	16.50	16.50
30	QPSK	80	80	16.17	16.38	16.47	16.50
30	QPSK	160	0	16.04	16.36	16.48	16.50
30	16QAM	1	1	15.74	15.98	16.15	16.50
30	64QAM	1	1	15.45	15.72	15.87	16.50
30	256QAM	1	1	15.95	16.19	16.34	16.50
Channel				372500	376000	379500	Tune-up limit (dBm)
Frequency (MHz)				1862.5	1880	1897.5	
25	PI/2 BPSK	1	1	15.73	15.95	16.11	16.50
Channel				372000	376000	380000	Tune-up limit (dBm)
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	15.76	15.92	16.14	16.50
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	15.75	15.93	16.12	16.50
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	15.83	15.89	16.23	16.50
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	15.80	15.95	16.12	16.50

【FR1 n2_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				373000	376000	379000	
Frequency (MHz)				1865	1880	1895	
30	PI/2 BPSK	1	1	12.96	13.50	13.29	14.00
30	PI/2 BPSK	1	80	12.56	13.10	12.86	14.00
30	PI/2 BPSK	1	158	12.56	13.11	12.81	14.00
30	PI/2 BPSK	80	0	12.84	13.50	13.19	14.00
30	PI/2 BPSK	80	40	12.88	13.43	13.10	14.00
30	PI/2 BPSK	80	80	12.64	13.30	12.98	14.00
30	PI/2 BPSK	160	0	12.77	13.39	13.03	14.00
30	QPSK	1	1	12.53	13.10	12.86	14.00
30	QPSK	1	80	12.82	13.48	13.25	14.00
30	QPSK	1	158	12.62	13.16	12.84	14.00
30	QPSK	80	0	12.88	13.44	13.10	14.00
30	QPSK	80	40	12.87	13.46	13.16	14.00
30	QPSK	80	80	12.69	13.33	13.09	14.00
30	QPSK	160	0	12.82	13.42	13.09	14.00
30	16QAM	1	1	12.59	13.16	12.83	14.00
30	64QAM	1	1	12.27	12.85	12.53	14.00
30	256QAM	1	1	12.69	13.30	13.04	14.00
Channel				372500	376000	379500	Tune-up limit (dBm)
Frequency (MHz)				1862.5	1880	1897.5	
25	PI/2 BPSK	1	1	12.82	13.36	13.24	14.00
Channel				372000	376000	380000	Tune-up limit (dBm)
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	13.10	13.28	13.14	14.00
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	13.35	13.17	13.34	14.00
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	13.25	13.39	13.58	14.00
10	PI/2 BPSK	1	26	12.84	13.44	13.20	14.00
10	PI/2 BPSK	1	50	12.83	13.45	13.16	14.00
10	PI/2 BPSK	25	0	12.83	13.45	13.22	14.00
10	PI/2 BPSK	25	14	12.88	13.49	13.15	14.00
10	PI/2 BPSK	25	27	12.94	13.37	13.27	14.00
10	PI/2 BPSK	50	0	12.85	13.47	13.27	14.00
10	QPSK	1	1	12.94	13.49	13.25	14.00
10	QPSK	1	26	12.92	13.45	13.22	14.00
10	QPSK	1	50	12.84	13.41	13.18	14.00
10	QPSK	25	0	12.88	13.46	13.24	14.00
10	QPSK	25	14	12.92	13.47	13.21	14.00
10	QPSK	25	27	12.87	13.39	13.19	14.00
10	QPSK	50	0	12.94	13.41	13.21	14.00
10	16QAM	1	1	12.85	13.40	13.24	14.00
10	64QAM	1	1	12.84	13.47	13.16	14.00
10	256QAM	1	1	12.83	13.49	13.25	14.00
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	13.35	13.17	13.34	14.00

【FR1 n5_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					167300		Tune-up limit (dBm)
Frequency (MHz)					836.5		
25	PI/2 BPSK	1	1		15.62		16.50
25	PI/2 BPSK	1	64		15.56		16.50
25	PI/2 BPSK	1	131		15.42		16.50
25	PI/2 BPSK	64	0		15.61		16.50
25	PI/2 BPSK	64	33		15.55		16.50
25	PI/2 BPSK	64	65		15.60		16.50
25	PI/2 BPSK	128	0		15.61		16.50
25	QPSK	1	1		15.37		16.50
25	QPSK	1	64		15.57		16.50
25	QPSK	1	131		15.56		16.50
25	QPSK	64	0		15.52		16.50
25	QPSK	64	33		15.59		16.50
25	QPSK	64	65		15.60		16.50
25	QPSK	128	0		15.58		16.50
25	16QAM	1	1		15.30		16.50
25	64QAM	1	1		15.03		16.50
25	256QAM	1	1		15.53		16.50
Channel				166800	167300	167800	Tune-up limit (dBm)
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	15.59	15.60	15.57	16.50
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	15.50	15.51	15.53	16.50
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	15.53	15.45	15.55	16.50
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	15.53	15.51	15.43	16.50

【FR1 n7_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				505000	507000	509000	
Frequency (MHz)				2525	2535	2545	
50	PI/2 BPSK	1	1	12.60	12.41	12.31	13.00
50	PI/2 BPSK	1	135	12.70	12.63	12.45	13.00
50	PI/2 BPSK	1	268	13.00	12.95	12.77	13.00
50	PI/2 BPSK	135	0	12.57	12.50	12.36	13.00
50	PI/2 BPSK	135	68	12.70	12.60	12.36	13.00
50	PI/2 BPSK	135	135	12.88	12.79	12.60	13.00
50	PI/2 BPSK	270	0	12.74	12.63	12.39	13.00
50	QPSK	1	1	12.47	12.40	12.20	13.00
50	QPSK	1	135	12.74	12.62	12.49	13.00
50	QPSK	1	268	12.99	12.93	12.70	13.00
50	QPSK	135	0	12.55	12.49	12.27	13.00
50	QPSK	135	68	12.69	12.61	12.39	13.00
50	QPSK	135	135	12.96	12.81	12.57	13.00
50	QPSK	270	0	12.72	12.66	12.52	13.00
50	16QAM	1	1	12.41	12.35	12.11	13.00
50	64QAM	1	1	12.28	12.11	12.00	13.00
50	256QAM	1	1	12.70	12.55	12.42	13.00
Channel				504000	507000	510000	Tune-up limit (dBm)
Frequency (MHz)				2520	2535	2550	
40	PI/2 BPSK	1	1	12.50	12.37	12.21	13.00
Channel				503500	507000	510500	Tune-up limit (dBm)
Frequency (MHz)				2517.5	2535	2552.5	
35	PI/2 BPSK	1	1	12.51	12.35	12.29	13.00
Channel				503000	507000	511000	Tune-up limit (dBm)
Frequency (MHz)				2515	2535	2555	
30	PI/2 BPSK	1	1	12.50	12.29	12.25	13.00
Channel				502500	507000	511500	Tune-up limit (dBm)
Frequency (MHz)				2512.5	2535	2557.5	
25	PI/2 BPSK	1	1	12.46	12.33	12.20	13.00
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	11.31	11.38	11.46	13.00
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	11.60	11.78	11.98	13.00
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	11.57	11.39	11.38	13.00
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	11.65	11.72	11.53	13.00

【FR1 n12_Ant 5】

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	1	1	15.86	16.88	15.86	17.00
15	PI/2 BPSK	1	40	15.83	16.86	15.74	17.00
15	PI/2 BPSK	1	77	15.80	16.92	15.85	17.00
15	PI/2 BPSK	36	0	15.75	16.91	15.77	17.00
15	PI/2 BPSK	36	22	15.87	16.92	15.76	17.00
15	PI/2 BPSK	36	43	15.70	16.87	15.76	17.00
15	PI/2 BPSK	75	0	15.85	16.91	15.75	17.00
15	QPSK	1	1	15.78	16.86	15.76	17.00
15	QPSK	1	40	15.69	16.84	15.75	17.00
15	QPSK	1	77	15.78	16.91	15.84	17.00
15	QPSK	36	0	15.84	16.89	15.76	17.00
15	QPSK	36	22	15.73	16.88	15.84	17.00
15	QPSK	36	43	15.80	16.89	15.84	17.00
15	QPSK	75	0	15.76	16.90	15.81	17.00
15	16QAM	1	1	15.73	16.85	15.81	17.00
15	64QAM	1	1	15.53	16.58	15.48	17.00
15	256QAM	1	1	15.79	16.91	15.79	17.00
Channel				140800	141500	142200	Tune-up limit (dBm)
Frequency (MHz)				704	707.5	711	
10	PI/2 BPSK	1	1	15.83	16.83	15.77	17.00
Channel				140300	141500	142700	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	PI/2 BPSK	1	1	15.77	16.83	15.81	17.00

【FR1 n14_Ant 5】

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		16.16		16.50
10	PI/2 BPSK	1	26		16.20		16.50
10	PI/2 BPSK	1	50		16.24		16.50
10	PI/2 BPSK	25	0		16.13		16.50
10	PI/2 BPSK	25	14		16.14		16.50
10	PI/2 BPSK	25	27		16.17		16.50
10	PI/2 BPSK	50	0		16.19		16.50
10	QPSK	1	1		16.05		16.50
10	QPSK	1	26		16.14		16.50
10	QPSK	1	50		16.19		16.50
10	QPSK	25	0		16.11		16.50
10	QPSK	25	14		16.13		16.50
10	QPSK	25	27		16.18		16.50
10	QPSK	50	0		16.16		16.50
10	16QAM	1	1		16.04		16.50
10	64QAM	1	1		15.77		16.50
10	256QAM	1	1		16.19		16.50
Channel				158100	158600	159100	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	PI/2 BPSK	1	1	16.15	16.14	16.11	16.50

【FR1 n25_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				374500	376500	378500	Tune-up limit (dBm)
Frequency (MHz)				1872.5	1882.5	1892.5	
45	PI/2 BPSK	1	1	17.00	16.93	17.07	18.00
45	PI/2 BPSK	1	120	17.51	17.51	17.55	18.00
45	PI/2 BPSK	1	240	16.90	16.85	16.88	18.00
45	PI/2 BPSK	120	0	17.39	17.44	17.50	18.00
45	PI/2 BPSK	120	60	17.47	17.49	17.62	18.00
45	PI/2 BPSK	120	120	17.26	17.29	17.42	18.00
45	PI/2 BPSK	240	0	17.29	17.33	17.37	18.00
45	QPSK	1	1	16.95	16.90	16.97	18.00
45	QPSK	1	120	17.41	17.49	17.55	18.00
45	QPSK	1	240	16.77	16.81	16.85	18.00
45	QPSK	120	0	17.49	17.46	17.52	18.00
45	QPSK	120	60	17.43	17.50	17.63	18.00
45	QPSK	120	120	17.29	17.31	17.43	18.00
45	QPSK	240	0	17.34	17.34	17.36	18.00
45	16QAM	1	1	16.85	16.85	16.97	18.00
45	64QAM	1	1	16.53	16.59	16.66	18.00
45	256QAM	1	1	16.98	17.05	17.14	18.00
Channel				374000	376500	379000	Tune-up limit (dBm)
Frequency (MHz)				1870	1882.5	1895	
40	PI/2 BPSK	1	1	16.87	16.81	17.06	18.00
Channel				373500	376500	379500	Tune-up limit (dBm)
Frequency (MHz)				1867.5	1882.5	1897.5	
35	PI/2 BPSK	1	1	16.91	16.83	16.98	18.00
Channel				373000	376500	380000	Tune-up limit (dBm)
Frequency (MHz)				1865	1882.5	1900	
30	PI/2 BPSK	1	1	16.86	16.91	16.92	18.00
Channel				372500	376500	380500	Tune-up limit (dBm)
Frequency (MHz)				1862.5	1882.5	1902.5	
25	PI/2 BPSK	1	1	16.92	16.90	16.92	18.00
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	16.89	16.86	16.96	18.00
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	16.99	16.88	17.06	18.00
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	16.99	16.87	16.96	18.00
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	16.92	16.91	17.05	18.00

【FR1 n25_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				374500	376500	378500	Tune-up limit (dBm)
Frequency (MHz)				1872.5	1882.5	1892.5	
45	PI/2 BPSK	1	1	12.70	12.73	13.08	14.00
45	PI/2 BPSK	1	120	13.35	13.52	13.76	14.00
45	PI/2 BPSK	1	240	12.79	12.96	13.29	14.00
45	PI/2 BPSK	120	0	13.25	13.38	13.62	14.00
45	PI/2 BPSK	120	60	13.33	13.50	13.78	14.00
45	PI/2 BPSK	120	120	13.28	13.40	13.66	14.00
45	PI/2 BPSK	240	0	13.26	13.38	13.66	14.00
45	QPSK	1	1	12.60	12.75	13.00	14.00
45	QPSK	1	120	13.46	13.51	13.87	14.00
45	QPSK	1	240	12.87	12.99	13.27	14.00
45	QPSK	120	0	13.26	13.41	13.71	14.00
45	QPSK	120	60	13.35	13.49	13.84	14.00
45	QPSK	120	120	13.33	13.44	13.71	14.00
45	QPSK	240	0	13.31	13.41	13.64	14.00
45	16QAM	1	1	12.67	12.73	13.01	14.00
45	64QAM	1	1	12.37	12.50	12.80	14.00
45	256QAM	1	1	12.82	12.95	13.20	14.00
Channel				374000	376500	379000	Tune-up limit (dBm)
Frequency (MHz)				1870	1882.5	1895	
40	PI/2 BPSK	1	1	12.63	12.64	12.99	14.00
Channel				373500	376500	379500	Tune-up limit (dBm)
Frequency (MHz)				1867.5	1882.5	1897.5	
35	PI/2 BPSK	1	1	12.66	12.70	13.02	14.00
Channel				373000	376500	380000	Tune-up limit (dBm)
Frequency (MHz)				1865	1882.5	1900	
30	PI/2 BPSK	1	1	12.67	12.59	13.00	14.00
Channel				372500	376500	380500	Tune-up limit (dBm)
Frequency (MHz)				1862.5	1882.5	1902.5	
25	PI/2 BPSK	1	1	12.66	12.66	13.04	14.00
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	12.63	12.70	12.97	14.00
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	12.65	12.60	13.03	14.00
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	12.58	12.59	13.02	14.00
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	12.56	12.72	13.07	14.00

【FR1 n26_FCC_Ant 5】

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	1	1	16.66	16.70	16.64	17.50
20	PI/2 BPSK	1	53	16.59	16.67	16.53	17.50
20	PI/2 BPSK	1	104	16.54	16.71	16.52	17.50
20	PI/2 BPSK	50	0	16.59	16.68	16.58	17.50
20	PI/2 BPSK	50	28	16.66	16.74	16.66	17.50
20	PI/2 BPSK	50	56	16.52	16.65	16.50	17.50
20	PI/2 BPSK	100	0	16.54	16.69	16.53	17.50
20	QPSK	1	1	16.28	16.45	16.32	17.50
20	QPSK	1	53	16.43	16.62	16.44	17.50
20	QPSK	1	104	16.66	16.72	16.61	17.50
20	QPSK	50	0	16.30	16.42	16.22	17.50
20	QPSK	50	28	16.63	16.74	16.57	17.50
20	QPSK	50	56	16.49	16.67	16.48	17.50
20	QPSK	100	0	16.63	16.74	16.54	17.50
20	16QAM	1	1	16.38	16.47	16.27	17.50
20	64QAM	1	1	16.09	16.20	16.12	17.50
20	256QAM	1	1	16.59	16.65	16.58	17.50
Channel				164300	166300	168300	Tune-up limit (dBm)
Frequency (MHz)				821.5	831.5	841.5	
15	PI/2 BPSK	1	1	16.65	16.62	16.52	17.50
Channel				163800	166300	168800	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	PI/2 BPSK	1	1	16.55	16.56	16.51	17.50
Channel				163300	166300	169300	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	PI/2 BPSK	1	1	16.63	16.59	16.52	17.50
Channel				163100	166300	169500	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	PI/2 BPSK	1	1	16.56	16.57	16.58	17.50

【FR1 n30_Ant 8】

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		13.83		14.50
10	PI/2 BPSK	1	26		13.87		14.50
10	PI/2 BPSK	1	50		13.71		14.50
10	PI/2 BPSK	25	0		13.61		14.50
10	PI/2 BPSK	25	14		13.64		14.50
10	PI/2 BPSK	25	27		13.61		14.50
10	PI/2 BPSK	50	0		13.71		14.50
10	QPSK	1	1		13.56		14.50
10	QPSK	1	26		13.57		14.50
10	QPSK	1	50		13.52		14.50
10	QPSK	25	0		13.54		14.50
10	QPSK	25	14		13.57		14.50
10	QPSK	25	27		13.54		14.50
10	QPSK	50	0		13.55		14.50
10	16QAM	1	1		13.48		14.50
10	64QAM	1	1		13.21		14.50
10	256QAM	1	1		13.65		14.50
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	13.78	13.81	13.75	14.50

【FR1 n38_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				518000	519000	520000	
Frequency (MHz)				2590	2595	2600	
40	PI/2 BPSK	1	1	12.00	11.98	11.93	13.00
40	PI/2 BPSK	1	53	12.54	12.61	12.53	13.00
40	PI/2 BPSK	1	104	12.47	12.48	12.29	13.00
40	PI/2 BPSK	50	0	12.25	12.36	12.18	13.00
40	PI/2 BPSK	50	28	12.58	12.59	12.41	13.00
40	PI/2 BPSK	50	56	12.55	12.56	12.38	13.00
40	PI/2 BPSK	100	0	12.30	12.42	12.32	13.00
40	QPSK	1	1	11.89	11.93	11.73	13.00
40	QPSK	1	53	12.50	12.57	12.37	13.00
40	QPSK	1	104	12.39	12.43	12.26	13.00
40	QPSK	50	0	12.30	12.34	12.18	13.00
40	QPSK	50	28	12.44	12.56	12.41	13.00
40	QPSK	50	56	12.59	12.60	12.42	13.00
40	QPSK	100	0	12.31	12.41	12.30	13.00
40	16QAM	1	1	11.91	11.91	11.78	13.00
40	64QAM	1	1	11.56	11.67	11.54	13.00
40	256QAM	1	1	12.04	12.12	12.05	13.00
Channel				517000	519000	521000	Tune-up limit (dBm)
Frequency (MHz)				2585	2595	2605	
30	PI/2 BPSK	1	1	11.94	11.85	11.84	13.00
Channel				516500	519000	521500	Tune-up limit (dBm)
Frequency (MHz)				2582.5	2595	2607.5	
25	PI/2 BPSK	1	1	11.90	11.96	11.84	13.00
Channel				516000	519000	522000	Tune-up limit (dBm)
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	11.86	11.92	11.91	13.00
Channel				515500	519000	522500	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	PI/2 BPSK	1	1	11.93	11.86	11.83	13.00
Channel				515000	519000	523000	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	PI/2 BPSK	1	1	11.97	11.86	11.80	13.00
Channel				514500	519000	523500	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	PI/2 BPSK	1	1	11.87	11.87	11.81	13.00

【FR1 n41 _ FCC_Ant 5】

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	18.00
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	17.42	17.81	17.34	18.00
100	PI/2 BPSK	1	137	17.16	17.59	17.02	18.00
100	PI/2 BPSK	1	271	17.02	17.52	17.00	18.00
100	PI/2 BPSK	135	0	17.37	17.78	17.28	18.00
100	PI/2 BPSK	135	69	17.08	17.61	17.03	18.00
100	PI/2 BPSK	135	138	17.26	17.76	17.25	18.00
100	PI/2 BPSK	270	0	17.30	17.80	17.31	18.00
100	QPSK	1	1	17.28	17.68	17.09	18.00
100	QPSK	1	137	17.13	17.60	17.12	18.00
100	QPSK	1	271	17.12	17.55	17.02	18.00
100	QPSK	135	0	17.34	17.79	17.20	18.00
100	QPSK	135	69	17.33	17.78	17.22	18.00
100	QPSK	135	138	17.29	17.70	17.16	18.00
100	QPSK	270	0	17.24	17.74	17.17	18.00
100	16QAM	1	1	17.11	17.62	17.01	18.00
100	64QAM	1	1	16.85	17.35	16.85	18.00
100	256QAM	1	1	17.39	17.83	17.28	18.00
Channel				508200	518598	528996	18.00
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	17.39	17.77	17.31	18.00
Channel				507204	518598	529998	18.00
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	17.29	17.70	17.23	18.00
Channel				506202	518598	531000	18.00
Frequency (MHz)				2531.01	2592.99	2655	
70	PI/2 BPSK	1	1	17.37	17.75	17.32	18.00
Channel				505200	518598	531996	18.00
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	17.41	17.68	17.20	18.00
Channel				504204	518598	532998	18.00
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	17.27	17.71	17.27	18.00
Channel				503202	518598	534000	18.00
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	17.40	17.77	17.33	18.00
Channel				502200	518598	534996	18.00
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	17.39	17.73	17.28	18.00
Channel				501204	518598	535998	18.00
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	17.35	17.74	17.21	18.00
Channel				500700	518598	536496	18.00
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	17.39	17.73	17.26	18.00
Channel				500202	518598	537000	18.00
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	17.29	17.77	17.32	18.00

【FR1 n41 _ FCC_Ant 8】

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	11.33	11.57	11.21	12.50
100	PI/2 BPSK	1	137	11.40	11.69	11.31	12.50
100	PI/2 BPSK	1	271	11.16	11.46	10.99	12.50
100	PI/2 BPSK	135	0	11.29	11.66	11.25	12.50
100	PI/2 BPSK	135	69	11.48	11.85	11.45	12.50
100	PI/2 BPSK	135	138	11.39	11.74	11.25	12.50
100	PI/2 BPSK	270	0	11.37	11.71	11.20	12.50
100	QPSK	1	1	10.96	11.21	10.75	12.50
100	QPSK	1	137	11.30	11.68	11.29	12.50
100	QPSK	1	271	11.08	11.46	10.98	12.50
100	QPSK	135	0	11.36	11.70	11.21	12.50
100	QPSK	135	69	11.59	11.85	11.39	12.50
100	QPSK	135	138	11.35	11.65	11.19	12.50
100	QPSK	270	0	11.37	11.72	11.33	12.50
100	16QAM	1	1	10.78	11.12	10.62	12.50
100	64QAM	1	1	10.52	10.88	10.50	12.50
100	256QAM	1	1	11.03	11.33	10.95	12.50
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	11.27	11.46	11.16	12.50
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	11.18	11.47	11.10	12.50
Channel				506202	518598	531000	Tune-up limit (dBm)
Frequency (MHz)				2531.01	2592.99	2655	
70	PI/2 BPSK	1	1	11.24	11.46	11.15	12.50
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	11.19	11.43	11.16	12.50
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	11.23	11.47	11.15	12.50
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	11.21	11.44	11.18	12.50
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	11.32	11.55	11.17	12.50
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	11.32	11.51	11.11	12.50
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	11.18	11.50	11.10	12.50
Channel				500202	518598	537000	Tune-up limit (dBm)
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	11.19	11.47	11.16	12.50

【FR1 n41 _ FCC_HPUE_Ant 5】

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	
	Channel			508200	518598	528996	Tune-up limit (dBm)
	Frequency (MHz)			2541	2592.99	2644.98	
	Channel			507204	518598	529998	Tune-up limit (dBm)
	Frequency (MHz)			2536.02	2592.99	2649.99	
	Channel			506202	518598	531000	Tune-up limit (dBm)
	Frequency (MHz)			2531.01	2592.99	2655	
	Channel			505200	518598	531996	Tune-up limit (dBm)
	Frequency (MHz)			2526	2592.99	2659.98	
	Channel			504204	518598	532998	Tune-up limit (dBm)
	Frequency (MHz)			2521.02	2592.99	2664.99	
	Channel			503202	518598	534000	Tune-up limit (dBm)
	Frequency (MHz)			2516.01	2592.99	2670	
	Channel			502200	518598	534996	Tune-up limit (dBm)
	Frequency (MHz)			2511	2592.99	2674.98	
	Channel			501204	518598	535998	Tune-up limit (dBm)
	Frequency (MHz)			2506.02	2592.99	2679.99	
	Channel			500700	518598	536496	Tune-up limit (dBm)
	Frequency (MHz)			2503.5	2592.99	2682.48	
	Channel			500202	518598	537000	Tune-up limit (dBm)
	Frequency (MHz)			2501.01	2592.99	2685	

【FR1 n41 FCC_HPUE_Ant 8】

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	Tune-up limit (dBm)
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	11.33	11.57	11.21	12.50
100	PI/2 BPSK	1	137	11.40	11.69	11.31	12.50
100	PI/2 BPSK	1	271	11.16	11.46	10.99	12.50
100	PI/2 BPSK	135	0	11.29	11.66	11.25	12.50
100	PI/2 BPSK	135	69	11.48	11.85	11.45	12.50
100	PI/2 BPSK	135	138	11.39	11.74	11.25	12.50
100	PI/2 BPSK	270	0	11.37	11.71	11.20	12.50
100	QPSK	1	1	10.96	11.21	10.75	12.50
100	QPSK	1	137	11.30	11.68	11.29	12.50
100	QPSK	1	271	11.08	11.46	10.98	12.50
100	QPSK	135	0	11.36	11.70	11.21	12.50
100	QPSK	135	69	11.59	11.85	11.39	12.50
100	QPSK	135	138	11.35	11.65	11.19	12.50
100	QPSK	270	0	11.37	11.72	11.33	12.50
100	16QAM	1	1	10.78	11.12	10.62	12.50
100	64QAM	1	1	10.52	10.88	10.50	12.50
100	256QAM	1	1	11.03	11.33	10.95	12.50
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	11.27	11.46	11.16	12.50
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	11.18	11.47	11.10	12.50
Channel				506202	518598	531000	Tune-up limit (dBm)
Frequency (MHz)				2531.01	2592.99	2655	
70	PI/2 BPSK	1	1	11.24	11.46	11.15	12.50
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	11.19	11.43	11.16	12.50
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	11.23	11.47	11.15	12.50
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	11.21	11.44	11.18	12.50
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	11.32	11.55	11.17	12.50
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	11.32	11.51	11.11	12.50
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	11.18	11.50	11.10	12.50
Channel				500202	518598	537000	Tune-up limit (dBm)
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	11.19	11.47	11.16	12.50

【FR1 n48 _FCC_Part 96 (3550~3700MHz)_Ant 5】

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	14.69	14.99	14.42	15.50
40	PI/2 BPSK	1	53	14.40	14.75	14.17	15.50
40	PI/2 BPSK	1	104	14.09	14.50	13.82	15.50
40	PI/2 BPSK	50	0	14.48	14.93	14.30	15.00
40	PI/2 BPSK	50	28	14.40	14.80	14.11	15.50
40	PI/2 BPSK	50	56	14.35	14.79	14.08	15.00
40	PI/2 BPSK	100	0	14.59	14.95	14.28	15.00
40	QPSK	1	1	14.32	14.67	14.01	15.50
40	QPSK	1	53	14.47	14.90	14.23	15.50
40	QPSK	1	104	14.14	14.50	13.87	15.50
40	QPSK	50	0	14.58	14.90	14.20	15.50
40	QPSK	50	28	14.63	14.97	14.25	15.50
40	QPSK	50	56	14.47	14.83	14.16	15.50
40	QPSK	100	0	14.53	14.93	14.35	15.50
40	16QAM	1	1	14.20	14.62	13.98	15.00
40	64QAM	1	1	14.02	14.36	13.78	15.00
40	256QAM	1	1	14.44	14.79	14.18	15.00
Channel				637668	641666	645666	Tune-up limit (dBm)
Frequency (MHz)				3565.02	3624.99	3684.99	
30	PI/2 BPSK	1	1	14.66	14.85	14.29	15.50
Channel				637334	641666	646000	Tune-up limit (dBm)
Frequency (MHz)				3560.01	3624.99	3690	
20	PI/2 BPSK	1	1	14.67	14.97	14.28	15.50
Channel				637168	641666	646166	Tune-up limit (dBm)
Frequency (MHz)				3557.52	3624.99	3692.49	
15	PI/2 BPSK	1	1	14.66	14.87	14.33	15.50
Channel				637000	641666	646332	Tune-up limit (dBm)
Frequency (MHz)				3555	3624.99	3694.98	
10	PI/2 BPSK	1	1	14.55	14.91	14.39	15.50
Channel				636834	641666	646500	Tune-up limit (dBm)
Frequency (MHz)				3552.51	3624.99	3697.5	
5	PI/2 BPSK	1	1	14.62	14.90	14.35	15.50

【FR1 n48 _FCC_Part 96 (3550~3700MHz)_Ant 8】

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	8.30	8.32	8.16	9.50
40	PI/2 BPSK	1	53	8.35	8.52	8.21	9.50
40	PI/2 BPSK	1	104	8.52	8.62	8.39	9.50
40	PI/2 BPSK	50	0	8.31	8.48	8.28	9.50
40	PI/2 BPSK	50	28	8.43	8.60	8.30	9.50
40	PI/2 BPSK	50	56	8.56	8.66	8.37	9.50
40	PI/2 BPSK	100	0	8.47	8.59	8.32	9.50
40	QPSK	1	1	8.20	8.33	8.06	9.50
40	QPSK	1	53	8.42	8.52	8.27	9.50
40	QPSK	1	104	8.57	8.62	8.44	9.50
40	QPSK	50	0	8.43	8.51	8.25	9.50
40	QPSK	50	28	8.56	8.60	8.42	9.50
40	QPSK	50	56	8.61	8.67	8.44	9.50
40	QPSK	100	0	8.43	8.56	8.37	9.50
40	16QAM	1	1	8.20	8.27	7.97	9.50
40	64QAM	1	1	7.85	8.01	7.71	9.50
40	256QAM	1	1	8.33	8.44	8.20	9.50
Channel				637668	641666	645666	Tune-up limit (dBm)
Frequency (MHz)				3565.02	3624.99	3684.99	
30	PI/2 BPSK	1	1	8.24	8.27	8.11	9.50
Channel				637334	641666	646000	Tune-up limit (dBm)
Frequency (MHz)				3560.01	3624.99	3690	
20	PI/2 BPSK	1	1	8.19	8.19	8.08	9.50
Channel				637168	641666	646166	Tune-up limit (dBm)
Frequency (MHz)				3557.52	3624.99	3692.49	
15	PI/2 BPSK	1	1	8.20	8.19	8.03	9.50
Channel				637000	641666	646332	Tune-up limit (dBm)
Frequency (MHz)				3555	3624.99	3694.98	
10	PI/2 BPSK	1	1	8.21	8.25	8.04	9.50
Channel				636834	641666	646500	Tune-up limit (dBm)
Frequency (MHz)				3552.51	3624.99	3697.5	
5	PI/2 BPSK	1	1	8.16	8.17	8.11	9.50

【FR1 n66_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346500	349000	351500	Tune-up limit (dBm)
Frequency (MHz)				1732.5	1745	1757.5	
45	PI/2 BPSK	1	1	13.66	13.72	13.76	15.00
45	PI/2 BPSK	1	120	14.27	14.36	14.36	15.00
45	PI/2 BPSK	1	240	13.78	13.95	13.92	15.00
45	PI/2 BPSK	120	0	14.00	14.10	14.08	15.00
45	PI/2 BPSK	120	60	14.12	14.32	14.32	15.00
45	PI/2 BPSK	120	120	14.13	14.23	14.25	15.00
45	PI/2 BPSK	240	0	13.96	14.15	14.12	15.00
45	QPSK	1	1	13.59	13.67	13.66	15.00
45	QPSK	1	120	14.15	14.30	14.26	15.00
45	QPSK	1	240	13.82	13.90	13.92	15.00
45	QPSK	120	0	13.99	14.13	14.08	15.00
45	QPSK	120	60	14.15	14.30	14.25	15.00
45	QPSK	120	120	14.11	14.24	14.14	15.00
45	QPSK	240	0	14.00	14.16	14.11	15.00
45	16QAM	1	1	13.54	13.65	13.54	15.00
45	64QAM	1	1	13.25	13.36	13.29	15.00
45	256QAM	1	1	13.70	13.81	13.75	15.00
Channel				346000	349000	352000	Tune-up limit (dBm)
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	13.51	13.69	13.71	15.00
Channel				345500	349000	352500	Tune-up limit (dBm)
Frequency (MHz)				1727.5	1745	1762.5	
35	PI/2 BPSK	1	1	13.64	13.63	13.67	15.00
Channel				345000	349000	353000	Tune-up limit (dBm)
Frequency (MHz)				1725	1745	1765	
30	PI/2 BPSK	1	1	13.61	13.61	13.68	15.00
Channel				344500	349000	353500	Tune-up limit (dBm)
Frequency (MHz)				1722.5	1745	1767.5	
25	PI/2 BPSK	1	1	13.59	13.67	13.68	15.00
Channel				344000	349000	354000	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	13.52	13.67	13.71	15.00
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	13.56	13.61	13.66	15.00
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	13.63	13.59	13.73	15.00
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	13.58	13.60	13.73	15.00

【FR1 n71_Ant 5】

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	16.87	16.88	16.86	18.00
20	PI/2 BPSK	1	53	16.86	16.93	16.86	18.00
20	PI/2 BPSK	1	104	16.81	16.91	16.78	18.00
20	PI/2 BPSK	50	0	16.91	17.05	16.97	18.00
20	PI/2 BPSK	50	28	16.95	16.97	16.92	18.00
20	PI/2 BPSK	50	56	17.03	17.10	17.00	18.00
20	PI/2 BPSK	100	0	17.01	17.07	16.96	18.00
20	QPSK	1	1	16.77	16.81	16.75	18.00
20	QPSK	1	53	16.82	16.97	16.92	18.00
20	QPSK	1	104	16.73	16.89	16.78	18.00
20	QPSK	50	0	17.04	17.10	17.04	18.00
20	QPSK	50	28	16.93	17.00	16.84	18.00
20	QPSK	50	56	17.03	17.11	16.94	18.00
20	QPSK	100	0	17.05	17.09	17.04	18.00
20	16QAM	1	1	16.96	17.04	16.92	18.00
20	64QAM	1	1	16.46	16.50	16.35	18.00
20	256QAM	1	1	16.82	16.95	16.87	18.00
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	1	16.80	16.77	16.74	18.00
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	16.75	16.86	16.81	18.00
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	16.75	16.76	16.79	18.00

【FR1 n77 (27Q) FCC_Part 27Q (3450~3550MHz)_Ant 5】

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		14.15		15.00
100	PI/2 BPSK	1	137		13.59		15.00
100	PI/2 BPSK	1	271		14.00		15.00
100	PI/2 BPSK	135	0		14.08		14.50
100	PI/2 BPSK	135	69		14.05		15.00
100	PI/2 BPSK	135	138		13.82		14.50
100	PI/2 BPSK	270	0		13.92		14.50
100	QPSK	1	1		13.55		15.00
100	QPSK	1	137		13.91		15.00
100	QPSK	1	271		13.44		15.00
100	QPSK	135	0		14.00		14.00
100	QPSK	135	69		14.04		15.00
100	QPSK	135	138		13.85		14.00
100	QPSK	270	0		13.91		14.00
100	16QAM	1	1		13.47		14.00
100	64QAM	1	1		13.25		14.00
100	256QAM	1	1		13.74		14.00
Channel				633000	633332	633666	Tune-up limit
Frequency (MHz)				3495	3499.98	3504.99	(dBm)
90	PI/2 BPSK	1	1	13.76	14.02	13.83	15.00
Channel				632668	633332	634000	Tune-up limit
Frequency (MHz)				3490.02	3499.98	3510	(dBm)
80	PI/2 BPSK	1	1	13.77	14.03	13.85	15.00
Channel				632334	633332	634332	Tune-up limit
Frequency (MHz)				3485.01	3499.98	3514.98	(dBm)
70	PI/2 BPSK	1	1	13.85	14.02	13.83	15.00
Channel				632000	633332	634666	Tune-up limit
Frequency (MHz)				3480	3499.98	3519.99	(dBm)
60	PI/2 BPSK	1	1	13.77	14.05	13.89	15.00
Channel				631668	633332	635000	Tune-up limit
Frequency (MHz)				3475.02	3499.98	3525	(dBm)
50	PI/2 BPSK	1	1	13.83	14.01	13.89	15.00
Channel				631334	633332	635332	Tune-up limit
Frequency (MHz)				3470.01	3499.98	3529.98	(dBm)
40	PI/2 BPSK	1	1	13.80	14.00	13.86	15.00
Channel				631000	633332	635666	Tune-up limit
Frequency (MHz)				3465	3499.98	3534.99	(dBm)
30	PI/2 BPSK	1	1	13.77	14.04	13.90	15.00
Channel				630668	633332	636000	Tune-up limit
Frequency (MHz)				3460.02	3499.98	3540	(dBm)
20	PI/2 BPSK	1	1	13.80	13.95	13.85	15.00
Channel				630500	633332	636166	Tune-up limit
Frequency (MHz)				3457.5	3499.98	3542.49	(dBm)
15	PI/2 BPSK	1	1	13.78	14.00	13.86	15.00
Channel				630334	633332	636332	Tune-up limit
Frequency (MHz)				3455.01	3499.98	3544.98	(dBm)
10	PI/2 BPSK	1	1	13.85	13.96	13.84	15.00

【FR1 n77 (270) FCC_Part 270 (3700~3980MHz)_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	14.17	14.55	13.97	15.00
100	PI/2 BPSK	1	137	13.85	14.28	13.59	15.00
100	PI/2 BPSK	1	271	13.67	14.13	13.51	15.00
100	PI/2 BPSK	135	0	13.98	14.43	13.81	14.50
100	PI/2 BPSK	135	69	14.18	14.57	13.86	15.00
100	PI/2 BPSK	135	138	13.90	14.40	13.78	14.50
100	PI/2 BPSK	270	0	13.95	14.43	13.73	14.50
100	QPSK	1	1	13.76	14.15	13.48	15.00
100	QPSK	1	137	14.03	14.48	13.88	15.00
100	QPSK	1	271	13.62	14.08	13.40	15.00
100	QPSK	135	0	13.94	14.45	13.86	14.50
100	QPSK	135	69	14.11	14.60	13.96	15.00
100	QPSK	135	138	14.07	14.46	13.78	14.50
100	QPSK	270	0	14.01	14.43	13.75	14.50
100	16QAM	1	1	13.60	14.10	13.49	14.50
100	64QAM	1	1	13.40	13.85	13.28	14.50
100	256QAM	1	1	13.92	14.35	13.63	14.50
Channel				649668	656000	662332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	14.10	14.50	13.93	15.00
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	14.03	14.53	13.93	15.00
Channel				649000	656000	663000	Tune-up limit (dBm)
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	14.16	14.45	13.94	15.00
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	14.13	14.53	13.93	15.00
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	14.03	14.49	13.94	15.00
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	14.13	14.45	13.85	15.00
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840	3964.98	
30	PI/2 BPSK	1	1	14.07	14.44	13.82	15.00
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	14.07	14.51	13.83	15.00
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	14.07	14.54	13.93	15.00
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	14.09	14.41	13.93	15.00

【FR1 n77 (27Q) FCC_Part 27Q (3450~3550MHz)_Ant 8】

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		8.30		9.00
100	PI/2 BPSK	1	137		8.63		9.00
100	PI/2 BPSK	1	271		8.33		9.00
100	PI/2 BPSK	135	0		8.66		9.00
100	PI/2 BPSK	135	69		8.73		9.00
100	PI/2 BPSK	135	138		8.57		9.00
100	PI/2 BPSK	270	0		8.61		9.00
100	QPSK	1	1		8.30		9.00
100	QPSK	1	137		8.60		9.00
100	QPSK	1	271		8.28		9.00
100	QPSK	135	0		8.66		9.00
100	QPSK	135	69		8.72		9.00
100	QPSK	135	138		8.57		9.00
100	QPSK	270	0		8.60		9.00
100	16QAM	1	1		8.24		9.00
100	64QAM	1	1		8.00		9.00
100	256QAM	1	1		8.45		9.00
Channel				633000	633332	633666	Tune-up limit
Frequency (MHz)				3495	3499.98	3504.99	(dBm)
90	PI/2 BPSK	1	1	8.28	8.31	8.24	9.00
Channel				632668	633332	634000	Tune-up limit
Frequency (MHz)				3490.02	3499.98	3510	(dBm)
80	PI/2 BPSK	1	1	8.24	8.23	8.14	9.00
Channel				632334	633332	634332	Tune-up limit
Frequency (MHz)				3485.01	3499.98	3514.98	(dBm)
70	PI/2 BPSK	1	1	8.25	8.28	8.13	9.00
Channel				632000	633332	634666	Tune-up limit
Frequency (MHz)				3480	3499.98	3519.99	(dBm)
60	PI/2 BPSK	1	1	8.14	8.18	8.15	9.00
Channel				631668	633332	635000	Tune-up limit
Frequency (MHz)				3475.02	3499.98	3525	(dBm)
50	PI/2 BPSK	1	1	8.19	8.24	8.11	9.00
Channel				631334	633332	635332	Tune-up limit
Frequency (MHz)				3470.01	3499.98	3529.98	(dBm)
40	PI/2 BPSK	1	1	8.14	8.21	8.11	9.00
Channel				631000	633332	635666	Tune-up limit
Frequency (MHz)				3465	3499.98	3534.99	(dBm)
30	PI/2 BPSK	1	1	8.18	8.29	8.17	9.00
Channel				630668	633332	636000	Tune-up limit
Frequency (MHz)				3460.02	3499.98	3540	(dBm)
20	PI/2 BPSK	1	1	8.21	8.27	8.22	9.00
Channel				630500	633332	636166	Tune-up limit
Frequency (MHz)				3457.5	3499.98	3542.49	(dBm)
15	PI/2 BPSK	1	1	8.19	8.17	8.11	9.00
Channel				630334	633332	636332	Tune-up limit
Frequency (MHz)				3455.01	3499.98	3544.98	(dBm)
10	PI/2 BPSK	1	1	8.23	8.29	8.23	9.00

【FR1 n77 (270) FCC_Part 270 (3700~3980MHz)_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	8.14	8.15	7.91	9.00
100	PI/2 BPSK	1	137	8.25	8.40	8.03	9.00
100	PI/2 BPSK	1	271	7.99	8.02	7.69	9.00
100	PI/2 BPSK	135	0	8.40	8.42	8.04	9.00
100	PI/2 BPSK	135	69	8.47	8.49	8.19	9.00
100	PI/2 BPSK	135	138	8.23	8.32	8.06	9.00
100	PI/2 BPSK	270	0	8.20	8.33	7.95	9.00
100	QPSK	1	1	8.01	8.17	7.90	9.00
100	QPSK	1	137	8.24	8.35	8.08	9.00
100	QPSK	1	271	7.93	7.97	7.66	9.00
100	QPSK	135	0	8.27	8.43	8.17	9.00
100	QPSK	135	69	8.45	8.50	8.22	9.00
100	QPSK	135	138	8.19	8.33	7.96	9.00
100	QPSK	270	0	8.21	8.35	7.96	9.00
100	16QAM	1	1	8.09	8.21	7.84	9.00
100	64QAM	1	1	8.04	8.14	7.86	9.00
100	256QAM	1	1	7.90	8.03	7.66	9.00
Channel				649668	656000	662332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	8.05	8.06	7.83	9.00
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	8.07	8.06	7.89	9.00
Channel				649000	656000	663000	Tune-up limit (dBm)
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	8.00	8.13	7.85	9.00
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	8.12	8.01	7.82	9.00
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	8.00	8.07	7.83	9.00
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	8.08	8.01	7.77	9.00
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840	3964.98	
30	PI/2 BPSK	1	1	8.06	8.14	7.89	9.00
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	8.03	8.08	7.79	9.00
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	8.00	8.12	7.82	9.00
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	8.11	8.09	7.85	9.00

【FR1 n77 (27Q)_FCC_Part 27Q
(3450~3550MHz)_HPUE_Ant 5】

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		14.15		15.00
100	PI/2 BPSK	1	137		13.59		15.00
100	PI/2 BPSK	1	271		14.00		15.00
100	PI/2 BPSK	135	0		14.08		14.50
100	PI/2 BPSK	135	69		14.05		15.00
100	PI/2 BPSK	135	138		13.82		14.50
100	PI/2 BPSK	270	0		13.92		14.50
100	QPSK	1	1		13.55		15.00
100	QPSK	1	137		13.91		15.00
100	QPSK	1	271		13.44		15.00
100	QPSK	135	0		14.00		14.00
100	QPSK	135	69		14.04		15.00
100	QPSK	135	138		13.85		14.00
100	QPSK	270	0		13.91		14.00
100	16QAM	1	1		13.47		14.00
100	64QAM	1	1		13.25		14.00
100	256QAM	1	1		13.74		14.00
Channel				633000	633332	633666	Tune-up limit
Frequency (MHz)				3495	3499.98	3504.99	(dBm)
90	PI/2 BPSK	1	1	13.76	14.02	13.83	15.00
Channel				632668	633332	634000	Tune-up limit
Frequency (MHz)				3490.02	3499.98	3510	(dBm)
80	PI/2 BPSK	1	1	13.77	14.03	13.85	15.00
Channel				632334	633332	634332	Tune-up limit
Frequency (MHz)				3485.01	3499.98	3514.98	(dBm)
70	PI/2 BPSK	1	1	13.85	14.02	13.83	15.00
Channel				632000	633332	634666	Tune-up limit
Frequency (MHz)				3480	3499.98	3519.99	(dBm)
60	PI/2 BPSK	1	1	13.77	14.05	13.89	15.00
Channel				631668	633332	635000	Tune-up limit
Frequency (MHz)				3475.02	3499.98	3525	(dBm)
50	PI/2 BPSK	1	1	13.83	14.01	13.89	15.00
Channel				631334	633332	635332	Tune-up limit
Frequency (MHz)				3470.01	3499.98	3529.98	(dBm)
40	PI/2 BPSK	1	1	13.80	14.00	13.86	15.00
Channel				631000	633332	635666	Tune-up limit
Frequency (MHz)				3465	3499.98	3534.99	(dBm)
30	PI/2 BPSK	1	1	13.77	14.04	13.90	15.00
Channel				630668	633332	636000	Tune-up limit
Frequency (MHz)				3460.02	3499.98	3540	(dBm)
20	PI/2 BPSK	1	1	13.80	13.95	13.85	15.00
Channel				630500	633332	636166	Tune-up limit
Frequency (MHz)				3457.5	3499.98	3542.49	(dBm)
15	PI/2 BPSK	1	1	13.78	14.00	13.86	15.00
Channel				630334	633332	636332	Tune-up limit
Frequency (MHz)				3455.01	3499.98	3544.98	(dBm)
10	PI/2 BPSK	1	1	13.85	13.96	13.84	15.00

【FR1 n77 (270)_FCC_Part 270
(3700~3980MHz)_HPUE_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	14.17	14.55	13.97	15.00
100	PI/2 BPSK	1	137	13.85	14.28	13.59	15.00
100	PI/2 BPSK	1	271	13.67	14.13	13.51	15.00
100	PI/2 BPSK	135	0	13.98	14.43	13.81	14.50
100	PI/2 BPSK	135	69	14.18	14.57	13.86	15.00
100	PI/2 BPSK	135	138	13.90	14.40	13.78	14.50
100	PI/2 BPSK	270	0	13.95	14.43	13.73	14.50
100	QPSK	1	1	13.76	14.15	13.48	15.00
100	QPSK	1	137	14.03	14.48	13.88	15.00
100	QPSK	1	271	13.62	14.08	13.40	15.00
100	QPSK	135	0	13.94	14.45	13.86	14.50
100	QPSK	135	69	14.11	14.60	13.96	15.00
100	QPSK	135	138	14.07	14.46	13.78	14.50
100	QPSK	270	0	14.01	14.43	13.75	14.50
100	16QAM	1	1	13.60	14.10	13.49	14.50
100	64QAM	1	1	13.40	13.85	13.28	14.50
100	256QAM	1	1	13.92	14.35	13.63	14.50
Channel				649668	656000	662332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	14.10	14.50	13.93	15.00
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	14.03	14.53	13.93	15.00
Channel				649000	656000	663000	Tune-up limit (dBm)
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	14.16	14.45	13.94	15.00
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	14.13	14.53	13.93	15.00
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	14.03	14.49	13.94	15.00
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	14.13	14.45	13.85	15.00
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840	3964.98	
30	PI/2 BPSK	1	1	14.07	14.44	13.82	15.00
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	14.07	14.51	13.83	15.00
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	14.07	14.54	13.93	15.00
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	14.09	14.41	13.93	15.00

【FR1 n77 (27Q)_FCC_Part 27Q
(3450~3550MHz)_HPUE_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				633000	633332	633666	Tune-up limit
Frequency (MHz)				3495	3499.98	3504.99	(dBm)
100	PI/2 BPSK	1	1	8.28	8.31	8.24	9.00
Channel				632668	633332	634000	Tune-up limit
Frequency (MHz)				3490.02	3499.98	3510	(dBm)
80	PI/2 BPSK	1	1	8.24	8.23	8.14	9.00
Channel				632334	633332	634332	Tune-up limit
Frequency (MHz)				3485.01	3499.98	3514.98	(dBm)
70	PI/2 BPSK	1	1	8.25	8.28	8.13	9.00
Channel				632000	633332	634666	Tune-up limit
Frequency (MHz)				3480	3499.98	3519.99	(dBm)
60	PI/2 BPSK	1	1	8.14	8.18	8.15	9.00
Channel				631668	633332	635000	Tune-up limit
Frequency (MHz)				3475.02	3499.98	3525	(dBm)
50	PI/2 BPSK	1	1	8.19	8.24	8.11	9.00
Channel				631334	633332	635332	Tune-up limit
Frequency (MHz)				3470.01	3499.98	3529.98	(dBm)
40	PI/2 BPSK	1	1	8.14	8.21	8.11	9.00
Channel				631000	633332	635666	Tune-up limit
Frequency (MHz)				3465	3499.98	3534.99	(dBm)
30	PI/2 BPSK	1	1	8.18	8.29	8.17	9.00
Channel				630668	633332	636000	Tune-up limit
Frequency (MHz)				3460.02	3499.98	3540	(dBm)
20	PI/2 BPSK	1	1	8.21	8.28	8.10	9.00
Channel				630500	633332	636166	Tune-up limit
Frequency (MHz)				3457.5	3499.98	3542.49	(dBm)
15	PI/2 BPSK	1	1	8.18	8.21	8.17	9.00
Channel				630334	633332	636332	Tune-up limit
Frequency (MHz)				3455.01	3499.98	3544.98	(dBm)
10	PI/2 BPSK	1	1	8.15	8.20	8.11	9.00

【FR1 n77 (270)_FCC_Part 270
(3700~3980MHz)_HPUE_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	Tune-up limit (dBm)
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	8.14	8.15	7.91	9.00
100	PI/2 BPSK	1	137	8.25	8.40	8.03	9.00
100	PI/2 BPSK	1	271	7.99	8.02	7.69	9.00
100	PI/2 BPSK	135	0	8.40	8.42	8.04	9.00
100	PI/2 BPSK	135	69	8.47	8.49	8.19	9.00
100	PI/2 BPSK	135	138	8.23	8.32	8.06	9.00
100	PI/2 BPSK	270	0	8.20	8.33	7.95	9.00
100	QPSK	1	1	8.01	8.17	7.90	9.00
100	QPSK	1	137	8.24	8.35	8.08	9.00
100	QPSK	1	271	7.93	7.97	7.66	9.00
100	QPSK	135	0	8.27	8.43	8.17	9.00
100	QPSK	135	69	8.45	8.50	8.22	9.00
100	QPSK	135	138	8.19	8.33	7.96	9.00
100	QPSK	270	0	8.21	8.35	7.96	9.00
100	16QAM	1	1	8.09	8.21	7.84	9.00
100	64QAM	1	1	8.04	8.14	7.86	9.00
100	256QAM	1	1	7.90	8.03	7.66	9.00
Channel				649668	656000	662332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3840	3934.98	
90	PI/2 BPSK	1	1	8.05	8.06	7.83	9.00
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	8.07	8.06	7.89	9.00
Channel				649000	656000	663000	Tune-up limit (dBm)
Frequency (MHz)				3735	3840	3945	
70	PI/2 BPSK	1	1	8.00	8.13	7.85	9.00
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	8.12	8.01	7.82	9.00
Channel				648334	656000	663666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3840	3954.99	
50	PI/2 BPSK	1	1	8.00	8.07	7.83	9.00
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	8.08	8.01	7.77	9.00
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840	3964.98	
30	PI/2 BPSK	1	1	8.06	8.14	7.89	9.00
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	8.03	8.08	7.79	9.00
Channel				647168	656000	664832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3840	3972.48	
15	PI/2 BPSK	1	1	8.00	8.12	7.82	9.00
Channel				647000	656000	665000	Tune-up limit (dBm)
Frequency (MHz)				3705	3840	3975	
10	PI/2 BPSK	1	1	8.11	8.09	7.85	9.00

【FR1 n78 (27Q) FCC_Part 27Q (3450~3550MHz)_Ant 5】

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		14.15		14.50
100	PI/2 BPSK	1	137		13.59		14.50
100	PI/2 BPSK	1	271		14.00		14.50
100	PI/2 BPSK	135	0		14.08		14.50
100	PI/2 BPSK	135	69		14.05		14.50
100	PI/2 BPSK	135	138		13.82		14.50
100	PI/2 BPSK	270	0		13.92		14.50
100	QPSK	1	1		13.55		14.50
100	QPSK	1	137		13.91		14.50
100	QPSK	1	271		13.44		14.50
100	QPSK	135	0		14.00		14.00
100	QPSK	135	69		14.04		14.50
100	QPSK	135	138		13.85		14.00
100	QPSK	270	0		13.91		14.00
100	16QAM	1	1		13.47		14.50
100	64QAM	1	1		13.25		14.50
100	256QAM	1	1		13.74		14.50
Channel				633000	633332	633666	Tune-up limit
Frequency (MHz)				3495	3499.98	3504.99	(dBm)
90	PI/2 BPSK	1	1	13.76	14.02	13.83	14.50
Channel				632668	633332	634000	Tune-up limit
Frequency (MHz)				3490.02	3499.98	3510	(dBm)
80	PI/2 BPSK	1	1	13.77	14.03	13.85	14.50
Channel				632334	633332	634332	Tune-up limit
Frequency (MHz)				3485.01	3499.98	3514.98	(dBm)
70	PI/2 BPSK	1	1	13.85	14.02	13.83	14.50
Channel				632000	633332	634666	Tune-up limit
Frequency (MHz)				3480	3499.98	3519.99	(dBm)
60	PI/2 BPSK	1	1	13.77	14.05	13.89	14.50
Channel				631668	633332	635000	Tune-up limit
Frequency (MHz)				3475.02	3499.98	3525	(dBm)
50	PI/2 BPSK	1	1	13.83	14.01	13.89	14.50
Channel				631334	633332	635332	Tune-up limit
Frequency (MHz)				3470.01	3499.98	3529.98	(dBm)
40	PI/2 BPSK	1	1	13.80	14.00	13.86	14.50
Channel				631000	633332	635666	Tune-up limit
Frequency (MHz)				3465	3499.98	3534.99	(dBm)
30	PI/2 BPSK	1	1	13.77	14.04	13.90	14.50
Channel				630834	633332	635832	Tune-up limit
Frequency (MHz)				3462.51	3499.98	3537.48	(dBm)
25	PI/2 BPSK	1	1	13.77	13.98	13.81	14.50
Channel				630668	633332	636000	Tune-up limit
Frequency (MHz)				3460.02	3499.98	3540	(dBm)
20	PI/2 BPSK	1	1	13.80	13.95	13.85	14.50
Channel				630500	633332	636166	Tune-up limit
Frequency (MHz)				3457.5	3499.98	3542.49	(dBm)
15	PI/2 BPSK	1	1	13.78	14.00	13.86	14.50
Channel				630334	633332	636332	Tune-up limit
Frequency (MHz)				3455.01	3499.98	3544.98	(dBm)
10	PI/2 BPSK	1	1	13.85	13.96	13.84	14.50

【FR1 n78 (270) FCC_Part 270 (3700~3800MHz)_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		14.17		14.50
100	PI/2 BPSK	1	137		13.85		14.50
100	PI/2 BPSK	1	271		13.67		14.50
100	PI/2 BPSK	135	0		13.98		14.00
100	PI/2 BPSK	135	69		14.18		14.50
100	PI/2 BPSK	135	138		13.90		14.00
100	PI/2 BPSK	270	0		13.95		14.00
100	QPSK	1	1		13.76		14.50
100	QPSK	1	137		14.03		14.50
100	QPSK	1	271		13.62		14.50
100	QPSK	135	0		13.94		14.50
100	QPSK	135	69		14.11		14.50
100	QPSK	135	138		14.07		14.50
100	QPSK	270	0		14.01		14.50
100	16QAM	1	1		13.60		14.00
100	64QAM	1	1		13.40		14.00
100	256QAM	1	1		13.92		14.00
Channel				649668	650000	650332	Tune-up limit
Frequency (MHz)				3745.02	3750	3754.98	(dBm)
90	PI/2 BPSK	1	1	13.35	14.10	13.31	14.50
Channel				649334	650000	650666	Tune-up limit
Frequency (MHz)				3740.01	3750	3759.99	(dBm)
80	PI/2 BPSK	1	1	13.25	14.03	13.26	14.50
Channel				649000	650000	651000	Tune-up limit
Frequency (MHz)				3735	3750	3765	(dBm)
70	PI/2 BPSK	1	1	13.28	14.16	13.19	14.50
Channel				648668	650000	651332	Tune-up limit
Frequency (MHz)				3730.02	3750	3769.98	(dBm)
60	PI/2 BPSK	1	1	13.21	14.13	13.19	14.50
Channel				648334	650000	651666	Tune-up limit
Frequency (MHz)				3725.01	3750	3774.99	(dBm)
50	PI/2 BPSK	1	1	13.24	14.03	13.18	14.50
Channel				648000	650000	652000	Tune-up limit
Frequency (MHz)				3720	3750	3780	(dBm)
40	PI/2 BPSK	1	1	13.22	14.13	13.26	14.50
Channel				647668	650000	652332	Tune-up limit
Frequency (MHz)				3715.02	3750	3784.98	(dBm)
30	PI/2 BPSK	1	1	13.31	14.07	13.20	14.50
Channel				647500	650000	652500	Tune-up limit
Frequency (MHz)				3712.5	3750	3787.5	(dBm)
25	PI/2 BPSK	1	1	13.25	14.13	13.18	14.50
Channel				647334	650000	652666	Tune-up limit
Frequency (MHz)				3710.01	3750	3789.99	(dBm)
20	PI/2 BPSK	1	1	13.29	14.07	13.29	14.50
Channel				647168	650000	652832	Tune-up limit
Frequency (MHz)				3707.52	3750	3792.48	(dBm)
15	PI/2 BPSK	1	1	13.20	14.07	13.17	14.50
Channel				647000	650000	653000	Tune-up limit
Frequency (MHz)				3705	3750	3795	(dBm)
10	PI/2 BPSK	1	1	13.24	14.09	13.29	14.50

**【FR1 n78 (27Q) FCC_Part 27Q (3450~3550MHz)_Ant 8】**

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		10.00
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		9.18		10.00
100	PI/2 BPSK	1	137		9.38		10.00
100	PI/2 BPSK	1	271		9.45		10.00
100	PI/2 BPSK	135	0		9.45		10.00
100	PI/2 BPSK	135	69		9.50		10.00
100	PI/2 BPSK	135	138		9.34		10.00
100	PI/2 BPSK	270	0		9.41		10.00
100	QPSK	1	1		9.20		10.00
100	QPSK	1	137		9.33		10.00
100	QPSK	1	271		9.25		10.00
100	QPSK	135	0		9.43		10.00
100	QPSK	135	69		9.48		10.00
100	QPSK	135	138		9.33		10.00
100	QPSK	270	0		9.40		10.00
100	16QAM	1	1		9.41		10.00
100	64QAM	1	1		9.23		10.00
100	256QAM	1	1		9.16		10.00
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	9.43	9.21	9.31	10.00
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	9.37	9.18	9.23	10.00
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	9.38	9.18	9.16	10.00
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	9.29	9.07	9.29	10.00
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	9.35	9.14	9.19	10.00
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	9.31	9.08	9.29	10.00
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	9.38	9.16	9.20	10.00
Channel				630834	633332	635832	Tune-up limit (dBm)
Frequency (MHz)				3462.51	3499.98	3537.48	
25	PI/2 BPSK	1	1	9.39	9.14	9.23	10.00
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	9.35	9.11	9.21	10.00
Channel				630500	633332	636166	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3499.98	3542.49	
15	PI/2 BPSK	1	1	9.37	9.09	9.22	10.00
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	9.40	9.11	9.20	10.00

【FR1 n78 (270) FCC_Part 270 (3700~3800MHz)_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		9.01		10.00
100	PI/2 BPSK	1	137		9.33		10.00
100	PI/2 BPSK	1	271		9.30		10.00
100	PI/2 BPSK	135	0		9.34		10.00
100	PI/2 BPSK	135	69		9.49		10.00
100	PI/2 BPSK	135	138		9.37		10.00
100	PI/2 BPSK	270	0		9.37		10.00
100	QPSK	1	1		8.98		10.00
100	QPSK	1	137		9.26		10.00
100	QPSK	1	271		9.20		10.00
100	QPSK	135	0		9.31		10.00
100	QPSK	135	69		9.45		10.00
100	QPSK	135	138		9.40		10.00
100	QPSK	270	0		9.37		10.00
100	16QAM	1	1		9.31		10.00
100	64QAM	1	1		9.41		10.00
100	256QAM	1	1		9.33		10.00
Channel				649668	650000	650332	Tune-up limit
Frequency (MHz)				3745.02	3750	3754.98	(dBm)
90	PI/2 BPSK	1	1	9.28	9.32	9.30	10.00
Channel				649334	650000	650666	Tune-up limit
Frequency (MHz)				3740.01	3750	3759.99	(dBm)
80	PI/2 BPSK	1	1	9.17	9.19	9.18	10.00
Channel				649000	650000	651000	Tune-up limit
Frequency (MHz)				3735	3750	3765	(dBm)
70	PI/2 BPSK	1	1	9.26	9.24	9.27	10.00
Channel				648668	650000	651332	Tune-up limit
Frequency (MHz)				3730.02	3750	3769.98	(dBm)
60	PI/2 BPSK	1	1	9.14	9.29	9.19	10.00
Channel				648334	650000	651666	Tune-up limit
Frequency (MHz)				3725.01	3750	3774.99	(dBm)
50	PI/2 BPSK	1	1	9.27	9.29	9.25	10.00
Channel				648000	650000	652000	Tune-up limit
Frequency (MHz)				3720	3750	3780	(dBm)
40	PI/2 BPSK	1	1	9.16	9.19	9.27	10.00
Channel				647668	650000	652332	Tune-up limit
Frequency (MHz)				3715.02	3750	3784.98	(dBm)
30	PI/2 BPSK	1	1	9.25	9.22	9.19	10.00
Channel				647500	650000	652500	Tune-up limit
Frequency (MHz)				3712.5	3750	3787.5	(dBm)
25	PI/2 BPSK	1	1	9.22	9.31	9.18	10.00
Channel				647334	650000	652666	Tune-up limit
Frequency (MHz)				3710.01	3750	3789.99	(dBm)
20	PI/2 BPSK	1	1	9.16	9.18	9.20	10.00
Channel				647168	650000	652832	Tune-up limit
Frequency (MHz)				3707.52	3750	3792.48	(dBm)
15	PI/2 BPSK	1	1	9.17	9.30	9.27	10.00
Channel				647000	650000	653000	Tune-up limit
Frequency (MHz)				3705	3750	3795	(dBm)
10	PI/2 BPSK	1	1	9.21	9.27	9.24	10.00

【FR1 n78 (27Q)_FCC_Part 27Q
(3450~3550MHz)_HPUE_Ant 5】

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		14.15		14.50
100	PI/2 BPSK	1	137		13.59		14.50
100	PI/2 BPSK	1	271		14.00		14.50
100	PI/2 BPSK	135	0		14.08		14.50
100	PI/2 BPSK	135	69		14.05		14.50
100	PI/2 BPSK	135	138		13.82		14.50
100	PI/2 BPSK	270	0		13.92		14.50
100	QPSK	1	1		13.55		14.50
100	QPSK	1	137		13.91		14.50
100	QPSK	1	271		13.44		14.50
100	QPSK	135	0		14.00		14.50
100	QPSK	135	69		14.04		14.50
100	QPSK	135	138		13.85		14.50
100	QPSK	270	0		13.91		14.50
100	16QAM	1	1		13.47		14.50
100	64QAM	1	1		13.25		14.50
100	256QAM	1	1		13.74		14.50
Channel				633000	633332	633666	Tune-up limit
Frequency (MHz)				3495	3499.98	3504.99	(dBm)
90	PI/2 BPSK	1	1	13.76	14.02	13.83	14.50
Channel				632668	633332	634000	Tune-up limit
Frequency (MHz)				3490.02	3499.98	3510	(dBm)
80	PI/2 BPSK	1	1	13.77	14.03	13.85	14.50
Channel				632334	633332	634332	Tune-up limit
Frequency (MHz)				3485.01	3499.98	3514.98	(dBm)
70	PI/2 BPSK	1	1	13.85	14.02	13.83	14.50
Channel				632000	633332	634666	Tune-up limit
Frequency (MHz)				3480	3499.98	3519.99	(dBm)
60	PI/2 BPSK	1	1	13.77	14.05	13.89	14.50
Channel				631668	633332	635000	Tune-up limit
Frequency (MHz)				3475.02	3499.98	3525	(dBm)
50	PI/2 BPSK	1	1	13.83	14.01	13.89	14.50
Channel				631334	633332	635332	Tune-up limit
Frequency (MHz)				3470.01	3499.98	3529.98	(dBm)
40	PI/2 BPSK	1	1	13.80	14.00	13.86	14.50
Channel				631000	633332	635666	Tune-up limit
Frequency (MHz)				3465	3499.98	3534.99	(dBm)
30	PI/2 BPSK	1	1	13.77	14.04	13.90	14.50
Channel				630834	633332	635832	Tune-up limit
Frequency (MHz)				3462.51	3499.98	3537.48	(dBm)
25	PI/2 BPSK	1	1	13.77	13.98	13.81	14.50
Channel				630668	633332	636000	Tune-up limit
Frequency (MHz)				3460.02	3499.98	3540	(dBm)
20	PI/2 BPSK	1	1	13.80	13.95	13.85	14.50
Channel				630500	633332	636166	Tune-up limit
Frequency (MHz)				3457.5	3499.98	3542.49	(dBm)
15	PI/2 BPSK	1	1	13.78	14.00	13.86	14.50
Channel				630334	633332	636332	Tune-up limit
Frequency (MHz)				3455.01	3499.98	3544.98	(dBm)
10	PI/2 BPSK	1	1	13.85	13.96	13.84	14.50

【FR1 n78 (270)_FCC_Part 270
(3700~3800MHz)_HPUE_Ant 5】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		14.17		14.50
100	PI/2 BPSK	1	137		13.85		14.50
100	PI/2 BPSK	1	271		13.67		14.50
100	PI/2 BPSK	135	0		13.98		14.00
100	PI/2 BPSK	135	69		14.18		14.50
100	PI/2 BPSK	135	138		13.90		14.00
100	PI/2 BPSK	270	0		13.95		14.00
100	QPSK	1	1		13.76		14.50
100	QPSK	1	137		14.03		14.50
100	QPSK	1	271		13.62		14.50
100	QPSK	135	0		13.94		14.50
100	QPSK	135	69		14.11		14.50
100	QPSK	135	138		14.07		14.50
100	QPSK	270	0		14.01		14.50
100	16QAM	1	1		13.60		14.00
100	64QAM	1	1		13.40		14.00
100	256QAM	1	1		13.92		14.00
Channel				649668	650000	650332	Tune-up limit
Frequency (MHz)				3745.02	3750	3754.98	(dBm)
90	PI/2 BPSK	1	1	13.35	14.10	13.31	14.50
Channel				649334	650000	650666	Tune-up limit
Frequency (MHz)				3740.01	3750	3759.99	(dBm)
80	PI/2 BPSK	1	1	13.25	14.03	13.26	14.50
Channel				649000	650000	651000	Tune-up limit
Frequency (MHz)				3735	3750	3765	(dBm)
70	PI/2 BPSK	1	1	13.28	14.16	13.19	14.50
Channel				648668	650000	651332	Tune-up limit
Frequency (MHz)				3730.02	3750	3769.98	(dBm)
60	PI/2 BPSK	1	1	13.21	14.13	13.19	14.50
Channel				648334	650000	651666	Tune-up limit
Frequency (MHz)				3725.01	3750	3774.99	(dBm)
50	PI/2 BPSK	1	1	13.24	14.03	13.18	14.50
Channel				648000	650000	652000	Tune-up limit
Frequency (MHz)				3720	3750	3780	(dBm)
40	PI/2 BPSK	1	1	13.22	14.13	13.26	14.50
Channel				647668	650000	652332	Tune-up limit
Frequency (MHz)				3715.02	3750	3784.98	(dBm)
30	PI/2 BPSK	1	1	13.31	14.07	13.20	14.50
Channel				647500	650000	652500	Tune-up limit
Frequency (MHz)				3712.5	3750	3787.5	(dBm)
25	PI/2 BPSK	1	1	13.25	14.13	13.18	14.50
Channel				647334	650000	652666	Tune-up limit
Frequency (MHz)				3710.01	3750	3789.99	(dBm)
20	PI/2 BPSK	1	1	13.29	14.07	13.29	14.50
Channel				647168	650000	652832	Tune-up limit
Frequency (MHz)				3707.52	3750	3792.48	(dBm)
15	PI/2 BPSK	1	1	13.20	14.07	13.17	14.50
Channel				647000	650000	653000	Tune-up limit
Frequency (MHz)				3705	3750	3795	(dBm)
10	PI/2 BPSK	1	1	13.24	14.09	13.29	14.50

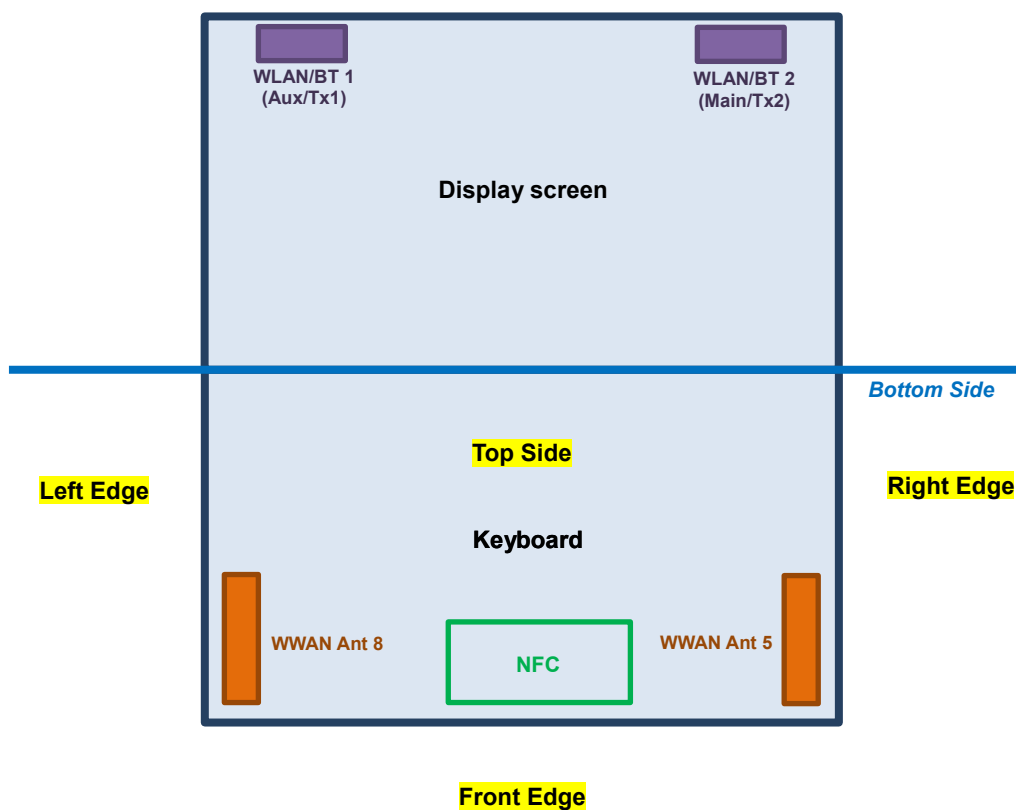
【FR1 n78 (27Q)_FCC_Part 27Q
(3450~3550MHz)_HPUE_Ant 8】

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		9.18		10.00
100	PI/2 BPSK	1	137		9.38		10.00
100	PI/2 BPSK	1	271		9.45		10.00
100	PI/2 BPSK	135	0		9.45		10.00
100	PI/2 BPSK	135	69		9.50		10.00
100	PI/2 BPSK	135	138		9.34		10.00
100	PI/2 BPSK	270	0		9.41		10.00
100	QPSK	1	1		9.20		10.00
100	QPSK	1	137		9.33		10.00
100	QPSK	1	271		9.25		10.00
100	QPSK	135	0		9.43		10.00
100	QPSK	135	69		9.48		10.00
100	QPSK	135	138		9.33		10.00
100	QPSK	270	0		9.40		10.00
100	16QAM	1	1		9.41		10.00
100	64QAM	1	1		9.23		10.00
100	256QAM	1	1		9.16		10.00
Channel				633000	633332	633666	Tune-up limit
Frequency (MHz)				3495	3499.98	3504.99	(dBm)
90	PI/2 BPSK	1	1	9.43	9.21	9.31	10.00
Channel				632668	633332	634000	Tune-up limit
Frequency (MHz)				3490.02	3499.98	3510	(dBm)
80	PI/2 BPSK	1	1	9.37	9.18	9.23	10.00
Channel				632334	633332	634332	Tune-up limit
Frequency (MHz)				3485.01	3499.98	3514.98	(dBm)
70	PI/2 BPSK	1	1	9.38	9.18	9.16	10.00
Channel				632000	633332	634666	Tune-up limit
Frequency (MHz)				3480	3499.98	3519.99	(dBm)
60	PI/2 BPSK	1	1	9.29	9.07	9.29	10.00
Channel				631668	633332	635000	Tune-up limit
Frequency (MHz)				3475.02	3499.98	3525	(dBm)
50	PI/2 BPSK	1	1	9.35	9.14	9.19	10.00
Channel				631334	633332	635332	Tune-up limit
Frequency (MHz)				3470.01	3499.98	3529.98	(dBm)
40	PI/2 BPSK	1	1	9.31	9.08	9.29	10.00
Channel				631000	633332	635666	Tune-up limit
Frequency (MHz)				3465	3499.98	3534.99	(dBm)
30	PI/2 BPSK	1	1	9.38	9.16	9.20	10.00
Channel				630834	633332	635832	Tune-up limit
Frequency (MHz)				3462.51	3499.98	3537.48	(dBm)
25	PI/2 BPSK	1	1	9.39	9.14	9.23	10.00
Channel				630668	633332	636000	Tune-up limit
Frequency (MHz)				3460.02	3499.98	3540	(dBm)
20	PI/2 BPSK	1	1	9.35	9.11	9.21	10.00
Channel				630500	633332	636166	Tune-up limit
Frequency (MHz)				3457.5	3499.98	3542.49	(dBm)
15	PI/2 BPSK	1	1	9.37	9.09	9.22	10.00
Channel				630334	633332	636332	Tune-up limit
Frequency (MHz)				3455.01	3499.98	3544.98	(dBm)
10	PI/2 BPSK	1	1	9.40	9.18	9.17	10.00

【FR1 n78 (270)_FCC_Part 270
(3700~3800MHz)_HPUE_Ant 8】

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		Tune-up limit (dBm)
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		9.01		10.00
100	PI/2 BPSK	1	137		9.33		10.00
100	PI/2 BPSK	1	271		9.30		10.00
100	PI/2 BPSK	135	0		9.34		10.00
100	PI/2 BPSK	135	69		9.49		10.00
100	PI/2 BPSK	135	138		9.37		10.00
100	PI/2 BPSK	270	0		9.37		10.00
100	QPSK	1	1		8.98		10.00
100	QPSK	1	137		9.26		10.00
100	QPSK	1	271		9.20		10.00
100	QPSK	135	0		9.31		10.00
100	QPSK	135	69		9.45		10.00
100	QPSK	135	138		9.40		10.00
100	QPSK	270	0		9.37		10.00
100	16QAM	1	1		9.31		10.00
100	64QAM	1	1		9.41		10.00
100	256QAM	1	1		9.33		10.00
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	9.28	9.32	9.30	10.00
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	9.17	9.19	9.18	10.00
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	9.26	9.24	9.27	10.00
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	9.14	9.29	9.19	10.00
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	9.27	9.29	9.25	10.00
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	9.16	9.19	9.27	10.00
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750	3784.98	
30	PI/2 BPSK	1	1	9.25	9.22	9.19	10.00
Channel				647500	650000	652500	Tune-up limit (dBm)
Frequency (MHz)				3712.5	3750	3787.5	
25	PI/2 BPSK	1	1	9.22	9.31	9.18	10.00
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	9.16	9.18	9.20	10.00
Channel				647168	650000	652832	Tune-up limit (dBm)
Frequency (MHz)				3707.52	3750	3792.48	
15	PI/2 BPSK	1	1	9.17	9.30	9.27	10.00
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	9.21	9.27	9.24	10.00

13. Antenna Location



The separation distance for antenna to edge :

Antenna	To Bottom Side (mm)
WWAN Antenna 5	11.65
WWAN Antenna 8	11.65
WLAN/BT 1 (Aux/Tx1)	215.686
WLAN/BT 2 (Main/Tx2)	215.686

14. 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 ≥ 0.8 W/kg.

UMTS Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. The maximum output power, including tolerance, for the smaller band is $\leq$ the larger band to qualify for the SAR test exclusion.
 - b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

5G NR Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
 - a. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
 - b. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is 1.45 W/kg, the remaining required test channels must also be tested.
 - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not $\frac{1}{2}$ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - d. Smaller bandwidth output power for each RB allocation configuration for this device is not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - e. For 5G FR1 n5/n12/n41/n71/n77, the maximum channel bandwidth does not support three non-overlapping channels in the frequency band, the middle channel of the group of overlapping channels were selected for testing.
 - f. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
 - g. For NR FDD was establishing connections via a base station simulator to use for output power measurement and SAR testing.

14.1 Body SAR

[WCDMA SAR]

Plot No	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
01	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	Ant 8	9262	1852.4	Vendor 1	13.79	14.00	1.05	0.16	0.341	0.358
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	Ant 8	9262	1852.4	Vendor 2	13.79	14.00	1.05	0.06	0.268	0.282
	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	Ant 8	1312	1712.4	Vendor 1	14.36	15.00	1.159	0.18	0.283	0.328
02	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	Ant 8	1312	1712.4	Vendor 2	14.36	15.00	1.159	-0.18	0.437	0.506
03	WCDMA V	RMC 12.2Kbps	Bottom Side	0mm	Ant 5	4132	826.4	Vendor 1	15.77	16.50	1.183	0.04	0.229	0.271
	WCDMA V	RMC 12.2Kbps	Bottom Side	0mm	Ant 5	4132	826.4	Vendor 2	15.77	16.50	1.183	-0.12	0.149	0.177

[LTE SAR]

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	21350	2560	Vendor 1	12.82	13.00	1.042			-0.11	0.134	0.139
	LTE Band 7	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	21350	2560	Vendor 1	12.80	13.00	1.047			0.09	0.129	0.135
04	LTE Band 7	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	21350	2560	Vendor 2	12.82	13.00	1.042			-0.15	0.196	0.204
	LTE Band 7C	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	21350+21152	2560	Vendor 2	12.43	13.00	1.14			0.01	0.154	0.176
05	LTE Band 12	10M	QPSK	1	0	Bottom Side	0mm	Ant 5	23095	707.5	Vendor 1	15.37	16.50	1.297			0.08	0.267	0.346
	LTE Band 12	10M	QPSK	25	0	Bottom Side	0mm	Ant 5	23095	707.5	Vendor 1	15.36	16.50	1.3			-0.09	0.265	0.345
	LTE Band 12	10M	QPSK	1	0	Bottom Side	0mm	Ant 5	23095	707.5	Vendor 2	15.37	16.50	1.297			0.00	0.207	0.268
06	LTE Band 13	10M	QPSK	1	0	Bottom Side	0mm	Ant 5	23230	782	Vendor 1	15.44	16.50	1.276			0.01	0.162	0.207
	LTE Band 13	10M	QPSK	25	0	Bottom Side	0mm	Ant 5	23230	782	Vendor 1	15.43	16.50	1.279			0.01	0.151	0.193
	LTE Band 13	10M	QPSK	1	0	Bottom Side	0mm	Ant 5	23230	782	Vendor 2	15.44	16.50	1.276			-0.06	0.138	0.176
07	LTE Band 14	10M	QPSK	1	0	Bottom Side	0mm	Ant 5	23330	793	Vendor 1	15.51	16.50	1.256			0.02	0.163	0.205
	LTE Band 14	10M	QPSK	25	0	Bottom Side	0mm	Ant 5	23330	793	Vendor 1	15.50	16.50	1.259			-0.05	0.157	0.198
	LTE Band 14	10M	QPSK	1	0	Bottom Side	0mm	Ant 5	23330	793	Vendor 2	15.51	16.50	1.256			-0.10	0.137	0.172
	LTE Band 17	10M	QPSK	1	0	Bottom Side	0mm	Ant 5	23790	710	Vendor 1	19.01	20.00	1.256			-0.13	0.150	0.188
08	LTE Band 17	10M	QPSK	25	0	Bottom Side	0mm	Ant 5	23790	710	Vendor 1	18.98	20.00	1.265			-0.08	0.155	0.196
	LTE Band 17	10M	QPSK	25	0	Bottom Side	0mm	Ant 5	23790	710	Vendor 2	18.98	20.00	1.265			0.04	0.114	0.145
	LTE Band 25	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	26340	1880	Vendor 1	13.44	14.00	1.138			0.03	0.322	0.367
	LTE Band 25	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	26340	1880	Vendor 1	13.48	14.00	1.127			-0.17	0.320	0.360
09	LTE Band 25	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	26340	1880	Vendor 2	13.44	14.00	1.138			-0.03	0.331	0.377
10	LTE Band 26	15M	QPSK	1	0	Bottom Side	0mm	Ant 5	26865	831.5	Vendor 1	16.40	17.50	1.288			0.15	0.224	0.289
	LTE Band 26	15M	QPSK	36	0	Bottom Side	0mm	Ant 5	26865	831.5	Vendor 1	16.39	17.50	1.291			0.02	0.223	0.287



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	LTE Band 26	15M	QPSK	1	0	Bottom Side	0mm	Ant 5	26865	831.5	Vendor 2	16.40	17.50	1.288			0.13	0.163	0.210
	LTE Band 5B	10M	QPSK	1	0	Bottom Side	0mm	Ant 5	20475+20574	831.5	Vendor 1	15.30	16.50	1.318			0.04	0.200	0.264
11	LTE Band 30	10M	QPSK	1	0	Bottom Side	0mm	Ant 8	27710	2310	Vendor 1	13.65	14.50	1.216			-0.03	0.277	0.337
	LTE Band 30	10M	QPSK	25	0	Bottom Side	0mm	Ant 8	27710	2310	Vendor 1	13.60	14.50	1.23			-0.16	0.273	0.336
	LTE Band 30	10M	QPSK	1	0	Bottom Side	0mm	Ant 8	27710	2310	Vendor 2	13.65	14.50	1.216			-0.12	0.234	0.284
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	132322	1745	Vendor 1	14.27	15.00	1.183			0.05	0.256	0.303
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	132322	1745	Vendor 1	14.35	15.00	1.161			0.14	0.259	0.301
12	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	132322	1745	Vendor 2	14.27	15.00	1.183			-0.14	0.335	0.396
	LTE Band 66B	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	132229+132322	1735.7	Vendor 2	14.08	15.00	1.236			0.12	0.231	0.286
	LTE Band 66C	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	132322+132124	1745	Vendor 2	14.10	15.00	1.23			0.11	0.210	0.258
13	LTE Band 71	20M	QPSK	1	0	Bottom Side	0mm	Ant 5	133297	680.5	Vendor 1	17.12	18.00	1.225			0.04	0.409	0.501
	LTE Band 71	20M	QPSK	50	0	Bottom Side	0mm	Ant 5	133297	680.5	Vendor 1	17.24	18.00	1.191			-0.15	0.418	0.498
	LTE Band 71	20M	QPSK	1	0	Bottom Side	0mm	Ant 5	133297	680.5	Vendor 2	17.12	18.00	1.225			-0.16	0.373	0.457
	LTE Band 38	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	38000	2595	Vendor 1	12.45	13.00	1.135	62.9	1.006	-0.08	0.128	0.146
	LTE Band 38	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	38000	2595	Vendor 1	12.55	13.00	1.109	62.9	1.006	-0.10	0.126	0.141
14	LTE Band 38	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	38000	2595	Vendor 2	12.45	13.00	1.135	62.9	1.006	0.12	0.132	0.151
	LTE Band 38C	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	37901+38000	2595	Vendor 2	12.25	13.00	1.189	62.9	1.006	0.04	0.112	0.134
	LTE Band 41	20M	QPSK	1	49	Bottom Side	0mm	Ant 5	40620	2593	Vendor 1	17.21	18.00	1.199	62.9	1.006	0.16	0.235	0.284
	LTE Band 41	20M	QPSK	50	50	Bottom Side	0mm	Ant 5	40620	2593	Vendor 1	17.22	18.00	1.197	62.9	1.006	0.12	0.232	0.280
15	LTE Band 41	20M	QPSK	1	49	Bottom Side	0mm	Ant 5	40620	2593	Vendor 2	17.21	18.00	1.199	62.9	1.006	0.17	0.309	0.373
	LTE Band 41C	20M	QPSK	1	0	Bottom Side	0mm	Ant 5	40620+40422	2593	Vendor 2	16.73	18.00	1.34	62.9	1.006	0.04	0.258	0.348
	LTE Band 41	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	40620	2593	Vendor 1	11.98	12.50	1.127	62.9	1.006	-0.12	0.107	0.121
	LTE Band 41	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	40620	2593	Vendor 1	11.97	12.50	1.13	62.9	1.006	0.06	0.101	0.115
	LTE Band 41	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	40620	2593	Vendor 2	11.98	12.50	1.127	62.9	1.006	0.12	0.121	0.137
	LTE Band 41C	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	40620+40422	2593	Vendor 2	11.68	12.50	1.208	62.9	1.006	0.04	0.099	0.120
	LTE Band 42	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	42590	3500	Vendor 1	9.47	10.00	1.13	62.9	1.006	0.09	0.048	0.055
	LTE Band 42	20M	QPSK	50	24	Bottom Side	0mm	Ant 8	42590	3500	Vendor 1	9.54	10.00	1.112	62.9	1.006	0.02	0.033	0.037
	LTE Band 42	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	42590	3500	Vendor 2	9.47	10.00	1.13	62.9	1.006	0.04	0.025	0.028
	LTE Band 42C	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	43190+43388	3560	Vendor 1	9.24	10.00	1.191	62.9	1.006	0.02	0.024	0.029
16	LTE Band 42	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	43340	3575	Vendor 1	9.50	10.00	1.122	62.9	1.006	-0.01	0.053	0.060
	LTE Band 42	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	43340	3575	Vendor 1	9.55	10.00	1.109	62.9	1.006	0.10	0.044	0.049
	LTE Band 42	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	43340	3575	Vendor 2	9.50	10.00	1.122	62.9	1.006	0.05	0.040	0.045
	LTE Band 42C	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	43292+43490	3590	Vendor 1	9.29	10.00	1.178	62.9	1.006	0.10	0.042	0.050
17	LTE Band 43	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	44490	3690	Vendor 1	8.61	9.00	1.094	62.9	1.006	-0.14	0.028	0.031
	LTE Band 43	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	44490	3690	Vendor 1	8.60	9.00	1.096	62.9	1.006	0.06	0.028	0.031
	LTE Band 43	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	44490	3690	Vendor 2	8.60	9.00	1.096	62.9	1.006	0.10	0.028	0.031
	LTE Band 48	20M	QPSK	1	0	Bottom Side	0mm	Ant 5	56640	3690	Vendor 2	14.95	15.50	1.135	62.9	1.006	-0.10	0.015	0.017
	LTE Band 48	20M	QPSK	50	0	Bottom Side	0mm	Ant 5	56640	3690	Vendor 1	15.03	15.50	1.114	62.9	1.006	0.03	0.015	0.017
18	LTE Band 48	20M	QPSK	1	0	Bottom Side	0mm	Ant 5	56640	3690	Vendor 1	14.95	15.50	1.135	62.9	1.006	-0.06	0.031	0.035
	LTE Band 48C	20M	QPSK	1	0	Bottom Side	0mm	Ant 5	55340+55538	3560	Vendor 2	14.52	15.50	1.253	62.9	1.006	0.08	0.019	0.024
	LTE Band 48	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	56640	3690	Vendor 1	9.38	9.50	1.028	62.9	1.006	0.09	0.027	0.028
	LTE Band 48	20M	QPSK	50	0	Bottom Side	0mm	Ant 8	56640	3690	Vendor 1	9.17	9.50	1.079	62.9	1.006	0.03	0.027	0.029
	LTE Band 48	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	56640	3690	Vendor 2	9.38	9.50	1.028	62.9	1.006	-0.00	0.027	0.028
	LTE Band 48C	20M	QPSK	1	0	Bottom Side	0mm	Ant 8	56442+56640	3670.2	Vendor 1	9.18	9.50	1.076	62.9	1.006	0.00	0.025	0.027

**【FR1 SAR】**

Plot No	Band	BW	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
19	FR1 n5	25M	BPSK	1	1	Bottom Side	0mm	Ant 5	167300	836.5	Vendor 1	15.62	16.50	1.225	0.16	0.164	0.201
	FR1 n5	25M	BPSK	64	0	Bottom Side	0mm	Ant 5	167300	836.5	Vendor 1	15.61	16.50	1.227	-0.05	0.186	0.228
	FR1 n5	25M	BPSK	64	0	Bottom Side	0mm	Ant 5	167300	836.5	Vendor 2	15.61	16.50	1.227	0.12	0.117	0.144
20	FR1 n7	50M	BPSK	1	268	Bottom Side	0mm	Ant 8	507000	2535	Vendor 1	12.95	13.00	1.012	0.16	0.228	0.231
	FR1 n7	50M	BPSK	135	135	Bottom Side	0mm	Ant 8	507000	2535	Vendor 1	12.79	13.00	1.05	0.19	0.204	0.214
	FR1 n7	50M	BPSK	1	268	Bottom Side	0mm	Ant 8	507000	2535	Vendor 2	12.95	13.00	1.012	-0.01	0.222	0.225
21	FR1 n12	15M	BPSK	1	77	Bottom Side	0mm	Ant 5	141500	707.5	Vendor 1	16.92	17.00	1.019	-0.00	0.341	0.348
	FR1 n12	15M	BPSK	36	22	Bottom Side	0mm	Ant 5	141500	707.5	Vendor 1	16.92	17.00	1.019	0.09	0.366	0.373
	FR1 n12	15M	BPSK	36	22	Bottom Side	0mm	Ant 5	141500	707.5	Vendor 2	16.92	17.00	1.019	0.10	0.137	0.140
22	FR1 n14	10M	BPSK	1	50	Bottom Side	0mm	Ant 5	158600	793	Vendor 1	16.24	16.50	1.062	0.17	0.191	0.203
	FR1 n14	10M	BPSK	25	27	Bottom Side	0mm	Ant 5	158600	793	Vendor 1	16.17	16.50	1.079	-0.03	0.181	0.195
	FR1 n14	10M	BPSK	1	50	Bottom Side	0mm	Ant 5	158600	793	Vendor 2	16.24	16.50	1.062	0.02	0.139	0.147
23	FR1 n25	45M	BPSK	1	120	Bottom Side	0mm	Ant 5	376500	1882.5	Vendor 1	17.51	18.00	1.119	0.12	0.364	0.407
	FR1 n25	45M	BPSK	120	60	Bottom Side	0mm	Ant 5	376500	1882.5	Vendor 1	17.49	18.00	1.125	-0.15	0.256	0.288
	FR1 n25	45M	BPSK	1	120	Bottom Side	0mm	Ant 5	376500	1882.5	Vendor 2	17.51	18.00	1.119	0.07	0.311	0.348
24	FR1 n25	45M	BPSK	1	120	Bottom Side	0mm	Ant 8	376500	1882.5	Vendor 1	13.52	14.00	1.117	0.03	0.258	0.288
	FR1 n25	45M	BPSK	120	60	Bottom Side	0mm	Ant 8	376500	1882.5	Vendor 1	13.50	14.00	1.122	-0.04	0.263	0.295
	FR1 n25	45M	BPSK	120	60	Bottom Side	0mm	Ant 8	376500	1882.5	Vendor 2	13.50	14.00	1.122	0.08	0.174	0.195
25	FR1 n26	20M	BPSK	1	104	Bottom Side	0mm	Ant 5	166300	831.5	Vendor 1	16.71	17.50	1.199	0.13	0.271	0.325
	FR1 n26	20M	BPSK	50	28	Bottom Side	0mm	Ant 5	166300	831.5	Vendor 1	16.74	17.50	1.191	0.08	0.251	0.299
	FR1 n26	20M	BPSK	1	104	Bottom Side	0mm	Ant 5	166300	831.5	Vendor 2	16.71	17.50	1.199	-0.11	0.179	0.214
26	FR1 n30	10M	BPSK	1	26	Bottom Side	0mm	Ant 8	462000	2310	Vendor 1	13.87	14.50	1.156	0.14	0.331	0.383
	FR1 n30	10M	BPSK	25	14	Bottom Side	0mm	Ant 8	462000	2310	Vendor 1	13.64	14.50	1.219	0.05	0.313	0.382
	FR1 n30	10M	BPSK	1	26	Bottom Side	0mm	Ant 8	462000	2310	Vendor 2	13.87	14.50	1.156	-0.18	0.244	0.282
27	FR1 n66	45M	BPSK	1	120	Bottom Side	0mm	Ant 8	349000	1745	Vendor 1	14.36	15.00	1.159	-0.10	0.199	0.231
	FR1 n66	45M	BPSK	120	60	Bottom Side	0mm	Ant 8	349000	1745	Vendor 1	14.32	15.00	1.169	0.09	0.164	0.191
	FR1 n66	45M	BPSK	1	120	Bottom Side	0mm	Ant 8	349000	1745	Vendor 2	14.36	15.00	1.159	-0.05	0.191	0.222
28	FR1 n71	20M	BPSK	1	53	Bottom Side	0mm	Ant 5	136100	680.5	Vendor 1	16.93	18.00	1.279	0.09	0.395	0.505
	FR1 n71	20M	BPSK	50	56	Bottom Side	0mm	Ant 5	136100	680.5	Vendor 1	17.10	18.00	1.23	-0.07	0.389	0.478
	FR1 n71	20M	BPSK	1	53	Bottom Side	0mm	Ant 5	136100	680.5	Vendor 2	16.93	18.00	1.279	-0.16	0.170	0.217
29	FR1 n38	40M	BPSK	1	53	Bottom Side	0mm	Ant 8	519000	2595	Vendor 1	12.61	13.00	1.094	0.16	0.161	0.176
	FR1 n38	40M	BPSK	50	28	Bottom Side	0mm	Ant 8	519000	2595	Vendor 1	12.59	13.00	1.099	-0.10	0.159	0.174
	FR1 n38	40M	BPSK	1	53	Bottom Side	0mm	Ant 8	519000	2595	Vendor 2	12.61	13.00	1.094	-0.01	0.151	0.165
30	FR1 n41	100M	BPSK	1	1	Bottom Side	0mm	Ant 5	518598	2592.99	Vendor 1	17.81	18.00	1.045	-0.02	0.583	0.609
	FR1 n41	100M	BPSK	135	0	Bottom Side	0mm	Ant 5	518598	2592.99	Vendor 1	17.78	18.00	1.052	-0.12	0.506	0.533
	FR1 n41	100M	BPSK	1	1	Bottom Side	0mm	Ant 5	518598	2592.99	Vendor 2	17.81	18.00	1.045	0.13	0.819	0.856
31	FR1 n41	100M	BPSK	1	1	Bottom Side	0mm	Ant 5	509202	2546.01	Vendor 2	17.42	18.00	1.143	0.06	0.699	0.799
	FR1 n41	100M	BPSK	1	1	Bottom Side	0mm	Ant 5	528000	2640	Vendor 2	17.34	18.00	1.164	0.07	0.678	0.789
	FR1 n41	100M	BPSK	1	137	Bottom Side	0mm	Ant 8	518598	2592.99	Vendor 1	11.69	12.50	1.205	0.01	0.141	0.170
32	FR1 n41	100M	BPSK	135	69	Bottom Side	0mm	Ant 8	518598	2592.99	Vendor 1	11.85	12.50	1.161	-0.07	0.139	0.161
	FR1 n41	100M	BPSK	1	137	Bottom Side	0mm	Ant 8	518598	2592.99	Vendor 1	11.69	12.50	1.205	-0.10	0.112	0.135
	FR1 n48	40M	BPSK	1	1	Bottom Side	0mm	Ant 5	641666	3624.99	Vendor 1	14.99	15.50	1.125	-0.07	0.034	0.038
33	FR1 n48	40M	BPSK	50	28	Bottom Side	0mm	Ant 5	641666	3624.99	Vendor 1	14.80	15.50	1.175	-0.10	0.032	0.038
	FR1 n48	40M	BPSK	1	1	Bottom Side	0mm	Ant 5	641666	3624.99	Vendor 2	14.99	15.50	1.125	0.05	0.070	0.079
	FR1 n48	40M	BPSK	1	104	Bottom Side	0mm	Ant 8	641666	3624.99	Vendor 1	8.62	9.50	1.225	0.15	0.051	0.062
34	FR1 n48	40M	BPSK	50	56	Bottom Side	0mm	Ant 8	641666	3624.99	Vendor 1	8.66	9.50	1.213	-0.04	0.050	0.060
	FR1 n48	40M	BPSK	1	104	Bottom Side	0mm	Ant 8	641666	3624.99	Vendor 2	8.62	9.50	1.225	-0.04	0.041	0.050
	FR1 n77	100M	BPSK	1	1	Bottom Side	0mm	Ant 5	633332	3499.98	Vendor 1	14.15	15.00	1.216	0.16	0.074	0.090
35	FR1 n77	100M	BPSK	135	69	Bottom Side	0mm	Ant 5	633332	3499.98	Vendor 1	14.05	15.00	1.245	0.01	0.063	0.079
	FR1 n77	100M	BPSK	1	1	Bottom Side	0mm	Ant 5	633332	3499.98	Vendor 2	14.15	15.00	1.216	0.14	0.101	0.123
	FR1 n77	100M	BPSK	1	137	Bottom Side	0mm	Ant 8	633332	3499.98	Vendor 1	8.63	9.00	1.089	0.19	0.065	0.071
36	FR1 n77	100M	BPSK	135	69	Bottom Side	0mm	Ant 8	633332	3499.98	Vendor 1	8.73	9.00	1.064	-0.17	0.053	0.057
	FR1 n77	100M	BPSK	1	137	Bottom Side	0mm	Ant 8	633332	3499.98	Vendor 2	8.63	9.00	1.089	-0.14	0.048	0.053
	FR1 n77	100M	BPSK	1	1	Bottom Side	0mm	Ant 5	656000	3840	Vendor 1	14.55	15.00	1.109	0.03	0.117	0.130
37	FR1 n77	100M	BPSK	135	69	Bottom Side	0mm	Ant 5	656000	3840	Vendor 1	14.57	15.00	1.104	-0.07	0.168	0.185
	FR1 n77	100M	BPSK	135	69	Bottom Side	0mm	Ant 5	656000	3840	Vendor 2	14.57	15.00	1.104	0.13	0.373	0.412
	FR1 n77	100M	BPSK	1	137	Bottom Side	0mm	Ant 8	656000	3840	Vendor 1	8.40	9.00	1.148	0.05	0.054	0.062
38	FR1 n77	100M	BPSK	135	69	Bottom Side	0mm	Ant 8	656000	3840	Vendor 1	8.49	9.00	1.125	-0.04	0.054	0.061
	FR1 n77	100M	BPSK	1	137	Bottom Side	0mm	Ant 8	656000	3840	Vendor 2	8.40	9.00	1.148	0.05	0.047	0.054
	FR1 n78	100M	BPSK	1	271	Bottom Side	0mm	Ant 8	633332	3499.98	Vendor 1	9.45	10.00	1.135	0.05	0.057	0.065
39	FR1 n78	100M	BPSK	135	69	Bottom Side	0mm	Ant 8	633332	3499.98	Vendor 1	9.50	10.00	1.122	-0.18	0.056	0.063
	FR1 n78	100M	BPSK	1	271	Bottom Side	0mm	Ant 8	633332	3499.98	Vendor 2	9.45	10.00	1.135	-0.00	0.035	0.040
	FR1 n78	100M	BPSK	1	137	Bottom Side	0mm	Ant 8	650000	3750	Vendor 1	9.33	10.00	1.167	0.14	0.052	0.061
40	FR1 n78	100M	BPSK	135	69	Bottom Side	0mm	Ant 8	650000	3750	Vendor 1	9.49	10.00	1.125	-0.08	0.053	0.060
	FR1 n78	100M	BPSK	1	137	Bottom Side	0mm	Ant 8	650000	3750	Vendor 2	9.33	10.00	1.167	0.15	0.036	0.042

**14.2 Repeated SAR Measurement**

No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)	Ratio
1st	FR1 n41	100M_BPSK_1_1	Bottom Side	0mm	Ant 5	518598	2592.99	Vendor 2	17.81	18.00	1.045	0.13	0.819	0.856	-
2nd	FR1 n41	100M_BPSK_1_1	Bottom Side	0mm	Ant 5	518598	2592.99	Vendor 2	17.81	18.00	1.045	0.01	0.733	0.766	1.12

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/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.

Test Engineer : John Fan, Kevin Guo and Jimmy Lu

15. Uncertainty Assessment

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

16. References

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