FCC SAR TEST REPORT

FCC ID	:	**2AJN7-TP00128AUC**
Equipment	:	**Notebook Computer**
Brand Name	:	**Lenovo**
Model Name	:	**TP00128A**
Applicant	:	**LC Future Center Limited Taiwan Branch No. 3188-1, Yungu Road (Hefei Export Processing Zone), Hefei Economics & Technology Development Area, Anhui, CHINA**
Manufacturer	:	**LCFC (HeFei) Electronics Technology Co., Ltd. No. 3188-1, Yungu Road (Hefei Export Processing Zone), Hefei Economics & Technology Development Area, Anhui, CHINA**
Standard	:	**FCC 47 CFR Part 2 (2.1093)**

Equipment: Foxconn T99W175 tested inside of Lenovo Notebook Computer.

The product was received on Nov 11, 2020 and testing was started from Dec 04, 2020 and completed on Feb. 26, 2021. 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. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Cona Huang / Deputy Manager

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History of this test report

Report No.	Version	Description	Issued Date
FA0N0620	01	Initial issue of report	Feb. 08, 2021
FA0N0620	02	Update section9, 10, 13 and 15	Feb. 23, 2021
FA0N0620	03	Update section3.3	Feb. 26, 2021
FA0N0620	04	Add WLAN SAR result	Mar. 02, 2021

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for LC Future Center Limited Taiwan Branch, Notebook Computer, TP00128A, are as follows.

Equipment Class	Frequency Band		Highest SAR Summary Body 1g SAR (W/kg)	Highest Simultaneous Transmission 1g SAR (W/kg)
Licensed	WCDMA	WCDMA II	1.186	1.186
		WCDMA IV	1.155	
		WCDMA V	1.130	
	LTE	LTE Band 2	0.633	
		LTE Band 5	1.133	
		LTE Band 7	1.102	
		LTE Band 12 / 17	1.175	
		LTE Band 13	1.153	
		LTE Band 14	1.159	
		LTE Band 25	1.128	
		LTE Band 26	1.119	
		LTE Band 30	1.148	
		LTE Band 38 / 41	0.943	
		LTE Band 48	1.117	
		LTE Band 4 / 66	1.146	
		LTE Band 71	1.181	
	FR1	FR1 n2	0.657	
		FR1 n5	0.639	
		FR1 n7	0.646	
		FR1 n12	0.646	
		FR1 n41	0.639	
		FR1 n66	0.671	
		FR1 n71	0.635	
Date of Testing:			2020/12/04 ~ 2021/2/26	

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 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. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Notebook Computer
Brand Name	Lenovo
Model Name	TP00128A
FCC ID	2AJN7-TP00128AUC
Integrated WWAN Module	Brand Name: Foxconn Model Name: T99W175
Integrated UWB Module	Brand Name: Novelda AS Model Name: X4C007
Integrated NFC Module	Brand Name: Foxconn Model Name: T77H747
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 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 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 n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz NFC : 13.56 MHz UWB: 7490 MHz ~ 8450 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM NFC:ASK UWB: Pulsed TX with pseudo random bi-phase
EUT Stage	Production Unit

Remark:

1. The UWB output power is -15 dBm was referring to FCC ID: 2AD9Q-X4C007, test report no.: 2711ERM.002, according to 201810 TCBC workshops the UWB output power is less than 1mW and exempt from power density testing.
2. This device is convertible type notebook PC, and there are two mode as usage way, one is laptop mode, another is tablet mode.

WWAN Antenna Information				
Main Antenna	**Manufacturer**	Amphenol	**Peak gain(dBi)**	1.62
	Part number	TKC114-16-000-C	**Type**	PIFA
MIMO 2 Antenna	**Manufacturer**	Amphenol	**Peak gain(dBi)**	1.52
	Part number	TKC113-16-000-C	**Type**	PIFA

WLAN Module Information	
Integrated WLAN Module	Brand Name: Intel® Wi-Fi 6E AX201 Model Name: AX201D2W
Wireless Technology and Frequency Range	WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8GHz Band: 5725 MHz ~ 5825 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE

Remark:

1. The Intel AX201D2W (FCC ID: PD9AX201D2) WLAN /BT module is also integrated into Lenove TP00129A host. In this report section16.2 additional WLAN SAR to evaluated Sim-Tx analysis with WWAN transmitter.

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	2AJN7-TP00128AUC
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 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 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
LTE Voice / Data requirements	Data only
LTE MPR permanently built-in by design	**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3** Modulation | Channel bandwidth / Transmission bandwidth (N_{RB}) | MPR (dB) 1.4 MHz | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz QPSK | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 1 16 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 1 16 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 2 64 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 2 64 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 3 256 QAM | ≥ 1 | ≤ 5
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.
Power reduction applied to satisfy SAR compliance	Yes, Proximity Sensor.
LTE Carrier Aggregation Combinations	Intra-Band possible combinations and the detail power measurement please referred to section 12.
LTE Carrier Aggregation Additional Information	This device supports maximum of 6 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

Transmission (H, M, L) channel numbers and frequencies in each LTE band												
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5								
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844
LTE Band 7								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560
LTE Band 12								
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711
LTE Band 13				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		
LTE Band 14				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Channel #	Channel #	Freq.(MHz)
L	23305	790.5	23330	793
M	23330	793		
H	23355	795.5		
LTE Band 17				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711

LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

LTE Band 26										
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5

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

LTE Band 38								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610

LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
L M	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
H M	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

LTE Band 71								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5
H	133447	695.5	133422	693	133397	690.5	133372	688

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
L M	55810	3607	55815	3607.5	55820	3608	55830	3609
M H	56170	3643	56165	3642.5	56160	3642	56150	3641
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690

3.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information		
FCC		2AJN7-TP00128AUC
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 n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz
Channel Bandwidth		5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n12: 5MHz, 10MHz, 15MHz 5G NR n41: 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz
Sub-Carrier Spacing		FR1 n2/5/7/12/66/71 support Sub-Carrier Spacing 15KHz also used for output power and SAR measurement FR1 n41 support Sub-Carrier Spacing 30KHz also used for output power and SAR measurement
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
EN-DC Combination	LTE Anchor Bands with n2	LTE B5/12/13/30/48/66
	LTE Anchor Bands with n5	LTE B2/7/12/48/66
	LTE Anchor Bands with n7	LTE B5/12
	LTE Anchor Bands with n12	LTE B2/66
	LTE Anchor Bands with n41	LTE B2/25/26/66
	LTE Anchor Bands with n66	LTE B5/12/13/30/48/71
	LTE Anchor Bands with n71	LTE B2/7/66

Transmission (H, M, L) channel numbers and frequencies in each 5G NR band

NR Band 2

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

NR Band 5

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

NR Band 7

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

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

NR Band 41														
	Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501204	2506.02	503202	2516.01	504204	2521.02	505200	2526	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
H	535998	2679.99	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640

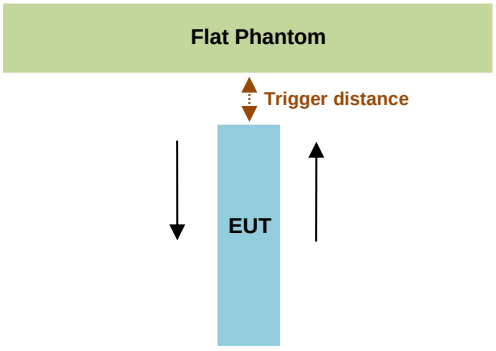
NR Band 66								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720
M	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770

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

4. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance (KDB 616217 D04 section 6.2)>:

For the device is fully integrated, touch sensing capacitive sensor. It uses a charge transfer capacitive acquisition method that is capable of near range proximity detection. In this device offers a state of the art capacitive sensing engine with an embedded sampling capacitor and voltage regulator allowing the overall solution cost to be reduced and improving system immunity in noisy environments.
Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed. The details are illustrated as following, and the shortest triggering distances were reported and used for SAR assessment.
In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.



Main Antenna								
Proximity Sensor Trigger Distance (mm)								
Exposure Position	Bottom of Laptop		Bottom Face		Edge 1		Edge 2	
	moving toward	moving away	moving toward	moving away	moving toward	moving away	moving toward	moving away
Minimum	11	12	17	19	8	9	5	5

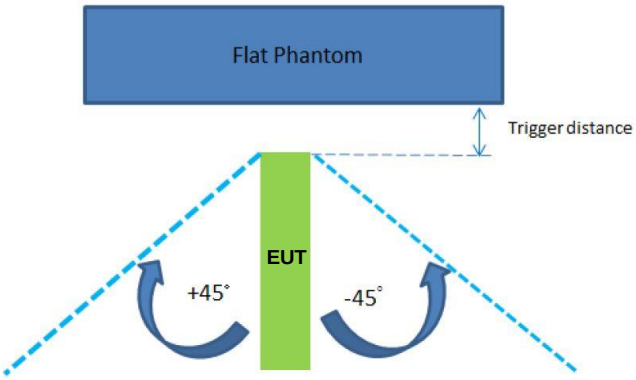
MIMO2 Antenna						
Proximity Sensor Trigger Distance (mm)						
Exposure Position	Bottom of Laptop		Bottom Face		Edge 4	
	moving toward	moving away	moving toward	moving away	moving toward	moving away
Minimum	12	12	21	21	21	21

<Proximity Sensor Triggering Coverage (KDB 616217 D04 section 6.3)>:

Since the antenna and sensor are collocated and all of the peak SAR location is overlapping with the sensor pad for this device, therefore, According to KDB 616217 section6.3, these procedures do not apply and are not required, due to the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor on this device.

<Tablet Tilt angle influences to proximity sensor triggering (KDB 616217 D04 section 6.4)>:

The influence of table tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom, at above separation distance.
Rotating the tablet around the edge next to the phantom in ≤ 10° increments until the tablet is ± 45° from the vertical position at 0°, and the maximum output power remains in the reduced mode.



Main Antenna				
Proximity Sensor Trigger Distance (mm)				
Exposure Position	Edge 1		Edge 2	
	+45	-45	+45	-45
Minimum	8	8	5	5

MIMO2 Antenna		
Proximity Sensor Trigger Distance (mm)		
Exposure Position	Edge 4	
	+45	-45
Minimum	21	21

Proximity sensor power reduction

Exposure Position / wireless mode	Bottom of Laptop/Bottom Face/Edge1/Edge2/Edge4(1)
WCDMA Band II Main	10.5 dB
WCDMA Band IV Main	10 dB
WCDMA Band V Main	8 dB
LTE Band 2	11 dB
LTE Band 2 MIMO2	12 dB
LTE Band 5 Main	9 dB
LTE Band 7 Main	12 dB
LTE Band 7 MIMO2	16 dB
LTE Band 12 Main / 17 Main	8.5 dB
LTE Band 13 Main	7.5 dB
LTE Band 14 Main	8.5 dB
LTE Band 25 Main	11 dB
LTE Band 26 Main	9 dB
LTE Band 30 Main	10 dB
LTE Band 38 Main / 41 Main	12.5 dB
LTE Band 41_HPUE	12.5 dB
LTE Band 48 MIMO 2	9 dB
LTE Band 4 Main / 66 Main	10 dB
LTE Band 66 MIMO2	13 dB
LTE Band 71 Main	8.5 dB
FR1 n2 Main	12.5 dB
FR1 n2 MIMO 2	12.5 dB
FR1 n5 Main	7.5 dB
FR1 n7 MIMO 2	17 dB
FR1 n12 Main	13 dB
FR1 n41 MIMO 2	20.5 dB
FR1 n66 Main	11.5 dB
FR1 n66 MIMO 2	12 dB
FR1 n71 Main	12.5 dB

Remark:

1. (1): Reduced maximum limit applied by activation of proximity sensor.
2. Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown as below
3. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance -1 was performed:

Main Antenna:

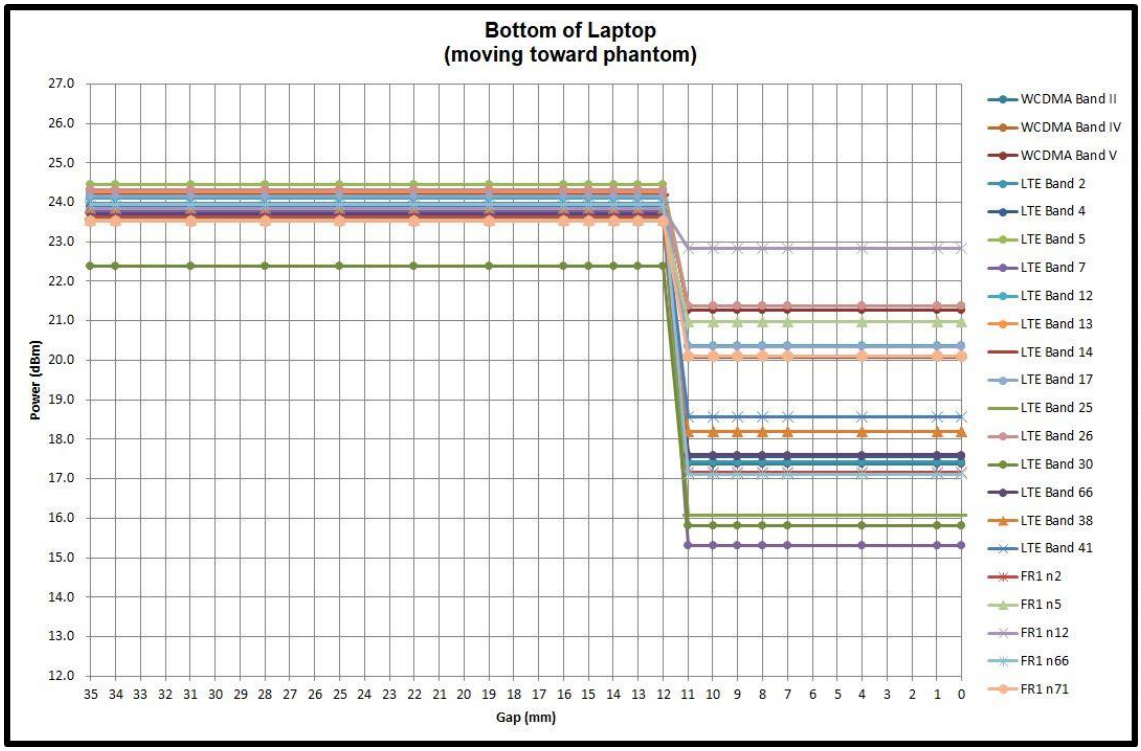
- Bottom Face: 16 mm
- Edge1: 7 mm
- Edge2: 4 mm
- Bottom of Laptop: 10 mm

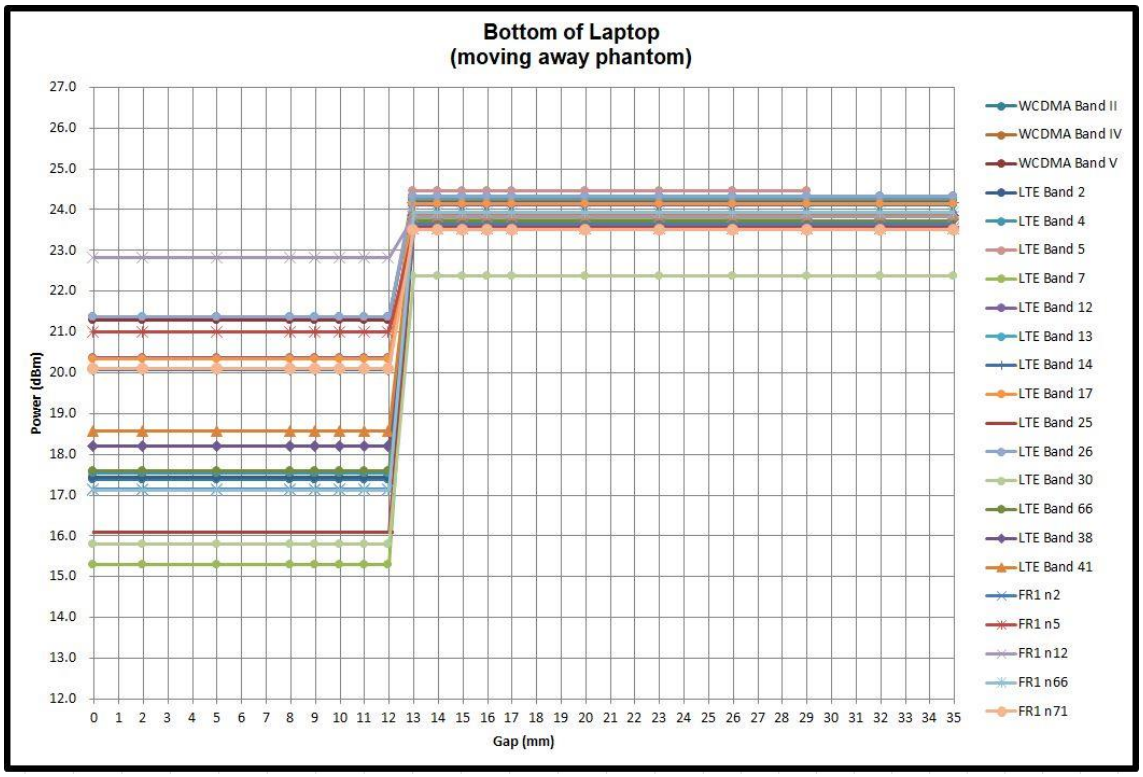
MIMO2 Antenna:

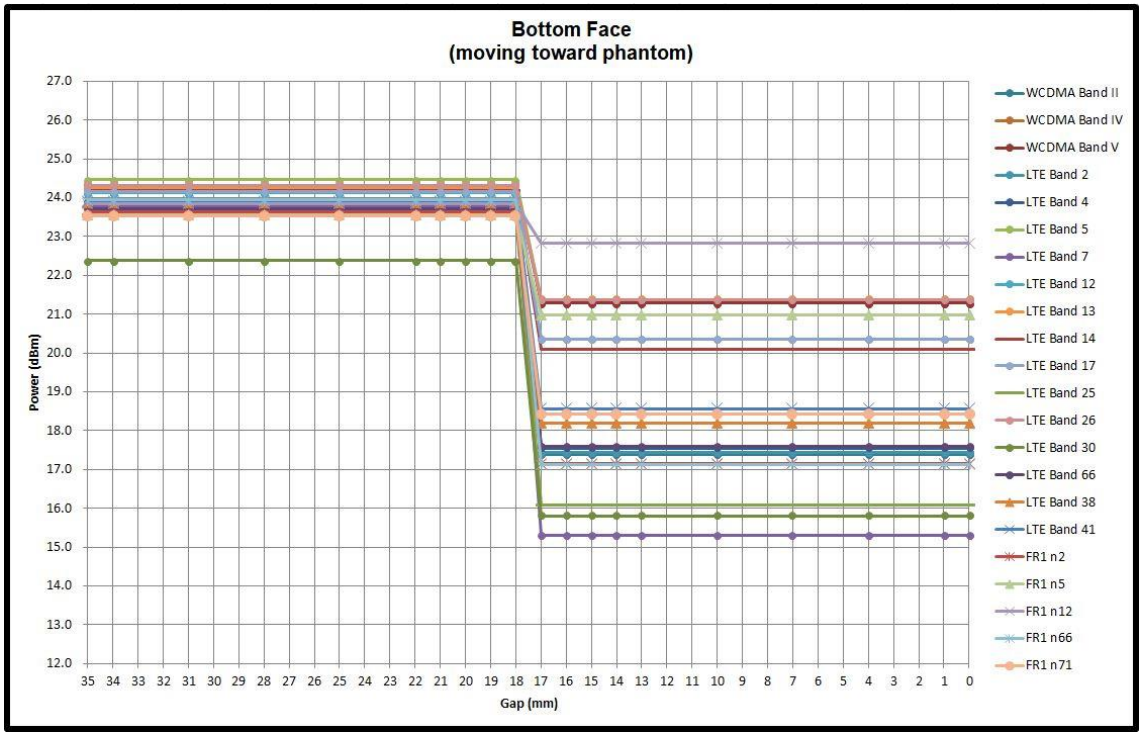
- Bottom Face: 20 mm
- Edge4: 20 mm
- Bottom of Laptop: 11 mm

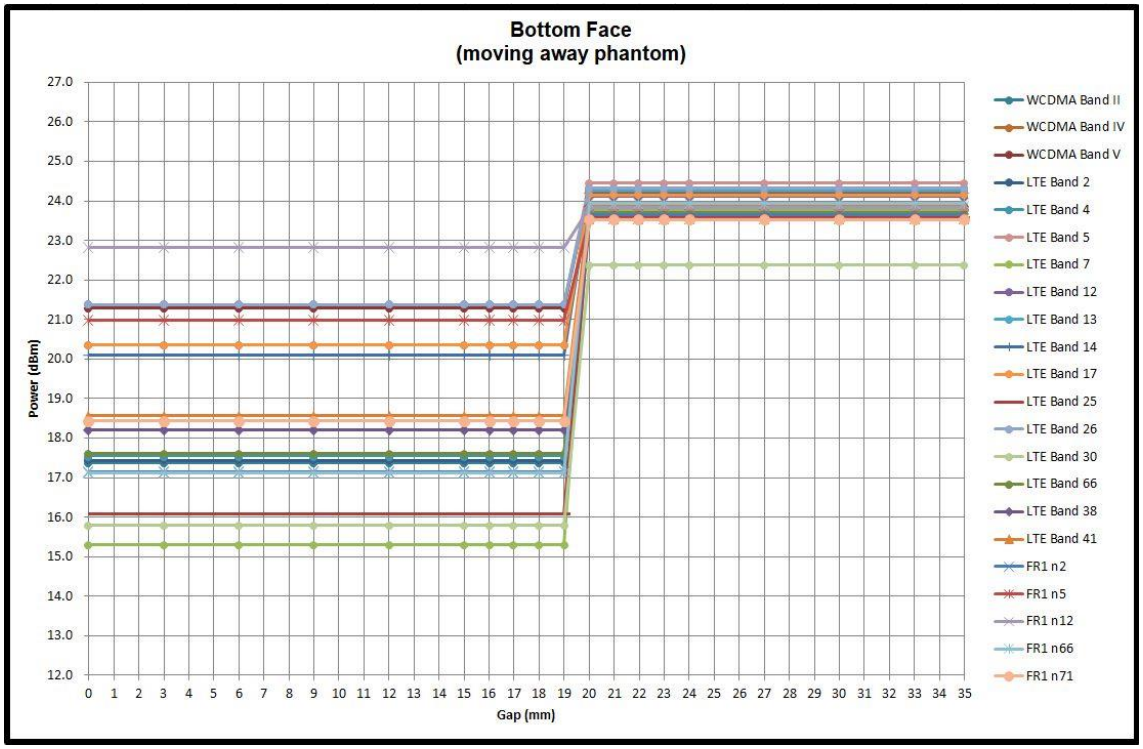
Power Measurement during Sensor Trigger distance testing

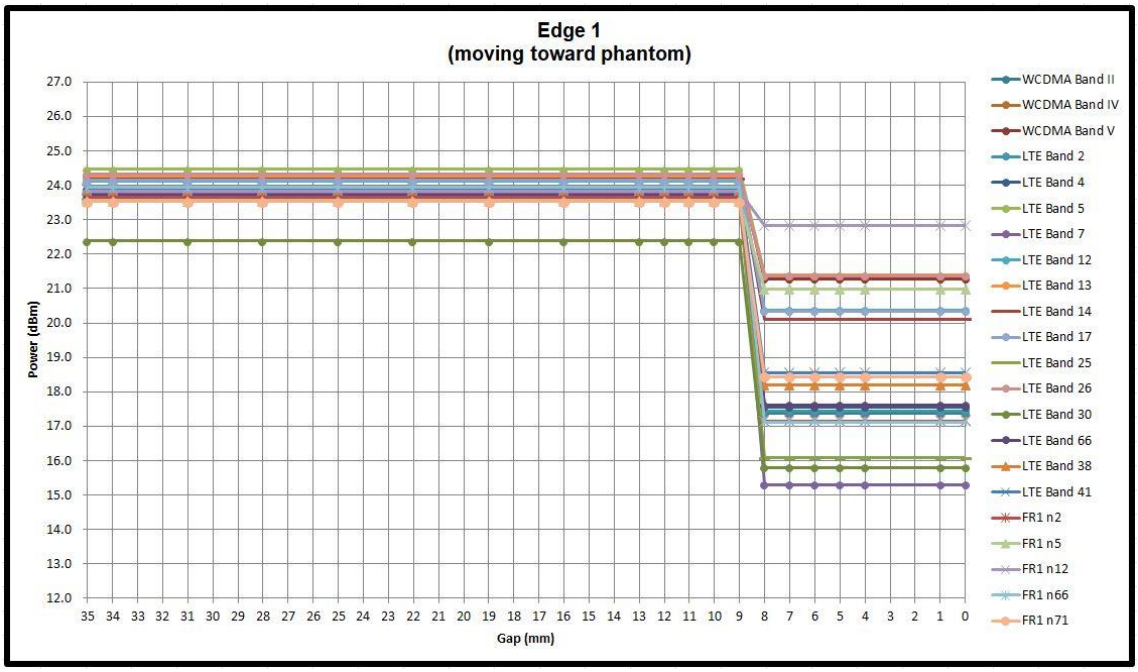
Main Antenna

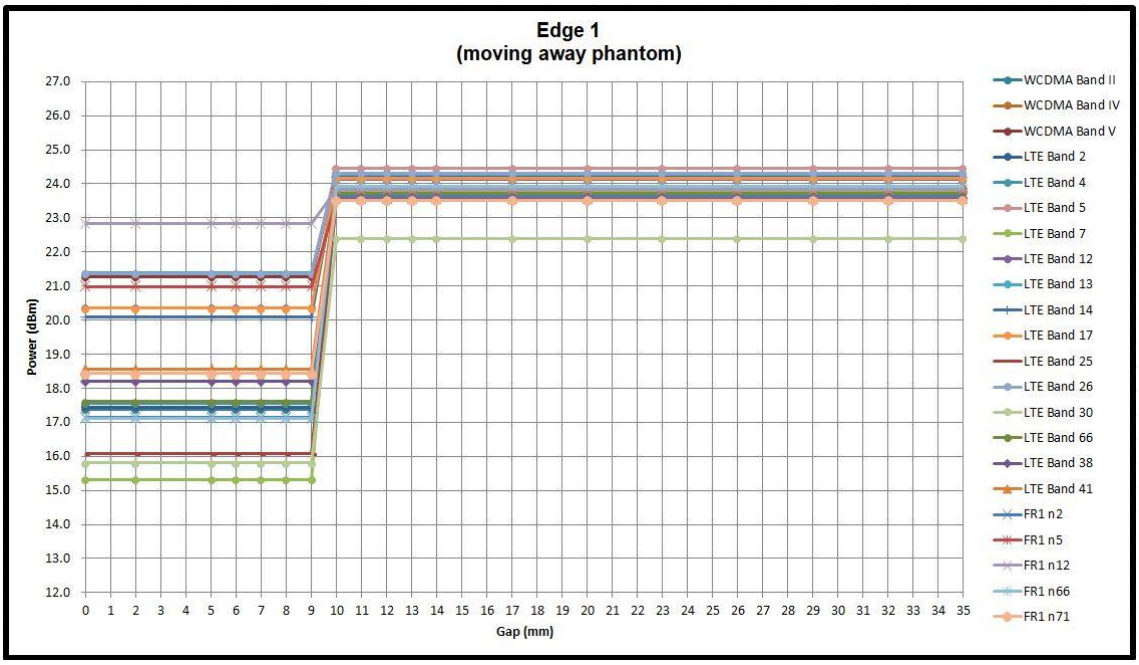


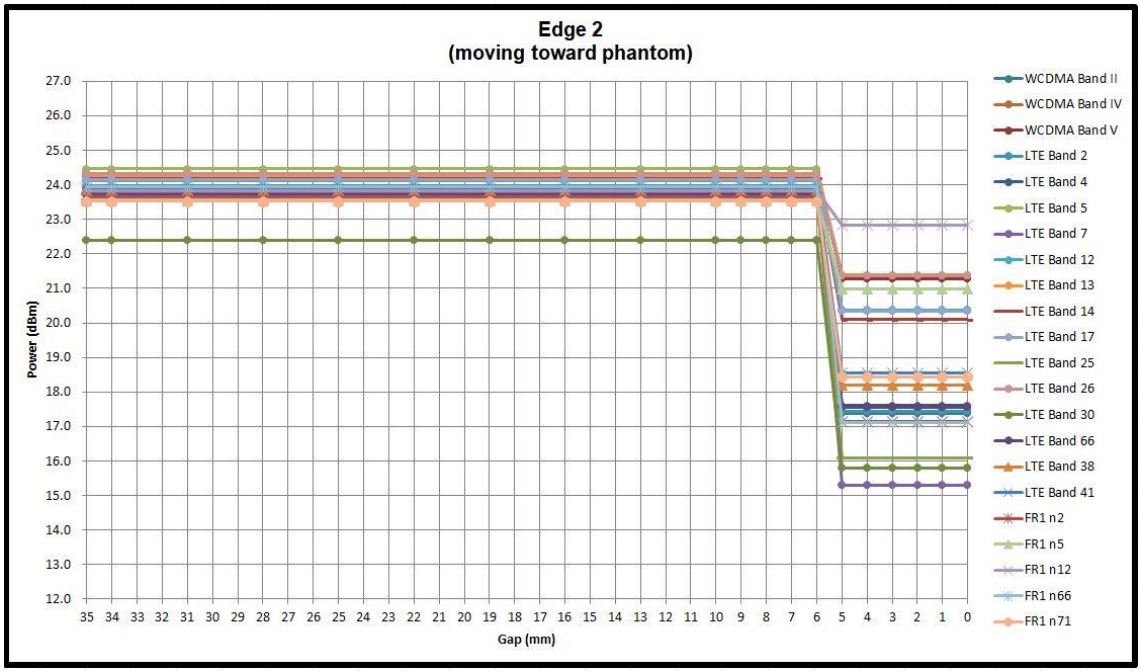


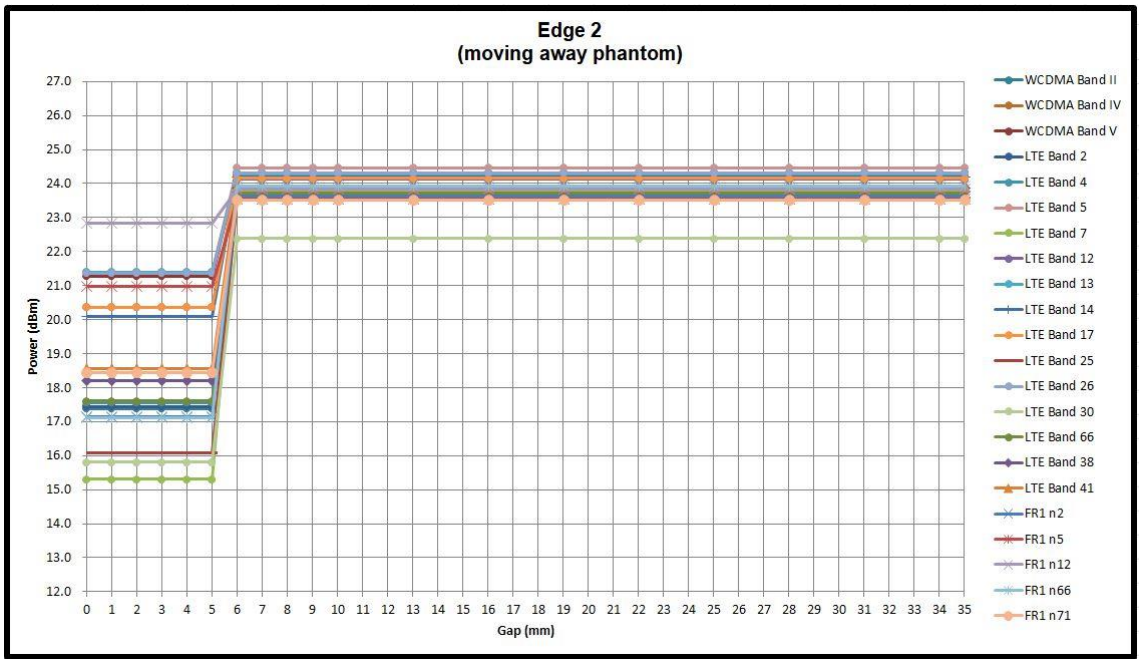

Bottom Face
(moving toward phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n12
FR1 n66
FR1 n71


Bottom Face
(moving away phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n12
FR1 n66
FR1 n71

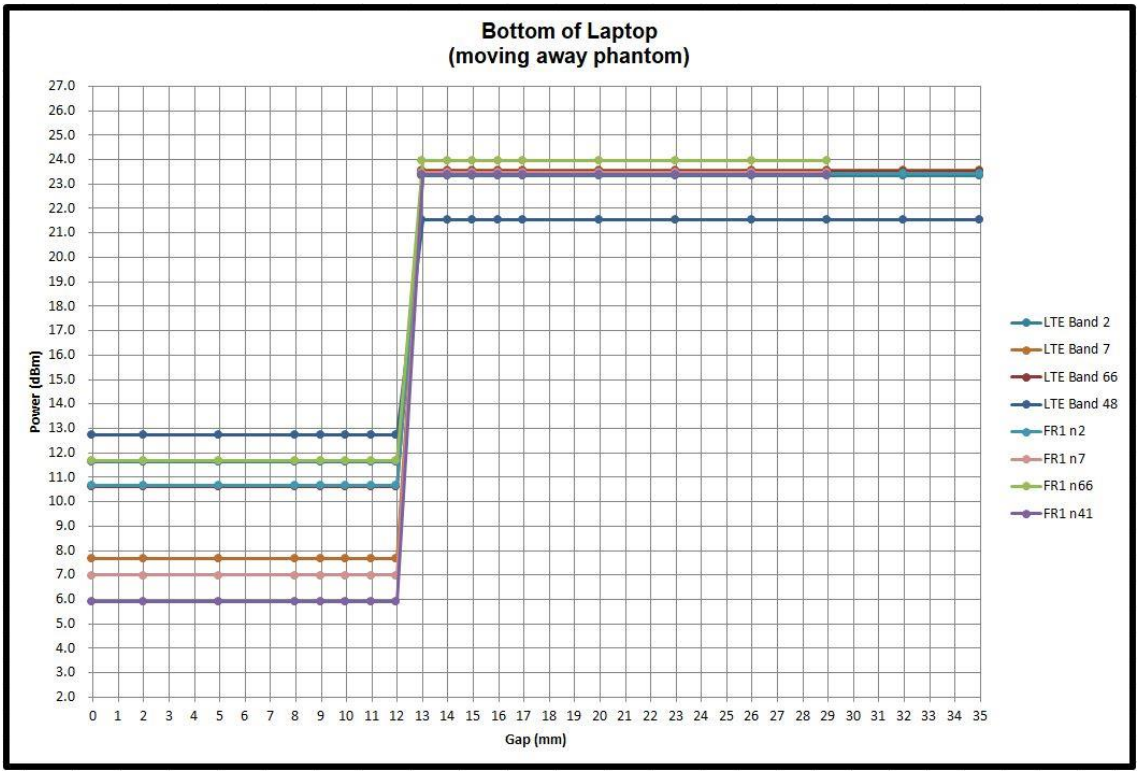

Edge 1
(moving toward phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n12
FR1 n66
FR1 n71

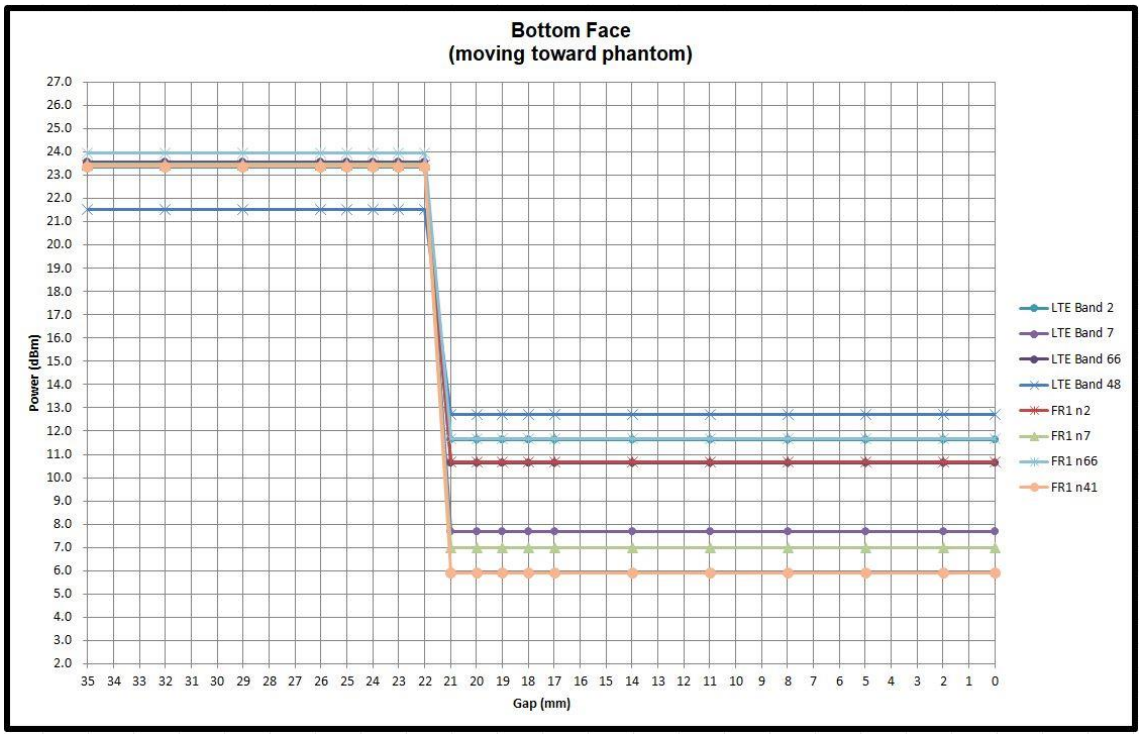

Edge 1
(moving away phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n12
FR1 n66
FR1 n71

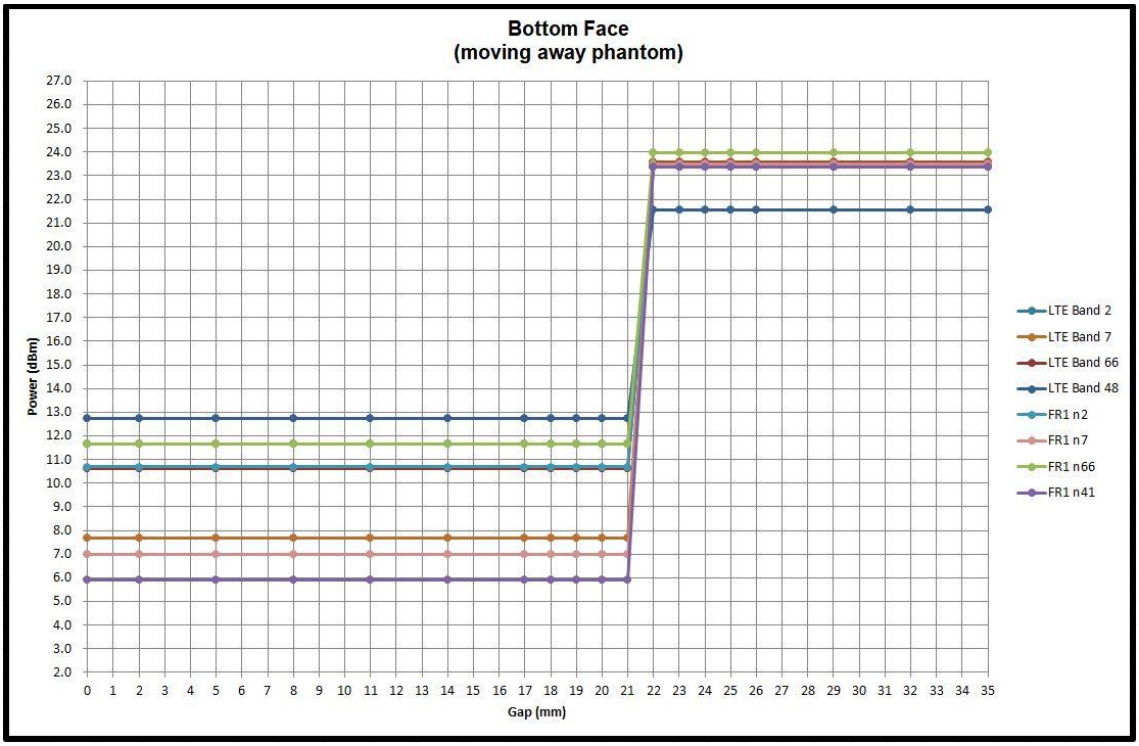

Edge 2
(moving toward phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n12
FR1 n66
FR1 n71

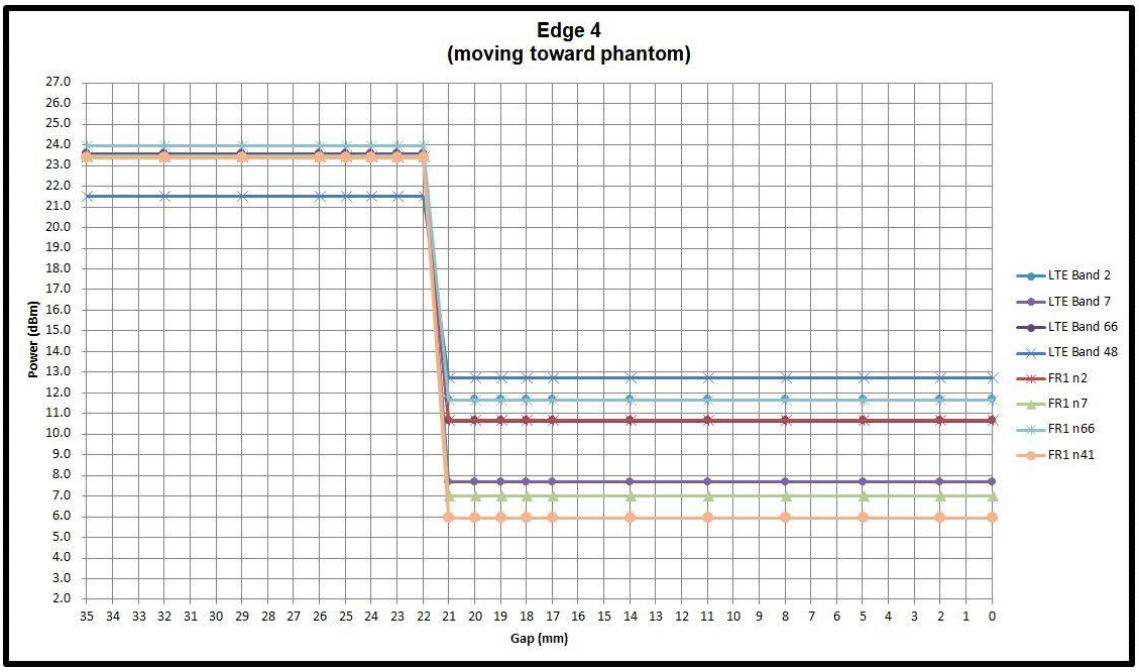

Edge 2
(moving away phantom)
Power (dBm)
Gap (mm)
WCDMA Band II
WCDMA Band IV
WCDMA Band V
LTE Band 2
LTE Band 4
LTE Band 5
LTE Band 7
LTE Band 12
LTE Band 13
LTE Band 14
LTE Band 17
LTE Band 25
LTE Band 26
LTE Band 30
LTE Band 66
LTE Band 38
LTE Band 41
FR1 n2
FR1 n5
FR1 n12
FR1 n66
FR1 n71

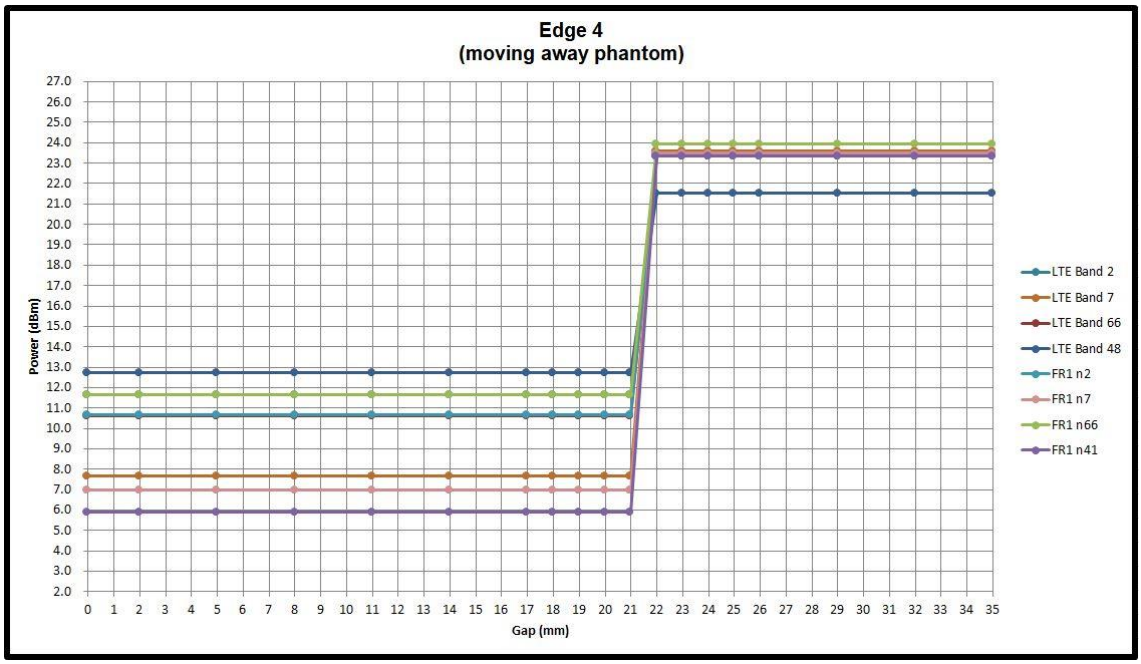
MIMO 2 Antenna




Bottom Face
(moving toward phantom)
Power (dBm)
Gap (mm)
LTE Band 2
LTE Band 7
LTE Band 66
LTE Band 48
FR1 n2
FR1 n7
FR1 n66
FR1 n41


Bottom Face
(moving away phantom)
Power (dBm)
Gap (mm)
LTE Band 2
LTE Band 7
LTE Band 66
LTE Band 48
FR1 n2
FR1 n7
FR1 n66
FR1 n41


Edge 4
(moving toward phantom)
Power (dBm)
Gap (mm)
LTE Band 2
LTE Band 7
LTE Band 66
LTE Band 48
FR1 n2
FR1 n7
FR1 n66
FR1 n41


Edge 4
(moving away phantom)
Power (dBm)
Gap (mm)
LTE Band 2
LTE Band 7
LTE Band 66
LTE Band 48
FR1 n2
FR1 n7
FR1 n66
FR1 n41

5. RF Exposure Limits

5.1 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.

5.2 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.

6. Specific Absorption Rate (SAR)

6.1 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.

6.2 SAR Definition

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

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

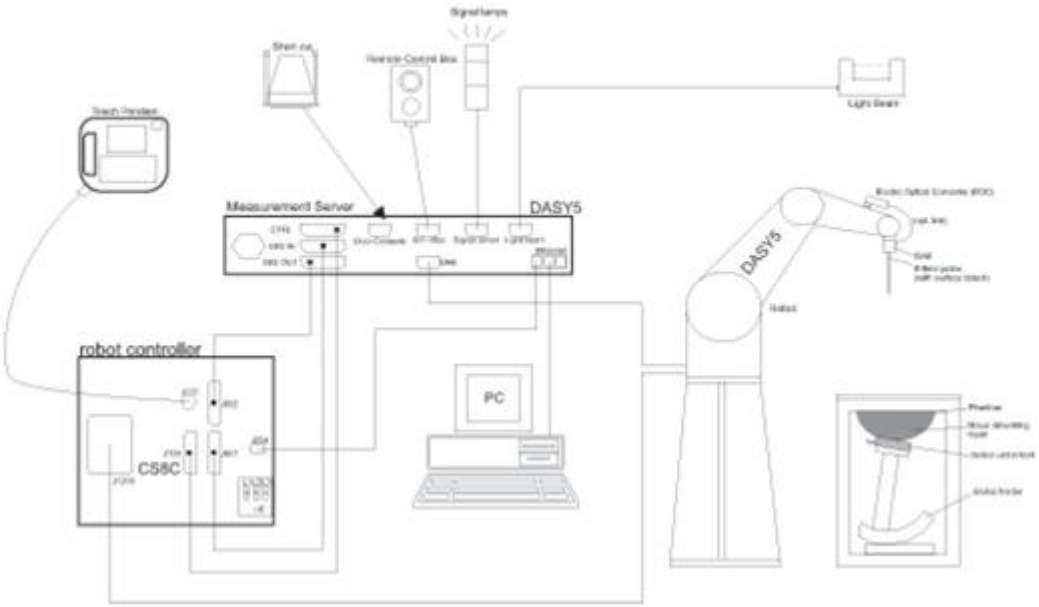
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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



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

7.1 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 0007) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory			
Test Site Location	TW1190 No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, CHINESE TAIPEI		TW0007 No. 58, Aly. 75, Ln. 564, Wehnua 3rd, Rd., Guishan Dist., Taoyuan City, CHINESE TAIPEI	
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY
	SAR06-HY	SAR10-HY		

7.2 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	10 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)	
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 µW/g – >100 mW/g; Linearity: ±0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
Directivity	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

7.3 Data Acquisition Electronics (DAE)

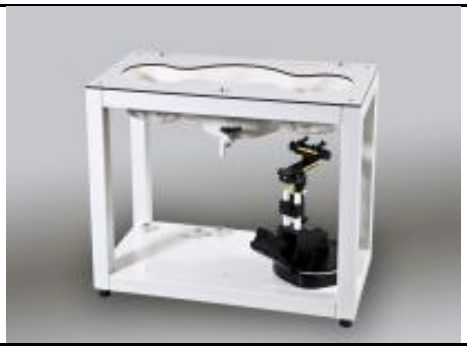
The data acquisition electronics (DAE) consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the measurement server is accomplished through an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

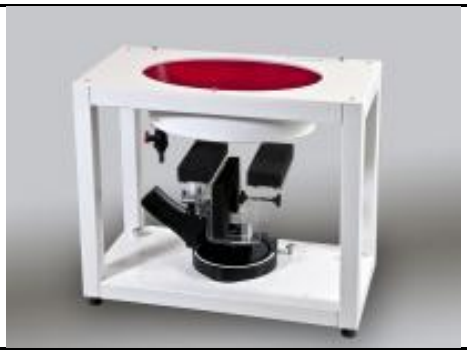
7.4 Phantom

<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.

7.5 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

8. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

8.1 Spatial Peak SAR Evaluation

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

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

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

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

8.2 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.

8.3 Area Scan

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

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

8.4 Zoom Scan

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

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

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

8.5 Volume Scan Procedures

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

8.6 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.

9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit(2)	D750V3	1107	Mar. 08, 2019	Mar. 06, 2021
SPEAG	835MHz System Validation Kit(2)	D835V2	4d167	Nov. 25, 2019	Nov. 23, 2021
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1068	Nov. 19, 2018	Nov. 16, 2021
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1112	Mar. 07, 2019	Mar. 05, 2021
SPEAG	1900MHz System Validation Kit(2)	D1900V2	5d041	Sep. 11, 2018	Sep. 08, 2021
SPEAG	1950MHz System Validation Kit(2)	D1950V3	1216	Nov. 25, 2019	Nov. 23, 2021
SPEAG	2300MHz System Validation Kit(2)	D2300V2	1006	Jan. 28, 2019	Jan. 26, 2021
SPEAG	2600MHz System Validation Kit(2)	D2600V2	1078	Mar. 06, 2019	Mar. 04, 2021
SPEAG	2600MHz System Validation Kit(2)	D2600V2	1008	Aug. 31, 2018	Aug. 28, 2021
SPEAG	3500MHz System Validation Kit(2)	D3500V2	1014	Jan. 29, 2019	Jan. 27, 2021
SPEAG	3700MHz System Validation Kit(2)	D3700V2	1006	Mar. 05, 2019	Mar. 03, 2021
SPEAG	2450MHz System Validation Kit	D2450V2	736	Aug. 31, 2018	Aug. 28, 2021
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 27, 2018	Sep. 24, 2021
SPEAG	Data Acquisition Electronics	DAE4	1311	Aug. 25, 2020	Aug. 24, 2021
SPEAG	Data Acquisition Electronics	DAE3	577	Sep. 16, 2020	Sep. 15, 2021
SPEAG	Data Acquisition Electronics	DAE4	853	Jul. 23, 2020	Jul. 22, 2021
SPEAG	Dosimetric E-Field Probe	EX3DV4	3642	Apr. 29, 2020	Apr. 28, 2021
SPEAG	Dosimetric E-Field Probe	EX3DV4	7590	Apr. 14, 2020	Apr. 13, 2021
SPEAG	Dosimetric E-Field Probe	EX3DV4	7346	May. 20, 2020	May. 19, 2021
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 10, 2020	Nov. 09, 2021
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 10, 2020	Nov. 09, 2021
Anritsu	Radio Communication Analyzer	MT8820C	6201381766	Jun. 29, 2020	Jun. 28, 2021
Keysight	Wireless Communication Test Set	E5515C	MY50267236	Mar. 18, 2020	Mar. 17, 2021
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Nov. 11, 2020	Nov. 10, 2021
Keysight	ENA Network Analyzer	E5071C	MY46101588	Jun. 10, 2020	Jun. 09, 2021
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 16, 2020	Sep. 15, 2021
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3252	Jun. 23, 2020	Jun. 22, 2021
Anritsu	Power Meter	ML2495A	1419002	Aug. 19, 2020	Aug. 18, 2021
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2020	Aug. 17, 2021
Anritsu	Power Meter	ML2495A	1804003	Oct. 21, 2020	Oct. 20, 2021
Anritsu	Power Sensor	MA2411B	1726150	Oct. 21, 2020	Oct. 20, 2021
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 30, 2020	Jun. 29, 2021
Anritsu	Spectrum Analyzer	N9010A	MY53470118	Mar. 12, 2020	Mar. 11, 2021
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 21, 2020	Oct. 20, 2021
Mini-Circuits	Power Amplifier	ZVE-8G+	479102029	Aug. 26, 2020	Aug. 25, 2021
ATM	Dual Directional Coupler	C122H-10	P610410z-02	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.

10. System Verification

10.1 Tissue Verification

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	22.2	0.875	42.616	0.89	41.90	-1.69	1.71	±5	2020/12/5
750	22.7	0.893	42.556	0.89	41.90	0.34	1.57	±5	2020/12/27
750	22.6	0.878	43.106	0.89	41.90	-1.35	2.88	±5	2021/2/21
835	22.2	0.907	42.320	0.90	41.50	0.78	1.98	±5	2020/12/8
835	22.7	0.927	42.260	0.90	41.50	3.00	1.83	±5	2020/12/27
835	22.6	0.911	42.810	0.90	41.50	1.22	3.16	±5	2021/2/21
1750	22.2	1.362	40.661	1.37	40.10	-0.58	1.40	±5	2020/12/7
1750	22.7	1.352	40.458	1.37	40.10	-1.31	0.89	±5	2020/12/28
1750	22.6	1.349	40.368	1.37	40.10	-1.53	0.67	±5	2021/2/22
1900	22.2	1.439	39.113	1.40	40.00	2.79	-2.22	±5	2020/12/4
1900	22.7	1.428	38.910	1.40	40.00	2.00	-2.73	±5	2020/12/28
1900	22.6	1.424	38.820	1.40	40.00	1.71	-2.95	±5	2021/2/22
2300	22.2	1.636	38.749	1.67	39.50	-2.04	-1.90	±5	2020/12/6
2300	22.7	1.659	39.513	1.67	39.50	-0.66	0.03	±5	2020/12/25
2600	22.2	1.950	37.483	1.96	39.00	-0.51	-3.89	±5	2020/12/6
2600	22.7	2.006	38.328	1.96	39.00	2.35	-1.72	±5	2020/12/25
2600	22.6	2.002	38.358	1.96	39.00	2.14	-1.65	±5	2021/2/22
3500	22.4	2.942	37.527	2.91	37.90	1.10	-0.98	±5	2020/12/9
3500	22.6	2.975	37.507	2.91	37.90	2.23	-1.04	±5	2020/12/30
3700	22.4	3.127	37.228	3.12	37.70	0.22	-1.25	±5	2020/12/9
3700	22.6	3.150	37.288	3.12	37.70	0.96	-1.09	±5	2020/12/30
2450	22.5	1.794	38.096	1.80	39.20	-0.33	-2.82	±5	2021/2/26
2450	22.6	1.834	38.914	1.80	39.20	1.89	-0.73	±5	2021/2/26
5250	22.5	4.632	37.180	4.71	35.95	-1.66	3.42	±5	2021/2/26
5600	22.5	4.990	36.652	5.07	35.50	-1.58	3.25	±5	2021/2/26
5750	22.5	5.149	36.518	5.22	35.35	-1.36	3.30	±5	2021/2/26

10.2 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.

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 (%)
2020/12/5	750	250	D750V3-1107	EX3DV4 - SN3642	DAE4 Sn1311	2.14	8.32	8.56	2.88
2020/12/27	750	250	D750V3-1107	EX3DV4 - SN3642	DAE4 Sn1311	2.18	8.32	8.72	4.81
2021/2/21	750	50	D750V3-1107	EX3DV4 - SN7590	DAE3 Sn577	0.384	8.32	7.68	-7.69
2020/12/8	835	250	D835V2-4d167	EX3DV4 - SN3642	DAE4 Sn1311	2.49	9.55	9.96	4.29
2020/12/27	835	250	D835V2-4d167	EX3DV4 - SN3642	DAE4 Sn1311	2.54	9.55	10.16	6.39
2021/2/21	835	50	D835V2-4d167	EX3DV4 - SN7590	DAE3 Sn577	0.436	9.55	8.72	-8.69
2020/12/7	1750	250	D1750V2-1068	EX3DV4 - SN3642	DAE4 Sn1311	9.66	37.10	38.64	4.15
2020/12/28	1750	250	D1750V2-1068	EX3DV4 - SN3642	DAE4 Sn1311	9.58	37.10	38.32	3.29
2021/2/22	1750	50	D1750V2-1112	EX3DV4 - SN7590	DAE3 Sn577	1.79	36.70	35.8	-2.45
2020/12/4	1900	250	D1900V2-5d041	EX3DV4 - SN3642	DAE4 Sn1311	10.10	40.20	40.4	0.50
2020/12/28	1900	250	D1900V2-5d041	EX3DV4 - SN3642	DAE4 Sn1311	10.10	40.20	40.4	0.50
2021/2/22	1900	50	D1900V2-5d041	EX3DV4 - SN7590	DAE3 Sn577	1.99	40.20	39.8	-1.00
2020/12/6	2300	250	D2300V2-1006	EX3DV4 - SN3642	DAE4 Sn1311	11.50	48.70	46	-5.54
2020/12/25	2300	250	D2300V2-1006	EX3DV4 - SN3642	DAE4 Sn1311	11.70	48.70	46.8	-3.90
2020/12/6	2600	250	D2600V2-1078	EX3DV4 - SN3642	DAE4 Sn1311	14.20	57.60	56.8	-1.39
2020/12/25	2600	250	D2600V2-1078	EX3DV4 - SN3642	DAE4 Sn1311	14.60	57.60	58.4	1.39
2021/2/22	2600	50	D2600V2-1008	EX3DV4 - SN7590	DAE3 Sn577	2.97	56.40	59.4	5.32
2020/12/9	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn1311	6.49	67.90	64.9	-4.42
2020/12/30	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn1311	6.56	67.90	65.6	-3.39
2020/12/9	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn1311	6.97	67.30	69.7	3.57
2020/12/30	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn1311	7.02	67.30	70.2	4.31
2021/2/26	2450	50	D2450V2-736	EX3DV4 - SN3642	DAE4 Sn1311	2.40	52.70	48	-8.92
2021/2/26	2450	250	D2450V2-736	EX3DV4 - SN7346	DAE4 Sn853	12.60	52.70	50.4	-4.36
2021/2/26	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN3642	DAE4 Sn1311	8.43	80.70	84.3	4.46
2021/2/26	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN3642	DAE4 Sn1311	8.85	83.30	88.5	6.24
2021/2/26	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN3642	DAE4 Sn1311	8.40	80.40	84	4.48

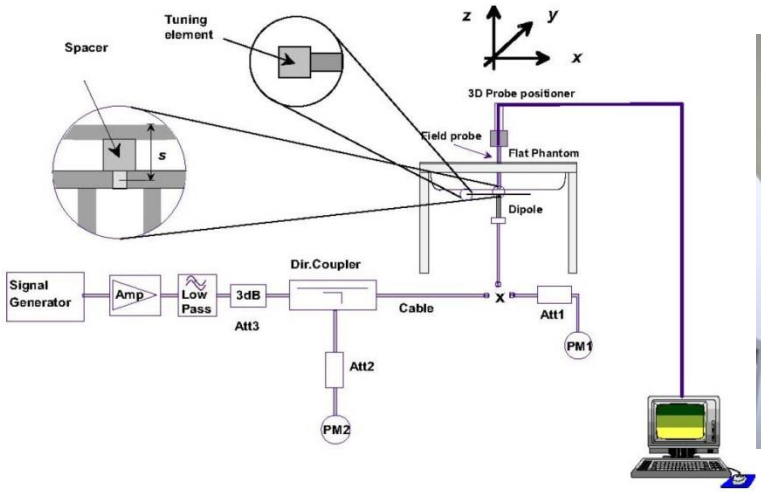


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR

exclusion threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

12. 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 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} (Note1, 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 Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_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 Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_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 β_c = 11/15 and β_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} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 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 Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c . For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c .

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_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 β_c = 10/15 and β_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: β_c/β_d=2/15
      b). Subtest 2: β_c/β_d=12/15
      c). Subtest 3: β_c/β_d=15/8
      d). Subtest 4: β_c/β_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.		

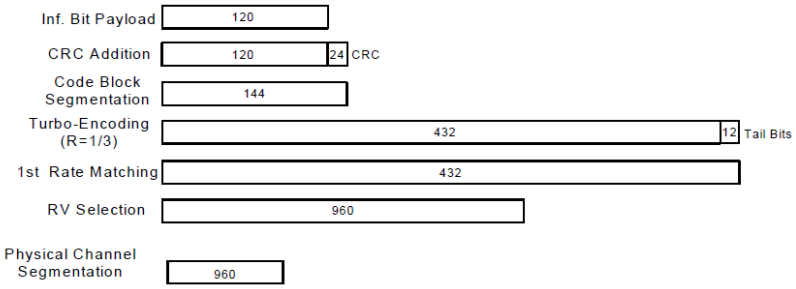


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<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 ≤ ¼ 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 ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

Default Power Mode

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	23.83	23.80	23.74	24.50	23.90	24.02	24.01	24.50	24.19	24.31	24.09	24.50
3GPP Rel 6	HSDPA Subtest-1	22.86	22.80	22.79	23.50	22.93	23.01	23.05	23.50	23.22	23.33	23.10	23.50
3GPP Rel 6	HSDPA Subtest-2	22.83	22.79	22.77	23.50	22.94	22.98	23.08	23.50	23.18	23.38	23.12	23.50
3GPP Rel 6	HSDPA Subtest-3	22.33	22.27	22.25	23.00	22.41	22.53	22.56	23.00	22.67	22.82	22.62	23.00
3GPP Rel 6	HSDPA Subtest-4	22.36	22.32	22.28	23.00	22.40	22.52	22.53	23.00	22.71	22.80	22.62	23.00
3GPP Rel 8	DC-HSDPA Subtest-1	23.04	22.61	22.76	23.50	22.70	23.05	22.69	23.50	22.77	22.47	22.49	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.94	22.63	22.60	23.50	22.58	22.94	22.69	23.50	22.90	22.54	22.61	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	22.51	22.10	22.24	23.00	22.20	22.43	22.14	23.00	22.23	21.99	22.02	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	22.47	22.32	22.23	23.00	22.14	22.54	22.26	23.00	22.19	21.91	22.10	23.00
3GPP Rel 6	HSUPA Subtest-1	22.74	22.75	22.72	23.50	22.83	22.98	22.99	23.50	23.15	23.23	23.05	23.50
3GPP Rel 6	HSUPA Subtest-2	20.50	20.47	20.49	21.50	20.57	20.64	20.67	21.50	21.19	21.27	21.01	21.50
3GPP Rel 6	HSUPA Subtest-3	21.51	21.48	21.53	22.50	21.52	21.57	21.70	22.50	22.20	22.28	22.06	22.50
3GPP Rel 6	HSUPA Subtest-4	20.55	20.45	20.53	21.50	20.51	20.63	20.71	21.50	21.14	21.28	21.07	21.50
3GPP Rel 6	HSUPA Subtest-5	22.50	22.50	22.50	23.50	22.50	22.60	22.70	23.50	23.20	23.20	23.10	23.50

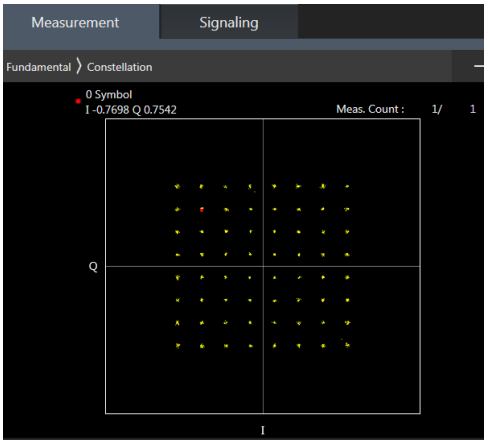
Reduced Power Mode

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	12.40	12.44	12.31	14.00	13.88	13.04	13.87	14.50	15.28	15.36	15.21	16.50
3GPP Rel 6	HSDPA Subtest-1	11.79	11.85	11.72	13.00	12.29	12.34	12.09	13.50	14.18	14.26	14.06	15.50
3GPP Rel 6	HSDPA Subtest-2	11.96	11.59	11.79	13.00	12.38	11.93	12.26	13.50	14.13	14.28	14.03	15.50
3GPP Rel 6	HSDPA Subtest-3	11.14	11.43	11.06	12.50	11.67	11.92	11.55	13.00	13.58	13.75	13.60	15.00
3GPP Rel 6	HSDPA Subtest-4	11.26	11.10	11.33	12.50	11.71	11.72	11.77	13.00	13.61	13.75	13.55	15.00
3GPP Rel 8	DC-HSDPA Subtest-1	11.79	11.82	11.92	13.00	12.18	12.35	12.25	13.50	13.75	13.47	13.48	15.50
3GPP Rel 8	DC-HSDPA Subtest-2	11.86	11.73	11.92	13.00	12.50	12.36	12.43	13.50	13.87	13.45	13.61	15.50
3GPP Rel 8	DC-HSDPA Subtest-3	11.33	11.32	11.07	12.50	11.93	11.85	11.65	13.00	13.21	12.97	12.92	15.00
3GPP Rel 8	DC-HSDPA Subtest-4	11.24	11.06	11.41	12.50	11.70	11.52	11.94	13.00	13.13	12.81	13.02	15.00
3GPP Rel 6	HSUPA Subtest-1	11.82	11.76	11.77	13.00	12.45	12.23	12.26	13.50	14.11	14.23	14.00	15.50
3GPP Rel 6	HSUPA Subtest-2	9.96	9.84	9.81	11.00	10.36	10.25	10.36	11.50	12.13	12.17	12.00	13.50
3GPP Rel 6	HSUPA Subtest-3	10.81	10.74	10.78	12.00	11.44	11.41	11.19	12.50	13.17	13.18	13.06	14.50
3GPP Rel 6	HSUPA Subtest-4	9.50	9.87	9.84	11.00	10.08	10.39	10.34	11.50	12.11	12.21	11.97	13.50
3GPP Rel 6	HSUPA Subtest-5	11.80	11.52	11.84	13.00	12.42	11.99	12.37	13.50	14.19	14.16	14.05	15.50

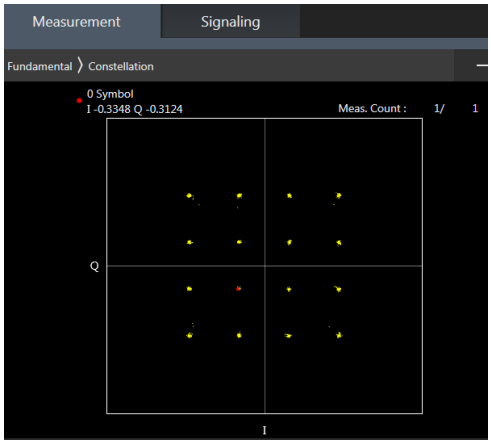
<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B5/B12/B26 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 4/17/38 SAR test was covered by Band 66/12/41; 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 ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM



16QAM

Default Power Mode

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.42	23.21	23.20	24	0
20	QPSK	1	49	23.27	23.13	23.19		
20	QPSK	1	99	23.24	23.15	23.26		
20	QPSK	50	0	22.48	22.25	22.33	23	1
20	QPSK	50	24	22.45	22.11	22.26		
20	QPSK	50	50	22.44	22.22	22.26		
20	QPSK	100	0	22.46	22.29	22.25		
20	16QAM	1	0	22.77	22.52	22.60	23	1
20	16QAM	1	49	22.66	22.53	22.58		
20	16QAM	1	99	22.62	22.59	22.57		
20	16QAM	50	0	21.37	21.25	21.27	22	2
20	16QAM	50	24	21.47	21.35	21.30		
20	16QAM	50	50	21.47	21.32	21.38		
20	16QAM	100	0	21.45	21.32	21.27		
20	64QAM	1	0	21.55	21.40	21.41	22	2
20	64QAM	1	49	21.56	21.46	21.45		
20	64QAM	1	99	21.59	21.41	21.46		
20	64QAM	50	0	20.39	20.26	20.27	21	3
20	64QAM	50	24	20.47	20.36	20.30		
20	64QAM	50	50	20.48	20.36	20.38		
20	64QAM	100	0	20.45	20.34	20.27		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.43	23.33	23.30	24	0
15	QPSK	1	37	23.31	23.16	23.29		
15	QPSK	1	74	23.27	23.21	23.40		
15	QPSK	36	0	22.49	22.25	22.42	23	1
15	QPSK	36	20	22.41	22.42	22.41		
15	QPSK	36	39	22.45	22.46	22.46		
15	QPSK	75	0	22.46	22.42	22.42		
15	16QAM	1	0	22.70	22.55	22.64	23	1
15	16QAM	1	37	22.61	22.57	22.73		
15	16QAM	1	74	22.63	22.54	22.75		
15	16QAM	36	0	21.50	21.24	21.42	22	2
15	16QAM	36	20	21.52	21.36	21.47		
15	16QAM	36	39	21.42	21.40	21.53		
15	16QAM	75	0	21.47	21.35	21.39		
15	64QAM	1	0	21.54	21.41	21.44	22	2
15	64QAM	1	37	21.53	21.47	21.19		
15	64QAM	1	74	21.49	21.53	21.51		
15	64QAM	36	0	20.48	20.28	20.32	21	3
15	64QAM	36	20	20.52	20.44	20.46		
15	64QAM	36	39	20.46	20.39	20.57		
15	64QAM	75	0	20.40	20.42	20.47		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.44	23.23	23.29	24	0
10	QPSK	1	25	23.31	23.25	23.33		
10	QPSK	1	49	23.31	23.27	23.32		
10	QPSK	25	0	22.45	22.31	22.41	23	1

10	QPSK	25	12	22.40	22.41	22.41		
10	QPSK	25	25	22.45	22.45	22.49		
10	QPSK	50	0	22.41	22.36	22.47		
10	16QAM	1	0	22.73	22.53	22.64	23	1
10	16QAM	1	25	22.65	22.52	22.74		
10	16QAM	1	49	22.56	22.54	22.79		
10	16QAM	25	0	21.49	21.27	21.38	22	2
10	16QAM	25	12	21.44	21.41	21.42		
10	16QAM	25	25	21.48	21.44	21.52		
10	16QAM	50	0	21.48	21.42	21.42		
10	64QAM	1	0	21.51	21.39	21.50	22	2
10	64QAM	1	25	21.56	21.47	21.23		
10	64QAM	1	49	21.48	21.52	21.51		
10	64QAM	25	0	20.50	20.33	20.40	21	3
10	64QAM	25	12	20.50	20.47	20.42		
10	64QAM	25	25	20.48	20.47	20.55		
10	64QAM	50	0	20.46	20.42	20.47		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.40	23.27	23.34	24	0
5	QPSK	1	12	23.31	23.16	23.34		
5	QPSK	1	24	23.21	23.29	23.35		
5	QPSK	12	0	22.43	22.25	22.32	23	1
5	QPSK	12	7	22.48	22.35	22.44		
5	QPSK	12	13	22.41	22.44	22.46		
5	QPSK	25	0	22.50	22.36	22.37		
5	16QAM	1	0	22.65	22.62	22.66	23	1
5	16QAM	1	12	22.56	22.55	22.65		
5	16QAM	1	24	22.63	22.54	22.78		
5	16QAM	12	0	21.46	21.34	21.34	22	2
5	16QAM	12	7	21.50	21.40	21.40		
5	16QAM	12	13	21.39	21.37	21.50		
5	16QAM	25	0	21.46	21.37	21.45		
5	64QAM	1	0	21.51	21.40	21.42	22	2
5	64QAM	1	12	21.48	21.47	21.18		
5	64QAM	1	24	21.49	21.47	21.49		
5	64QAM	12	0	20.48	20.32	20.32	21	3
5	64QAM	12	7	20.53	20.41	20.49		
5	64QAM	12	13	20.47	20.39	20.60		
5	64QAM	25	0	20.50	20.39	20.41		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	23.41	23.29	23.32	24	0
3	QPSK	1	8	23.29	23.23	23.31		
3	QPSK	1	14	23.31	23.25	23.33		
3	QPSK	8	0	22.49	22.24	22.36	23	1
3	QPSK	8	4	22.41	22.37	22.36		
3	QPSK	8	7	22.42	22.43	22.54		
3	QPSK	15	0	22.45	22.40	22.40		
3	16QAM	1	0	22.65	22.53	22.70	23	1
3	16QAM	1	8	22.66	22.52	22.70		
3	16QAM	1	14	22.64	22.52	22.75		
3	16QAM	8	0	21.44	21.29	21.42	22	2
3	16QAM	8	4	21.50	21.38	21.39		
3	16QAM	8	7	21.48	21.36	21.55		
3	16QAM	15	0	21.47	21.34	21.41		

3	64QAM	1	0	21.51	21.44	21.46	22	2
3	64QAM	1	8	21.57	21.39	21.16		
3	64QAM	1	14	21.53	21.52	21.52		
3	64QAM	8	0	20.46	20.35	20.36	21	3
3	64QAM	8	4	20.48	20.40	20.48		
3	64QAM	8	7	20.43	20.47	20.59		
3	64QAM	15	0	20.44	20.41	20.47		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.39	23.24	23.28	24	0
1.4	QPSK	1	3	23.30	23.21	23.24		
1.4	QPSK	1	5	23.29	23.25	23.41		
1.4	QPSK	3	0	23.38	23.31	23.28		
1.4	QPSK	3	1	23.26	23.20	23.27		
1.4	QPSK	3	3	23.21	23.24	23.39		
1.4	QPSK	6	0	22.41	22.41	22.45	23	1
1.4	16QAM	1	0	22.65	22.52	22.64	23	1
1.4	16QAM	1	3	22.56	22.57	22.71		
1.4	16QAM	1	5	22.63	22.59	22.75		
1.4	16QAM	3	0	22.72	22.59	22.63		
1.4	16QAM	3	1	22.63	22.51	22.73		
1.4	16QAM	3	3	22.60	22.58	22.72		
1.4	16QAM	6	0	21.44	21.33	21.36	22	2
1.4	64QAM	1	0	21.51	21.35	21.44	22	2
1.4	64QAM	1	3	21.54	21.44	21.23		
1.4	64QAM	1	5	21.47	21.49	21.56		
1.4	64QAM	3	0	21.52	21.44	21.48		
1.4	64QAM	3	1	21.48	21.41	21.14		
1.4	64QAM	3	3	21.54	21.53	21.48		
1.4	64QAM	6	0	20.41	20.41	20.47	21	3

<LTE Band 2_MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.33	23.34	23.35	24	0
20	QPSK	1	49	23.09	23.16	23.03		
20	QPSK	1	99	22.95	22.88	22.89		
20	QPSK	50	0	22.49	22.48	22.62	23	1
20	QPSK	50	24	22.46	22.28	22.43		
20	QPSK	50	50	22.45	22.40	22.61		
20	QPSK	100	0	22.67	22.52	22.68		
20	16QAM	1	0	22.77	22.68	22.75	23	1
20	16QAM	1	49	22.74	22.63	22.57		
20	16QAM	1	99	22.57	22.53	22.59		
20	16QAM	50	0	21.51	21.42	21.34	22	2
20	16QAM	50	24	21.48	21.40	21.19		
20	16QAM	50	50	21.52	21.42	21.48		
20	16QAM	100	0	21.72	21.47	21.50		
20	64QAM	1	0	21.62	21.54	21.50	22	2
20	64QAM	1	49	21.47	21.42	21.52		
20	64QAM	1	99	21.52	21.52	21.47		

20	64QAM	50	0	20.59	20.49	20.48	21	3
20	64QAM	50	24	20.43	20.30	20.42		
20	64QAM	50	50	20.47	20.40	20.33		
20	64QAM	100	0	20.67	20.55	20.58		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.23	23.31	23.28	24	0
15	QPSK	1	37	23.16	23.08	22.96		
15	QPSK	1	74	22.85	22.85	22.80		
15	QPSK	36	0	22.47	22.51	22.67	23	1
15	QPSK	36	20	22.53	22.33	22.47		
15	QPSK	36	39	22.62	22.43	22.58		
15	QPSK	75	0	22.71	22.55	22.58		
15	16QAM	1	0	22.77	22.62	22.69	23	1
15	16QAM	1	37	22.73	22.64	22.59		
15	16QAM	1	74	22.58	22.55	22.59		
15	16QAM	36	0	21.52	21.45	21.41	22	2
15	16QAM	36	20	21.46	21.41	21.27		
15	16QAM	36	39	21.53	21.51	21.42		
15	16QAM	75	0	21.68	21.48	21.56		
15	64QAM	1	0	21.61	21.48	21.44	22	2
15	64QAM	1	37	21.56	21.41	21.53		
15	64QAM	1	74	21.47	21.45	21.44		
15	64QAM	36	0	20.59	20.51	20.53	21	3
15	64QAM	36	20	20.48	20.32	20.37		
15	64QAM	36	39	20.56	20.34	20.31		
15	64QAM	75	0	20.68	20.52	20.56		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.27	23.27	23.20	24	0
10	QPSK	1	25	23.09	23.12	22.97		
10	QPSK	1	49	22.90	22.93	22.80		
10	QPSK	25	0	22.52	22.55	22.59	23	1
10	QPSK	25	12	22.46	22.36	22.45		
10	QPSK	25	25	22.63	22.49	22.57		
10	QPSK	50	0	22.72	22.48	22.60		
10	16QAM	1	0	22.77	22.60	22.67	23	1
10	16QAM	1	25	22.75	22.70	22.64		
10	16QAM	1	49	22.53	22.54	22.56		
10	16QAM	25	0	21.53	21.42	21.37	22	2
10	16QAM	25	12	21.38	21.42	21.28		
10	16QAM	25	25	21.52	21.48	21.46		
10	16QAM	50	0	21.69	21.45	21.52		
10	64QAM	1	0	21.56	21.52	21.50	22	2
10	64QAM	1	25	21.46	21.41	21.52		
10	64QAM	1	49	21.50	21.49	21.38		
10	64QAM	25	0	20.59	20.42	20.49	21	3
10	64QAM	25	12	20.52	20.28	20.37		
10	64QAM	25	25	20.46	20.35	20.37		
10	64QAM	50	0	20.71	20.47	20.55		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.23	23.33	23.25	24	0
5	QPSK	1	12	23.17	23.16	22.97		
5	QPSK	1	24	22.92	22.87	22.85		
5	QPSK	12	0	22.50	22.51	22.65	23	1

5	QPSK	12	7	22.49	22.34	22.40		
5	QPSK	12	13	22.64	22.47	22.57		
5	QPSK	25	0	22.62	22.49	22.62		
5	16QAM	1	0	22.83	22.63	22.72	23	1
5	16QAM	1	12	22.71	22.63	22.60		
5	16QAM	1	24	22.54	22.49	22.53		
5	16QAM	12	0	21.53	21.41	21.41	22	2
5	16QAM	12	7	21.47	21.34	21.29		
5	16QAM	12	13	21.50	21.48	21.43		
5	16QAM	25	0	21.66	21.47	21.49		
5	64QAM	1	0	21.61	21.51	21.50	22	2
5	64QAM	1	12	21.51	21.50	21.53		
5	64QAM	1	24	21.55	21.47	21.43		
5	64QAM	12	0	20.60	20.45	20.47	21	3
5	64QAM	12	7	20.42	20.27	20.42		
5	64QAM	12	13	20.48	20.36	20.32		
5	64QAM	25	0	20.67	20.46	20.59		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	23.29	23.26	23.26	24	0
3	QPSK	1	8	23.14	23.15	22.98		
3	QPSK	1	14	22.87	22.88	22.85		
3	QPSK	8	0	22.56	22.50	22.65	23	1
3	QPSK	8	4	22.48	22.27	22.48		
3	QPSK	8	7	22.60	22.45	22.61		
3	QPSK	15	0	22.70	22.56	22.64		
3	16QAM	1	0	22.79	22.63	22.73	23	1
3	16QAM	1	8	22.71	22.70	22.64		
3	16QAM	1	14	22.53	22.54	22.57		
3	16QAM	8	0	21.54	21.41	21.43	22	2
3	16QAM	8	4	21.45	21.40	21.24		
3	16QAM	8	7	21.55	21.41	21.41		
3	16QAM	15	0	21.68	21.49	21.55		
3	64QAM	1	0	21.63	21.56	21.45	22	2
3	64QAM	1	8	21.49	21.44	21.55		
3	64QAM	1	14	21.50	21.50	21.41		
3	64QAM	8	0	20.60	20.44	20.50	21	3
3	64QAM	8	4	20.45	20.24	20.37		
3	64QAM	8	7	20.52	20.40	20.35		
3	64QAM	15	0	20.69	20.55	20.55		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.27	23.29	23.26	24	0
1.4	QPSK	1	3	23.01	23.06	23.02		
1.4	QPSK	1	5	22.82	22.83	22.83		
1.4	QPSK	3	0	23.26	23.21	23.22		
1.4	QPSK	3	1	23.09	23.14	22.97		
1.4	QPSK	3	3	22.93	22.86	22.76		
1.4	QPSK	6	0	22.54	22.56	22.62	23	1
1.4	16QAM	1	0	22.80	22.63	22.66	23	1
1.4	16QAM	1	3	22.78	22.65	22.55		
1.4	16QAM	1	5	22.44	22.48	22.49		
1.4	16QAM	3	0	22.69	22.67	22.73		
1.4	16QAM	3	1	22.74	22.63	22.53		
1.4	16QAM	3	3	22.48	22.47	22.60		
1.4	16QAM	6	0	21.65	21.51	21.52	22	2

1.4	64QAM	1	0	21.53	21.49	21.41	22	2
1.4	64QAM	1	3	21.38	21.37	21.39		
1.4	64QAM	1	5	21.47	21.46	21.42		
1.4	64QAM	3	0	21.48	21.48	21.50		
1.4	64QAM	3	1	21.45	21.38	21.54		
1.4	64QAM	3	3	21.50	21.40	21.36		
1.4	64QAM	6	0	20.58	20.42	20.50	21	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.62	23.57	23.55	24	0
20	QPSK	1	49	23.45	23.36	23.35		
20	QPSK	1	99	23.46	23.32	23.38		
20	QPSK	50	0	22.77	22.67	22.57	23	1
20	QPSK	50	24	22.71	22.60	22.53		
20	QPSK	50	50	22.55	22.50	22.54		
20	QPSK	100	0	22.68	22.63	22.52		
20	16QAM	1	0	22.95	22.87	22.86	23	1
20	16QAM	1	49	22.79	22.71	22.73		
20	16QAM	1	99	22.80	22.66	22.77		
20	16QAM	50	0	21.75	21.68	21.58	22	2
20	16QAM	50	24	21.70	21.62	21.52		
20	16QAM	50	50	21.55	21.54	21.54		
20	16QAM	100	0	21.68	21.61	21.47		
20	64QAM	1	0	21.85	21.81	21.71	22	2
20	64QAM	1	49	21.68	21.62	21.57		
20	64QAM	1	99	21.63	21.61	21.62		
20	64QAM	50	0	20.77	20.70	20.62	21	3
20	64QAM	50	24	20.71	20.64	20.53		
20	64QAM	50	50	20.56	20.56	20.55		
20	64QAM	100	0	20.71	20.61	20.55		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.53	23.56	23.58	24	0
15	QPSK	1	37	23.42	23.46	23.34		
15	QPSK	1	74	23.40	23.49	23.39		
15	QPSK	36	0	22.60	22.67	22.57	23	1
15	QPSK	36	20	22.64	22.57	22.52		
15	QPSK	36	39	22.62	22.64	22.53		
15	QPSK	75	0	22.66	22.67	22.53		
15	16QAM	1	0	22.62	22.68	22.61	23	1
15	16QAM	1	37	22.43	22.60	22.46		
15	16QAM	1	74	22.49	22.70	22.48		
15	16QAM	36	0	21.61	21.69	21.53	22	2
15	16QAM	36	20	21.64	21.59	21.57		
15	16QAM	36	39	21.55	21.65	21.53		
15	16QAM	75	0	21.65	21.63	21.52		
15	64QAM	1	0	21.72	21.63	21.65	22	2
15	64QAM	1	37	21.62	21.72	21.52		
15	64QAM	1	74	21.73	21.68	21.63		

15	64QAM	36	0	20.68	20.67	20.64	21	3
15	64QAM	36	20	20.73	20.65	20.56		
15	64QAM	36	39	20.65	20.65	20.59		
15	64QAM	75	0	20.62	20.65	20.55		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.55	23.55	23.55	24	0
10	QPSK	1	25	23.41	23.42	23.39		
10	QPSK	1	49	23.43	23.46	23.41		
10	QPSK	25	0	22.63	22.63	22.56	23	1
10	QPSK	25	12	22.67	22.56	22.57		
10	QPSK	25	25	22.55	22.62	22.54		
10	QPSK	50	0	22.65	22.64	22.52		
10	16QAM	1	0	22.63	22.65	22.57	23	1
10	16QAM	1	25	22.51	22.59	22.51		
10	16QAM	1	49	22.53	22.73	22.42		
10	16QAM	25	0	21.60	21.64	21.54	22	2
10	16QAM	25	12	21.65	21.59	21.61		
10	16QAM	25	25	21.61	21.56	21.51		
10	16QAM	50	0	21.58	21.56	21.58		
10	64QAM	1	0	21.66	21.64	21.63	22	2
10	64QAM	1	25	21.68	21.73	21.52		
10	64QAM	1	49	21.66	21.77	21.65		
10	64QAM	25	0	20.69	20.70	20.61	21	3
10	64QAM	25	12	20.65	20.67	20.57		
10	64QAM	25	25	20.58	20.66	20.51		
10	64QAM	50	0	20.69	20.57	20.62		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.59	23.57	23.54	24	0
5	QPSK	1	12	23.44	23.48	23.41		
5	QPSK	1	24	23.41	23.49	23.41		
5	QPSK	12	0	22.65	22.72	22.53	23	1
5	QPSK	12	7	22.62	22.57	22.53		
5	QPSK	12	13	22.55	22.58	22.46		
5	QPSK	25	0	22.60	22.58	22.57		
5	16QAM	1	0	22.56	22.72	22.62	23	1
5	16QAM	1	12	22.52	22.68	22.46		
5	16QAM	1	24	22.48	22.73	22.50		
5	16QAM	12	0	21.68	21.72	21.56	22	2
5	16QAM	12	7	21.67	21.61	21.57		
5	16QAM	12	13	21.59	21.57	21.50		
5	16QAM	25	0	21.67	21.57	21.53		
5	64QAM	1	0	21.65	21.61	21.64	22	2
5	64QAM	1	12	21.66	21.66	21.52		
5	64QAM	1	24	21.68	21.74	21.60		
5	64QAM	12	0	20.68	20.76	20.55	21	3
5	64QAM	12	7	20.74	20.69	20.64		
5	64QAM	12	13	20.57	20.62	20.54		
5	64QAM	25	0	20.65	20.55	20.62		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.62	23.56	23.52	24	0
3	QPSK	1	8	23.37	23.40	23.40		
3	QPSK	1	14	23.41	23.48	23.36		
3	QPSK	8	0	22.63	22.66	22.59	23	1

3	QPSK	8	4	22.62	22.57	22.53		
3	QPSK	8	7	22.57	22.56	22.55		
3	QPSK	15	0	22.62	22.64	22.58		
3	16QAM	1	0	22.61	22.74	22.62	23	1
3	16QAM	1	8	22.44	22.66	22.48		
3	16QAM	1	14	22.52	22.78	22.50		
3	16QAM	8	0	21.60	21.69	21.59	22	2
3	16QAM	8	4	21.62	21.60	21.52		
3	16QAM	8	7	21.55	21.59	21.57		
3	16QAM	15	0	21.64	21.60	21.56		
3	64QAM	1	0	21.72	21.59	21.62	22	2
3	64QAM	1	8	21.66	21.66	21.54		
3	64QAM	1	14	21.70	21.73	21.55		
3	64QAM	8	0	20.64	20.66	20.59	21	3
3	64QAM	8	4	20.72	20.66	20.63		
3	64QAM	8	7	20.67	20.61	20.52		
3	64QAM	15	0	20.62	20.63	20.60		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.59	23.57	23.58	24	0
1.4	QPSK	1	3	23.44	23.45	23.39		
1.4	QPSK	1	5	23.44	23.48	23.37		
1.4	QPSK	3	0	23.57	23.57	23.53		
1.4	QPSK	3	1	23.41	23.38	23.37		
1.4	QPSK	3	3	23.42	23.45	23.37		
1.4	QPSK	6	0	22.66	22.61	22.56	23	1
1.4	16QAM	1	0	22.57	22.73	22.55	23	1
1.4	16QAM	1	3	22.49	22.68	22.50		
1.4	16QAM	1	5	22.51	22.73	22.49		
1.4	16QAM	3	0	22.56	22.64	22.61		
1.4	16QAM	3	1	22.46	22.59	22.49		
1.4	16QAM	3	3	22.49	22.70	22.46		
1.4	16QAM	6	0	21.66	21.62	21.58	22	2
1.4	64QAM	1	0	21.71	21.59	21.60	22	2
1.4	64QAM	1	3	21.60	21.73	21.60		
1.4	64QAM	1	5	21.70	21.69	21.59		
1.4	64QAM	3	0	21.64	21.62	21.70		
1.4	64QAM	3	1	21.64	21.69	21.60		
1.4	64QAM	3	3	21.70	21.75	21.59		
1.4	64QAM	6	0	20.71	20.59	20.64	21	3

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	23.85	23.89	23.77	24.5	0
10	QPSK	1	25	23.84	23.83	23.67		
10	QPSK	1	49	23.85	23.83	23.65		
10	QPSK	25	0	22.91	22.95	22.81	23.5	1
10	QPSK	25	12	22.99	22.93	22.91		
10	QPSK	25	25	22.97	22.94	22.87		
10	QPSK	50	0	22.98	22.92	22.92		

10	16QAM	1	0	23.25	23.15	23.14	23.5	1
10	16QAM	1	25	23.20	23.15	23.04		
10	16QAM	1	49	23.30	23.10	23.04		
10	16QAM	25	0	21.91	21.87	21.80	22.5	2
10	16QAM	25	12	22.00	21.89	21.92		
10	16QAM	25	25	21.96	21.89	21.90		
10	16QAM	50	0	21.99	21.89	21.88		
10	64QAM	1	0	22.09	22.09	21.97	22.5	2
10	64QAM	1	25	22.11	22.10	22.01		
10	64QAM	1	49	22.10	22.03	21.95		
10	64QAM	25	0	20.89	20.94	20.85	21.5	3
10	64QAM	25	12	21.03	20.94	20.96		
10	64QAM	25	25	20.99	20.95	20.90		
10	64QAM	50	0	20.98	20.92	20.89		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	23.69	23.61	23.56	24.5	0
5	QPSK	1	12	23.76	23.63	23.51		
5	QPSK	1	24	23.71	23.54	23.38		
5	QPSK	12	0	22.81	22.69	22.60	23.5	1
5	QPSK	12	7	22.88	22.69	22.74		
5	QPSK	12	13	22.88	22.71	22.70		
5	QPSK	25	0	22.89	22.84	22.70		
5	16QAM	1	0	23.14	23.01	23.02	23.5	1
5	16QAM	1	12	23.08	23.02	22.83		
5	16QAM	1	24	23.06	22.95	22.82		
5	16QAM	12	0	21.76	21.76	21.66	22.5	2
5	16QAM	12	7	21.90	21.68	21.73		
5	16QAM	12	13	21.81	21.70	21.67		
5	16QAM	25	0	21.85	21.80	21.74		
5	64QAM	1	0	21.94	21.81	21.78	22.5	2
5	64QAM	1	12	21.99	21.96	21.77		
5	64QAM	1	24	21.84	21.86	21.79		
5	64QAM	12	0	20.79	20.81	20.65	21.5	3
5	64QAM	12	7	20.90	20.80	20.75		
5	64QAM	12	13	20.89	20.81	20.72		
5	64QAM	25	0	20.83	20.85	20.69		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.67	23.64	23.65	24.5	0
3	QPSK	1	8	23.75	23.65	23.51		
3	QPSK	1	14	23.75	23.59	23.45		
3	QPSK	8	0	22.78	22.77	22.68	23.5	1
3	QPSK	8	4	22.86	22.70	22.73		
3	QPSK	8	7	22.85	22.75	22.76		
3	QPSK	15	0	22.84	22.81	22.74		
3	16QAM	1	0	23.10	23.02	22.96	23.5	1
3	16QAM	1	8	23.07	22.97	22.89		
3	16QAM	1	14	23.08	22.95	22.88		
3	16QAM	8	0	21.80	21.70	21.71	22.5	2
3	16QAM	8	4	21.82	21.74	21.71		
3	16QAM	8	7	21.89	21.71	21.67		
3	16QAM	15	0	21.89	21.80	21.68		
3	64QAM	1	0	21.95	21.80	21.80	22.5	2
3	64QAM	1	8	22.05	21.86	21.84		
3	64QAM	1	14	21.90	21.80	21.80		

3	64QAM	8	0	20.88	20.78	20.66	21.5	3
3	64QAM	8	4	20.93	20.70	20.76		
3	64QAM	8	7	20.88	20.80	20.76		
3	64QAM	15	0	20.83	20.80	20.70		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	23.76	23.65	23.62	24.5	0
1.4	QPSK	1	3	23.70	23.66	23.53		
1.4	QPSK	1	5	23.66	23.58	23.48		
1.4	QPSK	3	0	23.70	23.67	23.62		
1.4	QPSK	3	1	23.74	23.61	23.56		
1.4	QPSK	3	3	23.70	23.55	23.40		
1.4	QPSK	6	0	22.80	22.84	22.77	23.5	1
1.4	16QAM	1	0	23.11	23.06	22.96	23.5	1
1.4	16QAM	1	3	23.04	22.94	22.83		
1.4	16QAM	1	5	23.04	22.89	22.83		
1.4	16QAM	3	0	23.07	22.99	22.96		
1.4	16QAM	3	1	23.01	23.02	22.92		
1.4	16QAM	3	3	23.03	22.96	22.82		
1.4	16QAM	6	0	21.92	21.78	21.70	22.5	2
1.4	64QAM	1	0	21.98	21.83	21.73	22.5	2
1.4	64QAM	1	3	22.01	21.96	21.85		
1.4	64QAM	1	5	21.88	21.86	21.75		
1.4	64QAM	3	0	21.97	21.85	21.77		
1.4	64QAM	3	1	22.02	21.88	21.79		
1.4	64QAM	3	3	21.82	21.80	21.74		
1.4	64QAM	6	0	20.87	20.85	20.69	21.5	3

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.69	23.88	23.67	24	0
20	QPSK	1	49	23.59	23.79	23.65		
20	QPSK	1	99	23.67	23.78	23.66		
20	QPSK	50	0	22.91	22.92	22.85	23	1
20	QPSK	50	24	22.88	22.81	22.82		
20	QPSK	50	50	22.84	22.85	22.83		
20	QPSK	100	0	22.92	22.94	22.85		
20	16QAM	1	0	22.89	22.90	22.97	23	1
20	16QAM	1	49	22.99	22.96	22.90		
20	16QAM	1	99	22.93	22.91	22.98		
20	16QAM	50	0	21.82	21.83	21.78	22	2
20	16QAM	50	24	21.94	21.87	21.89		
20	16QAM	50	50	21.98	21.97	21.90		
20	16QAM	100	0	21.92	21.85	21.87		
20	64QAM	1	0	21.90	21.92	21.88	22	2
20	64QAM	1	49	21.98	21.92	21.20		
20	64QAM	1	99	21.71	21.83	21.52		
20	64QAM	50	0	20.82	20.88	20.51	21	3
20	64QAM	50	24	20.98	20.91	20.26		
20	64QAM	50	50	20.99	20.98	20.33		

20	64QAM	100	0	20.95	20.87	20.34		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.72	23.71	23.75	24	0
15	QPSK	1	37	23.50	23.72	23.63		
15	QPSK	1	74	23.43	23.53	23.70		
15	QPSK	36	0	22.64	22.62	22.77	23	1
15	QPSK	36	20	22.69	22.71	22.74		
15	QPSK	36	39	22.72	22.79	22.81		
15	QPSK	75	0	22.70	22.59	22.74		
15	16QAM	1	0	22.75	22.89	22.99	23	1
15	16QAM	1	37	22.78	22.85	22.94		
15	16QAM	1	74	22.87	22.88	22.93		
15	16QAM	36	0	21.67	21.67	21.71	22	2
15	16QAM	36	20	21.81	21.61	21.75		
15	16QAM	36	39	21.73	21.74	21.77		
15	16QAM	75	0	21.72	21.64	21.81		
15	64QAM	1	0	21.61	21.69	21.93	22	2
15	64QAM	1	37	21.82	21.50	21.80		
15	64QAM	1	74	21.84	21.93	21.99		
15	64QAM	36	0	20.62	20.61	20.72	21	3
15	64QAM	36	20	20.80	20.71	20.79		
15	64QAM	36	39	20.77	20.82	20.77		
15	64QAM	75	0	20.71	20.71	20.89		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.71	23.71	23.76	24	0
10	QPSK	1	25	23.56	23.65	23.58		
10	QPSK	1	49	23.47	23.52	23.61		
10	QPSK	25	0	22.58	22.59	22.78	23	1
10	QPSK	25	12	22.71	22.70	22.79		
10	QPSK	25	25	22.78	22.79	22.84		
10	QPSK	50	0	22.77	22.66	22.78		
10	16QAM	1	0	22.76	22.93	23.00	23	1
10	16QAM	1	25	22.82	22.91	22.97		
10	16QAM	1	49	22.91	22.85	22.94		
10	16QAM	25	0	21.60	21.66	21.77	22	2
10	16QAM	25	12	21.76	21.64	21.83		
10	16QAM	25	25	21.83	21.70	21.78		
10	16QAM	50	0	21.72	21.65	21.85		
10	64QAM	1	0	21.64	21.67	21.85	22	2
10	64QAM	1	25	21.80	21.53	21.80		
10	64QAM	1	49	21.94	21.94	21.92		
10	64QAM	25	0	20.63	20.64	20.77	21	3
10	64QAM	25	12	20.77	20.69	20.89		
10	64QAM	25	25	20.79	20.83	20.81		
10	64QAM	50	0	20.68	20.66	20.88		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.66	23.79	23.80	24	0
5	QPSK	1	12	23.53	23.73	23.59		
5	QPSK	1	24	23.47	23.53	23.67		
5	QPSK	12	0	22.58	22.60	22.84	23	1
5	QPSK	12	7	22.69	22.70	22.76		
5	QPSK	12	13	22.80	22.76	22.86		
5	QPSK	25	0	22.72	22.62	22.73		

5	16QAM	1	0	22.79	22.93	22.91	23	1
5	16QAM	1	12	22.80	22.89	22.97		
5	16QAM	1	24	22.84	22.82	22.96		
5	16QAM	12	0	21.63	21.65	21.71	22	2
5	16QAM	12	7	21.82	21.66	21.84		
5	16QAM	12	13	21.76	21.72	21.81		
5	16QAM	25	0	21.77	21.66	21.84		
5	64QAM	1	0	21.66	21.74	21.88	22	2
5	64QAM	1	12	21.78	21.49	21.82		
5	64QAM	1	24	21.94	21.92	21.95		
5	64QAM	12	0	20.62	20.65	20.74	21	3
5	64QAM	12	7	20.79	20.69	20.85		
5	64QAM	12	13	20.79	20.76	20.86		
5	64QAM	25	0	20.74	20.72	20.85		

<LTE Band 7 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.52	23.58	23.48	24	0
20	QPSK	1	49	23.32	23.40	23.26		
20	QPSK	1	99	23.18	23.29	23.32		
20	QPSK	50	0	22.67	22.84	22.52	23	1
20	QPSK	50	24	22.59	22.80	22.52		
20	QPSK	50	50	22.60	22.82	22.51		
20	QPSK	100	0	22.46	22.48	22.46		
20	16QAM	1	0	22.61	22.68	22.57	23	1
20	16QAM	1	49	22.51	22.75	22.64		
20	16QAM	1	99	22.66	22.67	22.69		
20	16QAM	50	0	21.41	21.37	21.28	22	2
20	16QAM	50	24	21.52	21.41	21.44		
20	16QAM	50	50	21.56	21.55	21.46		
20	16QAM	100	0	21.49	21.43	21.51		
20	64QAM	1	0	21.47	21.55	21.47	22	2
20	64QAM	1	49	21.55	21.29	21.45		
20	64QAM	1	99	21.65	21.67	21.70		
20	64QAM	50	0	20.34	20.32	20.48	21	3
20	64QAM	50	24	20.56	20.54	20.54		
20	64QAM	50	50	20.51	20.55	20.46		
20	64QAM	100	0	20.43	20.46	20.47		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.48	23.57	23.38	24	0
15	QPSK	1	37	23.27	23.44	23.28		
15	QPSK	1	74	23.19	23.34	23.30		
15	QPSK	36	0	22.72	22.82	22.55	23	1
15	QPSK	36	20	22.65	22.78	22.61		
15	QPSK	36	39	22.59	22.78	22.58		
15	QPSK	75	0	22.48	22.44	22.46		
15	16QAM	1	0	22.61	22.72	22.59	23	1
15	16QAM	1	37	22.56	22.73	22.64		
15	16QAM	1	74	22.63	22.63	22.71		

15	16QAM	36	0	21.42	21.39	21.32	22	2
15	16QAM	36	20	21.54	21.43	21.51		
15	16QAM	36	39	21.57	21.51	21.45		
15	16QAM	75	0	21.52	21.43	21.47		
15	64QAM	1	0	21.37	21.54	21.47	22	2
15	64QAM	1	37	21.50	21.29	21.50		
15	64QAM	1	74	21.66	21.62	21.68		
15	64QAM	36	0	20.36	20.36	20.39	21	3
15	64QAM	36	20	20.53	20.50	20.50		
15	64QAM	36	39	20.48	20.58	20.46		
15	64QAM	75	0	20.45	20.45	20.39		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.44	23.54	23.42	24	0
10	QPSK	1	25	23.27	23.45	23.25		
10	QPSK	1	49	23.22	23.27	23.28		
10	QPSK	25	0	22.70	22.84	22.50	23	1
10	QPSK	25	12	22.64	22.82	22.53		
10	QPSK	25	25	22.58	22.82	22.59		
10	QPSK	50	0	22.52	22.35	22.40		
10	16QAM	1	0	22.54	22.74	22.56	23	1
10	16QAM	1	25	22.49	22.73	22.64		
10	16QAM	1	49	22.59	22.62	22.68		
10	16QAM	25	0	21.39	21.36	21.34	22	2
10	16QAM	25	12	21.52	21.42	21.48		
10	16QAM	25	25	21.60	21.56	21.53		
10	16QAM	50	0	21.46	21.46	21.52		
10	64QAM	1	0	21.43	21.48	21.43	22	2
10	64QAM	1	25	21.56	21.30	21.51		
10	64QAM	1	49	21.68	21.71	21.64		
10	64QAM	25	0	20.34	20.36	20.45	21	3
10	64QAM	25	12	20.61	20.49	20.53		
10	64QAM	25	25	20.47	20.54	20.37		
10	64QAM	50	0	20.46	20.43	20.39		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.45	23.56	23.42	24	0
5	QPSK	1	12	23.25	23.40	23.20		
5	QPSK	1	24	23.17	23.26	23.29		
5	QPSK	12	0	22.70	22.77	22.57	23	1
5	QPSK	12	7	22.65	22.74	22.52		
5	QPSK	12	13	22.61	22.81	22.61		
5	QPSK	25	0	22.52	22.39	22.45		
5	16QAM	1	0	22.59	22.74	22.56	23	1
5	16QAM	1	12	22.52	22.76	22.55		
5	16QAM	1	24	22.67	22.59	22.68		
5	16QAM	12	0	21.38	21.46	21.38	22	2
5	16QAM	12	7	21.60	21.42	21.47		
5	16QAM	12	13	21.51	21.53	21.49		
5	16QAM	25	0	21.51	21.46	21.53		
5	64QAM	1	0	21.37	21.50	21.47	22	2
5	64QAM	1	12	21.47	21.28	21.51		
5	64QAM	1	24	21.59	21.66	21.65		
5	64QAM	12	0	20.38	20.37	20.41	21	3
5	64QAM	12	7	20.59	20.44	20.48		
5	64QAM	12	13	20.52	20.51	20.45		

5	64QAM	25	0	20.51	20.41	20.38		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.64	23.67	23.61	24.5	0
10	QPSK	1	25	23.52	23.51	23.60		
10	QPSK	1	49	23.58	23.65	23.61		
10	QPSK	25	0	22.68	22.76	22.67	23.5	1
10	QPSK	25	12	22.74	22.73	22.70		
10	QPSK	25	25	22.69	22.69	22.80		
10	QPSK	50	0	22.76	22.77	22.72		
10	16QAM	1	0	22.98	22.94	22.93	23.5	1
10	16QAM	1	25	22.91	22.91	23.01		
10	16QAM	1	49	22.98	23.04	23.13		
10	16QAM	25	0	21.72	21.61	21.69	22.5	2
10	16QAM	25	12	21.74	21.73	21.71		
10	16QAM	25	25	21.72	21.64	21.75		
10	16QAM	50	0	21.76	21.71	21.70		
10	64QAM	1	0	21.82	21.75	21.77	22.5	2
10	64QAM	1	25	21.50	21.79	21.88		
10	64QAM	1	49	21.90	21.89	22.00		
10	64QAM	25	0	20.73	20.67	20.74	21.5	3
10	64QAM	25	12	20.79	20.75	20.75		
10	64QAM	25	25	20.75	20.74	20.83		
10	64QAM	50	0	20.80	20.75	20.75		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.43	23.45	23.61	24.5	0
5	QPSK	1	12	23.58	23.62	23.66		
5	QPSK	1	24	23.56	23.60	23.59		
5	QPSK	12	0	22.60	22.67	22.70	23.5	1
5	QPSK	12	7	22.68	22.79	22.84		
5	QPSK	12	13	22.83	22.83	22.78		
5	QPSK	25	0	22.69	22.80	22.76		
5	16QAM	1	0	22.85	22.90	23.01	23.5	1
5	16QAM	1	12	22.90	22.98	23.06		
5	16QAM	1	24	23.15	23.01	23.07		
5	16QAM	12	0	21.59	21.69	21.72	22.5	2
5	16QAM	12	7	21.67	21.74	21.89		
5	16QAM	12	13	21.82	21.76	21.80		
5	16QAM	25	0	21.77	21.71	21.68		
5	64QAM	1	0	21.77	21.70	21.92	22.5	2
5	64QAM	1	12	21.87	21.96	21.96		
5	64QAM	1	24	21.97	22.00	22.01		
5	64QAM	12	0	20.62	20.78	20.76	21.5	3
5	64QAM	12	7	20.76	20.84	20.86		
5	64QAM	12	13	20.85	20.83	20.84		
5	64QAM	25	0	20.73	20.75	20.74		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.46	23.54	23.63	24.5	0
3	QPSK	1	8	23.58	23.63	23.66		

3	QPSK	1	14	23.63	23.65	23.55		
3	QPSK	8	0	22.55	22.69	22.76	23.5	1
3	QPSK	8	4	22.70	22.73	22.85		
3	QPSK	8	7	22.81	22.82	22.83		
3	QPSK	15	0	22.66	22.81	22.71		
3	16QAM	1	0	22.79	22.90	23.05	23.5	1
3	16QAM	1	8	22.92	22.99	22.97		
3	16QAM	1	14	23.10	23.08	23.03		
3	16QAM	8	0	21.56	21.64	21.73	22.5	2
3	16QAM	8	4	21.67	21.81	21.89		
3	16QAM	8	7	21.83	21.77	21.83		
3	16QAM	15	0	21.69	21.78	21.70		
3	64QAM	1	0	21.72	21.75	21.89	22.5	2
3	64QAM	1	8	21.83	22.01	21.92		
3	64QAM	1	14	21.96	21.99	21.98		
3	64QAM	8	0	20.68	20.73	20.77	21.5	3
3	64QAM	8	4	20.73	20.84	20.85		
3	64QAM	8	7	20.78	20.84	20.77		
3	64QAM	15	0	20.74	20.77	20.77		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.50	23.54	23.66	24.5	0
1.4	QPSK	1	3	23.49	23.63	23.67		
1.4	QPSK	1	5	23.62	23.55	23.58		
1.4	QPSK	3	0	23.44	23.45	23.59		
1.4	QPSK	3	1	23.54	23.63	23.63		
1.4	QPSK	3	3	23.54	23.59	23.56		
1.4	QPSK	6	0	22.66	22.79	22.71	23.5	1
1.4	16QAM	1	0	22.79	22.93	23.00	23.5	1
1.4	16QAM	1	3	22.86	22.97	22.96		
1.4	16QAM	1	5	23.13	23.06	23.06		
1.4	16QAM	3	0	22.81	22.88	23.00		
1.4	16QAM	3	1	22.96	23.01	23.03		
1.4	16QAM	3	3	23.16	23.06	23.01		
1.4	16QAM	6	0	21.72	21.75	21.73	22.5	2
1.4	64QAM	1	0	21.78	21.73	21.92	22.5	2
1.4	64QAM	1	3	21.90	21.99	21.93		
1.4	64QAM	1	5	21.99	21.98	21.99		
1.4	64QAM	3	0	21.75	21.69	21.86		
1.4	64QAM	3	1	21.84	22.02	21.95		
1.4	64QAM	3	3	22.00	22.00	21.92		
1.4	64QAM	6	0	20.78	20.80	20.73	21.5	3

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		23.76		24.5	0
10	QPSK	1	25		23.54			
10	QPSK	1	49		23.51			
10	QPSK	25	0		22.75		23.5	1
10	QPSK	25	12		22.72			

10	QPSK	25	25		22.64			
10	QPSK	50	0		22.75			
10	16QAM	1	0		22.98		23.5	1
10	16QAM	1	25		22.91			
10	16QAM	1	49		22.91			
10	16QAM	25	0		21.74		22.5	2
10	16QAM	25	12		21.78			
10	16QAM	25	25		21.71			
10	16QAM	50	0		21.77			
10	64QAM	1	0		21.85		22.5	2
10	64QAM	1	25		21.89			
10	64QAM	1	49		21.80			
10	64QAM	25	0		20.71		21.5	3
10	64QAM	25	12		20.78			
10	64QAM	25	25		20.76			
10	64QAM	50	0		20.81			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.66	23.60	23.60	24.5	0
5	QPSK	1	12	23.66	23.60	23.63		
5	QPSK	1	24	23.73	23.64	23.67		
5	QPSK	12	0	22.92	22.68	22.66	23.5	1
5	QPSK	12	7	22.84	22.73	22.75		
5	QPSK	12	13	22.80	22.70	22.74		
5	QPSK	25	0	22.83	22.69	22.71		
5	16QAM	1	0	22.97	22.88	22.86	23.5	1
5	16QAM	1	12	22.81	22.88	22.82		
5	16QAM	1	24	22.96	22.91	22.97		
5	16QAM	12	0	21.85	21.71	21.73	22.5	2
5	16QAM	12	7	21.78	21.75	21.78		
5	16QAM	12	13	21.76	21.74	21.78		
5	16QAM	25	0	21.84	21.74	21.76		
5	64QAM	1	0	21.86	21.82	21.77	22.5	2
5	64QAM	1	12	21.81	21.84	21.77		
5	64QAM	1	24	21.79	21.82	21.78		
5	64QAM	12	0	20.92	20.78	20.80	21.5	3
5	64QAM	12	7	20.83	20.80	20.82		
5	64QAM	12	13	20.81	20.77	20.81		
5	64QAM	25	0	20.84	20.77	20.77		

<LTE Band 14>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23330				
Frequency (MHz)				793				
10	QPSK	1	0		23.73		24.5	0
10	QPSK	1	25		23.61			
10	QPSK	1	49		23.59			
10	QPSK	25	0		22.69		23.5	1
10	QPSK	25	12		22.67			
10	QPSK	25	25		22.62			
10	QPSK	50	0		22.66			
10	16QAM	1	0		22.99		23.5	1

10	16QAM	1	25		23.04			
10	16QAM	1	49		23.00			
10	16QAM	25	0		21.67		22.5	2
10	16QAM	25	12		21.66			
10	16QAM	25	25		21.73			
10	16QAM	50	0		21.67			
10	64QAM	1	0		21.92		22.5	2
10	64QAM	1	25		21.96			
10	64QAM	1	49		21.87			
10	64QAM	25	0		20.70		21.5	3
10	64QAM	25	12		20.71			
10	64QAM	25	25		20.76			
10	64QAM	50	0		20.72			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	23.61	23.58	23.62	24.5	0
5	QPSK	1	12	23.69	23.64	23.71		
5	QPSK	1	24	23.66	23.67	23.61		
5	QPSK	12	0	22.70	22.70	22.66	23.5	1
5	QPSK	12	7	22.74	22.73	22.75		
5	QPSK	12	13	22.69	22.71	22.69		
5	QPSK	25	0	22.72	22.68	22.63		
5	16QAM	1	0	22.93	22.94	22.94	23.5	1
5	16QAM	1	12	23.03	23.07	22.97		
5	16QAM	1	24	23.01	22.97	22.94		
5	16QAM	12	0	21.69	21.74	21.71	22.5	2
5	16QAM	12	7	21.78	21.76	21.77		
5	16QAM	12	13	21.74	21.78	21.74		
5	16QAM	25	0	21.75	21.71	21.67		
5	64QAM	1	0	21.87	21.89	21.86	22.5	2
5	64QAM	1	12	21.93	21.98	21.93		
5	64QAM	1	24	21.94	21.94	21.85		
5	64QAM	12	0	20.73	20.78	20.75	21.5	3
5	64QAM	12	7	20.84	20.81	20.85		
5	64QAM	12	13	20.78	20.81	20.76		
5	64QAM	25	0	20.77	20.70	20.66		

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	23.63	23.75	23.69	24.5	0
10	QPSK	1	25	23.63	23.62	23.64		
10	QPSK	1	49	23.68	23.65	23.64		
10	QPSK	25	0	22.65	22.81	22.66	23.5	1
10	QPSK	25	12	22.82	22.76	22.74		
10	QPSK	25	25	22.83	22.79	22.86		
10	QPSK	50	0	22.73	22.74	22.74		
10	16QAM	1	0	22.96	22.92	22.95	23.5	1
10	16QAM	1	25	23.03	23.08	23.06		
10	16QAM	1	49	23.08	23.09	23.04		
10	16QAM	25	0	21.67	21.63	21.67	22.5	2

10	16QAM	25	12	21.85	21.77	21.74		
10	16QAM	25	25	21.87	21.78	21.77		
10	16QAM	50	0	21.71	21.73	21.72		
10	64QAM	1	0	21.80	21.69	21.77	22.5	2
10	64QAM	1	25	21.95	21.96	21.92		
10	64QAM	1	49	21.95	21.97	21.97		
10	64QAM	25	0	20.69	20.68	20.73	21.5	3
10	64QAM	25	12	20.89	20.82	20.81		
10	64QAM	25	25	20.89	20.90	20.87		
10	64QAM	50	0	20.75	20.78	20.76		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	23.69	23.65	23.64	24.5	0
5	QPSK	1	12	23.41	23.65	23.70		
5	QPSK	1	24	23.57	23.67	23.69		
5	QPSK	12	0	22.50	22.65	22.74	23.5	1
5	QPSK	12	7	22.65	22.73	22.91		
5	QPSK	12	13	22.63	22.88	22.95		
5	QPSK	25	0	22.68	22.83	22.89		
5	16QAM	1	0	22.87	22.96	23.04	23.5	1
5	16QAM	1	12	22.78	23.04	23.01		
5	16QAM	1	24	23.00	23.18	23.11		
5	16QAM	12	0	21.50	21.66	21.73	22.5	2
5	16QAM	12	7	21.70	21.80	21.82		
5	16QAM	12	13	21.61	21.78	21.94		
5	16QAM	25	0	21.69	21.75	21.80		
5	64QAM	1	0	21.71	21.87	21.91	22.5	2
5	64QAM	1	12	21.73	21.94	21.96		
5	64QAM	1	24	21.89	22.04	22.02		
5	64QAM	12	0	20.56	20.74	20.79	21.5	3
5	64QAM	12	7	20.70	20.78	20.96		
5	64QAM	12	13	20.70	20.93	20.87		
5	64QAM	25	0	20.69	20.83	20.90		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	23.38	23.23	23.26	24	0
20	QPSK	1	49	23.33	23.17	23.23		
20	QPSK	1	99	23.33	23.20	23.25		
20	QPSK	50	0	22.49	22.39	22.41	23	1
20	QPSK	50	24	22.48	22.37	22.34		
20	QPSK	50	50	22.42	22.34	22.40		
20	QPSK	100	0	22.47	22.34	22.33		
20	16QAM	1	0	22.68	22.58	22.54	23	1
20	16QAM	1	49	22.63	22.53	22.55		
20	16QAM	1	99	22.54	22.61	22.58		
20	16QAM	50	0	21.52	21.30	21.32	22	2
20	16QAM	50	24	21.49	21.38	21.34		
20	16QAM	50	50	21.44	21.37	21.40		
20	16QAM	100	0	21.48	21.38	21.33		

20	64QAM	1	0	21.58	21.54	21.46	22	2
20	64QAM	1	49	21.54	21.42	21.42		
20	64QAM	1	99	21.48	21.45	21.29		
20	64QAM	50	0	20.54	20.34	20.35	21	3
20	64QAM	50	24	20.53	20.39	20.36		
20	64QAM	50	50	20.46	20.38	20.43		
20	64QAM	100	0	20.51	20.39	20.35		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.27	23.13	23.13	24	0
15	QPSK	1	37	23.16	23.08	23.07		
15	QPSK	1	74	23.14	23.11	23.12		
15	QPSK	36	0	22.36	22.23	22.21	23	1
15	QPSK	36	20	22.30	22.20	22.16		
15	QPSK	36	39	22.25	22.24	22.15		
15	QPSK	75	0	22.31	22.23	22.11		
15	16QAM	1	0	22.59	22.52	22.45	23	1
15	16QAM	1	37	22.54	22.45	22.45		
15	16QAM	1	74	22.40	22.48	22.42		
15	16QAM	36	0	21.30	21.21	21.20	22	2
15	16QAM	36	20	21.34	21.24	21.18		
15	16QAM	36	39	21.25	21.22	21.25		
15	16QAM	75	0	21.37	21.26	21.14		
15	64QAM	1	0	21.42	21.29	21.31	22	2
15	64QAM	1	37	21.37	21.36	21.35		
15	64QAM	1	74	21.34	21.33	21.25		
15	64QAM	36	0	20.41	20.17	20.18	21	3
15	64QAM	36	20	20.36	20.26	20.14		
15	64QAM	36	39	20.32	20.28	20.28		
15	64QAM	75	0	20.30	20.23	20.20		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.23	23.10	23.03	24	0
10	QPSK	1	25	23.20	23.16	23.03		
10	QPSK	1	49	23.10	23.12	23.11		
10	QPSK	25	0	22.31	22.26	22.23	23	1
10	QPSK	25	12	22.34	22.24	22.16		
10	QPSK	25	25	22.28	22.19	22.14		
10	QPSK	50	0	22.37	22.29	22.18		
10	16QAM	1	0	22.53	22.46	22.44	23	1
10	16QAM	1	25	22.51	22.49	22.44		
10	16QAM	1	49	22.37	22.49	22.47		
10	16QAM	25	0	21.40	21.17	21.19	22	2
10	16QAM	25	12	21.38	21.22	21.19		
10	16QAM	25	25	21.25	21.27	21.25		
10	16QAM	50	0	21.30	21.26	21.13		
10	64QAM	1	0	21.44	21.36	21.21	22	2
10	64QAM	1	25	21.45	21.39	21.36		
10	64QAM	1	49	21.42	21.41	21.33		
10	64QAM	25	0	20.33	20.18	20.15	21	3
10	64QAM	25	12	20.39	20.24	20.16		
10	64QAM	25	25	20.35	20.32	20.22		
10	64QAM	50	0	20.37	20.26	20.14		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	23.22	23.20	23.08	24	0

5	QPSK	1	12	23.21	23.09	23.11		
5	QPSK	1	24	23.10	23.11	23.10		
5	QPSK	12	0	22.37	22.20	22.20	23	1
5	QPSK	12	7	22.32	22.17	22.16		
5	QPSK	12	13	22.29	22.18	22.15		
5	QPSK	25	0	22.39	22.22	22.18		
5	16QAM	1	0	22.59	22.48	22.40	23	1
5	16QAM	1	12	22.54	22.50	22.38		
5	16QAM	1	24	22.45	22.56	22.43		
5	16QAM	12	0	21.37	21.19	21.19	22	2
5	16QAM	12	7	21.32	21.17	21.19		
5	16QAM	12	13	21.25	21.23	21.23		
5	16QAM	25	0	21.35	21.24	21.09		
5	64QAM	1	0	21.47	21.30	21.21	22	2
5	64QAM	1	12	21.40	21.31	21.28		
5	64QAM	1	24	21.41	21.34	21.28		
5	64QAM	12	0	20.34	20.20	20.18	21	3
5	64QAM	12	7	20.33	20.28	20.22		
5	64QAM	12	13	20.33	20.27	20.25		
5	64QAM	25	0	20.34	20.25	20.22		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	23.29	23.14	23.10	24	0
3	QPSK	1	8	23.21	23.10	23.04		
3	QPSK	1	14	23.09	23.17	23.08		
3	QPSK	8	0	22.36	22.24	22.26	23	1
3	QPSK	8	4	22.32	22.20	22.16		
3	QPSK	8	7	22.21	22.15	22.12		
3	QPSK	15	0	22.35	22.19	22.19		
3	16QAM	1	0	22.57	22.52	22.43	23	1
3	16QAM	1	8	22.50	22.45	22.39		
3	16QAM	1	14	22.41	22.48	22.49		
3	16QAM	8	0	21.36	21.24	21.13	22	2
3	16QAM	8	4	21.40	21.21	21.13		
3	16QAM	8	7	21.31	21.31	21.22		
3	16QAM	15	0	21.29	21.25	21.19		
3	64QAM	1	0	21.49	21.37	21.30	22	2
3	64QAM	1	8	21.38	21.29	21.29		
3	64QAM	1	14	21.38	21.40	21.32		
3	64QAM	8	0	20.34	20.21	20.19	21	3
3	64QAM	8	4	20.32	20.24	20.22		
3	64QAM	8	7	20.33	20.32	20.28		
3	64QAM	15	0	20.31	20.28	20.14		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	23.28	23.18	23.13	24	0
1.4	QPSK	1	3	23.11	23.13	23.08		
1.4	QPSK	1	5	23.09	23.17	23.11		
1.4	QPSK	3	0	23.25	23.11	23.07		
1.4	QPSK	3	1	23.17	23.09	23.04		
1.4	QPSK	3	3	23.08	23.10	23.11		
1.4	QPSK	6	0	22.40	22.21	22.13	23	1
1.4	16QAM	1	0	22.57	22.47	22.46	23	1
1.4	16QAM	1	3	22.48	22.51	22.38		
1.4	16QAM	1	5	22.44	22.52	22.49		
1.4	16QAM	3	0	22.55	22.46	22.45		

1.4	16QAM	3	1	22.49	22.53	22.43		
1.4	16QAM	3	3	22.39	22.53	22.52		
1.4	16QAM	6	0	21.35	21.30	21.15	22	2
1.4	64QAM	1	0	21.47	21.37	21.26	22	2
1.4	64QAM	1	3	21.35	21.37	21.30		
1.4	64QAM	1	5	21.33	21.39	21.30		
1.4	64QAM	3	0	21.45	21.37	21.24		
1.4	64QAM	3	1	21.36	21.35	21.33		
1.4	64QAM	3	3	21.39	21.38	21.28		
1.4	64QAM	6	0	20.36	20.32	20.19	21	3

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	23.96	23.97	23.89	24.5	0
15	QPSK	1	37	23.88	23.89	23.87		
15	QPSK	1	74	23.94	23.88	23.38		
15	QPSK	36	0	23.05	23.07	23.02	23.5	1
15	QPSK	36	20	23.09	23.06	23.08		
15	QPSK	36	39	23.07	23.06	23.05		
15	QPSK	75	0	23.11	23.06	22.98		
15	16QAM	1	0	23.38	23.21	23.23	23.5	1
15	16QAM	1	37	23.21	23.22	23.25		
15	16QAM	1	74	23.36	23.27	22.76		
15	16QAM	36	0	22.08	22.00	22.00	22.5	2
15	16QAM	36	20	22.11	22.06	22.06		
15	16QAM	36	39	22.09	22.05	22.05		
15	16QAM	75	0	22.11	22.06	22.03		
15	64QAM	1	0	21.93	22.06	22.09	22.5	2
15	64QAM	1	37	22.04	22.14	22.14		
15	64QAM	1	74	22.29	22.16	21.09		
15	64QAM	36	0	20.64	21.04	21.07	21.5	3
15	64QAM	36	20	20.83	21.10	21.14		
15	64QAM	36	39	21.09	21.09	20.71		
15	64QAM	75	0	20.97	21.07	20.84		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	23.74	23.73	23.68	24.5	0
10	QPSK	1	25	23.68	23.68	23.61		
10	QPSK	1	49	23.59	23.68	23.58		
10	QPSK	25	0	22.86	22.73	22.81	23.5	1
10	QPSK	25	12	22.83	22.80	22.81		
10	QPSK	25	25	22.80	22.75	22.72		
10	QPSK	50	0	22.90	22.75	22.77		
10	16QAM	1	0	22.91	22.97	22.98	23.5	1
10	16QAM	1	25	22.95	22.95	22.94		
10	16QAM	1	49	22.99	22.92	22.87		
10	16QAM	25	0	21.74	21.74	21.79	22.5	2
10	16QAM	25	12	21.79	21.83	21.79		
10	16QAM	25	25	21.80	21.74	21.73		
10	16QAM	50	0	21.84	21.73	21.81		

10	64QAM	1	0	21.78	21.87	21.92	22.5	2
10	64QAM	1	25	21.90	21.93	21.89		
10	64QAM	1	49	21.72	21.85	21.07		
10	64QAM	25	0	20.89	20.83	20.82	21.5	3
10	64QAM	25	12	20.88	20.87	20.84		
10	64QAM	25	25	20.86	20.83	20.83		
10	64QAM	50	0	20.80	20.80	20.75		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	23.75	23.71	23.76	24.5	0
5	QPSK	1	12	23.65	23.60	23.65		
5	QPSK	1	24	23.66	23.59	23.64		
5	QPSK	12	0	22.80	22.74	22.78	23.5	1
5	QPSK	12	7	22.86	22.86	22.82		
5	QPSK	12	13	22.84	22.78	22.72		
5	QPSK	25	0	22.85	22.80	22.79		
5	16QAM	1	0	22.83	22.92	22.95	23.5	1
5	16QAM	1	12	22.98	22.95	22.97		
5	16QAM	1	24	22.98	22.98	22.84		
5	16QAM	12	0	21.74	21.80	21.81	22.5	2
5	16QAM	12	7	21.89	21.88	21.84		
5	16QAM	12	13	21.78	21.83	21.75		
5	16QAM	25	0	21.88	21.79	21.74		
5	64QAM	1	0	21.83	21.97	21.90	22.5	2
5	64QAM	1	12	21.87	21.93	21.87		
5	64QAM	1	24	21.82	21.85	21.09		
5	64QAM	12	0	20.85	20.82	20.86	21.5	3
5	64QAM	12	7	20.80	20.85	20.83		
5	64QAM	12	13	20.78	20.84	20.85		
5	64QAM	25	0	20.82	20.80	20.77		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	23.79	23.78	23.66	24.5	0
3	QPSK	1	8	23.66	23.66	23.61		
3	QPSK	1	14	23.65	23.64	23.58		
3	QPSK	8	0	22.84	22.79	22.79	23.5	1
3	QPSK	8	4	22.87	22.89	22.77		
3	QPSK	8	7	22.77	22.83	22.78		
3	QPSK	15	0	22.83	22.71	22.72		
3	16QAM	1	0	22.92	22.94	23.05	23.5	1
3	16QAM	1	8	22.92	22.95	23.00		
3	16QAM	1	14	22.92	23.01	22.80		
3	16QAM	8	0	21.76	21.81	21.78	22.5	2
3	16QAM	8	4	21.85	21.87	21.76		
3	16QAM	8	7	21.78	21.82	21.73		
3	16QAM	15	0	21.88	21.75	21.81		
3	64QAM	1	0	21.78	21.91	21.89	22.5	2
3	64QAM	1	8	21.80	21.88	21.91		
3	64QAM	1	14	21.76	21.89	21.05		
3	64QAM	8	0	20.79	20.85	20.80	21.5	3
3	64QAM	8	4	20.83	20.84	20.81		
3	64QAM	8	7	20.81	20.86	20.78		
3	64QAM	15	0	20.79	20.73	20.74		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	23.76	23.69	23.67	24.5	0

1.4	QPSK	1	3	23.70	23.61	23.64		
1.4	QPSK	1	5	23.65	23.66	23.57		
1.4	QPSK	3	0	23.73	23.73	23.76		
1.4	QPSK	3	1	23.67	23.60	23.58		
1.4	QPSK	3	3	23.60	23.59	23.59		
1.4	QPSK	6	0	22.83	22.75	22.73	23.5	1
1.4	16QAM	1	0	22.89	22.92	23.03	23.5	1
1.4	16QAM	1	3	22.95	23.02	22.96		
1.4	16QAM	1	5	22.99	22.96	22.89		
1.4	16QAM	3	0	22.89	22.93	22.96		
1.4	16QAM	3	1	22.91	22.99	23.01		
1.4	16QAM	3	3	22.98	22.94	22.87		
1.4	16QAM	6	0	21.80	21.77	21.81	22.5	2
1.4	64QAM	1	0	21.87	21.92	21.90	22.5	2
1.4	64QAM	1	3	21.86	21.89	21.92		
1.4	64QAM	1	5	21.77	21.83	21.05		
1.4	64QAM	3	0	21.79	21.89	21.93		
1.4	64QAM	3	1	21.88	21.90	21.90		
1.4	64QAM	3	3	21.74	21.86	21.12		
1.4	64QAM	6	0	20.82	20.72	20.76	21.5	3

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					27710			
Frequency (MHz)					2310			
10	QPSK	1	0		22.31		23	0
10	QPSK	1	25		22.23			
10	QPSK	1	49		22.22			
10	QPSK	25	0		21.34		22	1
10	QPSK	25	12		21.28			
10	QPSK	25	25		21.20			
10	QPSK	50	0		21.30			
10	16QAM	1	0		21.57		22	1
10	16QAM	1	25		21.56			
10	16QAM	1	49		21.53			
10	16QAM	25	0		20.27		21	2
10	16QAM	25	12		20.31			
10	16QAM	25	25		20.31			
10	16QAM	50	0		20.31			
10	64QAM	1	0		20.15		21	2
10	64QAM	1	25		19.99			
10	64QAM	1	49		19.88			
10	64QAM	25	0		19.86		20	3
10	64QAM	25	12		19.82			
10	64QAM	25	25		19.79			
10	64QAM	50	0		19.63			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	22.09	22.14	22.19	23	0
5	QPSK	1	12	22.21	22.20	22.23		
5	QPSK	1	24	22.27	22.22	22.20		
5	QPSK	12	0	21.26	21.28	21.30	22	1

5	QPSK	12	7	21.38	21.34	21.33		
5	QPSK	12	13	21.38	21.34	21.27		
5	QPSK	25	0	21.34	21.30	21.29		
5	16QAM	1	0	21.43	21.45	21.49	22	1
5	16QAM	1	12	21.51	21.55	21.50		
5	16QAM	1	24	21.58	21.51	21.55		
5	16QAM	12	0	20.30	20.31	20.34	21	2
5	16QAM	12	7	20.40	20.36	20.37		
5	16QAM	12	13	20.40	20.36	20.29		
5	16QAM	25	0	20.33	20.34	20.33		
5	64QAM	1	0	20.41	20.43	20.49	21	2
5	64QAM	1	12	20.44	20.52	20.44		
5	64QAM	1	24	20.56	20.51	20.41		
5	64QAM	12	0	19.36	19.40	19.37	20	3
5	64QAM	12	7	19.46	19.42	19.41		
5	64QAM	12	13	19.40	19.42	19.35		
5	64QAM	25	0	19.35	19.34	19.34		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	23.73	23.54	23.55	24	0
20	QPSK	1	49	23.59	23.41	23.41		
20	QPSK	1	99	23.62	23.43	23.37		
20	QPSK	50	0	22.71	22.63	22.53	23	1
20	QPSK	50	24	22.65	22.60	22.50		
20	QPSK	50	50	22.68	22.58	22.51		
20	QPSK	100	0	22.73	22.59	22.49		
20	16QAM	1	0	22.96	22.82	22.89	23	1
20	16QAM	1	49	22.90	22.77	22.74		
20	16QAM	1	99	22.87	22.76	22.67		
20	16QAM	50	0	21.76	21.65	21.55	22	2
20	16QAM	50	24	21.75	21.62	21.51		
20	16QAM	50	50	21.70	21.56	21.55		
20	16QAM	100	0	21.72	21.58	21.49		
20	64QAM	1	0	21.94	21.81	21.73	22	2
20	64QAM	1	49	21.85	21.66	21.38		
20	64QAM	1	99	21.86	21.75	21.60		
20	64QAM	50	0	20.78	20.66	20.57	21	3
20	64QAM	50	24	20.79	20.66	20.55		
20	64QAM	50	50	20.75	20.60	20.55		
20	64QAM	100	0	20.76	20.62	20.51		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.64	23.48	23.46	24	0
15	QPSK	1	37	23.59	23.24	23.24		
15	QPSK	1	74	23.52	23.22	23.19		
15	QPSK	36	0	22.75	22.40	22.47	23	1
15	QPSK	36	20	22.80	22.40	22.37		
15	QPSK	36	39	22.74	22.45	22.43		
15	QPSK	75	0	22.63	22.43	22.42		

15	16QAM	1	0	22.86	22.63	22.69	23	1
15	16QAM	1	37	22.81	22.66	22.65		
15	16QAM	1	74	22.87	22.59	22.47		
15	16QAM	36	0	21.72	21.45	21.49	22	2
15	16QAM	36	20	21.70	21.37	21.49		
15	16QAM	36	39	21.69	21.49	21.46		
15	16QAM	75	0	21.72	21.46	21.40		
15	64QAM	1	0	21.82	21.56	21.51	22	2
15	64QAM	1	37	21.77	21.46	21.58		
15	64QAM	1	74	21.81	21.65	21.49		
15	64QAM	36	0	20.61	20.48	20.54	21	3
15	64QAM	36	20	20.85	20.41	20.37		
15	64QAM	36	39	20.74	20.50	20.43		
15	64QAM	75	0	20.79	20.60	20.35		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	23.70	23.40	23.45	24	0
10	QPSK	1	25	23.54	23.29	23.23		
10	QPSK	1	49	23.55	23.22	23.24		
10	QPSK	25	0	22.73	22.43	22.37	23	1
10	QPSK	25	12	22.83	22.39	22.44		
10	QPSK	25	25	22.68	22.45	22.40		
10	QPSK	50	0	22.71	22.43	22.42		
10	16QAM	1	0	22.80	22.67	22.75	23	1
10	16QAM	1	25	22.90	22.70	22.63		
10	16QAM	1	49	22.84	22.67	22.49		
10	16QAM	25	0	21.70	21.43	21.42	22	2
10	16QAM	25	12	21.65	21.42	21.49		
10	16QAM	25	25	21.68	21.44	21.50		
10	16QAM	50	0	21.71	21.48	21.42		
10	64QAM	1	0	21.77	21.66	21.50	22	2
10	64QAM	1	25	21.73	21.51	21.60		
10	64QAM	1	49	21.78	21.64	21.41		
10	64QAM	25	0	20.68	20.56	20.49	21	3
10	64QAM	25	12	20.80	20.39	20.43		
10	64QAM	25	25	20.67	20.50	20.45		
10	64QAM	50	0	20.75	20.50	20.36		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	23.71	23.47	23.43	24	0
5	QPSK	1	12	23.57	23.26	23.27		
5	QPSK	1	24	23.55	23.28	23.20		
5	QPSK	12	0	22.77	22.43	22.42	23	1
5	QPSK	12	7	22.81	22.47	22.45		
5	QPSK	12	13	22.66	22.40	22.40		
5	QPSK	25	0	22.67	22.45	22.46		
5	16QAM	1	0	22.89	22.69	22.69	23	1
5	16QAM	1	12	22.83	22.65	22.62		
5	16QAM	1	24	22.86	22.69	22.55		
5	16QAM	12	0	21.75	21.40	21.50	22	2
5	16QAM	12	7	21.73	21.34	21.44		
5	16QAM	12	13	21.71	21.51	21.48		
5	16QAM	25	0	21.67	21.47	21.43		
5	64QAM	1	0	21.75	21.63	21.55	22	2
5	64QAM	1	12	21.76	21.54	21.55		
5	64QAM	1	24	21.75	21.64	21.43		

5	64QAM	12	0	20.63	20.57	20.51	21	3
5	64QAM	12	7	20.82	20.48	20.39		
5	64QAM	12	13	20.72	20.52	20.39		
5	64QAM	25	0	20.75	20.54	20.36		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	23.64	23.49	23.47	24	0
3	QPSK	1	8	23.63	23.34	23.26		
3	QPSK	1	14	23.49	23.19	23.19		
3	QPSK	8	0	22.77	22.43	22.44	23	1
3	QPSK	8	4	22.83	22.39	22.41		
3	QPSK	8	7	22.72	22.46	22.42		
3	QPSK	15	0	22.70	22.50	22.37		
3	16QAM	1	0	22.81	22.62	22.69	23	1
3	16QAM	1	8	22.90	22.67	22.66		
3	16QAM	1	14	22.89	22.59	22.56		
3	16QAM	8	0	21.72	21.35	21.44	22	2
3	16QAM	8	4	21.67	21.37	21.48		
3	16QAM	8	7	21.70	21.43	21.44		
3	16QAM	15	0	21.65	21.39	21.40		
3	64QAM	1	0	21.76	21.59	21.53	22	2
3	64QAM	1	8	21.70	21.48	21.53		
3	64QAM	1	14	21.76	21.55	21.47		
3	64QAM	8	0	20.64	20.56	20.49	21	3
3	64QAM	8	4	20.85	20.46	20.45		
3	64QAM	8	7	20.75	20.49	20.41		
3	64QAM	15	0	20.76	20.53	20.43		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	23.71	23.42	23.41	24	0
1.4	QPSK	1	3	23.62	23.25	23.21		
1.4	QPSK	1	5	23.50	23.25	23.18		
1.4	QPSK	3	0	23.66	23.47	23.49		
1.4	QPSK	3	1	23.54	23.25	23.27		
1.4	QPSK	3	3	23.53	23.27	23.25		
1.4	QPSK	6	0	22.64	22.51	22.36	23	1
1.4	16QAM	1	0	22.89	22.67	22.67	23	1
1.4	16QAM	1	3	22.89	22.68	22.60		
1.4	16QAM	1	5	22.90	22.64	22.51		
1.4	16QAM	3	0	22.86	22.68	22.75		
1.4	16QAM	3	1	22.87	22.66	22.61		
1.4	16QAM	3	3	22.88	22.65	22.47		
1.4	16QAM	6	0	21.72	21.43	21.36	22	2
1.4	64QAM	1	0	21.83	21.58	21.58	22	2
1.4	64QAM	1	3	21.73	21.49	21.55		
1.4	64QAM	1	5	21.74	21.60	21.40		
1.4	64QAM	3	0	21.81	21.57	21.57		
1.4	64QAM	3	1	21.75	21.45	21.61		
1.4	64QAM	3	3	21.75	21.55	21.42		
1.4	64QAM	6	0	20.79	20.59	20.40	21	3

<LTE Band 66 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low	Power Middle	Power High	Tune-up limit (dBm)	MPR (dB)

				Ch. / Freq.	Ch. / Freq.	Ch. / Freq.		
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	23.52	23.27	23.36	24	0
20	QPSK	1	49	23.15	22.96	23.07		
20	QPSK	1	99	23.11	22.93	22.94		
20	QPSK	50	0	22.81	22.44	22.63	23	1
20	QPSK	50	24	22.78	22.31	22.54		
20	QPSK	50	50	22.68	22.42	22.61		
20	QPSK	100	0	22.60	22.30	22.53		
20	16QAM	1	0	22.92	22.59	22.76	23	1
20	16QAM	1	49	22.69	22.41	22.68		
20	16QAM	1	99	22.68	22.44	22.42		
20	16QAM	50	0	21.67	21.44	21.55	22	2
20	16QAM	50	24	21.70	21.28	21.57		
20	16QAM	50	50	21.66	21.43	21.63		
20	16QAM	100	0	21.62	21.40	21.68		
20	64QAM	1	0	21.77	21.38	21.67	22	2
20	64QAM	1	49	21.70	21.33	21.65		
20	64QAM	1	99	21.74	21.36	21.64		
20	64QAM	50	0	20.64	20.38	20.58	21	3
20	64QAM	50	24	20.51	20.39	20.41		
20	64QAM	50	50	20.70	20.46	20.64		
20	64QAM	100	0	20.54	20.41	20.51		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.50	23.24	23.31	24	0
15	QPSK	1	37	23.21	22.93	23.03		
15	QPSK	1	74	23.10	22.96	22.86		
15	QPSK	36	0	22.71	22.34	22.71	23	1
15	QPSK	36	20	22.71	22.31	22.54		
15	QPSK	36	39	22.66	22.47	22.64		
15	QPSK	75	0	22.59	22.32	22.57		
15	16QAM	1	0	22.95	22.66	22.71	23	1
15	16QAM	1	37	22.66	22.48	22.68		
15	16QAM	1	74	22.62	22.40	22.46		
15	16QAM	36	0	21.67	21.44	21.47	22	2
15	16QAM	36	20	21.66	21.35	21.55		
15	16QAM	36	39	21.73	21.36	21.60		
15	16QAM	75	0	21.59	21.41	21.69		
15	64QAM	1	0	21.70	21.46	21.67	22	2
15	64QAM	1	37	21.73	21.38	21.66		
15	64QAM	1	74	21.70	21.30	21.62		
15	64QAM	36	0	20.61	20.40	20.60	21	3
15	64QAM	36	20	20.53	20.39	20.40		
15	64QAM	36	39	20.63	20.48	20.55		
15	64QAM	75	0	20.52	20.37	20.47		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	23.43	23.27	23.31	24	0
10	QPSK	1	25	23.19	22.95	23.06		
10	QPSK	1	49	23.04	23.00	22.86		
10	QPSK	25	0	22.67	22.35	22.64	23	1
10	QPSK	25	12	22.71	22.28	22.59		
10	QPSK	25	25	22.64	22.49	22.72		
10	QPSK	50	0	22.59	22.30	22.53		

10	16QAM	1	0	22.95	22.61	22.77	23	1
10	16QAM	1	25	22.67	22.40	22.71		
10	16QAM	1	49	22.62	22.45	22.47		
10	16QAM	25	0	21.73	21.39	21.56	22	2
10	16QAM	25	12	21.64	21.32	21.51		
10	16QAM	25	25	21.71	21.38	21.68		
10	16QAM	50	0	21.59	21.42	21.62		
10	64QAM	1	0	21.79	21.37	21.64	22	2
10	64QAM	1	25	21.69	21.33	21.71		
10	64QAM	1	49	21.70	21.30	21.65		
10	64QAM	25	0	20.66	20.46	20.64	21	3
10	64QAM	25	12	20.57	20.36	20.44		
10	64QAM	25	25	20.64	20.50	20.56		
10	64QAM	50	0	20.48	20.41	20.46		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	23.42	23.22	23.36	24	0
5	QPSK	1	12	23.17	22.94	23.04		
5	QPSK	1	24	23.01	22.99	22.93		
5	QPSK	12	0	22.64	22.39	22.68	23	1
5	QPSK	12	7	22.72	22.35	22.63		
5	QPSK	12	13	22.73	22.52	22.70		
5	QPSK	25	0	22.62	22.32	22.54		
5	16QAM	1	0	22.95	22.60	22.71	23	1
5	16QAM	1	12	22.71	22.40	22.70		
5	16QAM	1	24	22.69	22.36	22.44		
5	16QAM	12	0	21.72	21.39	21.51	22	2
5	16QAM	12	7	21.70	21.35	21.48		
5	16QAM	12	13	21.63	21.37	21.68		
5	16QAM	25	0	21.64	21.39	21.59		
5	64QAM	1	0	21.78	21.37	21.68	22	2
5	64QAM	1	12	21.72	21.41	21.62		
5	64QAM	1	24	21.65	21.32	21.59		
5	64QAM	12	0	20.63	20.45	20.63	21	3
5	64QAM	12	7	20.58	20.37	20.41		
5	64QAM	12	13	20.69	20.45	20.58		
5	64QAM	25	0	20.50	20.43	20.51		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	23.44	23.24	23.29	24	0
3	QPSK	1	8	23.15	22.97	23.08		
3	QPSK	1	14	23.08	22.92	22.95		
3	QPSK	8	0	22.66	22.42	22.65	23	1
3	QPSK	8	4	22.75	22.35	22.56		
3	QPSK	8	7	22.67	22.50	22.73		
3	QPSK	15	0	22.63	22.35	22.56		
3	16QAM	1	0	22.88	22.65	22.76	23	1
3	16QAM	1	8	22.67	22.42	22.62		
3	16QAM	1	14	22.70	22.45	22.48		
3	16QAM	8	0	21.70	21.42	21.52	22	2
3	16QAM	8	4	21.65	21.29	21.50		
3	16QAM	8	7	21.69	21.43	21.59		
3	16QAM	15	0	21.65	21.39	21.69		
3	64QAM	1	0	21.74	21.41	21.65	22	2
3	64QAM	1	8	21.69	21.37	21.66		
3	64QAM	1	14	21.68	21.35	21.59		

3	64QAM	8	0	20.71	20.39	20.63	21	3
3	64QAM	8	4	20.51	20.45	20.43		
3	64QAM	8	7	20.64	20.48	20.54		
3	64QAM	15	0	20.58	20.44	20.47		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	23.43	23.21	23.36	24	0
1.4	QPSK	1	3	23.08	23.13	23.03		
1.4	QPSK	1	5	23.02	23.13	22.96		
1.4	QPSK	3	0	22.65	22.47	22.73		
1.4	QPSK	3	1	22.72	22.45	22.56		
1.4	QPSK	3	3	22.74	22.58	22.70		
1.4	QPSK	6	0	22.59	22.35	22.53	23	1
1.4	16QAM	1	0	22.97	22.73	22.71	23	1
1.4	16QAM	1	3	22.72	22.63	22.55		
1.4	16QAM	1	5	22.78	22.59	22.50		
1.4	16QAM	3	0	21.70	21.65	21.59		
1.4	16QAM	3	1	21.68	21.48	21.65		
1.4	16QAM	3	3	21.70	21.52	21.58		
1.4	16QAM	6	0	21.68	21.48	21.63	22	2
1.4	64QAM	1	0	21.80	21.61	21.68	22	2
1.4	64QAM	1	3	21.66	21.50	21.59		
1.4	64QAM	1	5	21.77	21.54	21.68		
1.4	64QAM	3	0	20.70	20.55	20.62		
1.4	64QAM	3	1	20.55	20.44	20.48		
1.4	64QAM	3	3	20.68	20.58	20.55		
1.4	64QAM	6	0	20.52	20.62	20.48	21	3

<LTE Band 71>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				133222	133322	133372		
Frequency (MHz)				673	683	688		
20	QPSK	1	0	23.94	23.80	23.72	24.5	0
20	QPSK	1	49	23.87	23.78	23.76		
20	QPSK	1	99	23.89	23.71	23.74		
20	QPSK	50	0	22.92	22.89	22.81	23.5	1
20	QPSK	50	24	23.08	22.81	22.85		
20	QPSK	50	50	23.01	22.87	22.93		
20	QPSK	100	0	23.00	22.80	22.83		
20	16QAM	1	0	23.29	23.08	23.07	23.5	1
20	16QAM	1	49	23.12	23.03	23.03		
20	16QAM	1	99	23.11	23.09	23.06		
20	16QAM	50	0	21.84	21.82	21.84	22.5	2
20	16QAM	50	24	21.90	21.85	21.87		
20	16QAM	50	50	21.86	21.91	21.95		
20	16QAM	100	0	21.85	21.81	21.83		
20	64QAM	1	0	21.95	21.90	21.94	22.5	2
20	64QAM	1	49	21.91	21.98	21.92		
20	64QAM	1	99	21.94	22.06	22.03		
20	64QAM	50	0	20.78	20.79	20.86	21.5	3
20	64QAM	50	24	20.87	20.86	20.87		
20	64QAM	50	50	20.85	20.91	20.95		

20	64QAM	100	0	20.86	20.84	20.87		
Channel				133197	133297	133397	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				670.5	680.5	690.5		
15	QPSK	1	0	23.96	23.85	23.65	24.5	0
15	QPSK	1	37	23.83	23.79	23.60		
15	QPSK	1	74	23.88	23.70	23.58		
15	QPSK	36	0	22.93	22.91	22.67	23.5	1
15	QPSK	36	20	23.04	22.87	22.76		
15	QPSK	36	39	22.98	22.87	22.65		
15	QPSK	75	0	22.98	22.86	22.71		
15	16QAM	1	0	23.33	23.17	22.88	23.5	1
15	16QAM	1	37	23.18	23.02	22.89		
15	16QAM	1	74	23.10	22.98	22.89		
15	16QAM	36	0	22.05	21.87	21.69	22.5	2
15	16QAM	36	20	22.01	21.86	21.67		
15	16QAM	36	39	22.03	21.77	21.62		
15	16QAM	75	0	22.01	21.82	21.70		
15	64QAM	1	0	22.14	21.80	21.87	22.5	2
15	64QAM	1	37	22.20	21.84	21.82		
15	64QAM	1	74	21.99	21.83	21.79		
15	64QAM	36	0	21.06	20.82	20.67	21.5	3
15	64QAM	36	20	20.96	20.79	20.75		
15	64QAM	36	39	21.03	20.81	20.69		
15	64QAM	75	0	21.09	20.67	20.68		
Channel				133172	133272	133422	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				668	678	693		
10	QPSK	1	0	23.94	23.87	23.62	24.5	0
10	QPSK	1	25	23.89	23.85	23.54		
10	QPSK	1	49	23.89	23.76	23.59		
10	QPSK	25	0	22.95	22.93	22.62	23.5	1
10	QPSK	25	12	22.98	22.83	22.72		
10	QPSK	25	25	22.92	22.88	22.63		
10	QPSK	50	0	23.00	22.83	22.72		
10	16QAM	1	0	23.28	23.19	22.94	23.5	1
10	16QAM	1	25	23.15	23.10	22.90		
10	16QAM	1	49	23.20	22.96	22.79		
10	16QAM	25	0	21.97	21.85	21.69	22.5	2
10	16QAM	25	12	21.96	21.76	21.70		
10	16QAM	25	25	22.04	21.76	21.60		
10	16QAM	50	0	21.99	21.78	21.73		
10	64QAM	1	0	22.07	21.80	21.74	22.5	2
10	64QAM	1	25	22.13	21.90	21.85		
10	64QAM	1	49	22.05	21.85	21.76		
10	64QAM	25	0	21.06	20.85	20.64	21.5	3
10	64QAM	25	12	21.01	20.77	20.71		
10	64QAM	25	25	21.07	20.79	20.65		
10	64QAM	50	0	21.06	20.67	20.67		
Channel				133147	133247	133447	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				665.5	675.5	695.5		
5	QPSK	1	0	23.88	23.89	23.61	24.5	0
5	QPSK	1	12	23.85	23.81	23.59		
5	QPSK	1	24	23.86	23.71	23.44		
5	QPSK	12	0	23.01	22.91	22.65	23.5	1
5	QPSK	12	7	22.99	22.86	22.72		
5	QPSK	12	13	22.93	22.89	22.64		
5	QPSK	25	0	22.96	22.85	22.69		

5	16QAM	1	0	23.19	23.11	22.89	23.5	1
5	16QAM	1	12	23.16	23.10	22.85		
5	16QAM	1	24	23.17	23.00	22.74		
5	16QAM	12	0	21.98	21.85	21.68	22.5	2
5	16QAM	12	7	22.00	21.80	21.73		
5	16QAM	12	13	21.97	21.80	21.57		
5	16QAM	25	0	21.94	21.86	21.69		
5	64QAM	1	0	22.06	21.87	21.79	22.5	2
5	64QAM	1	12	22.21	21.89	21.79		
5	64QAM	1	24	21.97	21.91	21.76		
5	64QAM	12	0	21.06	20.80	20.67	21.5	3
5	64QAM	12	7	21.04	20.77	20.78		
5	64QAM	12	13	21.00	20.74	20.68		
5	64QAM	25	0	21.05	20.73	20.73		

Reduced Power Mode

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	12.34	12.11	12.07	13	0
20	QPSK	1	49	12.13	12.03	11.98		
20	QPSK	1	99	12.09	12.12	12.28		
20	QPSK	50	0	11.52	11.41	11.25	12	1
20	QPSK	50	24	11.34	11.27	11.16		
20	QPSK	50	50	11.38	11.32	11.31		
20	QPSK	100	0	11.53	11.46	11.32		
20	16QAM	1	0	11.65	11.51	11.72	12	1
20	16QAM	1	49	11.50	11.70	11.49		
20	16QAM	1	99	11.75	11.43	11.43		
20	16QAM	50	0	10.48	10.34	10.28	11	2
20	16QAM	50	24	10.48	10.34	10.22		
20	16QAM	50	50	10.43	10.36	10.31		
20	16QAM	100	0	10.38	10.36	10.35		
20	64QAM	1	0	10.54	10.37	10.24	11	2
20	64QAM	1	49	10.38	10.28	10.32		
20	64QAM	1	99	10.38	10.41	10.29		
20	64QAM	50	0	9.49	9.60	9.49	10	3
20	64QAM	50	24	9.46	9.52	9.50		
20	64QAM	50	50	9.58	9.60	9.41		
20	64QAM	100	0	9.46	9.52	9.43		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	12.24	12.11	12.01	13	0
15	QPSK	1	37	12.04	11.93	11.89		
15	QPSK	1	74	11.99	12.12	12.23		
15	QPSK	36	0	11.47	11.39	11.23	12	1
15	QPSK	36	20	11.32	11.20	11.07		
15	QPSK	36	39	11.32	11.22	11.24		
15	QPSK	75	0	11.51	11.45	11.32		

15	16QAM	1	0	11.62	11.46	11.67	12	1
15	16QAM	1	37	11.42	11.67	11.48		
15	16QAM	1	74	11.74	11.41	11.37		
15	16QAM	36	0	10.43	10.33	10.25	11	2
15	16QAM	36	20	10.40	10.29	10.15		
15	16QAM	36	39	10.33	10.33	10.25		
15	16QAM	75	0	10.29	10.35	10.34		
15	64QAM	1	0	10.44	10.33	10.23	11	2
15	64QAM	1	37	10.28	10.21	10.23		
15	64QAM	1	74	10.32	10.34	10.20		
15	64QAM	36	0	9.43	9.54	9.42	10	3
15	64QAM	36	20	9.46	9.51	9.45		
15	64QAM	36	39	9.54	9.59	9.41		
15	64QAM	75	0	9.36	9.48	9.39		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	12.20	12.02	11.97	13	0
10	QPSK	1	25	12.00	11.85	11.81		
10	QPSK	1	49	11.95	12.02	12.15		
10	QPSK	25	0	11.38	11.33	11.13	12	1
10	QPSK	25	12	11.24	11.15	11.03		
10	QPSK	25	25	11.22	11.21	11.19		
10	QPSK	50	0	11.45	11.41	11.28		
10	16QAM	1	0	11.60	11.46	11.65	12	1
10	16QAM	1	25	11.40	11.57	11.48		
10	16QAM	1	49	11.67	11.36	11.36		
10	16QAM	25	0	10.37	10.28	10.20	11	2
10	16QAM	25	12	10.35	10.21	10.09		
10	16QAM	25	25	10.25	10.33	10.22		
10	16QAM	50	0	10.28	10.27	10.27		
10	64QAM	1	0	10.36	10.29	10.16	11	2
10	64QAM	1	25	10.23	10.18	10.23		
10	64QAM	1	49	10.32	10.34	10.19		
10	64QAM	25	0	9.35	9.46	9.33	10	3
10	64QAM	25	12	9.43	9.44	9.36		
10	64QAM	25	25	9.48	9.53	9.33		
10	64QAM	50	0	9.28	9.46	9.34		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	12.15	11.96	11.95	13	0
5	QPSK	1	12	11.97	11.77	11.71		
5	QPSK	1	24	11.94	11.98	12.14		
5	QPSK	12	0	11.30	11.23	11.07	12	1
5	QPSK	12	7	11.14	11.06	11.03		
5	QPSK	12	13	11.16	11.14	11.13		
5	QPSK	25	0	11.37	11.37	11.26		
5	16QAM	1	0	11.51	11.38	11.62	12	1
5	16QAM	1	12	11.37	11.52	11.41		
5	16QAM	1	24	11.59	11.35	11.29		
5	16QAM	12	0	10.30	10.26	10.13	11	2
5	16QAM	12	7	10.34	10.11	10.09		
5	16QAM	12	13	10.19	10.23	10.12		
5	16QAM	25	0	10.19	10.21	10.20		
5	64QAM	1	0	10.30	10.25	10.06	11	2
5	64QAM	1	12	10.13	10.08	10.17		
5	64QAM	1	24	10.31	10.28	10.12		

5	64QAM	12	0	9.33	9.36	9.23	10	3
5	64QAM	12	7	9.40	9.41	9.29		
5	64QAM	12	13	9.47	9.47	9.33		
5	64QAM	25	0	9.18	9.40	9.27		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	12.12	11.95	11.89	13	0
3	QPSK	1	8	11.87	11.76	11.63		
3	QPSK	1	14	11.91	11.95	12.13		
3	QPSK	8	0	11.20	11.19	11.00	12	1
3	QPSK	8	4	11.14	11.10	11.20		
3	QPSK	8	7	11.15	11.08	11.09		
3	QPSK	15	0	11.30	11.27	11.23		
3	16QAM	1	0	11.42	11.37	11.58	12	1
3	16QAM	1	8	11.37	11.47	11.33		
3	16QAM	1	14	11.57	11.29	11.25		
3	16QAM	8	0	10.24	10.23	10.13	11	2
3	16QAM	8	4	10.30	10.02	10.00		
3	16QAM	8	7	10.16	10.14	10.02		
3	16QAM	15	0	10.15	10.20	10.12		
3	64QAM	1	0	10.30	10.19	10.01	11	2
3	64QAM	1	8	10.09	10.03	10.11		
3	64QAM	1	14	10.29	10.21	10.12		
3	64QAM	8	0	9.26	9.33	9.20	10	3
3	64QAM	8	4	9.35	9.34	9.22		
3	64QAM	8	7	9.47	9.44	9.31		
3	64QAM	15	0	9.18	9.40	9.23		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	12.05	11.93	11.85	13	0
1.4	QPSK	1	3	11.87	11.71	11.59		
1.4	QPSK	1	5	11.87	11.94	12.12		
1.4	QPSK	3	0	11.12	11.17	11.00		
1.4	QPSK	3	1	11.09	10.87	10.85		
1.4	QPSK	3	3	11.11	11.05	11.00		
1.4	QPSK	6	0	11.22	11.25	11.21	12	1
1.4	16QAM	1	0	11.40	11.36	11.51	12	1
1.4	16QAM	1	3	11.37	11.46	11.30		
1.4	16QAM	1	5	11.47	11.21	11.17		
1.4	16QAM	3	0	10.15	10.23	10.12		
1.4	16QAM	3	1	10.30	10.20	10.11		
1.4	16QAM	3	3	10.16	10.14	10.15		
1.4	16QAM	6	0	10.07	10.10	10.08	11	2
1.4	64QAM	1	0	10.29	10.10	9.99	11	2
1.4	64QAM	1	3	9.99	9.93	10.07		
1.4	64QAM	1	5	10.23	10.18	10.03		
1.4	64QAM	3	0	10.20	10.01	9.92		
1.4	64QAM	3	1	9.98	9.93	10.03		
1.4	64QAM	3	3	10.23	10.13	9.96		
1.4	64QAM	6	0	9.08	9.37	9.16	10	3

<LTE Band 2 MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low	Power Middle	Power High	Tune-up limit (dBm)	MPR (dB)

				Ch. / Freq.	Ch. / Freq.	Ch. / Freq.		
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	11.44	11.42	11.65	12	0
20	QPSK	1	49	11.40	11.39	11.60		
20	QPSK	1	99	11.28	11.35	11.55		
20	QPSK	50	0	10.58	10.64	10.79	11	1
20	QPSK	50	24	10.44	10.52	10.71		
20	QPSK	50	50	10.66	10.62	10.58		
20	QPSK	100	0	10.47	10.69	10.84		
20	16QAM	1	0	10.83	10.86	10.87	11	1
20	16QAM	1	49	10.69	10.75	10.76		
20	16QAM	1	99	10.73	10.55	10.78		
20	16QAM	50	0	9.63	9.76	9.80	10	2
20	16QAM	50	24	9.58	9.63	9.73		
20	16QAM	50	50	9.59	9.74	9.73		
20	16QAM	100	0	9.58	9.69	9.75		
20	64QAM	1	0	9.53	9.71	9.71	10	2
20	64QAM	1	49	9.52	9.59	9.71		
20	64QAM	1	99	9.56	9.73	9.71		
20	64QAM	50	0	8.80	8.77	8.74	9	3
20	64QAM	50	24	8.75	8.71	8.70		
20	64QAM	50	50	8.75	8.72	8.74		
20	64QAM	100	0	8.79	8.74	8.76		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	11.28	11.42	11.52	12	0
15	QPSK	1	37	11.33	11.29	11.60		
15	QPSK	1	74	11.39	11.27	11.51		
15	QPSK	36	0	10.51	10.58	10.71	11	1
15	QPSK	36	20	10.40	10.50	10.67		
15	QPSK	36	39	10.64	10.59	10.56		
15	QPSK	75	0	10.40	10.68	10.81		
15	16QAM	1	0	10.78	10.82	10.87	11	1
15	16QAM	1	37	10.68	10.66	10.70		
15	16QAM	1	74	10.70	10.55	10.76		
15	16QAM	36	0	9.59	9.68	9.80	10	2
15	16QAM	36	20	9.51	9.60	9.64		
15	16QAM	36	39	9.52	9.67	9.64		
15	16QAM	75	0	9.52	9.65	9.68		
15	64QAM	1	0	9.52	9.63	9.65	10	2
15	64QAM	1	37	9.45	9.53	9.63		
15	64QAM	1	74	9.48	9.63	9.62		
15	64QAM	36	0	8.78	8.68	8.73	9	3
15	64QAM	36	20	8.65	8.64	8.66		
15	64QAM	36	39	8.73	8.64	8.70		
15	64QAM	75	0	8.77	8.73	8.68		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	11.10	11.29	11.38	12	0
10	QPSK	1	25	11.27	11.22	11.61		
10	QPSK	1	49	11.30	11.23	11.45		
10	QPSK	25	0	10.41	10.61	10.73	11	1
10	QPSK	25	12	10.36	10.47	10.57		
10	QPSK	25	25	10.59	10.57	10.40		
10	QPSK	50	0	10.36	10.66	10.79		

10	16QAM	1	0	10.74	10.74	10.72	11	1
10	16QAM	1	25	10.67	10.62	10.73		
10	16QAM	1	49	10.64	10.39	10.65		
10	16QAM	25	0	9.60	9.64	9.64	10	2
10	16QAM	25	12	9.44	9.57	9.59		
10	16QAM	25	25	9.46	9.66	9.61		
10	16QAM	50	0	9.52	9.56	9.63		
10	64QAM	1	0	9.42	9.63	9.61	10	2
10	64QAM	1	25	9.36	9.49	9.63		
10	64QAM	1	49	9.45	9.67	9.60		
10	64QAM	25	0	8.70	8.68	8.57	9	3
10	64QAM	25	12	8.67	8.64	8.56		
10	64QAM	25	25	8.74	8.60	8.59		
10	64QAM	50	0	8.72	8.66	8.68		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	11.18	11.33	11.31	12	0
5	QPSK	1	12	11.37	11.30	11.55		
5	QPSK	1	24	11.32	11.23	11.33		
5	QPSK	12	0	10.41	10.49	10.59	11	1
5	QPSK	12	7	10.28	10.38	10.56		
5	QPSK	12	13	10.49	10.50	10.48		
5	QPSK	25	0	10.31	10.56	10.73		
5	16QAM	1	0	10.61	10.76	10.74	11	1
5	16QAM	1	12	10.59	10.60	10.64		
5	16QAM	1	24	10.58	10.50	10.63		
5	16QAM	12	0	9.41	9.60	9.66	10	2
5	16QAM	12	7	9.40	9.54	9.51		
5	16QAM	12	13	9.44	9.64	9.57		
5	16QAM	25	0	9.46	9.53	9.56		
5	64QAM	1	0	9.33	9.57	9.58	10	2
5	64QAM	1	12	9.37	9.49	9.59		
5	64QAM	1	24	9.44	9.58	9.52		
5	64QAM	12	0	8.66	8.67	8.59	9	3
5	64QAM	12	7	8.63	8.52	8.60		
5	64QAM	12	13	8.60	8.58	8.58		
5	64QAM	25	0	8.57	8.62	8.63		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	10.97	11.22	11.34	12	0
3	QPSK	1	8	11.15	11.17	11.43		
3	QPSK	1	14	11.31	11.02	11.28		
3	QPSK	8	0	10.29	10.48	10.59	11	1
3	QPSK	8	4	10.10	10.34	10.43		
3	QPSK	8	7	10.45	10.46	10.43		
3	QPSK	15	0	10.37	10.48	10.67		
3	16QAM	1	0	10.59	10.57	10.60	11	1
3	16QAM	1	8	10.39	10.62	10.50		
3	16QAM	1	14	10.58	10.34	10.66		
3	16QAM	8	0	9.46	9.51	9.55	10	2
3	16QAM	8	4	9.37	9.40	9.55		
3	16QAM	8	7	9.39	9.51	9.46		
3	16QAM	15	0	9.37	9.48	9.51		
3	64QAM	1	0	9.28	9.57	9.50	10	2
3	64QAM	1	8	9.33	9.38	9.51		
3	64QAM	1	14	9.37	9.42	9.43		

3	64QAM	8	0	8.66	8.70	8.60	9	3
3	64QAM	8	4	8.53	8.53	8.49		
3	64QAM	8	7	8.58	8.54	8.53		
3	64QAM	15	0	8.62	8.52	8.59		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	11.01	11.27	11.22	12	0
1.4	QPSK	1	3	11.29	11.12	11.34		
1.4	QPSK	1	5	11.20	11.13	11.38		
1.4	QPSK	3	0	10.41	10.37	10.64		
1.4	QPSK	3	1	10.14	10.35	10.42		
1.4	QPSK	3	3	10.35	10.37	10.16		
1.4	QPSK	6	0	10.15	10.59	10.59	11	1
1.4	16QAM	1	0	10.51	10.64	10.73	11	1
1.4	16QAM	1	3	10.44	10.47	10.46		
1.4	16QAM	1	5	10.42	10.29	10.61		
1.4	16QAM	3	0	9.43	9.56	9.48		
1.4	16QAM	3	1	9.31	9.34	9.48		
1.4	16QAM	3	3	9.35	9.34	9.50		
1.4	16QAM	6	0	9.35	9.40	9.55	10	2
1.4	64QAM	1	0	9.36	9.50	9.32	10	2
1.4	64QAM	1	3	9.30	9.37	9.45		
1.4	64QAM	1	5	9.20	9.41	9.57		
1.4	64QAM	3	0	9.28	9.35	9.53		
1.4	64QAM	3	1	9.27	9.44	9.24		
1.4	64QAM	3	3	9.25	9.37	9.38		
1.4	64QAM	6	0	8.65	8.42	8.38	9	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	12.95	12.66	12.57	14	0
20	QPSK	1	49	12.67	12.47	12.44		
20	QPSK	1	99	12.70	12.71	12.53		
20	QPSK	50	0	12.01	11.91	11.78	13	1
20	QPSK	50	24	12.05	11.73	11.73		
20	QPSK	50	50	11.90	11.77	11.78		
20	QPSK	100	0	11.98	11.89	11.83		
20	16QAM	1	0	12.16	12.14	11.96	13	1
20	16QAM	1	49	12.06	11.98	11.74		
20	16QAM	1	99	12.03	11.85	11.95		
20	16QAM	50	0	10.98	10.95	10.83	12	2
20	16QAM	50	24	10.93	10.88	10.87		
20	16QAM	50	50	10.93	10.75	10.74		
20	16QAM	100	0	10.88	10.82	10.70		
20	64QAM	1	0	10.88	10.77	10.63	12	2
20	64QAM	1	49	10.80	10.70	10.53		
20	64QAM	1	99	10.77	10.66	10.50		
20	64QAM	50	0	9.82	9.89	9.90	11	3
20	64QAM	50	24	9.83	9.86	9.84		
20	64QAM	50	50	9.84	9.81	9.84		

20	64QAM	100	0	9.84	9.84	9.84		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	12.85	12.57	12.56	14	0
15	QPSK	1	37	12.63	12.38	12.40		
15	QPSK	1	74	12.70	12.70	12.43		
15	QPSK	36	0	11.93	11.81	11.72	13	1
15	QPSK	36	20	11.99	11.67	11.64		
15	QPSK	36	39	11.81	11.71	11.77		
15	QPSK	75	0	11.92	11.80	11.75		
15	16QAM	1	0	12.10	12.13	11.89	13	1
15	16QAM	1	37	12.02	11.92	11.73		
15	16QAM	1	74	11.94	11.77	11.94		
15	16QAM	36	0	10.91	10.94	10.79	12	2
15	16QAM	36	20	10.90	10.83	10.81		
15	16QAM	36	39	10.92	10.68	10.72		
15	16QAM	75	0	10.84	10.81	10.66		
15	64QAM	1	0	10.87	10.75	10.61	12	2
15	64QAM	1	37	10.80	10.69	10.52		
15	64QAM	1	74	10.68	10.66	10.49		
15	64QAM	36	0	9.80	9.87	9.88	11	3
15	64QAM	36	20	9.81	9.81	9.78		
15	64QAM	36	39	9.76	9.80	9.83		
15	64QAM	75	0	9.83	9.75	9.75		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	12.93	12.59	12.49	14	0
10	QPSK	1	25	12.58	12.38	12.35		
10	QPSK	1	49	12.65	12.60	12.46		
10	QPSK	25	0	11.82	11.81	11.67	13	1
10	QPSK	25	12	11.91	11.62	11.53		
10	QPSK	25	25	11.82	11.63	11.73		
10	QPSK	50	0	11.85	11.73	11.75		
10	16QAM	1	0	12.07	12.01	11.83	13	1
10	16QAM	1	25	11.96	11.86	11.61		
10	16QAM	1	49	11.92	11.84	11.90		
10	16QAM	25	0	10.92	10.90	10.69	12	2
10	16QAM	25	12	10.87	10.83	10.72		
10	16QAM	25	25	10.90	10.67	10.64		
10	16QAM	50	0	10.78	10.78	10.66		
10	64QAM	1	0	10.82	10.74	10.54	12	2
10	64QAM	1	25	10.65	10.65	10.43		
10	64QAM	1	49	10.67	10.54	10.35		
10	64QAM	25	0	9.78	9.77	9.78	11	3
10	64QAM	25	12	9.74	9.70	9.74		
10	64QAM	25	25	9.79	9.69	9.77		
10	64QAM	50	0	9.74	9.82	9.72		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	12.78	12.61	12.38	14	0
5	QPSK	1	12	12.52	12.38	12.28		
5	QPSK	1	24	12.66	12.50	12.45		
5	QPSK	12	0	11.90	11.74	11.67	13	1
5	QPSK	12	7	11.86	11.64	11.56		
5	QPSK	12	13	11.76	11.66	11.54		
5	QPSK	25	0	11.80	11.70	11.67		

5	16QAM	1	0	11.93	11.93	11.88	13	1
5	16QAM	1	12	11.92	11.79	11.62		
5	16QAM	1	24	11.80	11.72	11.72		
5	16QAM	12	0	10.87	10.88	10.69	12	2
5	16QAM	12	7	10.76	10.73	10.77		
5	16QAM	12	13	10.83	10.69	10.57		
5	16QAM	25	0	10.76	10.64	10.53		
5	64QAM	1	0	10.79	10.62	10.51	12	2
5	64QAM	1	12	10.67	10.55	10.36		
5	64QAM	1	24	10.65	10.40	10.36		
5	64QAM	12	0	9.61	9.75	9.78	11	3
5	64QAM	12	7	9.72	9.83	9.80		
5	64QAM	12	13	9.72	9.69	9.78		
5	64QAM	25	0	9.67	9.79	9.68		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	12.72	12.48	12.37	14	0
3	QPSK	1	8	12.41	12.36	12.24		
3	QPSK	1	14	12.42	12.53	12.31		
3	QPSK	8	0	11.78	11.77	11.65	13	1
3	QPSK	8	4	11.79	11.56	11.54		
3	QPSK	8	7	11.62	11.64	11.52		
3	QPSK	15	0	11.78	11.72	11.56		
3	16QAM	1	0	11.90	11.91	11.79	13	1
3	16QAM	1	8	11.84	11.75	11.54		
3	16QAM	1	14	11.79	11.64	11.86		
3	16QAM	8	0	10.79	10.64	10.59	12	2
3	16QAM	8	4	10.88	10.66	10.63		
3	16QAM	8	7	10.78	10.67	10.48		
3	16QAM	15	0	10.70	10.61	10.49		
3	64QAM	1	0	10.69	10.60	10.46	12	2
3	64QAM	1	8	10.57	10.55	10.19		
3	64QAM	1	14	10.59	10.44	10.34		
3	64QAM	8	0	9.53	9.68	9.63	11	3
3	64QAM	8	4	9.64	9.71	9.73		
3	64QAM	8	7	9.57	9.69	9.70		
3	64QAM	15	0	9.72	9.60	9.69		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	12.75	12.41	12.27	14	0
1.4	QPSK	1	3	12.42	12.24	12.16		
1.4	QPSK	1	5	12.49	12.34	12.26		
1.4	QPSK	3	0	11.78	11.66	11.53		
1.4	QPSK	3	1	11.84	11.67	11.66		
1.4	QPSK	3	3	11.56	11.66	11.53		
1.4	QPSK	6	0	11.70	11.53	11.47	13	1
1.4	16QAM	1	0	11.80	11.86	11.66	13	1
1.4	16QAM	1	3	11.72	11.71	11.30		
1.4	16QAM	1	5	11.88	11.63	11.75		
1.4	16QAM	3	0	10.79	10.67	10.53		
1.4	16QAM	3	1	10.69	10.66	10.61		
1.4	16QAM	3	3	10.65	10.54	10.56		
1.4	16QAM	6	0	10.54	10.53	10.40	12	2
1.4	64QAM	1	0	10.67	10.55	10.36	12	2
1.4	64QAM	1	3	10.47	10.49	10.28		
1.4	64QAM	1	5	10.45	10.33	10.20		

1.4	64QAM	3	0	10.50	10.47	10.43		
1.4	64QAM	3	1	10.44	10.41	10.41		
1.4	64QAM	3	3	10.43	10.49	10.45		
1.4	64QAM	6	0	9.49	9.53	9.63	11	3

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	14.65	14.57	14.51	15.5	0
10	QPSK	1	25	14.51	14.52	14.49		
10	QPSK	1	49	14.28	14.47	14.25		
10	QPSK	25	0	13.73	13.89	13.62	14.5	1
10	QPSK	25	12	13.80	13.85	13.67		
10	QPSK	25	25	13.86	13.83	13.70		
10	QPSK	50	0	13.81	13.85	13.58		
10	16QAM	1	0	14.06	13.96	14.10	14.5	1
10	16QAM	1	25	13.78	13.90	13.98		
10	16QAM	1	49	14.16	13.94	13.45		
10	16QAM	25	0	12.87	12.82	12.65	13.5	2
10	16QAM	25	12	12.82	12.77	12.75		
10	16QAM	25	25	12.88	12.76	12.73		
10	16QAM	50	0	12.77	12.72	12.54		
10	64QAM	1	0	12.54	12.56	12.56	13.5	2
10	64QAM	1	25	12.54	12.60	12.60		
10	64QAM	1	49	12.60	12.53	12.50		
10	64QAM	25	0	11.47	11.47	11.48	12.5	3
10	64QAM	25	12	11.40	11.42	11.41		
10	64QAM	25	25	11.43	11.46	11.47		
10	64QAM	50	0	11.48	11.46	11.50		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	14.49	14.50	14.27	15.5	0
5	QPSK	1	12	14.42	14.47	14.29		
5	QPSK	1	24	14.68	14.47	14.25		
5	QPSK	12	0	13.56	13.60	13.55	14.5	1
5	QPSK	12	7	13.70	13.85	13.67		
5	QPSK	12	13	13.85	13.79	13.53		
5	QPSK	25	0	13.65	13.72	13.47		
5	16QAM	1	0	13.87	13.92	13.93	14.5	1
5	16QAM	1	12	13.73	13.78	13.78		
5	16QAM	1	24	14.02	13.93	13.38		
5	16QAM	12	0	12.67	12.79	12.61	13.5	2
5	16QAM	12	7	12.73	12.71	12.64		
5	16QAM	12	13	12.77	12.66	12.61		
5	16QAM	25	0	12.77	12.60	12.50		
5	64QAM	1	0	12.44	12.37	12.41	13.5	2
5	64QAM	1	12	12.51	12.52	12.50		
5	64QAM	1	24	12.47	12.52	12.38		
5	64QAM	12	0	11.29	11.31	11.38	12.5	3
5	64QAM	12	7	11.26	11.37	11.39		
5	64QAM	12	13	11.38	11.34	11.40		
5	64QAM	25	0	11.37	11.37	11.39		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	14.46	14.26	14.13	15.5	0
3	QPSK	1	8	14.17	14.17	14.37		
3	QPSK	1	14	14.57	14.31	14.04		
3	QPSK	8	0	13.53	13.63	13.32	14.5	1
3	QPSK	8	4	13.64	13.65	13.44		

3	QPSK	8	7	13.85	13.51	13.55		
3	QPSK	15	0	13.60	13.55	13.57		
3	16QAM	1	0	13.80	13.77	13.79	14.5	1
3	16QAM	1	8	13.59	13.85	13.78		
3	16QAM	1	14	14.03	13.65	13.36		
3	16QAM	8	0	12.65	12.48	12.35	13.5	2
3	16QAM	8	4	12.51	12.46	12.58		
3	16QAM	8	7	12.84	12.50	12.55		
3	16QAM	15	0	12.39	12.49	12.39		
3	64QAM	1	0	12.46	12.28	12.47	13.5	2
3	64QAM	1	8	12.32	12.39	12.40		
3	64QAM	1	14	12.40	12.45	12.25		
3	64QAM	8	0	11.29	11.34	11.24	12.5	3
3	64QAM	8	4	11.26	11.24	11.14		
3	64QAM	8	7	11.30	11.15	11.15		
3	64QAM	15	0	11.44	11.28	11.30		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	14.39	14.26	13.90	15.5	0
1.4	QPSK	1	3	14.22	14.14	14.09		
1.4	QPSK	1	5	14.51	13.94	13.88		
1.4	QPSK	3	0	13.63	13.54	13.67		
1.4	QPSK	3	1	13.78	13.61	13.77		
1.4	QPSK	3	3	13.68	13.51	13.88		
1.4	QPSK	6	0	13.36	13.58	13.35	14.5	1
1.4	16QAM	1	0	13.75	13.67	13.82	14.5	1
1.4	16QAM	1	3	13.42	13.72	13.74		
1.4	16QAM	1	5	13.99	13.56	13.17		
1.4	16QAM	3	0	12.60	12.45	12.43		
1.4	16QAM	3	1	12.48	12.42	12.65		
1.4	16QAM	3	3	12.55	12.35	12.39		
1.4	16QAM	6	0	12.33	12.47	12.32	13.5	2
1.4	64QAM	1	0	12.46	12.23	12.28	13.5	2
1.4	64QAM	1	3	12.07	12.16	12.21		
1.4	64QAM	1	5	12.42	12.30	12.14		
1.4	64QAM	3	0	11.25	11.20	11.08		
1.4	64QAM	3	1	10.94	11.18	11.31		
1.4	64QAM	3	3	11.02	11.01	11.11		
1.4	64QAM	6	0	11.11	11.20	11.24	12.5	3

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	11.18	11.25	11.21	12	0
20	QPSK	1	49	11.11	11.14	11.13		
20	QPSK	1	99	11.08	11.10	11.11		
20	QPSK	50	0	10.48	10.57	10.53	11	1
20	QPSK	50	24	10.44	10.52	10.51		
20	QPSK	50	50	10.31	10.50	10.49		
20	QPSK	100	0	10.41	10.50	10.48		
20	16QAM	1	0	10.36	10.52	10.46	11	1

20	16QAM	1	49	10.72	10.61	10.62		
20	16QAM	1	99	10.67	10.66	10.68		
20	16QAM	50	0	9.30	9.37	9.36	10	2
20	16QAM	50	24	9.48	9.40	9.48		
20	16QAM	50	50	9.49	9.47	9.49		
20	16QAM	100	0	9.38	9.40	9.48		
20	64QAM	1	0	9.29	9.18	9.27	10	2
20	64QAM	1	49	9.42	9.33	9.46		
20	64QAM	1	99	9.48	9.47	9.42		
20	64QAM	50	0	8.35	8.42	8.33	9	3
20	64QAM	50	24	8.25	8.25	8.37		
20	64QAM	50	50	8.26	8.38	8.35		
20	64QAM	100	0	8.40	8.36	8.28		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	10.92	10.88	11.06	12	0
15	QPSK	1	37	11.06	11.06	11.06		
15	QPSK	1	74	11.03	11.17	10.98		
15	QPSK	36	0	10.15	10.23	10.20	11	1
15	QPSK	36	20	10.35	10.45	10.38		
15	QPSK	36	39	10.29	10.30	10.43		
15	QPSK	75	0	10.23	10.25	10.57		
15	16QAM	1	0	10.18	10.39	10.61	11	1
15	16QAM	1	37	10.65	10.47	10.60		
15	16QAM	1	74	10.64	10.51	10.52		
15	16QAM	36	0	9.10	9.32	9.30	10	2
15	16QAM	36	20	9.37	9.25	9.47		
15	16QAM	36	39	9.40	9.43	9.42		
15	16QAM	75	0	9.30	9.24	9.41		
15	64QAM	1	0	9.09	8.99	9.12	10	2
15	64QAM	1	37	9.23	9.13	9.32		
15	64QAM	1	74	9.41	9.43	9.40		
15	64QAM	36	0	8.34	8.37	8.15	9	3
15	64QAM	36	20	8.07	8.06	8.25		
15	64QAM	36	39	8.25	8.21	8.33		
15	64QAM	75	0	8.31	8.17	8.25		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	10.78	10.95	11.01	12	0
10	QPSK	1	25	10.77	10.85	11.01		
10	QPSK	1	49	10.99	11.07	11.01		
10	QPSK	25	0	10.10	10.22	10.24	11	1
10	QPSK	25	12	10.28	10.20	10.32		
10	QPSK	25	25	10.39	10.15	10.20		
10	QPSK	50	0	10.37	10.30	10.42		
10	16QAM	1	0	10.11	10.12	10.47	11	1
10	16QAM	1	25	10.53	10.33	10.34		
10	16QAM	1	49	10.53	10.40	10.52		
10	16QAM	25	0	9.11	9.07	9.18	10	2
10	16QAM	25	12	9.18	9.36	9.30		
10	16QAM	25	25	9.31	9.29	9.41		
10	16QAM	50	0	9.22	9.24	9.25		
10	64QAM	1	0	9.02	9.08	9.00	10	2
10	64QAM	1	25	9.17	9.09	9.26		
10	64QAM	1	49	9.17	9.28	9.15		
10	64QAM	25	0	8.33	8.09	8.20	9	3

10	64QAM	25	12	7.98	8.05	8.12		
10	64QAM	25	25	7.92	8.22	8.17		
10	64QAM	50	0	8.33	8.12	8.24		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	10.85	10.73	10.83	12	0
5	QPSK	1	12	10.90	10.87	10.97		
5	QPSK	1	24	10.69	10.94	10.96		
5	QPSK	12	0	9.87	10.08	10.21	11	1
5	QPSK	12	7	10.01	10.31	10.39		
5	QPSK	12	13	10.22	10.18	10.36		
5	QPSK	25	0	10.10	10.13	10.39		
5	16QAM	1	0	10.04	10.09	10.28	11	1
5	16QAM	1	12	10.38	10.44	10.37		
5	16QAM	1	24	10.14	10.40	10.39		
5	16QAM	12	0	9.01	9.23	8.93	10	2
5	16QAM	12	7	9.17	8.88	9.17		
5	16QAM	12	13	9.24	8.94	9.07		
5	16QAM	25	0	8.99	9.01	9.06		
5	64QAM	1	0	8.94	8.96	9.04	10	2
5	64QAM	1	12	9.01	9.03	9.17		
5	64QAM	1	24	9.17	9.06	9.18		
5	64QAM	12	0	8.15	8.03	7.92	9	3
5	64QAM	12	7	7.83	7.87	7.87		
5	64QAM	12	13	8.00	7.85	8.01		
5	64QAM	25	0	8.19	8.02	7.95		

<LTE Band 7_MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	7.28	7.67	7.53	8	0
20	QPSK	1	49	7.33	7.30	7.54		
20	QPSK	1	99	7.56	7.58	7.55		
20	QPSK	50	0	6.57	6.71	6.58	7	1
20	QPSK	50	24	6.67	6.63	6.58		
20	QPSK	50	50	6.68	6.59	6.59		
20	QPSK	100	0	6.67	6.62	6.59		
20	16QAM	1	0	6.64	6.73	6.89	7	1
20	16QAM	1	49	6.63	6.59	6.90		
20	16QAM	1	99	6.87	7.15	6.84		
20	16QAM	50	0	5.67	5.71	5.46	6	2
20	16QAM	50	24	5.78	5.72	5.58		
20	16QAM	50	50	5.76	5.69	5.68		
20	16QAM	100	0	5.75	5.58	5.63		
20	64QAM	1	0	5.50	5.61	5.37	6	2
20	64QAM	1	49	5.68	5.60	5.45		
20	64QAM	1	99	5.63	5.55	5.68		
20	64QAM	50	0	4.66	4.60	4.66	5	3
20	64QAM	50	24	4.56	4.66	4.54		
20	64QAM	50	50	4.57	4.61	4.64		
20	64QAM	100	0	4.58	4.55	4.54		

Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	7.44	7.51	7.41	8	0
15	QPSK	1	37	7.20	7.21	7.36		
15	QPSK	1	74	7.42	7.42	7.36		
15	QPSK	36	0	6.40	6.51	6.52	7	1
15	QPSK	36	20	6.64	6.54	6.38		
15	QPSK	36	39	6.68	6.57	6.47		
15	QPSK	75	0	6.56	6.55	6.58		
15	16QAM	1	0	6.48	6.66	6.76	7	1
15	16QAM	1	37	6.53	6.46	6.78		
15	16QAM	1	74	6.81	7.00	6.65		
15	16QAM	36	0	5.61	5.65	5.32	6	2
15	16QAM	36	20	5.74	5.53	5.42		
15	16QAM	36	39	5.57	5.68	5.56		
15	16QAM	75	0	5.65	5.48	5.51		
15	64QAM	1	0	5.44	5.48	5.34	6	2
15	64QAM	1	37	5.48	5.45	5.42		
15	64QAM	1	74	5.47	5.42	5.50		
15	64QAM	36	0	4.64	4.59	4.51	5	3
15	64QAM	36	20	4.55	4.51	4.42		
15	64QAM	36	39	4.40	4.56	4.60		
15	64QAM	75	0	4.51	4.36	4.39		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	7.34	7.57	7.33	8	0
10	QPSK	1	25	7.08	7.07	7.39		
10	QPSK	1	49	7.42	7.39	7.29		
10	QPSK	25	0	6.26	6.39	6.21	7	1
10	QPSK	25	12	6.48	6.54	6.38		
10	QPSK	25	25	6.57	6.45	6.41		
10	QPSK	50	0	6.60	6.45	6.36		
10	16QAM	1	0	6.56	6.59	6.84	7	1
10	16QAM	1	25	6.31	6.28	6.71		
10	16QAM	1	49	6.62	6.97	6.58		
10	16QAM	25	0	5.67	5.58	5.25	6	2
10	16QAM	25	12	5.64	5.66	5.45		
10	16QAM	25	25	5.72	5.49	5.47		
10	16QAM	50	0	5.51	5.39	5.56		
10	64QAM	1	0	5.47	5.27	5.27	6	2
10	64QAM	1	25	5.33	5.39	5.38		
10	64QAM	1	49	5.42	5.34	5.46		
10	64QAM	25	0	4.48	4.50	4.36	5	3
10	64QAM	25	12	4.36	4.40	4.23		
10	64QAM	25	25	4.42	4.29	4.34		
10	64QAM	50	0	4.41	4.50	4.43		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	7.01	7.55	7.31	8	0
5	QPSK	1	12	6.95	6.91	7.41		
5	QPSK	1	24	7.22	7.40	7.17		
5	QPSK	12	0	6.27	6.30	6.13	7	1
5	QPSK	12	7	6.32	6.24	6.25		
5	QPSK	12	13	6.39	6.21	6.16		
5	QPSK	25	0	6.23	6.42	6.38		
5	16QAM	1	0	6.36	6.49	6.68	7	1

5	16QAM	1	12	6.30	6.07	6.41		
5	16QAM	1	24	6.56	7.05	6.39		
5	16QAM	12	0	5.51	5.35	5.18	6	2
5	16QAM	12	7	5.51	5.61	5.28		
5	16QAM	12	13	5.59	5.37	5.26		
5	16QAM	25	0	5.50	5.47	5.32		
5	64QAM	1	0	5.13	5.42	5.13	6	2
5	64QAM	1	12	5.46	5.40	5.12		
5	64QAM	1	24	5.40	5.35	5.23		
5	64QAM	12	0	4.48	4.47	4.31	5	3
5	64QAM	12	7	4.13	4.39	4.36		
5	64QAM	12	13	4.39	4.33	4.35		
5	64QAM	25	0	4.16	4.33	4.46		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	14.57	14.87	14.67	16	0
10	QPSK	1	25	14.54	14.51	14.53		
10	QPSK	1	49	14.43	14.50	14.47		
10	QPSK	25	0	13.74	13.79	13.73	15	1
10	QPSK	25	12	13.60	13.62	13.57		
10	QPSK	25	25	13.55	13.59	13.49		
10	QPSK	50	0	13.76	13.78	13.66		
10	16QAM	1	0	13.98	13.96	13.98	15	1
10	16QAM	1	25	13.99	13.80	13.87		
10	16QAM	1	49	13.91	13.95	13.73		
10	16QAM	25	0	12.76	12.58	12.65	14	2
10	16QAM	25	12	12.86	12.73	12.71		
10	16QAM	25	25	12.81	12.65	12.88		
10	16QAM	50	0	12.73	12.67	12.85		
10	64QAM	1	0	12.70	12.54	12.65	14	2
10	64QAM	1	25	12.80	12.65	12.62		
10	64QAM	1	49	12.76	12.62	12.81		
10	64QAM	25	0	11.66	11.71	11.75	13	3
10	64QAM	25	12	11.76	11.73	11.72		
10	64QAM	25	25	11.72	11.67	11.73		
10	64QAM	50	0	11.76	11.66	11.70		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	14.43	14.60	14.56	16	0
5	QPSK	1	12	14.33	14.35	14.33		
5	QPSK	1	24	14.44	14.78	14.53		
5	QPSK	12	0	13.74	13.44	13.56	15	1
5	QPSK	12	7	13.77	13.53	13.63		
5	QPSK	12	13	13.66	13.50	13.80		
5	QPSK	25	0	13.65	13.76	13.51		
5	16QAM	1	0	13.90	13.79	13.90	15	1
5	16QAM	1	12	13.99	13.70	13.85		
5	16QAM	1	24	13.84	13.83	13.63		
5	16QAM	12	0	12.74	12.53	12.51	14	2

5	16QAM	12	7	12.74	12.61	12.68		
5	16QAM	12	13	12.79	12.53	12.69		
5	16QAM	25	0	12.65	12.52	12.76		
5	64QAM	1	0	12.63	12.37	12.51	14	2
5	64QAM	1	12	12.69	12.63	12.56		
5	64QAM	1	24	12.76	12.49	12.66		
5	64QAM	12	0	11.56	11.63	11.74	13	3
5	64QAM	12	7	11.57	11.53	11.62		
5	64QAM	12	13	11.69	11.48	11.61		
5	64QAM	25	0	11.74	11.63	11.53		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	14.27	14.41	14.32	16	0
3	QPSK	1	8	14.03	14.29	14.25		
3	QPSK	1	14	14.48	14.58	14.34		
3	QPSK	8	0	13.44	13.21	13.39	15	1
3	QPSK	8	4	13.51	13.45	13.40		
3	QPSK	8	7	13.68	13.40	13.56		
3	QPSK	15	0	13.69	13.50	13.37		
3	16QAM	1	0	13.71	13.74	13.83	15	1
3	16QAM	1	8	13.85	13.70	13.73		
3	16QAM	1	14	13.57	13.56	13.58		
3	16QAM	8	0	12.58	12.22	12.33	14	2
3	16QAM	8	4	12.62	12.49	12.47		
3	16QAM	8	7	12.54	12.49	12.70		
3	16QAM	15	0	12.48	12.53	12.66		
3	64QAM	1	0	12.53	12.36	12.48	14	2
3	64QAM	1	8	12.70	12.46	12.34		
3	64QAM	1	14	12.65	12.38	12.47		
3	64QAM	8	0	11.47	11.45	11.53	13	3
3	64QAM	8	4	11.55	11.46	11.61		
3	64QAM	8	7	11.53	11.40	11.69		
3	64QAM	15	0	11.42	11.34	11.52		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	14.11	14.40	14.30	16	0
1.4	QPSK	1	3	14.19	14.13	14.09		
1.4	QPSK	1	5	14.40	14.53	14.41		
1.4	QPSK	3	0	13.55	13.27	13.24		
1.4	QPSK	3	1	13.25	13.19	13.40		
1.4	QPSK	3	3	13.70	13.32	13.56		
1.4	QPSK	6	0	13.36	13.57	13.26	15	1
1.4	16QAM	1	0	13.71	13.64	13.82	15	1
1.4	16QAM	1	3	13.78	13.57	13.81		
1.4	16QAM	1	5	13.55	13.72	13.39		
1.4	16QAM	3	0	12.34	12.24	12.28		
1.4	16QAM	3	1	12.39	12.32	12.50		
1.4	16QAM	3	3	12.66	12.29	12.42		
1.4	16QAM	6	0	12.49	12.51	12.54	14	2
1.4	64QAM	1	0	12.31	12.38	12.43	14	2
1.4	64QAM	1	3	12.38	12.44	12.32		
1.4	64QAM	1	5	12.47	12.40	12.48		
1.4	64QAM	3	0	12.24	12.47	12.19		
1.4	64QAM	3	1	12.44	12.30	12.50		
1.4	64QAM	3	3	12.37	12.16	12.45		
1.4	64QAM	6	0	11.66	11.26	11.38	13	3

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		15.44		17	0
10	QPSK	1	25		15.32			
10	QPSK	1	49		15.21			
10	QPSK	25	0		14.67		16	1
10	QPSK	25	12		14.60			
10	QPSK	25	25		14.58			
10	QPSK	50	0		14.63			
10	16QAM	1	0		14.93		16	1
10	16QAM	1	25		14.83			
10	16QAM	1	49		14.87			
10	16QAM	25	0		13.56		15	2
10	16QAM	25	12		13.68			
10	16QAM	25	25		13.65			
10	16QAM	50	0		13.65			
10	64QAM	1	0		13.44		15	2
10	64QAM	1	25		13.45			
10	64QAM	1	49		13.16			
10	64QAM	25	0		12.57		14	3
10	64QAM	25	12		12.55			
10	64QAM	25	25		12.56			
10	64QAM	50	0		12.50			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	15.39	15.37	15.35	17	0
5	QPSK	1	12	15.13	15.18	15.26		
5	QPSK	1	24	15.03	15.17	15.13		
5	QPSK	12	0	14.59	14.48	14.59	16	1
5	QPSK	12	7	14.62	14.57	14.62		
5	QPSK	12	13	14.52	14.54	14.40		
5	QPSK	25	0	14.50	14.51	14.53		
5	16QAM	1	0	14.83	14.77	14.81	16	1
5	16QAM	1	12	14.72	14.79	14.68		
5	16QAM	1	24	14.71	14.79	14.67		
5	16QAM	12	0	13.48	13.52	13.37	15	2
5	16QAM	12	7	13.49	13.54	13.61		
5	16QAM	12	13	13.58	13.47	13.47		
5	16QAM	25	0	13.61	13.52	13.59		
5	64QAM	1	0	13.39	13.28	13.26	15	2
5	64QAM	1	12	13.44	13.41	13.26		
5	64QAM	1	24	13.00	12.98	13.11		
5	64QAM	12	0	12.49	12.41	12.57	14	3
5	64QAM	12	7	12.45	12.35	12.45		
5	64QAM	12	13	12.39	12.47	12.50		
5	64QAM	25	0	12.46	12.37	12.43		

<LTE Band 14>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					23330			
Frequency (MHz)					793			
10	QPSK	1	0		14.56		16	0
10	QPSK	1	25		14.55			
10	QPSK	1	49		14.46			
10	QPSK	25	0		13.99		15	1
10	QPSK	25	12		13.96			
10	QPSK	25	25		13.97			
10	QPSK	50	0		13.91			
10	16QAM	1	0		14.37		15	1
10	16QAM	1	25		14.27			
10	16QAM	1	49		14.17			
10	16QAM	25	0		13.08		14	2
10	16QAM	25	12		13.06			
10	16QAM	25	25		13.04			
10	16QAM	50	0		13.09			
10	64QAM	1	0		13.10		14	2
10	64QAM	1	25		13.05			
10	64QAM	1	49		13.04			
10	64QAM	25	0		12.21		13	3
10	64QAM	25	12		12.26			
10	64QAM	25	25		12.15			
10	64QAM	50	0		12.20			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	14.99	15.06	15.04	16	0
5	QPSK	1	12	14.76	14.60	14.77		
5	QPSK	1	24	14.72	14.63	14.59		
5	QPSK	12	0	13.88	13.93	13.94	15	1
5	QPSK	12	7	13.81	13.78	13.89		
5	QPSK	12	13	13.99	13.95	13.90		
5	QPSK	25	0	14.01	14.04	13.96		
5	16QAM	1	0	14.31	14.26	14.32	15	1
5	16QAM	1	12	14.30	14.21	14.30		
5	16QAM	1	24	14.05	13.99	14.17		
5	16QAM	12	0	12.90	13.02	13.07	14	2
5	16QAM	12	7	13.02	12.86	13.05		
5	16QAM	12	13	12.87	13.00	12.90		
5	16QAM	25	0	13.04	12.96	12.98		
5	64QAM	1	0	12.94	13.06	13.03	14	2
5	64QAM	1	12	12.90	12.98	12.86		
5	64QAM	1	24	12.95	12.93	12.84		
5	64QAM	12	0	12.21	12.17	12.12	13	3
5	64QAM	12	7	12.12	12.25	12.19		
5	64QAM	12	13	12.12	11.98	12.11		
5	64QAM	25	0	12.12	12.12	12.18		

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	14.45	14.54	14.56	16	0
10	QPSK	1	25	14.19	14.47	14.51		
10	QPSK	1	49	14.40	14.69	14.56		
10	QPSK	25	0	13.70	13.51	13.52	15	1
10	QPSK	25	12	13.69	13.58	13.55		
10	QPSK	25	25	13.74	13.57	13.71		
10	QPSK	50	0	13.65	13.77	13.46		
10	16QAM	1	0	13.89	13.82	13.93	15	1
10	16QAM	1	25	13.94	13.63	13.75		
10	16QAM	1	49	13.79	13.87	13.55		
10	16QAM	25	0	12.75	12.44	12.62	14	2
10	16QAM	25	12	12.74	12.69	12.57		
10	16QAM	25	25	12.73	12.47	12.71		
10	16QAM	50	0	12.53	12.57	12.75		
10	64QAM	1	0	12.69	12.44	12.61	14	2
10	64QAM	1	25	12.74	12.61	12.58		
10	64QAM	1	49	12.61	12.49	12.80		
10	64QAM	25	0	11.47	11.52	11.69	13	3
10	64QAM	25	12	11.68	11.72	11.72		
10	64QAM	25	25	11.52	11.67	11.66		
10	64QAM	50	0	11.73	11.47	11.51		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	14.24	14.59	14.49	16	0
5	QPSK	1	12	14.16	14.27	14.26		
5	QPSK	1	24	14.32	14.63	14.42		
5	QPSK	12	0	13.65	13.30	13.45	15	1
5	QPSK	12	7	13.61	13.50	13.45		
5	QPSK	12	13	13.54	13.36	13.72		
5	QPSK	25	0	13.55	13.72	13.51		
5	16QAM	1	0	13.84	13.60	13.77	15	1
5	16QAM	1	12	13.85	13.54	13.67		
5	16QAM	1	24	13.65	13.73	13.54		
5	16QAM	12	0	12.61	12.44	12.36	14	2
5	16QAM	12	7	12.67	12.60	12.52		
5	16QAM	12	13	12.59	12.37	12.68		
5	16QAM	25	0	12.58	12.42	12.73		
5	64QAM	1	0	12.46	12.17	12.31	14	2
5	64QAM	1	12	12.66	12.52	12.52		
5	64QAM	1	24	12.68	12.30	12.46		
5	64QAM	12	0	11.52	11.55	11.68	13	3
5	64QAM	12	7	11.50	11.37	11.43		
5	64QAM	12	13	11.51	11.41	11.51		
5	64QAM	25	0	11.72	11.51	11.52		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	12.24	12.23	12.18	13	0
20	QPSK	1	49	12.19	12.17	12.11		
20	QPSK	1	99	12.16	12.16	12.05		
20	QPSK	50	0	11.45	11.36	11.31	12	1
20	QPSK	50	24	11.43	11.32	11.24		
20	QPSK	50	50	11.42	11.30	11.19		
20	QPSK	100	0	11.40	11.34	11.22		
20	16QAM	1	0	11.68	11.68	11.47	12	1
20	16QAM	1	49	11.53	11.77	11.55		
20	16QAM	1	99	11.65	11.68	11.52		
20	16QAM	50	0	10.37	10.31	10.28	11	2
20	16QAM	50	24	10.37	10.41	10.30		
20	16QAM	50	50	10.47	10.33	10.77		
20	16QAM	100	0	10.45	10.46	10.25		
20	64QAM	1	0	10.21	10.14	10.09	11	2
20	64QAM	1	49	10.22	10.27	10.23		
20	64QAM	1	99	10.44	10.14	10.71		
20	64QAM	50	0	9.50	9.46	9.37	10	3
20	64QAM	50	24	9.34	9.31	9.50		
20	64QAM	50	50	9.39	9.30	9.34		
20	64QAM	100	0	9.33	9.50	9.31		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	12.13	11.98	12.08	13	0
15	QPSK	1	37	11.86	12.07	12.07		
15	QPSK	1	74	12.19	12.01	12.02		
15	QPSK	36	0	11.30	11.29	11.15	12	1
15	QPSK	36	20	11.36	11.29	11.17		
15	QPSK	36	39	11.36	11.20	10.99		
15	QPSK	75	0	11.21	11.12	11.05		
15	16QAM	1	0	11.50	11.50	11.30	12	1
15	16QAM	1	37	11.38	11.75	11.41		
15	16QAM	1	74	11.51	11.66	11.40		
15	16QAM	36	0	10.34	10.16	10.23	11	2
15	16QAM	36	20	10.18	10.32	10.23		
15	16QAM	36	39	10.36	10.23	10.73		
15	16QAM	75	0	10.44	10.33	10.20		
15	64QAM	1	0	10.02	10.09	10.05	11	2
15	64QAM	1	37	10.10	10.11	10.09		
15	64QAM	1	74	10.28	10.02	10.61		
15	64QAM	36	0	9.42	9.30	9.33	10	3
15	64QAM	36	20	9.22	9.21	9.41		
15	64QAM	36	39	9.35	9.12	9.21		
15	64QAM	75	0	9.28	9.46	9.11		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	12.03	11.88	11.95	13	0
10	QPSK	1	25	11.89	12.17	12.08		
10	QPSK	1	49	12.14	11.76	11.76		
10	QPSK	25	0	11.20	11.22	10.98	12	1
10	QPSK	25	12	11.19	11.26	11.01		

10	QPSK	25	25	11.11	11.23	10.81		
10	QPSK	50	0	11.30	11.14	10.96		
10	16QAM	1	0	11.46	11.32	11.30	12	1
10	16QAM	1	25	11.37	11.50	11.37		
10	16QAM	1	49	11.44	11.64	11.42		
10	16QAM	25	0	10.19	10.11	9.93	11	2
10	16QAM	25	12	10.05	10.31	10.23		
10	16QAM	25	25	10.15	10.10	10.64		
10	16QAM	50	0	10.12	10.17	9.94		
10	64QAM	1	0	9.94	10.01	9.88	11	2
10	64QAM	1	25	9.90	9.94	10.02		
10	64QAM	1	49	10.14	10.09	10.59		
10	64QAM	25	0	9.35	9.35	9.14	10	3
10	64QAM	25	12	9.09	9.05	9.22		
10	64QAM	25	25	9.12	8.98	9.14		
10	64QAM	50	0	9.05	9.37	9.22		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	11.85	11.98	11.95	13	0
5	QPSK	1	12	11.83	11.92	11.94		
5	QPSK	1	24	12.05	11.88	11.79		
5	QPSK	12	0	11.18	10.81	10.97	12	1
5	QPSK	12	7	11.16	11.08	10.91		
5	QPSK	12	13	11.11	11.30	10.83		
5	QPSK	25	0	10.98	11.09	10.96		
5	16QAM	1	0	11.34	11.36	11.34	12	1
5	16QAM	1	12	11.13	11.30	11.26		
5	16QAM	1	24	11.29	11.27	11.12		
5	16QAM	12	0	10.13	9.96	9.92	11	2
5	16QAM	12	7	10.13	10.24	10.07		
5	16QAM	12	13	10.00	9.98	10.35		
5	16QAM	25	0	9.99	10.30	10.03		
5	64QAM	1	0	9.96	9.84	9.63	11	2
5	64QAM	1	12	10.00	9.93	9.87		
5	64QAM	1	24	10.16	9.75	10.30		
5	64QAM	12	0	9.33	9.23	9.17	10	3
5	64QAM	12	7	8.98	8.92	9.16		
5	64QAM	12	13	9.14	9.16	9.02		
5	64QAM	25	0	9.07	9.24	8.87		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	12.04	11.53	11.79	13	0
3	QPSK	1	8	11.68	11.67	11.75		
3	QPSK	1	14	11.78	11.65	11.80		
3	QPSK	8	0	11.07	11.12	10.83	12	1
3	QPSK	8	4	10.95	11.13	10.86		
3	QPSK	8	7	11.06	10.93	10.65		
3	QPSK	15	0	10.97	10.77	10.86		
3	16QAM	1	0	11.42	11.31	10.94	12	1
3	16QAM	1	8	11.18	11.31	11.31		
3	16QAM	1	14	11.30	11.13	10.96		
3	16QAM	8	0	9.92	9.82	9.89	11	2
3	16QAM	8	4	10.10	10.07	9.76		
3	16QAM	8	7	10.18	9.87	10.35		
3	16QAM	15	0	9.99	9.93	9.95		
3	64QAM	1	0	9.94	9.86	9.55	11	2

3	64QAM	1	8	9.70	9.92	9.85		
3	64QAM	1	14	10.18	9.72	10.27		
3	64QAM	8	0	9.04	9.18	8.84	10	3
3	64QAM	8	4	8.80	9.03	9.06		
3	64QAM	8	7	8.84	8.81	8.89		
3	64QAM	15	0	9.01	8.94	8.76		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	11.70	11.97	11.44	13	0
1.4	QPSK	1	3	11.42	11.49	11.47		
1.4	QPSK	1	5	11.72	11.69	11.59		
1.4	QPSK	3	0	11.07	10.82	10.86		
1.4	QPSK	3	1	11.06	10.87	10.89		
1.4	QPSK	3	3	11.21	10.74	10.64		
1.4	QPSK	6	0	10.79	10.80	10.50	12	1
1.4	16QAM	1	0	11.29	11.05	11.20	12	1
1.4	16QAM	1	3	10.97	11.33	11.11		
1.4	16QAM	1	5	11.09	11.04	10.98		
1.4	16QAM	3	0	10.06	9.74	9.74		
1.4	16QAM	3	1	10.02	9.95	9.77		
1.4	16QAM	3	3	10.06	9.81	10.50		
1.4	16QAM	6	0	9.92	10.02	9.65	11	2
1.4	64QAM	1	0	9.88	9.71	9.49	11	2
1.4	64QAM	1	3	9.76	9.89	9.78		
1.4	64QAM	1	5	9.78	9.94	10.26		
1.4	64QAM	3	0	9.16	8.94	8.73		
1.4	64QAM	3	1	8.86	9.03	9.09		
1.4	64QAM	3	3	8.96	8.85	8.89		
1.4	64QAM	6	0	8.91	9.20	8.72	10	3

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	14.90	14.80	14.78	15.5	0
15	QPSK	1	37	14.78	14.71	14.72		
15	QPSK	1	74	14.68	14.70	14.71		
15	QPSK	36	0	13.92	13.97	13.99	14.5	1
15	QPSK	36	20	13.82	13.92	13.91		
15	QPSK	36	39	13.75	13.76	13.87		
15	QPSK	75	0	13.94	13.91	13.90		
15	16QAM	1	0	14.06	14.15	14.17	14.5	1
15	16QAM	1	37	13.99	14.09	14.00		
15	16QAM	1	74	14.33	14.32	14.20		
15	16QAM	36	0	12.86	12.84	12.86	13.5	2
15	16QAM	36	20	12.93	12.83	12.89		
15	16QAM	36	39	12.95	12.84	12.94		
15	16QAM	75	0	12.98	12.94	12.84		
15	64QAM	1	0	12.78	12.79	12.82	13.5	2
15	64QAM	1	37	12.87	12.68	12.92		
15	64QAM	1	74	12.80	12.89	12.67		
15	64QAM	36	0	12.12	12.15	12.10	12.5	3

15	64QAM	36	20	12.15	12.15	12.12		
15	64QAM	36	39	12.14	12.22	12.25		
15	64QAM	75	0	12.10	12.22	12.29		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	14.59	14.61	14.62	15.5	0
10	QPSK	1	25	14.49	14.74	14.52		
10	QPSK	1	49	14.75	14.67	14.70		
10	QPSK	25	0	13.66	13.58	13.79	14.5	1
10	QPSK	25	12	13.89	13.91	13.72		
10	QPSK	25	25	13.65	13.95	13.80		
10	QPSK	50	0	13.90	13.85	13.74		
10	16QAM	1	0	13.99	14.05	14.00	14.5	1
10	16QAM	1	25	13.79	13.99	13.82		
10	16QAM	1	49	14.14	14.15	14.17		
10	16QAM	25	0	12.81	12.76	12.67	13.5	2
10	16QAM	25	12	12.87	12.63	12.76		
10	16QAM	25	25	12.90	12.76	12.82		
10	16QAM	50	0	12.81	12.92	12.66		
10	64QAM	1	0	12.62	12.79	12.64	13.5	2
10	64QAM	1	25	12.81	12.58	12.86		
10	64QAM	1	49	12.78	12.88	12.56		
10	64QAM	25	0	12.04	11.97	11.93	12.5	3
10	64QAM	25	12	12.10	11.99	12.02		
10	64QAM	25	25	12.13	12.10	12.05		
10	64QAM	50	0	12.08	12.18	12.15		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	14.59	14.38	14.62	15.5	0
5	QPSK	1	12	14.57	14.56	14.55		
5	QPSK	1	24	14.63	14.63	14.65		
5	QPSK	12	0	13.57	13.72	13.70	14.5	1
5	QPSK	12	7	13.72	13.69	13.58		
5	QPSK	12	13	13.60	13.67	13.71		
5	QPSK	25	0	13.85	13.63	13.63		
5	16QAM	1	0	13.84	13.92	13.82	14.5	1
5	16QAM	1	12	13.81	13.95	13.77		
5	16QAM	1	24	14.21	14.11	13.94		
5	16QAM	12	0	12.83	12.59	12.75	13.5	2
5	16QAM	12	7	12.84	12.54	12.77		
5	16QAM	12	13	12.74	12.64	12.58		
5	16QAM	25	0	12.78	12.79	12.55		
5	64QAM	1	0	12.60	12.42	12.68	13.5	2
5	64QAM	1	12	12.67	12.46	12.72		
5	64QAM	1	24	12.66	12.78	12.34		
5	64QAM	12	0	11.73	12.04	11.87	12.5	3
5	64QAM	12	7	11.90	11.92	12.00		
5	64QAM	12	13	11.89	12.04	11.87		
5	64QAM	25	0	11.99	12.06	12.03		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	14.45	14.50	14.36	15.5	0
3	QPSK	1	8	14.23	14.67	14.61		
3	QPSK	1	14	14.51	14.47	14.37		
3	QPSK	8	0	13.37	13.32	13.69	14.5	1
3	QPSK	8	4	13.60	13.86	13.69		

3	QPSK	8	7	13.53	13.57	13.75		
3	QPSK	15	0	13.60	13.52	13.67		
3	16QAM	1	0	13.71	13.72	14.01	14.5	1
3	16QAM	1	8	13.60	13.85	13.62		
3	16QAM	1	14	14.05	14.02	13.94		
3	16QAM	8	0	12.73	12.52	12.58	13.5	2
3	16QAM	8	4	12.58	12.65	12.44		
3	16QAM	8	7	12.68	12.54	12.77		
3	16QAM	15	0	12.53	12.85	12.59		
3	64QAM	1	0	12.41	12.51	12.48	13.5	2
3	64QAM	1	8	12.48	12.41	12.56		
3	64QAM	1	14	12.64	12.52	12.33		
3	64QAM	8	0	11.88	11.90	11.67	12.5	3
3	64QAM	8	4	12.09	11.68	11.85		
3	64QAM	8	7	11.88	11.90	12.03		
3	64QAM	15	0	11.82	11.97	12.04		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	14.27	14.34	14.28	15.5	0
1.4	QPSK	1	3	14.05	14.45	14.46		
1.4	QPSK	1	5	14.53	14.30	14.47		
1.4	QPSK	3	0	13.34	13.64	13.41		
1.4	QPSK	3	1	13.35	13.40	13.60		
1.4	QPSK	3	3	13.26	13.72	13.57		
1.4	QPSK	6	0	13.76	13.57	13.77	14.5	1
1.4	16QAM	1	0	13.54	13.79	13.72	14.5	1
1.4	16QAM	1	3	13.43	13.89	13.64		
1.4	16QAM	1	5	13.90	13.86	13.69		
1.4	16QAM	3	0	12.48	12.35	12.30		
1.4	16QAM	3	1	12.56	12.43	12.41		
1.4	16QAM	3	3	12.42	12.43	12.46		
1.4	16QAM	6	0	12.52	12.47	12.67	13.5	2
1.4	64QAM	1	0	12.42	12.61	12.43	13.5	2
1.4	64QAM	1	3	12.59	12.28	12.61		
1.4	64QAM	1	5	12.13	12.42	12.24		
1.4	64QAM	3	0	11.91	11.65	11.75		
1.4	64QAM	3	1	11.62	11.92	11.72		
1.4	64QAM	3	3	11.60	11.75	11.77		
1.4	64QAM	6	0	11.69	11.80	11.78	12.5	3

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0		11.91		13	0
10	QPSK	1	25		11.59			
10	QPSK	1	49		11.55			
10	QPSK	25	0		10.88		12	1
10	QPSK	25	12		10.83			
10	QPSK	25	25		10.80			
10	QPSK	50	0		10.84			
10	16QAM	1	0		11.66		12	1

10	16QAM	1	25		11.00			
10	16QAM	1	49		11.25			
10	16QAM	25	0		9.86		11	2
10	16QAM	25	12		9.80			
10	16QAM	25	25		9.83			
10	16QAM	50	0		9.77			
10	64QAM	1	0		9.74		11	2
10	64QAM	1	25		9.76			
10	64QAM	1	49		9.71			
10	64QAM	25	0		9.05		10	3
10	64QAM	25	12		9.01			
10	64QAM	25	25		9.03			
10	64QAM	50	0		9.10			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	11.74	11.89	11.88	13	0
5	QPSK	1	12	11.39	11.53	11.39		
5	QPSK	1	24	11.46	11.48	11.36		
5	QPSK	12	0	10.59	10.68	10.77	12	1
5	QPSK	12	7	10.65	10.69	10.71		
5	QPSK	12	13	10.71	10.82	10.68		
5	QPSK	25	0	10.75	10.79	10.82		
5	16QAM	1	0	11.49	11.53	11.65	12	1
5	16QAM	1	12	11.00	10.87	10.95		
5	16QAM	1	24	11.16	11.24	11.25		
5	16QAM	12	0	9.68	9.83	9.75	11	2
5	16QAM	12	7	9.78	9.76	9.67		
5	16QAM	12	13	9.65	9.76	9.82		
5	16QAM	25	0	9.72	9.71	9.58		
5	64QAM	1	0	9.59	9.67	9.74	11	2
5	64QAM	1	12	9.59	9.63	9.74		
5	64QAM	1	24	9.57	9.51	9.55		
5	64QAM	12	0	8.95	9.05	9.00	10	3
5	64QAM	12	7	8.90	8.98	8.89		
5	64QAM	12	13	8.84	8.84	8.89		
5	64QAM	25	0	8.93	9.09	8.96		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	12.73	12.72	12.60	14	0
20	QPSK	1	49	12.61	12.44	12.57		
20	QPSK	1	99	12.62	12.72	12.39		
20	QPSK	50	0	11.99	11.85	11.78	13	1
20	QPSK	50	24	11.85	11.85	11.75		
20	QPSK	50	50	11.76	11.71	11.59		
20	QPSK	100	0	11.78	11.71	11.76		
20	16QAM	1	0	12.00	12.24	12.00	13	1
20	16QAM	1	49	11.86	11.99	11.78		
20	16QAM	1	99	11.98	11.86	11.78		
20	16QAM	50	0	10.87	10.79	10.78	12	2
20	16QAM	50	24	10.87	10.70	10.69		

20	16QAM	50	50	10.77	10.70	10.69		
20	16QAM	100	0	10.86	10.81	10.76		
20	64QAM	1	0	10.86	10.63	10.60	12	2
20	64QAM	1	49	10.75	10.60	10.65		
20	64QAM	1	99	10.84	10.79	10.76		
20	64QAM	50	0	9.78	9.73	9.77	11	3
20	64QAM	50	24	9.76	9.71	9.71		
20	64QAM	50	50	9.78	9.76	9.78		
20	64QAM	100	0	9.80	9.70	9.75		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	12.70	12.60	12.55	14	0
15	QPSK	1	37	12.52	12.25	12.51		
15	QPSK	1	74	12.50	12.52	12.28		
15	QPSK	36	0	11.85	11.77	11.58	13	1
15	QPSK	36	20	11.79	11.83	11.78		
15	QPSK	36	39	11.71	11.49	11.54		
15	QPSK	75	0	11.55	11.69	11.72		
15	16QAM	1	0	11.96	12.14	11.99	13	1
15	16QAM	1	37	11.79	11.90	11.73		
15	16QAM	1	74	11.95	11.78	11.69		
15	16QAM	36	0	10.78	10.76	10.71	12	2
15	16QAM	36	20	10.87	10.64	10.50		
15	16QAM	36	39	10.71	10.70	10.51		
15	16QAM	75	0	10.83	10.62	10.66		
15	64QAM	1	0	10.79	10.61	10.57	12	2
15	64QAM	1	37	10.64	10.44	10.60		
15	64QAM	1	74	10.64	10.65	10.73		
15	64QAM	36	0	9.67	9.64	9.68	11	3
15	64QAM	36	20	9.60	9.61	9.63		
15	64QAM	36	39	9.60	9.70	9.65		
15	64QAM	75	0	9.77	9.70	9.63		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	12.51	12.58	12.37	14	0
10	QPSK	1	25	12.46	12.23	12.47		
10	QPSK	1	49	12.40	12.47	12.22		
10	QPSK	25	0	11.61	11.49	11.50	13	1
10	QPSK	25	12	11.64	11.59	11.71		
10	QPSK	25	25	11.61	11.34	11.45		
10	QPSK	50	0	11.53	11.51	11.54		
10	16QAM	1	0	11.83	12.00	11.86	13	1
10	16QAM	1	25	11.68	11.93	11.66		
10	16QAM	1	49	11.73	11.66	11.64		
10	16QAM	25	0	10.66	10.76	10.57	12	2
10	16QAM	25	12	10.75	10.69	10.43		
10	16QAM	25	25	10.67	10.63	10.59		
10	16QAM	50	0	10.70	10.56	10.39		
10	64QAM	1	0	10.54	10.28	10.54	12	2
10	64QAM	1	25	10.58	10.55	10.41		
10	64QAM	1	49	10.81	10.49	10.70		
10	64QAM	25	0	9.58	9.34	9.56	11	3
10	64QAM	25	12	9.51	9.65	9.59		
10	64QAM	25	25	9.62	9.55	9.48		
10	64QAM	50	0	9.72	9.61	9.68		
Channel				131997	132322	132647	Tune-up limit	MPR

Frequency (MHz)				1712.5	1745	1777.5	(dBm)	(dB)
5	QPSK	1	0	12.44	12.40	12.21	14	0
5	QPSK	1	12	12.22	11.92	12.20		
5	QPSK	1	24	12.40	12.51	12.08		
5	QPSK	12	0	11.51	11.58	11.40	13	1
5	QPSK	12	7	11.62	11.64	11.44		
5	QPSK	12	13	11.46	11.47	11.20		
5	QPSK	25	0	11.34	11.53	11.40		
5	16QAM	1	0	11.53	12.06	11.77	13	1
5	16QAM	1	12	11.71	11.63	11.51		
5	16QAM	1	24	11.64	11.58	11.38		
5	16QAM	12	0	10.40	10.62	10.45	12	2
5	16QAM	12	7	10.57	10.25	10.45		
5	16QAM	12	13	10.35	10.36	10.33		
5	16QAM	25	0	10.47	10.44	10.45		
5	64QAM	1	0	10.62	10.40	10.34	12	2
5	64QAM	1	12	10.43	10.30	10.41		
5	64QAM	1	24	10.64	10.31	10.49		
5	64QAM	12	0	9.50	9.48	9.54	11	3
5	64QAM	12	7	9.36	9.25	9.43		
5	64QAM	12	13	9.31	9.34	9.44		
5	64QAM	25	0	9.37	9.37	9.42		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	12.38	12.35	12.35	14	0
3	QPSK	1	8	12.20	12.08	12.40		
3	QPSK	1	14	12.20	12.37	12.06		
3	QPSK	8	0	11.49	11.57	11.14	13	1
3	QPSK	8	4	11.73	11.40	11.60		
3	QPSK	8	7	11.33	11.35	11.17		
3	QPSK	15	0	11.16	11.35	11.15		
3	16QAM	1	0	11.41	11.74	11.66	13	1
3	16QAM	1	8	11.35	11.75	11.36		
3	16QAM	1	14	11.78	11.27	11.41		
3	16QAM	8	0	10.35	10.20	10.50	12	2
3	16QAM	8	4	10.28	10.41	10.38		
3	16QAM	8	7	10.26	10.45	10.05		
3	16QAM	15	0	10.39	10.47	10.22		
3	64QAM	1	0	10.49	10.16	10.15	12	2
3	64QAM	1	8	10.50	10.16	10.12		
3	64QAM	1	14	10.48	10.46	10.40		
3	64QAM	8	0	9.42	9.32	9.44	11	3
3	64QAM	8	4	9.29	9.21	9.30		
3	64QAM	8	7	9.30	9.34	9.29		
3	64QAM	15	0	9.15	9.18	9.55		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	12.34	12.07	12.07	14	0
1.4	QPSK	1	3	11.85	11.97	12.34		
1.4	QPSK	1	5	12.13	12.25	11.90		
1.4	QPSK	3	0	11.35	11.21	11.22		
1.4	QPSK	3	1	11.47	11.41	11.39		
1.4	QPSK	3	3	11.29	11.09	11.01		
1.4	QPSK	6	0	11.20	11.09	11.17	13	1
1.4	16QAM	1	0	11.76	11.81	11.25	13	1
1.4	16QAM	1	3	11.47	11.55	11.08		

1.4	16QAM	1	5	11.52	11.37	11.15		
1.4	16QAM	3	0	10.41	10.09	10.15		
1.4	16QAM	3	1	10.49	10.07	9.99		
1.4	16QAM	3	3	10.07	10.48	9.89		
1.4	16QAM	6	0	10.36	10.29	10.49	12	2
1.4	64QAM	1	0	10.32	10.14	10.18	12	2
1.4	64QAM	1	3	10.07	10.07	10.22		
1.4	64QAM	1	5	10.27	10.16	10.19		
1.4	64QAM	3	0	10.35	10.40	10.26		
1.4	64QAM	3	1	10.24	10.21	10.20		
1.4	64QAM	3	3	10.15	10.16	10.27		
1.4	64QAM	6	0	9.28	9.26	9.33	11	3

<LTE Band 66_MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	10.63	10.45	10.56	11	0
20	QPSK	1	49	10.49	10.35	10.36		
20	QPSK	1	99	10.49	10.37	10.21		
20	QPSK	50	0	9.82	9.70	9.69	10	1
20	QPSK	50	24	9.79	9.65	9.64		
20	QPSK	50	50	9.45	9.61	9.62		
20	QPSK	100	0	9.64	9.53	9.57		
20	16QAM	1	0	9.91	9.95	9.81	10	1
20	16QAM	1	49	9.90	9.34	9.75		
20	16QAM	1	99	9.91	9.88	9.41		
20	16QAM	50	0	8.78	8.66	8.62	9	2
20	16QAM	50	24	8.76	8.61	8.59		
20	16QAM	50	50	8.58	8.64	8.52		
20	16QAM	100	0	8.67	8.68	8.58		
20	64QAM	1	0	8.73	8.75	8.75	9	2
20	64QAM	1	49	8.79	8.86	8.70		
20	64QAM	1	99	8.88	8.72	8.74		
20	64QAM	50	0	7.76	7.69	7.60	8	3
20	64QAM	50	24	7.73	7.70	7.79		
20	64QAM	50	50	7.78	7.72	7.68		
20	64QAM	100	0	7.70	7.67	7.73		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	10.60	10.43	10.24	11	0
15	QPSK	1	37	10.42	10.25	10.29		
15	QPSK	1	74	10.48	10.37	10.20		
15	QPSK	36	0	9.64	9.69	9.59	10	1
15	QPSK	36	20	9.64	9.46	9.50		
15	QPSK	36	39	9.38	9.60	9.51		
15	QPSK	75	0	9.49	9.42	9.50		
15	16QAM	1	0	9.75	9.93	9.70	10	1
15	16QAM	1	37	9.83	9.28	9.69		
15	16QAM	1	74	9.81	9.69	9.27		
15	16QAM	36	0	8.58	8.48	8.43	9	2
15	16QAM	36	20	8.59	8.51	8.57		

15	16QAM	36	39	8.42	8.53	8.44		
15	16QAM	75	0	8.64	8.48	8.46		
15	64QAM	1	0	8.63	8.63	8.72	9	2
15	64QAM	1	37	8.78	8.81	8.67		
15	64QAM	1	74	8.80	8.52	8.73		
15	64QAM	36	0	7.68	7.58	7.49	8	3
15	64QAM	36	20	7.65	7.56	7.66		
15	64QAM	36	39	7.58	7.53	7.61		
15	64QAM	75	0	7.55	7.49	7.58		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	10.54	10.32	10.24	11	0
10	QPSK	1	25	10.25	10.20	10.11		
10	QPSK	1	49	10.30	10.28	9.97		
10	QPSK	25	0	9.40	9.55	9.37	10	1
10	QPSK	25	12	9.51	9.44	9.40		
10	QPSK	25	25	9.18	9.47	9.36		
10	QPSK	50	0	9.55	9.21	9.41		
10	16QAM	1	0	9.63	9.78	9.57	10	1
10	16QAM	1	25	9.79	9.14	9.61		
10	16QAM	1	49	9.66	9.52	9.13		
10	16QAM	25	0	8.67	8.53	8.31	9	2
10	16QAM	25	12	8.51	8.45	8.49		
10	16QAM	25	25	8.41	8.55	8.23		
10	16QAM	50	0	8.47	8.62	8.44		
10	64QAM	1	0	8.47	8.56	8.54	9	2
10	64QAM	1	25	8.60	8.66	8.45		
10	64QAM	1	49	8.63	8.51	8.62		
10	64QAM	25	0	7.54	7.68	7.37	8	3
10	64QAM	25	12	7.45	7.47	7.72		
10	64QAM	25	25	7.53	7.53	7.64		
10	64QAM	50	0	7.41	7.53	7.57		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	10.34	10.21	10.22	11	0
5	QPSK	1	12	10.08	10.03	10.19		
5	QPSK	1	24	10.19	10.01	9.94		
5	QPSK	12	0	9.51	9.35	9.37	10	1
5	QPSK	12	7	9.51	9.27	9.36		
5	QPSK	12	13	9.14	9.36	9.27		
5	QPSK	25	0	9.54	9.45	9.11		
5	16QAM	1	0	9.77	9.58	9.70	10	1
5	16QAM	1	12	9.58	8.98	9.41		
5	16QAM	1	24	9.66	9.53	8.96		
5	16QAM	12	0	8.33	8.17	8.30	9	2
5	16QAM	12	7	8.42	8.23	8.29		
5	16QAM	12	13	8.34	8.33	8.15		
5	16QAM	25	0	8.39	8.45	8.31		
5	64QAM	1	0	8.35	8.57	8.38	9	2
5	64QAM	1	12	8.30	8.52	8.31		
5	64QAM	1	24	8.73	8.22	8.42		
5	64QAM	12	0	7.59	7.48	7.27	8	3
5	64QAM	12	7	7.39	7.42	7.55		
5	64QAM	12	13	7.39	7.38	7.36		
5	64QAM	25	0	7.45	7.27	7.31		
Channel				131987	132322	132657	Tune-up limit	MPR

Frequency (MHz)				1711.5	1745	1778.5	(dBm)	(dB)
3	QPSK	1	0	10.49	10.06	10.18	11	0
3	QPSK	1	8	10.19	9.96	9.93		
3	QPSK	1	14	9.97	9.99	9.56		
3	QPSK	8	0	9.61	9.33	8.97	10	1
3	QPSK	8	4	9.44	9.07	9.14		
3	QPSK	8	7	8.93	9.27	9.34		
3	QPSK	15	0	9.29	8.88	9.08		
3	16QAM	1	0	9.47	9.57	9.40	10	1
3	16QAM	1	8	9.56	8.75	9.36		
3	16QAM	1	14	9.67	9.51	8.84		
3	16QAM	8	0	8.56	8.36	8.40	9	2
3	16QAM	8	4	8.35	8.19	8.09		
3	16QAM	8	7	8.03	8.24	8.07		
3	16QAM	15	0	8.52	8.43	8.24		
3	64QAM	1	0	8.24	8.43	8.20	9	2
3	64QAM	1	8	8.29	8.33	8.20		
3	64QAM	1	14	8.61	8.28	8.30		
3	64QAM	8	0	7.40	7.24	7.31	8	3
3	64QAM	8	4	7.00	7.29	7.43		
3	64QAM	8	7	7.26	7.28	7.33		
3	64QAM	15	0	7.32	7.14	7.17		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	10.13	10.08	9.86	11	0
1.4	QPSK	1	3	9.96	9.97	9.82		
1.4	QPSK	1	5	10.05	9.83	9.87		
1.4	QPSK	3	0	8.97	9.25	9.19		
1.4	QPSK	3	1	9.21	9.00	9.27		
1.4	QPSK	3	3	9.11	9.07	9.11		
1.4	QPSK	6	0	8.99	9.07	9.26	10	1
1.4	16QAM	1	0	9.48	9.36	9.48	10	1
1.4	16QAM	1	3	9.34	8.85	9.39		
1.4	16QAM	1	5	9.46	9.27	8.74		
1.4	16QAM	3	0	8.30	8.08	8.06		
1.4	16QAM	3	1	7.99	7.91	8.30		
1.4	16QAM	3	3	8.09	8.11	7.97		
1.4	16QAM	6	0	8.12	7.95	8.08	9	2
1.4	64QAM	1	0	8.34	8.17	8.16	9	2
1.4	64QAM	1	3	8.22	8.37	8.21		
1.4	64QAM	1	5	8.32	8.44	8.47		
1.4	64QAM	3	0	7.23	7.13	7.27		
1.4	64QAM	3	1	7.12	7.19	7.42		
1.4	64QAM	3	3	7.37	7.30	7.11		
1.4	64QAM	6	0	6.91	7.15	7.16	8	3

<LTE Band 71>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				133222	133322	133372		
Frequency (MHz)				673	683	688		
20	QPSK	1	0	15.67	15.73	15.31	16	0
20	QPSK	1	49	15.35	15.51	15.31		

20	QPSK	1	99	15.48	15.50	15.27		
20	QPSK	50	0	14.75	14.69	14.60	15	1
20	QPSK	50	24	14.62	14.65	14.55		
20	QPSK	50	50	14.58	14.63	14.57		
20	QPSK	100	0	14.52	14.34	14.51		
20	16QAM	1	0	15.29	14.77	14.89	15	1
20	16QAM	1	49	14.74	15.15	14.63		
20	16QAM	1	99	14.71	14.90	14.82		
20	16QAM	50	0	13.69	13.56	13.57	14	2
20	16QAM	50	24	13.69	13.63	13.56		
20	16QAM	50	50	13.70	13.73	13.62		
20	16QAM	100	0	13.61	13.64	13.45		
20	64QAM	1	0	13.65	13.56	13.42	14	2
20	64QAM	1	49	13.53	13.50	13.42		
20	64QAM	1	99	13.50	13.61	13.45		
20	64QAM	50	0	12.43	12.54	12.52	13	3
20	64QAM	50	24	12.56	12.40	12.50		
20	64QAM	50	50	12.45	12.49	12.56		
20	64QAM	100	0	12.51	12.60	12.45		
Channel				133197	133297	133397	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				670.5	680.5	690.5		
15	QPSK	1	0	15.61	15.33	15.24	16	0
15	QPSK	1	37	15.31	15.35	15.18		
15	QPSK	1	74	15.40	15.40	15.22		
15	QPSK	36	0	14.64	14.35	14.60	15	1
15	QPSK	36	20	14.56	14.55	14.41		
15	QPSK	36	39	14.74	14.46	14.66		
15	QPSK	75	0	14.34	14.24	14.42		
15	16QAM	1	0	15.19	14.72	14.73	15	1
15	16QAM	1	37	14.60	15.00	14.57		
15	16QAM	1	74	14.57	14.88	14.71		
15	16QAM	36	0	13.51	13.54	13.45	14	2
15	16QAM	36	20	13.61	13.55	13.43		
15	16QAM	36	39	13.56	13.55	13.45		
15	16QAM	75	0	13.48	13.53	13.30		
15	64QAM	1	0	13.65	13.55	13.33	14	2
15	64QAM	1	37	13.35	13.49	13.33		
15	64QAM	1	74	13.46	13.41	13.43		
15	64QAM	36	0	12.43	12.53	12.46	13	3
15	64QAM	36	20	12.53	12.33	12.42		
15	64QAM	36	39	12.25	12.44	12.39		
15	64QAM	75	0	12.50	12.59	12.36		
Channel				133172	133272	133422	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				668	678	693		
10	QPSK	1	0	15.50	15.10	14.97	16	0
10	QPSK	1	25	15.19	15.48	15.11		
10	QPSK	1	49	15.20	15.22	15.08		
10	QPSK	25	0	14.37	14.26	14.46	15	1
10	QPSK	25	12	14.53	14.35	14.23		
10	QPSK	25	25	14.46	14.52	14.50		
10	QPSK	50	0	14.32	14.15	14.30		
10	16QAM	1	0	15.00	14.41	14.84	15	1
10	16QAM	1	25	14.52	15.06	14.38		
10	16QAM	1	49	14.55	14.72	14.64		
10	16QAM	25	0	13.61	13.49	13.53	14	2
10	16QAM	25	12	13.52	13.39	13.23		

10	16QAM	25	25	13.49	13.65	13.57		
10	16QAM	50	0	13.48	13.38	13.24		
10	64QAM	1	0	13.64	13.28	13.17	14	2
10	64QAM	1	25	13.30	13.32	13.22		
10	64QAM	1	49	13.29	13.43	13.25		
10	64QAM	25	0	12.25	12.26	12.20	13	3
10	64QAM	25	12	12.43	12.10	12.30		
10	64QAM	25	25	12.20	12.31	12.54		
10	64QAM	50	0	12.28	12.38	12.27		
Channel				133147	133247	133447	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				665.5	675.5	695.5		
5	QPSK	1	0	15.20	15.12	15.00	16	0
5	QPSK	1	12	15.24	14.98	14.92		
5	QPSK	1	24	15.17	15.09	14.92		
5	QPSK	12	0	14.47	14.22	14.32	15	1
5	QPSK	12	7	14.26	14.25	14.36		
5	QPSK	12	13	14.29	14.36	14.28		
5	QPSK	25	0	14.25	14.14	14.06		
5	16QAM	1	0	15.17	14.49	14.65	15	1
5	16QAM	1	12	14.31	14.90	14.47		
5	16QAM	1	24	14.56	14.69	14.54		
5	16QAM	12	0	13.37	13.26	13.27	14	2
5	16QAM	12	7	13.60	13.11	13.37		
5	16QAM	12	13	13.47	13.45	13.35		
5	16QAM	25	0	13.33	13.47	13.26		
5	64QAM	1	0	13.22	13.27	13.02	14	2
5	64QAM	1	12	13.10	13.08	13.01		
5	64QAM	1	24	13.33	13.33	13.30		
5	64QAM	12	0	12.31	12.17	12.06	13	3
5	64QAM	12	7	12.44	12.29	12.22		
5	64QAM	12	13	12.16	12.11	12.07		
5	64QAM	25	0	12.23	12.21	12.05		

<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.

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
b. "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
c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

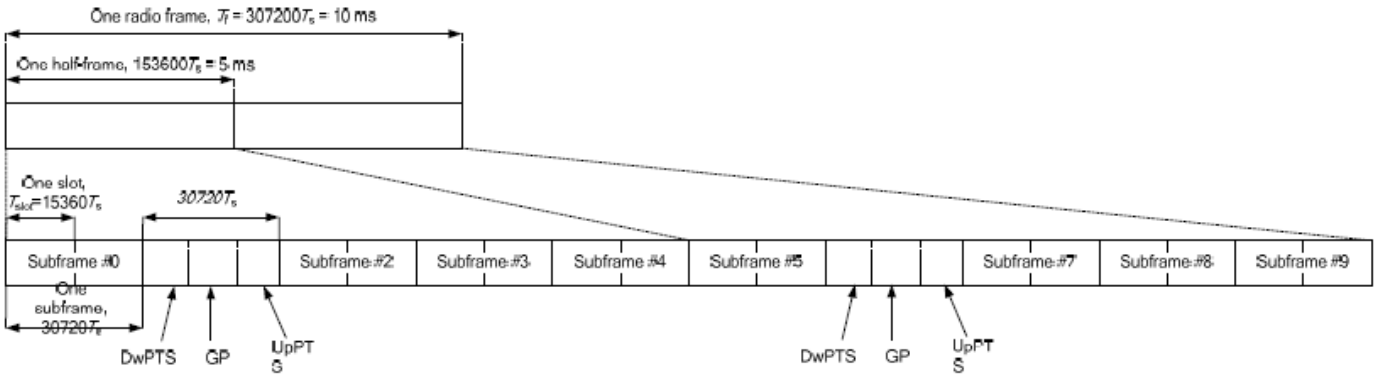


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.

ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink

iii. 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%

iv. 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%

v. 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.

vi. The device supports Power Class 3 uplink-downlink configurations 0 and 6, and Power Class 2 uplink-downlink configurations 1 to 5 operations for LTE Band 41.

vii. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition.

Default Power Mode

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	23.46	23.35	23.33	24	0
20	QPSK	1	49	23.38	23.20	23.16		
20	QPSK	1	99	23.36	23.19	23.17		
20	QPSK	50	0	22.54	22.34	22.29	23	1
20	QPSK	50	24	22.55	22.39	22.39		
20	QPSK	50	50	22.56	22.37	22.39		
20	QPSK	100	0	22.62	22.37	22.38		
20	16QAM	1	0	22.49	22.32	22.42	23	1
20	16QAM	1	49	22.42	22.39	22.24		
20	16QAM	1	99	22.54	22.35	22.29		
20	16QAM	50	0	21.59	21.40	21.33	22	2
20	16QAM	50	24	21.60	21.44	21.40		
20	16QAM	50	50	21.64	21.37	21.34		
20	16QAM	100	0	21.65	21.36	21.44		
20	64QAM	1	0	21.28	21.05	21.09	22	2
20	64QAM	1	49	21.25	21.09	21.11		
20	64QAM	1	99	21.25	21.04	21.11		
20	64QAM	50	0	20.51	20.38	20.36	21	3
20	64QAM	50	24	20.60	20.33	20.41		
20	64QAM	50	50	20.61	20.48	20.42		
20	64QAM	100	0	20.58	20.35	20.37		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	23.36	23.34	23.20	24	0
15	QPSK	1	37	23.37	23.23	23.23		
15	QPSK	1	74	23.41	23.21	23.22		
15	QPSK	36	0	22.46	22.40	22.37	23	1
15	QPSK	36	20	22.59	22.37	22.38		
15	QPSK	36	39	22.51	22.43	22.40		
15	QPSK	75	0	22.56	22.33	22.44		
15	16QAM	1	0	22.53	22.26	22.33	23	1
15	16QAM	1	37	22.41	22.37	22.27		
15	16QAM	1	74	22.56	22.25	22.28		
15	16QAM	36	0	21.54	21.38	21.35	22	2
15	16QAM	36	20	21.59	21.44	21.40		
15	16QAM	36	39	21.57	21.39	21.41		
15	16QAM	75	0	21.55	21.40	21.46		
15	64QAM	1	0	21.20	20.95	21.09	22	2
15	64QAM	1	37	21.20	21.09	21.12		
15	64QAM	1	74	21.24	21.10	21.11		
15	64QAM	36	0	20.61	20.40	20.41	21	3
15	64QAM	36	20	20.65	20.40	20.48		
15	64QAM	36	39	20.66	20.40	20.41		
15	64QAM	75	0	20.59	20.33	20.44		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	23.38	23.35	23.26	24	0
10	QPSK	1	25	23.34	23.23	23.19		
10	QPSK	1	49	23.41	23.26	23.16		
10	QPSK	25	0	22.49	22.36	22.29	23	1

10	QPSK	25	12	22.65	22.34	22.42		
10	QPSK	25	25	22.51	22.36	22.31		
10	QPSK	50	0	22.62	22.36	22.44		
10	16QAM	1	0	22.55	22.35	22.37	23	1
10	16QAM	1	25	22.40	22.32	22.32		
10	16QAM	1	49	22.58	22.28	22.33		
10	16QAM	25	0	21.54	21.45	21.31	22	2
10	16QAM	25	12	21.55	21.37	21.47		
10	16QAM	25	25	21.58	21.37	21.37		
10	16QAM	50	0	21.62	21.37	21.36		
10	64QAM	1	0	21.27	21.01	21.09	22	2
10	64QAM	1	25	21.15	21.11	21.07		
10	64QAM	1	49	21.29	21.05	21.07		
10	64QAM	25	0	20.55	20.41	20.41	21	3
10	64QAM	25	12	20.58	20.35	20.47		
10	64QAM	25	25	20.59	20.43	20.43		
10	64QAM	50	0	20.62	20.34	20.44		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	23.35	23.35	23.29	24	0
5	QPSK	1	12	23.36	23.23	23.24		
5	QPSK	1	24	23.39	23.24	23.18		
5	QPSK	12	0	22.54	22.35	22.29	23	1
5	QPSK	12	7	22.60	22.32	22.42		
5	QPSK	12	13	22.56	22.44	22.37		
5	QPSK	25	0	22.57	22.37	22.41		
5	16QAM	1	0	22.55	22.28	22.40	23	1
5	16QAM	1	12	22.49	22.35	22.27		
5	16QAM	1	24	22.60	22.35	22.33		
5	16QAM	12	0	21.57	21.45	21.38	22	2
5	16QAM	12	7	21.55	21.40	21.47		
5	16QAM	12	13	21.63	21.47	21.35		
5	16QAM	25	0	21.58	21.34	21.42		
5	64QAM	1	0	21.24	20.98	21.02	22	2
5	64QAM	1	12	21.22	21.06	21.11		
5	64QAM	1	24	21.31	21.06	21.11		
5	64QAM	12	0	20.60	20.36	20.38	21	3
5	64QAM	12	7	20.64	20.34	20.42		
5	64QAM	12	13	20.66	20.49	20.37		
5	64QAM	25	0	20.60	20.31	20.40		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	23.53	23.69	23.72	23.47	23.35	24	0
20	QPSK	1	49	23.44	23.55	23.47	23.30	23.25		
20	QPSK	1	99	23.43	23.56	23.64	23.34	23.21		
20	QPSK	50	0	22.63	22.65	22.73	22.56	22.30	23	1
20	QPSK	50	24	22.56	22.62	22.69	22.47	22.28		
20	QPSK	50	50	22.58	22.61	22.65	22.52	22.29		
20	QPSK	100	0	22.65	22.76	22.80	22.49	22.28		
20	16QAM	1	0	22.61	22.75	22.76	22.61	22.31	23	1

20	16QAM	1	49	22.49	22.67	22.65	22.41	22.27		
20	16QAM	1	99	22.61	22.68	22.68	22.52	22.24		
20	16QAM	50	0	21.59	21.74	21.65	21.51	21.37	22	2
20	16QAM	50	24	21.74	21.77	21.79	21.56	21.25		
20	16QAM	50	50	21.67	21.83	21.71	21.47	21.35		
20	16QAM	100	0	21.66	21.78	21.71	21.54	21.30		
20	64QAM	1	0	21.35	21.53	21.48	21.25	20.98	22	2
20	64QAM	1	49	21.26	21.42	21.32	21.18	20.91		
20	64QAM	1	99	21.31	21.51	21.44	21.26	20.90		
20	64QAM	50	0	20.63	20.70	20.75	20.55	20.30	21	3
20	64QAM	50	24	20.68	20.83	20.77	20.46	20.32		
20	64QAM	50	50	20.61	20.81	20.75	20.52	20.30		
20	64QAM	100	0	20.63	20.84	20.78	20.50	20.24		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	23.51	23.65	23.63	23.46	23.23	24	0
15	QPSK	1	37	23.39	23.65	23.48	23.32	23.24		
15	QPSK	1	74	23.45	23.63	23.63	23.41	23.20		
15	QPSK	36	0	22.48	22.67	22.64	22.54	22.33	23	1
15	QPSK	36	20	22.60	22.82	22.70	22.43	22.25		
15	QPSK	36	39	22.56	22.80	22.71	22.51	22.28		
15	QPSK	75	0	22.63	22.76	22.75	22.53	22.24		
15	16QAM	1	0	22.54	22.77	22.70	22.57	22.33	23	1
15	16QAM	1	37	22.40	22.71	22.60	22.42	22.31		
15	16QAM	1	74	22.58	22.70	22.66	22.51	22.34		
15	16QAM	36	0	21.53	21.68	21.64	21.50	21.37	22	2
15	16QAM	36	20	21.69	21.82	21.77	21.51	21.23		
15	16QAM	36	39	21.57	21.83	21.79	21.56	21.31		
15	16QAM	75	0	21.68	21.79	21.68	21.46	21.29		
15	64QAM	1	0	21.31	21.49	21.49	21.20	21.03	22	2
15	64QAM	1	37	21.20	21.49	21.31	21.23	20.95		
15	64QAM	1	74	21.37	21.50	21.40	21.19	20.98		
15	64QAM	36	0	20.61	20.69	20.71	20.57	20.33	21	3
15	64QAM	36	20	20.69	20.86	20.73	20.46	20.25		
15	64QAM	36	39	20.59	20.84	20.76	20.47	20.33		
15	64QAM	75	0	20.67	20.81	20.73	20.46	20.32		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	23.51	23.57	23.69	23.46	23.29	24	0
10	QPSK	1	25	23.41	23.65	23.56	23.30	23.15		
10	QPSK	1	49	23.43	23.56	23.57	23.34	23.17		
10	QPSK	25	0	22.52	22.70	22.66	22.52	22.27	23	1
10	QPSK	25	12	22.61	22.79	22.68	22.42	22.31		
10	QPSK	25	25	22.57	22.77	22.65	22.47	22.29		
10	QPSK	50	0	22.65	22.73	22.79	22.50	22.28		
10	16QAM	1	0	22.64	22.79	22.67	22.55	22.36	23	1
10	16QAM	1	25	22.49	22.65	22.64	22.46	22.30		
10	16QAM	1	49	22.55	22.73	22.76	22.49	22.33		
10	16QAM	25	0	21.55	21.72	21.69	21.56	21.27	22	2
10	16QAM	25	12	21.63	21.76	21.81	21.51	21.31		
10	16QAM	25	25	21.60	21.79	21.69	21.48	21.29		
10	16QAM	50	0	21.63	21.83	21.73	21.48	21.27		
10	64QAM	1	0	21.38	21.46	21.48	21.29	21.02	22	2
10	64QAM	1	25	21.21	21.51	21.34	21.18	20.91		
10	64QAM	1	49	21.32	21.54	21.39	21.25	20.89		
10	64QAM	25	0	20.54	20.76	20.70	20.53	20.35	21	3

10	64QAM	25	12	20.66	20.79	20.70	20.51	20.31		
10	64QAM	25	25	20.67	20.79	20.74	20.45	20.32		
10	64QAM	50	0	20.70	20.77	20.77	20.46	20.31		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	23.45	23.60	23.64	23.40	23.33	24	0
5	QPSK	1	12	23.46	23.56	23.52	23.26	23.22		
5	QPSK	1	24	23.43	23.63	23.60	23.42	23.23		
5	QPSK	12	0	22.49	22.66	22.68	22.54	22.27	23	1
5	QPSK	12	7	22.64	22.82	22.74	22.46	22.23		
5	QPSK	12	13	22.56	22.72	22.68	22.50	22.33		
5	QPSK	25	0	22.64	22.72	22.75	22.52	22.28		
5	16QAM	1	0	22.56	22.79	22.76	22.53	22.38	23	1
5	16QAM	1	12	22.48	22.67	22.66	22.42	22.31		
5	16QAM	1	24	22.52	22.73	22.72	22.42	22.31		
5	16QAM	12	0	21.58	21.71	21.65	21.49	21.33	22	2
5	16QAM	12	7	21.66	21.83	21.81	21.56	21.24		
5	16QAM	12	13	21.57	21.82	21.71	21.51	21.29		
5	16QAM	25	0	21.64	21.79	21.68	21.52	21.30		
5	64QAM	1	0	21.35	21.54	21.41	21.23	20.94	22	2
5	64QAM	1	12	21.27	21.51	21.37	21.16	20.94		
5	64QAM	1	24	21.28	21.55	21.48	21.22	20.98		
5	64QAM	12	0	20.60	20.75	20.76	20.49	20.38	21	3
5	64QAM	12	7	20.71	20.79	20.72	20.51	20.26		
5	64QAM	12	13	20.58	20.80	20.71	20.53	20.29		
5	64QAM	25	0	20.62	20.79	20.71	20.48	20.26		

<LTE Band 41_HPUE>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	26.21	26.21	26.31	26.07	25.76	27	0
20	QPSK	1	49	26.12	26.21	26.20	25.91	25.44		
20	QPSK	1	99	26.17	26.15	26.28	25.95	25.56		
20	QPSK	50	0	25.43	25.48	25.51	25.18	24.90	26	1
20	QPSK	50	24	25.41	25.43	22.41	25.16	24.57		
20	QPSK	50	50	25.39	25.45	25.47	25.13	24.24		
20	QPSK	100	0	25.41	25.47	25.48	25.18	24.53		
20	16QAM	1	0	25.50	25.53	25.60	25.44	25.09	26	1
20	16QAM	1	49	25.46	25.51	25.57	25.29	24.80		
20	16QAM	1	99	25.51	25.56	25.61	25.31	24.13		
20	16QAM	50	0	24.35	24.43	24.45	24.20	24.02	25	2
20	16QAM	50	24	24.46	24.52	24.52	24.21	23.75		
20	16QAM	50	50	24.43	24.50	24.50	24.17	23.39		
20	16QAM	100	0	24.43	24.52	24.51	24.18	23.61		
20	64QAM	1	0	24.33	24.37	24.45	23.77	23.30	25	2
20	64QAM	1	49	24.35	24.42	24.41	23.92	23.21		
20	64QAM	1	99	24.45	24.44	24.39	23.69	23.12		
20	64QAM	50	0	23.35	23.41	23.47	22.95	22.17	24	3
20	64QAM	50	24	23.45	23.54	23.48	22.95	22.14		
20	64QAM	50	50	23.45	23.48	23.45	23.00	22.06		
20	64QAM	100	0	23.45	23.50	23.37	22.86	22.08		
Channel				39725	40173	40620	41068	41515	Tune-up limit	MPR

Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	(dBm)	(dB)
15	QPSK	1	0	26.12	26.19	26.24	26.01	25.68	27	0
15	QPSK	1	37	26.09	26.18	26.14	25.90	25.36		
15	QPSK	1	74	26.13	26.19	26.24	25.91	25.02		
15	QPSK	36	0	25.33	25.35	25.36	25.08	24.85	26	1
15	QPSK	36	20	25.34	25.48	25.50	25.06	24.47		
15	QPSK	36	39	25.33	25.36	25.39	25.07	24.16		
15	QPSK	75	0	25.40	25.40	25.45	25.10	24.43		
15	16QAM	1	0	25.41	25.53	25.60	25.35	25.02	26	1
15	16QAM	1	37	25.44	25.49	25.53	25.28	24.72		
15	16QAM	1	74	25.50	25.54	25.53	25.26	24.13		
15	16QAM	36	0	24.28	24.41	24.45	24.17	23.98	25	2
15	16QAM	36	20	24.40	24.49	24.47	24.12	23.68		
15	16QAM	36	39	24.41	24.43	24.45	24.17	23.30		
15	16QAM	75	0	24.34	24.45	24.41	24.16	23.51		
15	64QAM	1	0	24.24	24.34	24.36	23.67	23.29	25	2
15	64QAM	1	37	24.28	24.34	24.38	23.85	23.18		
15	64QAM	1	74	24.36	24.39	24.32	23.60	23.07		
15	64QAM	36	0	23.33	23.33	23.41	22.88	22.11	24	3
15	64QAM	36	20	23.45	23.44	23.38	22.86	22.08		
15	64QAM	36	39	23.37	23.45	23.40	22.98	22.05		
15	64QAM	75	0	23.40	23.45	23.32	22.83	22.04		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	26.21	26.15	26.22	26.02	25.73	27	0
10	QPSK	1	25	26.02	26.13	26.16	25.83	25.39		
10	QPSK	1	49	26.15	26.25	26.21	25.92	24.96		
10	QPSK	25	0	25.32	25.33	25.32	25.17	24.81	26	1
10	QPSK	25	12	25.37	25.46	25.50	25.14	24.51		
10	QPSK	25	25	25.32	25.44	25.43	25.04	24.24		
10	QPSK	50	0	25.37	25.44	25.46	25.15	24.43		
10	16QAM	1	0	25.44	25.43	25.52	25.38	25.01	26	1
10	16QAM	1	25	25.42	25.49	25.53	25.19	24.76		
10	16QAM	1	49	25.45	25.49	25.53	25.31	24.07		
10	16QAM	25	0	24.32	24.40	24.35	24.15	23.92	25	2
10	16QAM	25	12	24.41	24.44	24.48	24.19	23.72		
10	16QAM	25	25	24.41	24.41	24.48	24.08	23.38		
10	16QAM	50	0	24.43	24.45	24.51	24.08	23.60		
10	64QAM	1	0	24.27	24.33	24.36	23.72	23.25	25	2
10	64QAM	1	25	24.25	24.33	24.36	23.82	23.12		
10	64QAM	1	49	24.38	24.37	24.31	23.63	23.05		
10	64QAM	25	0	23.29	23.38	23.40	22.90	22.09	24	3
10	64QAM	25	12	23.41	23.47	23.48	22.93	22.12		
10	64QAM	25	25	23.35	23.39	23.39	23.00	22.01		
10	64QAM	50	0	23.43	23.48	23.37	22.83	22.07		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	26.14	26.14	26.20	26.02	25.77	27	0
5	QPSK	1	12	26.06	26.17	26.16	25.82	25.43		
5	QPSK	1	24	26.08	26.21	26.28	25.88	25.02		
5	QPSK	12	0	25.31	25.38	25.40	25.10	24.84	26	1
5	QPSK	12	7	25.40	25.48	25.43	25.07	24.57		
5	QPSK	12	13	25.31	25.38	25.46	25.11	24.14		
5	QPSK	25	0	25.38	25.46	25.46	25.16	24.48		
5	16QAM	1	0	25.47	25.45	25.51	25.44	25.04	26	1
5	16QAM	1	12	25.44	25.48	25.54	25.26	24.77		

5	16QAM	1	24	25.51	25.55	25.56	25.27	24.13		
5	16QAM	12	0	24.33	24.34	24.43	24.20	23.97	25	2
5	16QAM	12	7	24.38	24.47	24.50	24.17	23.69		
5	16QAM	12	13	24.41	24.50	24.42	24.17	23.39		
5	16QAM	25	0	24.39	24.52	24.49	24.18	23.55		
5	64QAM	1	0	24.30	24.31	24.37	23.68	23.26	25	2
5	64QAM	1	12	24.32	24.35	24.41	23.82	23.16		
5	64QAM	1	24	24.41	24.43	24.34	23.63	23.08		
5	64QAM	12	0	23.32	23.39	23.44	22.94	22.08	24	3
5	64QAM	12	7	23.35	23.52	23.45	22.87	22.08		
5	64QAM	12	13	23.39	23.40	23.36	22.97	22.04		
5	64QAM	25	0	23.45	23.44	23.30	22.79	22.04		

<LTE Band 48_MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				55340	55830	56150	56640		
Frequency (MHz)				3560	3609	3641	3690		
20	QPSK	1	0	21.45	21.42	21.41	21.53	22	0
20	QPSK	1	49	21.20	21.11	21.11	21.17		
20	QPSK	1	99	21.26	21.09	21.02	21.14		
20	QPSK	50	0	20.47	20.28	20.39	20.49	21	1
20	QPSK	50	24	20.45	20.19	20.25	20.43		
20	QPSK	50	50	20.28	20.08	20.20	20.33		
20	QPSK	100	0	20.37	20.23	20.27	20.43		
20	16QAM	1	0	20.53	20.44	20.38	20.58	21	1
20	16QAM	1	49	20.29	20.20	20.18	20.31		
20	16QAM	1	99	20.37	20.16	20.26	20.23		
20	16QAM	50	0	19.49	19.33	19.40	19.47	20	2
20	16QAM	50	24	19.43	19.21	19.31	19.41		
20	16QAM	50	50	19.32	19.19	19.23	19.30		
20	16QAM	100	0	19.48	19.18	19.34	19.40		
20	64QAM	1	0	19.29	19.22	19.26	19.33	20	2
20	64QAM	1	49	19.05	18.96	19.00	19.04		
20	64QAM	1	99	19.15	18.94	18.96	18.94		
20	64QAM	50	0	18.44	18.41	18.38	18.52	19	3
20	64QAM	50	24	18.39	18.26	18.34	18.40		
20	64QAM	50	50	18.25	18.14	18.30	18.37		
20	64QAM	100	0	18.40	18.28	18.27	18.39		
Channel				55315	55820	56160	56665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3557.5	3608	3642	3692.5		
15	QPSK	1	0	21.40	21.37	21.35	21.48	22	0
15	QPSK	1	37	21.28	21.16	21.17	21.24		
15	QPSK	1	74	21.16	21.04	21.03	21.08		
15	QPSK	36	0	20.40	20.31	20.41	20.47	21	1
15	QPSK	36	20	20.39	20.15	20.25	20.43		
15	QPSK	36	39	20.25	20.14	20.29	20.28		
15	QPSK	75	0	20.37	20.17	20.24	20.38		
15	16QAM	1	0	20.56	20.47	20.41	20.61	21	1
15	16QAM	1	37	20.32	20.17	20.24	20.36		
15	16QAM	1	74	20.36	20.20	20.17	20.21		
15	16QAM	36	0	19.42	19.32	19.42	19.45	20	2
15	16QAM	36	20	19.40	19.18	19.29	19.42		
15	16QAM	36	39	19.33	19.16	19.32	19.39		

15	16QAM	75	0	19.40	19.21	19.31	19.40		
15	64QAM	1	0	19.25	19.24	19.24	19.34	20	2
15	64QAM	1	37	19.10	18.92	19.01	19.11		
15	64QAM	1	74	19.15	18.87	18.92	18.97		
15	64QAM	36	0	18.46	18.40	18.41	18.48	19	3
15	64QAM	36	20	18.47	18.30	18.37	18.41		
15	64QAM	36	39	18.27	18.19	18.29	18.35		
15	64QAM	75	0	18.43	18.18	18.37	18.43		
Channel				55290	55815	56165	56690	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3555	3607.5	3642.5	3695		
10	QPSK	1	0	21.43	21.30	21.33	21.44	22	0
10	QPSK	1	25	21.24	21.11	21.18	21.19		
10	QPSK	1	49	21.18	21.11	21.11	21.13		
10	QPSK	25	0	20.37	20.35	20.38	20.46	21	1
10	QPSK	25	12	20.44	20.14	20.30	20.39		
10	QPSK	25	25	20.19	20.07	20.30	20.26		
10	QPSK	50	0	20.33	20.19	20.31	20.36		
10	16QAM	1	0	20.51	20.44	20.38	20.58	21	1
10	16QAM	1	25	20.35	20.17	20.16	20.29		
10	16QAM	1	49	20.32	20.13	20.23	20.25		
10	16QAM	25	0	19.49	19.31	19.43	19.45	20	2
10	16QAM	25	12	19.39	19.24	19.30	19.40		
10	16QAM	25	25	19.32	19.11	19.29	19.34		
10	16QAM	50	0	19.43	19.21	19.33	19.37		
10	64QAM	1	0	19.29	19.15	19.26	19.34	20	2
10	64QAM	1	25	19.06	18.94	19.01	19.09		
10	64QAM	1	49	19.11	18.97	18.95	18.94		
10	64QAM	25	0	18.43	18.32	18.38	18.47	19	3
10	64QAM	25	12	18.41	18.26	18.38	18.45		
10	64QAM	25	25	18.30	18.17	18.33	18.29		
10	64QAM	50	0	18.42	18.18	18.37	18.46		
Channel				55265	55810	56170	56715	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3552.5	3607	3643	3697.5		
5	QPSK	1	0	21.46	21.35	21.38	21.48	22	0
5	QPSK	1	12	21.28	21.07	21.13	21.16		
5	QPSK	1	24	21.24	21.10	21.02	21.09		
5	QPSK	12	0	20.43	20.37	20.31	20.41	21	1
5	QPSK	12	7	20.40	20.22	20.30	20.36		
5	QPSK	12	13	20.18	20.13	20.28	20.30		
5	QPSK	25	0	20.34	20.19	20.22	20.38		
5	16QAM	1	0	20.51	20.49	20.45	20.57	21	1
5	16QAM	1	12	20.33	20.24	20.25	20.30		
5	16QAM	1	24	20.31	20.16	20.24	20.27		
5	16QAM	12	0	19.52	19.34	19.34	19.53	20	2
5	16QAM	12	7	19.44	19.20	19.38	19.45		
5	16QAM	12	13	19.28	19.20	19.23	19.38		
5	16QAM	25	0	19.39	19.16	19.31	19.44		
5	64QAM	1	0	19.26	19.17	19.19	19.33	20	2
5	64QAM	1	12	19.12	18.90	18.95	19.03		
5	64QAM	1	24	19.07	18.87	18.95	18.94		
5	64QAM	12	0	18.43	18.33	18.44	18.47	19	3
5	64QAM	12	7	18.45	18.30	18.35	18.42		
5	64QAM	12	13	18.26	18.18	18.31	18.36		
5	64QAM	25	0	18.48	18.26	18.33	18.40		

Reduced Power Mode

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	11.02	11.11	11.09	11.5	0
20	QPSK	1	49	10.97	10.91	10.92		
20	QPSK	1	99	10.85	11.06	10.88		
20	QPSK	50	0	10.06	10.04	10.18	10.5	1
20	QPSK	50	24	10.12	10.15	10.15		
20	QPSK	50	50	10.06	10.08	10.07		
20	QPSK	100	0	10.20	10.21	10.00		
20	16QAM	1	0	10.28	10.10	10.23	10.5	1
20	16QAM	1	49	10.00	10.09	9.99		
20	16QAM	1	99	10.07	10.10	10.10		
20	16QAM	50	0	9.11	9.12	9.19	9.5	2
20	16QAM	50	24	9.06	8.99	8.98		
20	16QAM	50	50	9.12	9.17	9.14		
20	16QAM	100	0	9.15	9.18	9.17		
20	64QAM	1	0	8.95	8.93	8.93	9.5	2
20	64QAM	1	49	8.93	9.04	8.94		
20	64QAM	1	99	9.07	9.14	9.02		
20	64QAM	50	0	8.17	8.00	8.15	8.5	3
20	64QAM	50	24	8.02	8.07	8.03		
20	64QAM	50	50	8.17	8.20	8.01		
20	64QAM	100	0	8.13	8.12	8.08		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	11.01	11.04	11.06	11.5	0
15	QPSK	1	37	10.95	10.71	10.90		
15	QPSK	1	74	10.67	11.00	10.72		
15	QPSK	36	0	9.90	10.02	10.18	10.5	1
15	QPSK	36	20	9.92	10.09	10.02		
15	QPSK	36	39	9.99	10.06	9.94		
15	QPSK	75	0	10.12	10.08	9.86		
15	16QAM	1	0	10.15	10.01	10.12	10.5	1
15	16QAM	1	37	9.91	10.04	9.87		
15	16QAM	1	74	10.04	10.09	10.08		
15	16QAM	36	0	8.98	8.92	9.00	9.5	2
15	16QAM	36	20	8.90	8.93	8.84		
15	16QAM	36	39	8.99	9.04	8.95		
15	16QAM	75	0	9.06	9.05	9.11		
15	64QAM	1	0	8.94	8.86	8.84	9.5	2
15	64QAM	1	37	8.73	9.03	8.92		
15	64QAM	1	74	8.95	8.99	8.87		
15	64QAM	36	0	8.15	7.82	7.96	8.5	3
15	64QAM	36	20	8.01	7.87	7.84		
15	64QAM	36	39	8.08	8.20	7.82		
15	64QAM	75	0	8.06	7.95	7.95		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	10.69	10.91	10.82	11.5	0
10	QPSK	1	25	10.81	10.70	10.70		
10	QPSK	1	49	10.61	10.94	10.83		
10	QPSK	25	0	9.99	9.89	10.04	10.5	1

10	QPSK	25	12	9.77	9.85	10.03		
10	QPSK	25	25	9.74	9.91	9.71		
10	QPSK	50	0	9.92	10.07	9.84		
10	16QAM	1	0	10.08	9.77	10.23	10.5	1
10	16QAM	1	25	9.91	9.92	9.79		
10	16QAM	1	49	9.85	10.00	9.95		
10	16QAM	25	0	8.77	8.87	8.88	9.5	2
10	16QAM	25	12	8.82	8.69	8.78		
10	16QAM	25	25	8.88	8.86	8.93		
10	16QAM	50	0	8.88	9.05	9.05		
10	64QAM	1	0	8.81	8.74	8.86	9.5	2
10	64QAM	1	25	8.80	8.77	8.85		
10	64QAM	1	49	8.84	8.94	8.86		
10	64QAM	25	0	8.00	7.82	7.99	8.5	3
10	64QAM	25	12	7.66	8.00	7.82		
10	64QAM	25	25	7.89	8.00	7.91		
10	64QAM	50	0	7.91	7.98	7.94		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	10.64	10.74	10.76	11.5	0
5	QPSK	1	12	10.83	10.42	10.54		
5	QPSK	1	24	10.64	10.75	10.62		
5	QPSK	12	0	9.79	9.80	10.01	10.5	1
5	QPSK	12	7	9.69	9.71	9.85		
5	QPSK	12	13	9.76	9.81	9.69		
5	QPSK	25	0	10.07	9.95	9.57		
5	16QAM	1	0	9.93	9.76	9.93	10.5	1
5	16QAM	1	12	9.77	9.64	9.76		
5	16QAM	1	24	9.60	9.72	9.76		
5	16QAM	12	0	8.67	8.84	8.70	9.5	2
5	16QAM	12	7	8.69	8.70	8.64		
5	16QAM	12	13	8.90	9.10	8.96		
5	16QAM	25	0	8.78	8.88	8.94		
5	64QAM	1	0	8.78	8.46	8.48	9.5	2
5	64QAM	1	12	8.53	8.86	8.68		
5	64QAM	1	24	8.77	8.83	8.79		
5	64QAM	12	0	7.85	7.67	7.63	8.5	3
5	64QAM	12	7	7.93	7.72	7.84		
5	64QAM	12	13	7.77	7.83	7.65		
5	64QAM	25	0	8.03	7.79	7.88		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	10.93	10.94	11.18	11.06	10.93	11.5	0
20	QPSK	1	49	10.98	10.95	11.12	10.98	10.85		
20	QPSK	1	99	11.10	11.00	11.11	11.10	10.92		
20	QPSK	50	0	10.10	10.09	10.21	10.14	9.95	10.5	1
20	QPSK	50	24	10.19	10.18	10.10	10.13	10.15		
20	QPSK	50	50	10.09	10.16	10.15	10.08	10.00		
20	QPSK	100	0	10.14	10.13	10.14	10.09	10.15		
20	16QAM	1	0	10.06	10.22	10.15	10.08	10.00	10.5	1

20	16QAM	1	49	10.06	10.03	10.06	9.97	9.94		
20	16QAM	1	99	10.02	10.04	10.30	10.03	10.04		
20	16QAM	50	0	9.04	9.06	9.19	9.20	8.91	9.5	2
20	16QAM	50	24	9.14	9.16	9.26	9.17	9.12		
20	16QAM	50	50	9.17	9.13	9.22	9.13	8.97		
20	16QAM	100	0	9.22	9.14	9.25	9.15	9.05		
20	64QAM	1	0	9.13	9.25	9.17	9.20	9.20	9.5	2
20	64QAM	1	49	9.14	9.22	9.27	9.26	9.11		
20	64QAM	1	99	9.10	9.15	9.27	9.17	9.25		
20	64QAM	50	0	9.17	9.25	9.20	9.21	9.19	8.5	3
20	64QAM	50	24	9.19	9.13	9.21	9.14	9.13		
20	64QAM	50	50	9.23	9.28	9.17	9.22	9.27		
20	64QAM	100	0	9.20	9.22	9.15	9.25	9.27		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	10.73	10.82	10.96	10.98	10.79	11.5	0
15	QPSK	1	37	10.90	10.83	11.10	10.94	10.72		
15	QPSK	1	74	11.02	10.82	11.15	11.05	10.80		
15	QPSK	36	0	10.02	9.90	9.94	10.02	9.87	10.5	1
15	QPSK	36	20	10.17	10.05	9.91	10.08	10.02		
15	QPSK	36	39	9.95	9.97	10.13	9.93	9.95		
15	QPSK	75	0	10.02	10.13	10.09	9.89	9.96		
15	16QAM	1	0	10.01	10.20	10.09	10.02	9.90	10.5	1
15	16QAM	1	37	9.87	9.85	10.01	9.94	9.83		
15	16QAM	1	74	9.85	10.01	10.25	9.93	9.84		
15	16QAM	36	0	9.04	8.97	9.12	9.03	8.73	9.5	2
15	16QAM	36	20	9.09	8.98	9.18	9.01	8.97		
15	16QAM	36	39	9.16	8.93	9.13	9.01	8.85		
15	16QAM	75	0	9.06	8.98	9.14	9.14	8.97		
15	64QAM	1	0	9.09	9.11	9.11	9.08	9.05	9.5	2
15	64QAM	1	37	8.96	9.12	9.27	9.09	9.01		
15	64QAM	1	74	9.09	8.96	9.11	9.10	9.11		
15	64QAM	36	0	9.04	9.15	9.17	9.05	9.14	8.5	3
15	64QAM	36	20	9.09	9.01	9.21	8.98	9.11		
15	64QAM	36	39	9.15	9.26	9.05	9.05	9.22		
15	64QAM	75	0	9.11	9.15	8.97	9.14	9.21		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	10.88	10.79	10.85	10.85	10.71	11.5	0
10	QPSK	1	25	10.83	10.59	10.88	10.71	10.54		
10	QPSK	1	49	10.77	10.64	11.09	10.72	10.86		
10	QPSK	25	0	10.06	9.90	9.82	9.76	9.88	10.5	1
10	QPSK	25	12	10.14	10.02	9.76	10.10	9.92		
10	QPSK	25	25	9.78	9.95	10.14	10.04	9.81		
10	QPSK	50	0	10.09	9.84	9.99	9.84	10.03		
10	16QAM	1	0	9.68	9.89	9.91	9.97	9.85	10.5	1
10	16QAM	1	25	9.83	9.89	9.93	9.72	9.69		
10	16QAM	1	49	9.70	9.76	10.12	9.88	9.94		
10	16QAM	25	0	8.92	8.75	9.00	8.97	8.60	9.5	2
10	16QAM	25	12	8.94	9.06	9.06	9.05	8.91		
10	16QAM	25	25	8.99	8.87	8.95	9.05	8.78		
10	16QAM	50	0	9.15	8.92	8.91	8.83	8.86		
10	64QAM	1	0	8.92	8.92	9.05	9.01	8.90	9.5	2
10	64QAM	1	25	9.01	9.00	9.10	9.02	8.77		
10	64QAM	1	49	8.91	8.90	9.04	8.92	9.09		
10	64QAM	25	0	8.95	9.05	9.12	8.92	9.01	8.5	3

10	64QAM	25	12	8.89	9.06	8.90	8.94	9.08		
10	64QAM	25	25	9.10	9.23	8.94	8.99	9.07		
10	64QAM	50	0	8.90	9.10	9.10	9.00	9.06		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	10.73	10.70	10.81	10.70	10.60	11.5	0
5	QPSK	1	12	10.57	10.78	10.85	10.76	10.60		
5	QPSK	1	24	10.72	10.72	10.93	10.72	10.68		
5	QPSK	12	0	9.59	9.85	9.75	9.96	9.65	10.5	1
5	QPSK	12	7	9.97	9.94	9.73	10.05	9.82		
5	QPSK	12	13	9.77	9.81	10.07	9.78	9.82		
5	QPSK	25	0	9.96	10.01	9.96	9.85	9.70		
5	16QAM	1	0	9.81	9.77	9.80	9.72	9.72	10.5	1
5	16QAM	1	12	9.87	9.70	9.84	9.68	9.45		
5	16QAM	1	24	9.65	9.84	9.93	9.85	9.72		
5	16QAM	12	0	8.89	8.74	8.96	8.85	8.53	9.5	2
5	16QAM	12	7	8.81	8.95	9.04	8.91	8.87		
5	16QAM	12	13	8.74	8.85	8.90	8.76	8.61		
5	16QAM	25	0	8.75	8.89	9.07	8.66	8.68		
5	64QAM	1	0	8.85	9.00	8.94	8.92	8.95	9.5	2
5	64QAM	1	12	8.89	8.91	8.75	8.97	8.91		
5	64QAM	1	24	8.67	8.87	9.07	8.80	9.05		
5	64QAM	12	0	8.86	9.04	8.77	9.02	9.02	8.5	3
5	64QAM	12	7	8.76	8.87	8.96	8.59	8.91		
5	64QAM	12	13	8.99	8.98	8.74	8.79	8.93		
5	64QAM	25	0	9.02	9.06	8.80	9.05	8.78		

<LTE Band 41_MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	13.76	13.65	13.79	13.84	13.85	14.5	0
20	QPSK	1	49	13.53	13.73	13.71	13.66	13.67		
20	QPSK	1	99	13.71	13.74	13.82	13.68	13.72		
20	QPSK	50	0	12.94	12.99	12.91	12.98	13.01	13.5	1
20	QPSK	50	24	12.94	12.97	13.02	13.03	13.05		
20	QPSK	50	50	12.92	12.88	12.94	12.98	12.99		
20	QPSK	100	0	12.91	12.92	12.98	13.05	13.06		
20	16QAM	1	0	13.07	13.08	13.21	13.15	13.08	13.5	1
20	16QAM	1	49	12.94	12.94	13.04	13.09	12.88		
20	16QAM	1	99	12.99	13.06	13.14	12.73	12.92		
20	16QAM	50	0	11.89	11.97	11.88	11.92	11.72	12.5	2
20	16QAM	50	24	11.89	11.94	12.04	11.98	11.94		
20	16QAM	50	50	11.98	11.98	11.93	11.81	11.79		
20	16QAM	100	0	11.98	12.00	11.98	11.94	11.85		
20	64QAM	1	0	11.72	11.85	12.04	11.79	11.78	12.5	2
20	64QAM	1	49	11.90	11.85	11.83	11.78	11.60		
20	64QAM	1	99	11.85	11.83	11.87	11.79	11.72		
20	64QAM	50	0	11.05	11.18	11.12	11.06	11.12	11.5	3
20	64QAM	50	24	11.06	11.02	11.17	11.03	11.12		
20	64QAM	50	50	11.08	11.16	11.03	11.14	11.12		
20	64QAM	100	0	11.08	11.10	11.16	11.17	11.11		
Channel				39725	40173	40620	41068	41515	Tune-up limit	MPR

Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	(dBm)	(dB)
15	QPSK	1	0	13.71	13.57	13.61	13.54	13.61	14.5	0
15	QPSK	1	37	13.42	13.56	13.57	13.57	13.37		
15	QPSK	1	74	13.54	13.62	13.63	13.55	13.47		
15	QPSK	36	0	12.92	12.85	12.83	12.94	12.69	13.5	1
15	QPSK	36	20	12.82	12.85	12.88	12.82	12.83		
15	QPSK	36	39	12.72	12.75	12.77	12.90	12.65		
15	QPSK	75	0	12.85	12.87	13.03	12.84	12.76		
15	16QAM	1	0	13.05	12.94	13.08	13.11	13.00	13.5	1
15	16QAM	1	37	12.84	12.81	12.90	13.00	12.73		
15	16QAM	1	74	12.95	13.05	13.08	12.54	12.74		
15	16QAM	36	0	11.77	11.91	11.79	11.73	11.65	12.5	2
15	16QAM	36	20	11.83	11.80	11.87	11.85	11.89		
15	16QAM	36	39	11.84	11.85	11.77	11.67	11.72		
15	16QAM	75	0	11.91	11.91	11.94	11.94	11.81		
15	64QAM	1	0	11.59	11.85	11.84	11.74	11.62	12.5	2
15	64QAM	1	37	11.88	11.82	11.64	11.58	11.52		
15	64QAM	1	74	11.79	11.73	11.74	11.69	11.58		
15	64QAM	36	0	10.97	11.15	11.03	11.05	10.93	11.5	3
15	64QAM	36	20	10.97	10.95	11.10	10.98	11.07		
15	64QAM	36	39	10.96	10.97	10.99	11.06	10.97		
15	64QAM	75	0	10.96	10.97	11.12	11.07	11.01		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	13.49	13.31	13.65	13.53	13.32	14.5	0
10	QPSK	1	25	13.41	13.61	13.42	13.39	13.33		
10	QPSK	1	49	13.52	13.50	13.63	13.55	13.35		
10	QPSK	25	0	12.78	12.70	12.65	12.75	12.60	13.5	1
10	QPSK	25	12	12.69	12.77	12.87	12.65	12.59		
10	QPSK	25	25	12.79	12.80	12.62	12.71	12.59		
10	QPSK	50	0	12.59	12.81	12.97	12.51	12.68		
10	16QAM	1	0	12.82	13.02	13.12	13.01	12.77	13.5	1
10	16QAM	1	25	12.77	12.64	12.92	12.87	12.70		
10	16QAM	1	49	12.85	12.93	13.05	12.48	12.67		
10	16QAM	25	0	11.72	11.93	11.85	11.71	11.59	12.5	2
10	16QAM	25	12	11.60	11.78	12.03	11.77	11.77		
10	16QAM	25	25	11.86	11.85	11.66	11.57	11.72		
10	16QAM	50	0	11.90	11.75	11.72	11.87	11.85		
10	64QAM	1	0	11.64	11.59	11.88	11.52	11.56	12.5	2
10	64QAM	1	25	11.54	11.57	11.47	11.67	11.43		
10	64QAM	1	49	11.80	11.66	11.78	11.70	11.48		
10	64QAM	25	0	10.74	10.91	10.93	11.03	10.92	11.5	3
10	64QAM	25	12	10.74	10.82	11.13	10.76	10.96		
10	64QAM	25	25	10.75	10.97	10.80	10.98	10.95		
10	64QAM	50	0	10.92	10.94	10.87	11.06	11.02		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	13.41	13.25	13.50	13.70	13.38	14.5	0
5	QPSK	1	12	13.37	13.39	13.35	13.47	13.31		
5	QPSK	1	24	13.32	13.28	13.61	13.51	13.40		
5	QPSK	12	0	12.59	12.67	12.74	12.94	12.65	13.5	1
5	QPSK	12	7	12.58	12.79	12.81	12.49	12.54		
5	QPSK	12	13	12.62	12.70	12.73	12.61	12.61		
5	QPSK	25	0	12.52	12.64	12.91	12.44	12.54		
5	16QAM	1	0	12.54	12.72	12.97	12.92	12.90	13.5	1
5	16QAM	1	12	12.55	12.75	12.69	12.69	12.56		

5	16QAM	1	24	12.63	12.70	12.63	12.38	12.58		
5	16QAM	12	0	11.52	11.69	11.51	11.66	11.30	12.5	2
5	16QAM	12	7	11.79	11.58	11.86	11.42	11.60		
5	16QAM	12	13	11.72	11.63	11.63	11.55	11.40		
5	16QAM	25	0	11.56	11.45	11.69	11.76	11.83		
5	64QAM	1	0	11.46	11.47	11.87	11.38	11.39	12.5	2
5	64QAM	1	12	11.50	11.53	11.31	11.30	11.31		
5	64QAM	1	24	11.65	11.70	11.62	11.40	11.39		
5	64QAM	12	0	10.80	10.91	10.85	10.79	10.77	11.5	3
5	64QAM	12	7	10.86	10.79	10.73	10.76	10.84		
5	64QAM	12	13	10.71	10.91	10.60	10.85	10.54		
5	64QAM	25	0	10.67	10.70	10.76	10.91	10.74		

<LTE Band 48_MIMO 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				55340	55830	56150	56640		
Frequency (MHz)				3560	3609	3641	3690		
20	QPSK	1	0	12.49	12.62	12.63	12.72	13	0
20	QPSK	1	49	12.26	12.44	12.45	12.43		
20	QPSK	1	99	12.15	12.41	12.39	12.46		
20	QPSK	50	0	11.49	11.64	11.68	11.71	12	1
20	QPSK	50	24	11.43	11.61	11.61	11.68		
20	QPSK	50	50	11.28	11.48	11.40	11.62		
20	QPSK	100	0	11.43	11.62	11.63	11.65		
20	16QAM	1	0	11.53	11.76	11.78	11.76	12	1
20	16QAM	1	49	11.39	11.55	11.49	11.54		
20	16QAM	1	99	11.37	11.52	11.52	11.65		
20	16QAM	50	0	10.51	10.65	10.71	10.71	11	2
20	16QAM	50	24	10.42	10.64	10.63	10.79		
20	16QAM	50	50	10.40	10.58	10.60	10.62		
20	16QAM	100	0	10.41	10.59	10.62	10.59		
20	64QAM	1	0	10.27	10.55	10.59	10.73	11	2
20	64QAM	1	49	10.39	10.57	10.59	10.62		
20	64QAM	1	99	10.21	10.57	10.58	10.47		
20	64QAM	50	0	9.53	9.59	9.60	9.59	10	3
20	64QAM	50	24	9.59	9.70	9.58	9.64		
20	64QAM	50	50	9.51	9.63	9.67	9.57		
20	64QAM	100	0	9.53	9.59	9.53	9.69		
Channel				55315	55820	56160	56665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3557.5	3608	3642	3692.5		
15	QPSK	1	0	12.37	12.60	12.62	12.63	13	0
15	QPSK	1	37	12.26	12.26	12.43	12.27		
15	QPSK	1	74	11.96	12.32	12.33	12.28		
15	QPSK	36	0	11.36	11.45	11.50	11.54	12	1
15	QPSK	36	20	11.35	11.55	11.50	11.63		
15	QPSK	36	39	11.20	11.29	11.21	11.54		
15	QPSK	75	0	11.30	11.62	11.63	11.45		
15	16QAM	1	0	11.45	11.75	11.69	11.71	12	1
15	16QAM	1	37	11.33	11.48	11.47	11.47		
15	16QAM	1	74	11.26	11.44	11.38	11.53		
15	16QAM	36	0	10.45	10.45	10.61	10.56	11	2
15	16QAM	36	20	10.32	10.46	10.61	10.71		
15	16QAM	36	39	10.39	10.43	10.49	10.47		

15	16QAM	75	0	10.25	10.47	10.62	10.57		
15	64QAM	1	0	10.12	10.38	10.44	10.71	11	2
15	64QAM	1	37	10.19	10.39	10.43	10.58		
15	64QAM	1	74	10.21	10.47	10.50	10.39		
15	64QAM	36	0	9.47	9.57	9.45	9.40	10	3
15	64QAM	36	20	9.59	9.68	9.54	9.46		
15	64QAM	36	39	9.48	9.48	9.66	9.55		
15	64QAM	75	0	9.43	9.53	9.40	9.62		
Channel				55290	55815	56165	56690	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3555	3607.5	3642.5	3695		
10	QPSK	1	0	12.21	12.29	12.37	12.43	13	0
10	QPSK	1	25	12.09	12.24	12.30	12.19		
10	QPSK	1	49	11.87	12.31	12.13	12.33		
10	QPSK	25	0	11.41	11.48	11.33	11.58	12	1
10	QPSK	25	12	11.19	11.49	11.44	11.41		
10	QPSK	25	25	11.00	11.43	11.16	11.22		
10	QPSK	50	0	11.24	11.40	11.42	11.36		
10	16QAM	1	0	11.31	11.64	11.56	11.74	12	1
10	16QAM	1	25	11.24	11.27	11.35	11.33		
10	16QAM	1	49	11.24	11.34	11.12	11.34		
10	16QAM	25	0	10.31	10.51	10.60	10.44	11	2
10	16QAM	25	12	10.21	10.44	10.39	10.61		
10	16QAM	25	25	10.12	10.39	10.27	10.48		
10	16QAM	50	0	10.23	10.33	10.53	10.29		
10	64QAM	1	0	9.89	10.33	10.59	10.34	11	2
10	64QAM	1	25	10.22	10.48	10.35	10.47		
10	64QAM	1	49	9.88	10.48	10.42	10.29		
10	64QAM	25	0	9.37	9.54	9.49	9.36	10	3
10	64QAM	25	12	9.50	9.62	9.42	9.43		
10	64QAM	25	25	9.17	9.55	9.34	9.43		
10	64QAM	50	0	9.18	9.27	9.19	9.55		
Channel				55265	55810	56170	56715	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3552.5	3607	3643	3697.5		
5	QPSK	1	0	12.18	12.31	12.24	12.44	13	0
5	QPSK	1	12	11.96	11.98	12.13	12.17		
5	QPSK	1	24	11.62	12.30	11.98	12.15		
5	QPSK	12	0	11.01	11.26	11.50	11.35	12	1
5	QPSK	12	7	11.13	11.35	11.41	11.62		
5	QPSK	12	13	11.12	11.36	11.07	11.54		
5	QPSK	25	0	11.22	11.41	11.39	11.37		
5	16QAM	1	0	11.32	11.33	11.56	11.53	12	1
5	16QAM	1	12	11.19	11.25	11.15	11.30		
5	16QAM	1	24	11.10	11.22	11.24	11.28		
5	16QAM	12	0	10.17	10.26	10.62	10.46	11	2
5	16QAM	12	7	10.04	10.43	10.29	10.69		
5	16QAM	12	13	10.06	10.37	10.25	10.26		
5	16QAM	25	0	10.13	10.19	10.14	10.37		
5	64QAM	1	0	10.04	10.38	10.34	10.49	11	2
5	64QAM	1	12	9.92	10.44	10.06	10.39		
5	64QAM	1	24	10.00	10.36	10.28	10.28		
5	64QAM	12	0	9.10	9.21	9.46	9.45	10	3
5	64QAM	12	7	9.36	9.38	9.40	9.16		
5	64QAM	12	13	9.15	9.42	9.54	9.44		
5	64QAM	25	0	9.27	9.25	9.18	9.42		

<LTE Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink only for inter and intra band. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation			4CC Downlink Carrier Aggregation			5CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	12A-12A	3CC-87	69	12A-30A-66A	4CC-191	191	12A-30A-66A-66A	5CC-338	329	13A-48A-48C-66A	
2	12A-25A		70	12A-66A-66A	4CC-192	192	12B-66A-66A	5CC-402	330	13A-48A-48D	
3	12A-30A	3CC-69	71	12A-66C	4CC-210	193	13A-48A-48A-66A	5CC-339	331	13A-48C-48C	
4	12A-66A	3CC-70	72	12B-66A	4CC-192	194	13A-48A-48C	5CC-329	332	13A-48C-66B	
5	12B	3CC-72	73	13A-48A-48A	4CC-194	195	13A-48A-66B		333	13A-48C-66C	
6	13A-48A	3CC-73	74	13A-48A-66A	4CC-196	196	13A-48A-66C		334	13A-48D-66A	
7	13A-66A	3CC-76	75	13A-48C	4CC-197	197	13A-48C-66A	5CC-341	335	13A-48E	5CC-407
8	14A-30A	3CC-79	76	13A-66A-66A	4CC-199	198	13A-48D	5CC-334	336	25A-25A-41D	
9	14A-66A	3CC-80	77	13A-66B	4CC-195	199	13A-66A-66A-66A		337	25A-41E	
10	25A-25A	3CC-81	78	13A-66C	4CC-196	200	13A-66A-66B	5CC-343	338	2A-12A-30A-66A-66A	
11	25A-26A	3CC-82	79	14A-30A-66A	4CC-203	201	13A-66A-66C	5CC-344	339	2A-13A-48A-48A-66A	
12	25A-41A	3CC-83	80	14A-66A-66A	4CC-204	202	13A-66D	5CC-345	340	2A-13A-48A-48C	
13	26A-41A	3CC-86	81	25A-25A-25A		203	14A-30A-66A-66A	5CC-346	341	2A-13A-48C-66A	
14	2A-12A	3CC-87	82	25A-25A-26A		204	14A-66A-66A-66A	5CC-347	342	2A-13A-48D	
15	2A-13A	3CC-91	83	25A-25A-41A		205	25A-25A-41C		343	2A-13A-66A-66B	
16	2A-14A	3CC-93	84	25A-26A-41A		206	25A-26A-41C		344	2A-13A-66A-66C	
17	2A-2A	3CC-95	85	25A-41C	4CC-205	207	25A-41D	5CC-336	345	2A-13A-66D	
18	2A-30A	3CC-98	86	26A-41C	4CC-206	208	2A-12A-30A-66A	5CC-338	346	2A-14A-30A-66A-66A	
19	2A-48A	3CC-105	87	2A-12A-12A	4CC-219	209	2A-12A-66A-66A	5CC-349	347	2A-14A-66A-66A-66A	
20	2A-4A	3CC-108	88	2A-12A-30A	4CC-220	210	2A-12A-66C		348	2A-2A-12A-30A-66A	
21	2A-5A	3CC-115	89	2A-12A-66A	4CC-210	211	2A-13A-48A-48A	5CC-339	349	2A-2A-12A-66A-66A	
22	2A-66A	3CC-120	90	2A-12B	4CC-222	212	2A-13A-48A-66A	5CC-339	350	2A-2A-12B-66A	
23	2A-71A	3CC-102	91	2A-13A-48A	4CC-211	213	2A-13A-48C	5CC-341	351	2A-2A-13A-66A-66A	
24	2A-7A	3CC-126	92	2A-13A-66A	4CC-214	214	2A-13A-66A-66A	5CC-351	352	2A-2A-13A-66B	
25	2C	3CC-128	93	2A-14A-30A	4CC-217	215	2A-13A-66B	5CC-352	353	2A-2A-14A-30A-66A	
26	30A-66A	3CC-132	94	2A-14A-66A	4CC-218	216	2A-13A-66C	5CC-344	354	2A-2A-14A-66A-66A	
27	38A-40A	3CC-133	95	2A-2A-12A	4CC-219	217	2A-14A-30A-66A	5CC-346	355	2A-2A-5A-30A-66A	
28	38C		96	2A-2A-13A	4CC-223	218	2A-14A-66A-66A	5CC-347	356	2A-2A-5A-66A-66A	
29	41A-41A	3CC-134	97	2A-2A-14A	4CC-224	219	2A-2A-12A-12A		357	2A-2A-5A-66B	
30	41A-42A	3CC-137	98	2A-2A-30A	4CC-226	220	2A-2A-12A-30A	5CC-348	358	2A-2A-5A-66C	
31	41A-48A		99	2A-2A-4A	4CC-228	221	2A-2A-12A-66A	5CC-349	359	2A-2A-5B-66A	
32	41C	5CC-380	100	2A-2A-5A	4CC-231	222	2A-2A-12B	5CC-350	360	2A-2A-66A-66B	
33	42A-42A	3CC-136	101	2A-2A-66A	4CC-234	223	2A-2A-13A-66A	5CC-351	361	2A-2A-66A-66C	
34	42C	5CC-379	102	2A-2A-71A	4CC-235	224	2A-2A-14A-30A	5CC-353	362	2A-2A-7A-12A-66A	
35	48A-48A	3CC-142	103	2A-2A-7A	4CC-238	225	2A-2A-14A-66A	5CC-354	363	2A-48A-48C-66A	
36	48A-66A	3CC-142	104	2A-30A-66A	4CC-226	226	2A-2A-30A-66A	5CC-355	364	2A-48A-48D	
37	48A-71A	3CC-149	105	2A-48A-48A	4CC-240	227	2A-2A-4A-12A		365	2A-48C-48C	
38	48C	3CC-107	106	2A-48A-66A	4CC-240	228	2A-2A-4A-4A		366	2A-48D-66A	
39	4A-12A	3CC-108	107	2A-48C	4CC-242	229	2A-2A-4A-5A		367	2A-48E	5CC-405
40	4A-13A	3CC-109	108	2A-4A-12A	4CC-244	230	2A-2A-4A-71A		368	2A-4A-5B-30A	
41	4A-30A	3CC-110	109	2A-4A-13A		231	2A-2A-5A-30A	5CC-355	369	2A-5A-30A-66A-66A	
42	4A-48A		110	2A-4A-30A	4CC-249	232	2A-2A-5A-66A	5CC-356	370	2A-5A-48A-48A-66A	
43	4A-4A	3CC-111	111	2A-4A-4A	4CC-247	233	2A-2A-5B	5CC-359	371	2A-5A-48A-48C	
44	4A-5A	3CC-112	112	2A-4A-5A	4CC-249	234	2A-2A-66A-66A		372	2A-5A-48C-66A	
45	4A-71A	3CC-113	113	2A-4A-71A	4CC-230	235	2A-2A-66A-71A		373	2A-5A-48D	

46	4A-7A	3CC-114	114	2A-4A-7A	4CC-251	236	2A-2A-66B	5CC-360	374	2A-5B-30A-66A	
47	5A-25A		115	2A-5A-30A	4CC-254	237	2A-2A-66C	5CC-361	375	2A-5B-66A-66A	
48	5A-30A	3CC-115	116	2A-5A-48A	4CC-255	238	2A-2A-7A-66A	5CC-362	376	2A-5B-66B	
49	5A-38A		117	2A-5A-66A	4CC-256	239	2A-30A-66A-66A	5CC-338	377	2A-5B-66C	
50	5A-40A	3CC-166	118	2A-5A-7A		240	2A-48A-48A-66A	5CC-370	378	2A-7A-12B-66A	
51	5A-41A		119	2A-5B	4CC-233	241	2A-48A-48C	5CC-363	379	2C-5B-30A	
52	5A-48A	3CC-116	120	2A-66A-66A	4CC-234	242	2A-48C-66A	5CC-363	380	41A-42C-42C	
53	5A-5A	3CC-169	121	2A-66A-71A	4CC-235	243	2A-48D	5CC-366	381	41C-41D	
54	5A-66A	3CC-170	122	2A-66B	4CC-236	244	2A-4A-12A-12A		382	41C-42A-42C	
55	5A-7A	3CC-173	123	2A-66C	4CC-237	245	2A-4A-12A-30A		383	41D-42C	
56	5B	3CC-119	124	2A-7A-12A	4CC-251	246	2A-4A-12B		384	48A-48C-66B	
57	66A-66A	3CC-132	125	2A-7A-66A	4CC-238	247	2A-4A-4A-12A		385	48A-48C-66C	
58	66A-71A	3CC-121	126	2A-7A-7A	4CC-252	248	2A-4A-4A-5A		386	48A-48D-66A	
59	66B	3CC-145	127	2A-7C	4CC-253	249	2A-4A-5A-30A		387	48C-48C-66A	
60	66C	3CC-146	128	2C-12A	4CC-272	250	2A-4A-5B	5CC-368	388	48C-48D	
61	7A-12A	3CC-124	129	2C-30A	4CC-261	251	2A-4A-7A-12A		389	48C-66A-66A-66A	
62	7A-42A		130	2C-5A	4CC-273	252	2A-4A-7A-7A		390	48E-66A	
63	7A-66A	3CC-125	131	2C-66A	4CC-274	253	2A-4A-7C		391	48F	
64	7A-7A	3CC-126	132	30A-66A-66A	4CC-239	254	2A-5A-30A-66A	5CC-369	392	4A-48E	
65	7B		133	41A-41A-41A	4CC-275	255	2A-5A-48A-48A	5CC-370	393	4A-4A-5B-30A	
66	7C	3CC-127	134	41A-41C	4CC-275	256	2A-5A-48A-66A	5CC-370	394	5A-48A-48C-66A	
67	4A-17A		135	41A-42A-42A	4CC-277	257	2A-5A-48C	5CC-372	395	5A-48C-48C	
68	2A-17A		136	41A-42C	4CC-277	258	2A-5A-66A-66A	5CC-356	396	5A-48E	
			137	41C-42A	4CC-280	259	2A-5A-66B	5CC-357	397	5B-30A-66A-66A	
			138	41D	4CC-276	260	2A-5A-66C	5CC-358	398	5B-66A-66B	
			139	42A-42C	4CC-277	261	2A-5B-30A	5CC-374	399	5B-66A-66C	
			140	42D	4CC-278	262	2A-5B-66A	5CC-375	400	5A-48A-48D	
			141	48A-48A-66A	4CC-286	263	2A-66A-66A-66A	5CC-347	401	5A-48D-66A	
			142	48A-48A-71A		264	2A-66A-66A-71A		402	2A-12B-66A-66A	
			143	48A-48C	4CC-289	265	2A-66A-66B	5CC-360	403	2A-7C-66A-66A	
			144	48A-66A-66A	4CC-286	266	2A-66A-66C	5CC-361	404	2A-7A-7A-66A-66A	
			145	48A-66B	4CC-287	267	2A-66C-71A				
			146	48A-66C	4CC-288	268	2A-66D	5CC-345			
			147	48C-66A	4CC-289	269	2A-7A-12A-66A	5CC-362			
			148	48C-71A		270	2A-7A-12B	5CC-378	6CC Downlink Carrier Aggregation		
			149	48D	4CC-290	271	2A-7A-66A-66A	5CC-404	Number	Combination	Covered by
			150	4A-12A-12A	4CC-299	272	2C-12A-30A		405	2A-48E-66A	
			151	4A-12A-30A	4CC-300	273	2C-5A-30A		406	41C-42C-42C	
			152	4A-12B	4CC-301	274	2C-66A-66A		407	13A-48E-66A	
			153	4A-48C		275	41A-41A-41C				
			154	4A-4A-12A	4CC-299	276	41A-41D				
			155	4A-4A-13A		277	41A-42A-42C				
			156	4A-4A-30A	4CC-300	278	41A-42D				
			157	4A-4A-5A	4CC-303	279	41C-41C				
			158	4A-4A-71A		280	41C-42C	5CC-382			
			159	4A-4A-7A		281	41D-42A				
			160	4A-5A-30A	4CC-302	282	41E	5CC-337			
			161	4A-5B	4CC-303	283	42A-42D				
			162	4A-7A-12A	4CC-251	284	42C-42C	5CC-380			
			163	4A-7A-7A	4CC-252	285	42E				
			164	4A-7C	4CC-253	286	48A-48A-66A-66A				
			165	5A-30A-66A	4CC-305	287	48A-48A-66B				
			166	5A-48A-48A	4CC-306	288	48A-48A-66C				
			167	5A-48A-66A	4CC-306	289	48A-48C-66A	5CC-394			
			168	5A-48C	4CC-308	290	48A-48D	5CC-400			
			169	5A-5A-66A	4CC-310	291	48A-66A-66A-66A				

			170	5A-66A-66A	4CC-310	292	48C-48C	5CC-395			
			171	5A-66B	4CC-311	293	48C-66A-66A				
			172	5A-66C	4CC-312	294	48C-66B	5CC-384			
			173	5A-7A-7A		295	48C-66C	5CC-385			
			174	5A-7C		296	48D-66A	5CC-401			
			175	5B-30A	4CC-316	297	48E	5CC-396			
			176	5B-66A	4CC-317	298	4A-48D				
			177	66A-66A-66A	4CC-263	299	4A-4A-12A-12A				
			178	66A-66A-71A	4CC-264	300	4A-4A-12A-30A				
			179	66A-66B	4CC-313	301	4A-4A-12B				
			180	66A-66C	4CC-314	302	4A-4A-5A-30A				
			181	66C-71A	4CC-267	303	4A-4A-5B	5CC-393			
			182	66D	4CC-268	304	4A-5B-30A	5CC-393			
			183	7A-12A-66A	4CC-269	305	5A-30A-66A-66A	5CC-369			
			184	7A-12B	4CC-320	306	5A-48A-48A-66A	5CC-370			
			185	7A-66A-66A	4CC-326	307	5A-48A-48C	5CC-371			
			186	7C-66A	4CC-321	308	5A-48C-66A	5CC-372			
			187	2A-48A-66A	4CC-325	309	5A-48D	5CC-373			
			188	48A-66B	4CC-195	310	5A-5A-66A-66A				
			189	7A-7A-66A	4CC-326	311	5A-5A-66B				
			190	7A-7A-13A	4CC-328	312	5A-5A-66C				
						313	5A-66A-66B				
						314	5A-66A-66C				
						315	5A-66D				
						316	5B-30A-66A	5CC-397			
						317	5B-66A-66A	5CC-397			
						318	5B-66B	5CC-376			
						319	5B-66C	5CC-377			
						320	7A-12B-66A	5CC-378			
						321	7C-66A-66A	5CC-403			
						322	2A-12B-66A	5CC-350			
						323	2A-7A-7A-66A	5CC-404			
						324	2A-7C-66A	5CC-403			
						325	2A-48A-66A-66A				
						326	7A-7A-66A-66A	5CC-404			
						327	2A-2A-7A-12A	5CC-362			
						328	2A-7A-7A-13A				

<Power verification when LTE Carrier Aggregation Active>

General Note:

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. 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.

iii. The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.

vi. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lfloor \frac{BW_{Channel(1)} + BW_{Channel(2)} - 0.1\left|BW_{Channel(1)} - BW_{Channel(2)}\right|}{0.6} \right\rfloor 0.3 \ \ [\text{MHz}]$$

<Two Carrier power verification>

Configure		PCC							SCC				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band		2	20	1860	18700	QPSK	1	0	17	10	740	5790	23.37	23.42
		4	20	1720	20050	QPSK	1	0	17	10	740	5790	23.57	23.62
		4	20	1720	20050	QPSK	1	0	48	20	3609	55830	23.55	23.62
		5	10	836.5	20525	QPSK	1	0	25	20	1960	8340	23.78	23.89
		5	10	836.5	20525	QPSK	1	0	38	20	2595	38000	23.82	23.89
		5	10	836.5	20525	QPSK	1	0	41	20	2593	40620	23.81	23.89
		7	20	2535	21100	QPSK	1	0	42	20	3575	43340	23.80	23.88
		12	10	707.5	23095	QPSK	1	0	25	20	1960	8340	23.64	23.67
		41	20	2593	40620	QPSK	1	0	48	20	3609	55830	23.62	23.72
Intra-Band	Contiguous	7	15	2535	21100	QPSK	1	37	7	5	2655.00	3193	23.79	23.88
		38	20	2580	37850	QPSK	1	0	38	20	2599.80	38048	23.41	23.46

<Three Carrier power verification>

Configure	PCC							SCC1				SCC2				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	13	10	751	5230	23.40	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	7	20	2655	3100	23.37	23.42
	4	20	1720	20050	QPSK	1	0	4	5	2112.5	1975	7	20	2655	3100	23.54	23.62
	4	20	1720	20050	QPSK	1	0	4	5	2112.5	1975	13	10	751	5230	23.57	23.62
	4	20	1720	20050	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	23.60	23.62
	5	10	836.5	20525	QPSK	1	0	7	20	2655	3100	7	5	2687.5	3425	23.88	23.89
	5	10	836.5	20525	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	23.80	23.89
	25	20	1860	26140	QPSK	1	0	25	5	1992.5	8665	25	20	1985	8590	23.34	23.38
	25	20	1860	26140	QPSK	1	0	25	5	1992.5	8665	26	15	876.5	8865	23.34	23.38
	25	20	1860	26140	QPSK	1	0	25	5	1992.5	8665	41	20	2593	40620	23.32	23.38
	25	20	1860	26140	QPSK	1	0	26	15	876.5	8865	41	20	2593	40620	23.34	23.38

<Four Carrier power verification>

Configure	PCC							SCC1				SCC2				SCC3				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	4	20	2132.5	2175	12	10	737.5	5095	23.40	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	4	20	2132.5	2175	4	5	2112.5	1975	23.39	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	4	20	2132.5	2175	5	10	881.5	2525	23.34	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	12	5	737.5	5095	12	5	743.5	5155	23.31	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	66	20	2155	66886	66	5	2197.5	67311	23.32	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	4	5	2112.5	1975	5	10	881.5	2525	23.36	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	4	5	2112.5	1975	12	10	737.5	5095	23.37	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	30	10	2355	9820	23.31	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	7	5	2687.5	3425	23.31	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	12	10	737.5	5095	23.31	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	7	20	2674.8	3298	23.34	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	12	5	737.5	5095	12	5	743.5	5155	23.38	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	12	10	737.5	5095	30	10	2355	9820	23.41	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	12	5	737.5	5095	12	10	744.7	5167	23.33	23.42
	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	66	20	2155	66886	66	20	2174.8	67084	23.34	23.42
	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	5	2687.5	3425	13	10	751	5230	23.39	23.42
	2	20	1860	18700	QPSK	1	0	48	20	3609	55830	66	20	2155	66886	66	5	2197.5	67311	23.40	23.42
	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	5	10	881.5	2525	30	10	2355	9820	23.41	23.42
	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	12	10	737.5	5095	30	10	2355	9820	23.35	23.42
	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	66	20	2155	66886	66	5	2197.5	67311	23.40	23.42
	4	20	1720	20050	QPSK	1	0	4	5	2112.5	1975	5	10	881.5	2525	30	10	2355	9820	23.56	23.62
	4	20	1720	20050	QPSK	1	0	4	5	2112.5	1975	12	5	737.5	5095	12	5	743.5	5155	23.51	23.62
	4	20	1720	20050	QPSK	1	0	4	5	2112.5	1975	12	10	737.5	5095	30	10	2355	9820	23.60	23.62
	4	20	1720	20050	QPSK	1	0	4	5	2112.5	1975	12	5	737.5	5095	12	10	744.7	5167	23.57	23.62
	4	20	1720	20050	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	23.51	23.62
	5	10	836.5	20525	QPSK	1	0	5	5	871.5	2425	66	20	2155	66886	66	5	2197.5	67311	23.81	23.89
	5	10	836.5	20525	QPSK	1	0	5	5	871.5	2425	66	15	2155	66886	66	5	2164.3	66979	23.79	23.89
	5	10	836.5	20525	QPSK	1	0	5	5	871.5	2425	66	20	2155	66886	66	20	2174.8	67084	23.87	23.89
	5	10	836.5	20525	QPSK	1	0	66	20	2155	66886	66	5	2197.5	67311	66	15	2206.8	67404	23.82	23.89
	5	10	836.5	20525	QPSK	1	0	66	20	2155	66886	66	5	2197.5	67311	66	20	2209.2	67428	23.81	23.89
	5	10	836.5	20525	QPSK	1	0	66	20	2155	66886	66	20	2174.8	67084	66	20	2194.6	67282	23.85	23.89
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	66	15	2155	66886	66	5	2164.3	66979	23.73	23.76
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	66	20	2155	66886	66	20	2174.8	67084	23.74	23.76
	13	10	782	23230	QPSK	1	0	66	20	2155	66886	66	5	2197.5	67311	66	20	2120	66536	23.68	23.76
	25	20	1860	26140	QPSK	1	0	25	5	1992.5	8665	41	20	2593	40620	41	20	2612.8	40818	23.37	23.38
	25	20	1860	26140	QPSK	1	0	26	15	876.5	8865	41	20	2593	40620	41	20	2612.8	40818	23.33	23.38
	41	20	2593	40620	QPSK	1	0	41	5	2687.5	41565	41	20	2506	39750	41	20	2525.8	39948	23.65	23.72
	41	20	2593	40620	QPSK	1	0	41	5	2687.5	41565	41	20	2699.2	41682	41	20	2719	41880	23.67	23.72
	41	20	2593	40620	QPSK	1	0	42	20	3575	43340	42	5	3597.5	43565	42	20	3609.2	43682	23.64	23.72
	41	20	2593	40620	QPSK	1	0	42	20	3575	43340	42	20	3594.8	43538	42	20	3614.6	43736	23.63	23.72
	41	20	2593	40620	QPSK	1	0	41	20	2612.8	40818	41	5	2687.5	41565	41	20	2675.8	41448	23.70	23.72
	41	20	2593	40620	QPSK	1	0	41	20	2612.8	40818	41	20	2632.6	41016	42	20	3575	43340	23.67	23.72
	42	20	3575	43340	QPSK	1	0	42	5	3587	43457	42	20	3599	43574	42	20	3611	43691	23.51	23.61
	42	20	3575	43340	QPSK	1	0	42	20	3594.8	43538	42	20	3614.6	43736	42	20	3634.4	43934	23.59	23.61
	48	20	3690	56640	QPSK	1	0	48	5	3697.5	56715	66	20	2155	66886	66	5	2197.5	67311	21.49	21.53
	48	20	3690	56640	QPSK	1	0	48	5	3697.5	56715	66	15	2155	66886	66	5	2164.3	66979	21.46	21.53
	48	20	3690	56640	QPSK	1	0	48	5	3697.5	56715	66	20	2155	66886	66	20	2174.8	67084	21.32	21.53
	48	20	3690	56640	QPSK	1	0	66	20	2155	66886	66	5	2197.5	67311	66	20	2120	66536	21.35	21.53
	48	20	3690	56640	QPSK	1	0	48	20	3709.8	56838	66	20	2155	66886	66	5	2197.5	67311	21.48	21.53

<Five Carrier power verification>

Configure	PCC							SCC1				SCC2				SCC3				SCC4				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	12	10	737.5	5095	30	10	2355	9820	66	20	2155	66886	23.41	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	12	10	737.5	5095	66	20	2155	66886	66	5	2197.5	67311	23.41	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	12	5	737.5	5095	12	10	744.7	5167	66	20	2155	66886	23.36	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	13	10	751	5230	66	20	2155	66886	66	5	2197.5	67311	23.34	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	13	10	751	5230	66	15	2155	66886	66	5	2164.3	66979	23.31	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	14	10	763	5330	30	10	2355	9820	66	20	2155	66886	23.38	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	14	10	763	5330	66	20	2155	66886	66	5	2197.5	67311	23.35	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	5	10	881.5	2525	30	10	2355	9820	66	20	2155	66886	23.41	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	5	10	881.5	2525	66	20	2155	66886	66	5	2197.5	67311	23.39	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	5	10	881.5	2525	66	15	2155	66886	66	5	2164.3	66979	23.31	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	5	10	881.5	2525	66	20	2155	66886	66	20	2174.8	67084	23.36	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	5	10	881.5	2525	5	10	891.4	2624	66	20	2155	66886	23.33	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	66	20	2155	66886	66	5	2197.5	67311	66	15	2206.8	67404	23.37	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	66	20	2155	66886	66	5	2197.5	67311	66	20	2209.2	67428	23.31	23.42
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	7	20	2655	3100	12	10	737.5	5095	66	20	2155	66886	23.35	23.42
	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	5	10	881.5	2525	5	10	891.4	2624	30	10	2355	9820	23.31	23.42
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	5	10	891.4	2624	30	10	2355	9820	23.33	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.37	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	48	20	3609	55830	48	5	3697.5	56715	66	20	2155	66886	23.37	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	48	20	3609	55830	48	5	3697.5	56715	48	20	3709.2	56832	23.38	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	48	20	3609	55830	48	20	3628.8	56028	66	20	2155	66886	23.33	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.7	56227	23.33	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	5	10	891.4	2624	30	10	2355	9820	66	20	2155	66886	23.37	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	5	10	891.4	2624	66	20	2155	66886	66	5	2197.5	67311	23.36	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	5	10	891.4	2624	66	15	2155	66886	66	5	2164.3	66979	23.33	23.42
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	5	10	891.4	2624	66	20	2155	66886	66	20	2174.8	67084	23.40	23.42
	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	12	5	737.5	5095	12	10	744.7	5167	66	20	2155	66886	23.36	23.42
	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	66	20	2155	66886	66	5	2197.5	67311	23.34	23.42
	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	5	2687.5	3425	66	20	2155	66886	66	5	2197.5	67311	23.40	23.42
	2	20	1860	18700	QPSK	1	0	12	5	737.5	5095	12	10	744.7	5167	66	20	2155	66886	66	5	2197.5	67311	23.41	23.42
	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.36	23.42
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	48	20	3609	55830	48	5	3697.5	56715	66	20	2155	66886	23.36	23.42
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	48	20	3609	55830	48	5	3697.5	56715	48	20	3709.2	56832	23.32	23.42
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	48	20	3609	55830	48	20	3628.8	56028	66	20	2155	66886	23.33	23.42
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	23.36	23.42
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	66	20	2155	66886	66	5	2197.5	67311	66	15	2206.8	67404	23.32	23.42
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	66	20	2155	66886	66	5	2197.5	67311	66	20	2209.2	67428	23.37	23.42
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	66	20	2155	66886	66	20	2174.8	67084	66	20	2194.6	67282	23.31	23.42
	2	20	1860	18700	QPSK	1	0	14	10	763	5330	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.37	23.42
	2	20	1860	18700	QPSK	1	0	14	10	763	5330	66	20	2155	66886	66	5	2197.5	67311	66	20	2120	66536	23.32	23.42
	2	20	1860	18700	QPSK	1	0	48	20	3609	55830	48	5	3697.5	56715	48	20	3709.2	56832	66	20	2155	66886	23.33	23.42
	2	20	1860	18700	QPSK	1	0	48	20	3609	55830	48	5	3697.5	56715	48	20	3709.2	56832	48	20	3729	57030	23.34	23.42
	2	20	1860	18700	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	5	3697.5	56715	48	20	3709.2	56832	23.41	23.42
	2	20	1860	18700	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	66	20	2155	66886	23.36	23.42
	4	20	1720	20050	QPSK	1	0	4	5	2112.5	1975	5	10	881.5	2525	5	10	891.4	2624	30	10	2355	9820	23.52	23.62
	4	20	1720	20050	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	48	20	3668.4	56424	23.58	23.62
	5	10	836.5	20525	QPSK	1	0	5	10	843.7	20597	66	20	2155	66886	66	5	2197.5	67311	66	15	2206.8	67404	23.87	23.89
	5	10	836.5	20525	QPSK	1	0	5	10	843.7	20597	66	20	2155	66886	66	5	2197.5	67311	66	20	2209.2	67428	23.80	23.89
	5	10	836.5	20525	QPSK	1	0	5	10	843.7	20597	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.78	23.89
	5	10	836.5	20525	QPSK	1	0	48	20	3609	55830	48	5	3697.5	56715	48	20	3709.2	56832	66	20	2155	66886	23.85	23.89
	5	10	836.5	20525	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	5	3697.5	56715	48	20	3709.2	56832	23.87	23.89
	5	10	836.5	20525	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	48	20	3668.4	56424	23.84	23.89

	5	10	836.5	20525	QPSK	1	0	48	20	3609	55830	48	5	3697.5	56715	48	20	3709.2	56832	48	20	3729	57030	23.86	23.89
	5	10	836.5	20525	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	66	20	2155	66886	23.80	23.89
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	48	5	3697.5	56715	48	20	3709.2	56832	66	20	2155	66886	23.72	23.76
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	48	5	3697.5	56715	48	20	3709.2	56832	48	20	3729	57030	23.70	23.76
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	5	3697.5	56715	48	20	3709.2	56832	23.68	23.76
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	66	15	2155	66886	66	5	2164.3	66979	23.68	23.76
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	66	20	2155	66886	66	20	2174.8	67084	23.70	23.76
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	66	20	2155	66886	23.69	23.76
	25	20	1860	26140	QPSK	1	0	25	5	1992.5	8665	41	20	2593	40620	41	20	2612.8	40818	41	20	2632.6	41016	23.34	23.38
	25	20	1860	26140	QPSK	1	0	41	20	2593	40620	41	20	2612.8	40818	41	20	2632.6	41016	41	20	2652.4	41214	23.27	23.38
	41	20	2593	40620	QPSK	1	0	41	20	2612.8	40818	41	5	2498.5	39675	41	20	2478.7	39477	41	20	2458.9	39279	23.70	23.72
	41	20	2593	40620	QPSK	1	0	41	20	2612.8	40818	42	20	3575	43340	42	5	3597.5	43565	42	20	3609.2	43682	23.64	23.72
	41	20	2593	40620	QPSK	1	0	41	20	2612.8	40818	41	20	2632.6	41016	42	20	3575	43340	42	20	3594.8	43538	23.68	23.72
	41	20	2593	40620	QPSK	1	0	42	20	3575	43340	42	20	3594.8	43538	42	5	3597.5	43565	42	20	3609.2	43682	23.71	23.72
	48	20	3690	56640	QPSK	1	0	48	5	3697.5	56715	48	20	3709.2	56832	66	15	2155	66886	66	5	2164.3	66979	21.51	21.53
	48	20	3690	56640	QPSK	1	0	48	5	3697.5	56715	48	20	3709.2	56832	66	20	2155	66886	66	20	2174.8	67084	21.51	21.53
	48	20	3690	56640	QPSK	1	0	48	5	3697.5	56715	48	20	3709.2	56832	48	20	3729	57030	66	20	2155	66886	21.47	21.53
	48	20	3690	56640	QPSK	1	0	48	20	3709.8	56838	48	5	3697.5	56715	48	20	3709.2	56832	66	20	2155	66886	21.45	21.53
	48	20	3690	56640	QPSK	1	0	48	20	3709.8	56838	48	5	3697.5	56715	48	20	3709.2	56832	48	20	3729	57030	21.42	21.53
	48	20	3690	56640	QPSK	1	0	48	20	3709.8	56838	66	20	2155	66886	66	5	2197.5	67311	66	20	2120	66536	21.51	21.53
	48	20	3690	56640	QPSK	1	0	48	20	3709.8	56838	48	20	3729.6	57036	48	20	3749.4	57234	66	20	2155	66886	21.42	21.53
	48	20	3690	56640	QPSK	1	0	48	20	3709.8	56838	48	20	3729.6	57036	48	20	3749.4	57234	48	20	3769.2	57432	21.46	21.53

<Six Carrier power verification>

Configure	PCC							SCC1				SCC2				SCC3				SCC4				SCC5				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1860	18700	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	48	20	3668.4	56424	66	20	2155	66886	23.34	23.42
	13	10	782	23230	QPSK	1	0	48	20	3609	55830	48	20	3628.8	56028	48	20	3648.6	56226	48	20	3668.4	56424	66	20	2155	66886	23.66	23.76
	41	20	2593	40620	QPSK	1	0	41	20	2612.8	40818	42	20	3575	43340	42	20	3594.8	43538	42	5	3597.5	43565	42	20	3609.2	43682	23.67	23.72

<LTE Uplink carrier aggregation>

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

<Intra-band>

General Note:

i. 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.

ii. 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.

iii. 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.

iv. 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.

v. 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.

<Default Power Mode>

CA_5B										
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	23.78	24.5
20575	20476	QPSK	1	0	1	49	2	0	23.74	24.5
20600	20501	QPSK	1	0	1	49	2	0	23.68	24.5

CA_7C										
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	23.75	24
21100	20902	QPSK	1	0	1	99	2	0	23.67	24
21350	21152	QPSK	1	0	1	99	2	0	23.35	24

CA_66B										
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	23.56	24
132322	132229	QPSK	1	0	1	24	2	0	23.49	24
132597	132504	QPSK	1	0	1	24	2	0	23.26	24

CA_66C										
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	23.53	24
132322	132124	QPSK	1	0	1	99	2	0	23.29	24
132572	132374	QPSK	1	0	1	99	2	0	23.33	24

CA_38C										
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	23.33	24
37901	38099	QPSK	1	0	0	0	1	0	23.07	24
38150	37952	QPSK	1	0	1	99	2	0	23.25	24

CA_41C										
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	23.58	24
40185	39987	QPSK	1	0	1	99	2	0	23.5	24
40620	40422	QPSK	1	0	1	99	2	0	23.51	24

CA_48C_MIMO 2										
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	21.42	22
55830	55632	QPSK	1	0	1	99	2	0	21.28	22
56150	55952	QPSK	1	0	1	99	2	0	21.19	22

<Reduced Power Mode>

CA_5B										
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	14.55	15.5
20575	20476	QPSK	1	0	1	49	2	0	14.44	15.5
20600	20501	QPSK	1	0	1	49	2	0	14.35	15.5

CA_7C										
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	11.18	12
21100	20902	QPSK	1	0	1	99	2	0	11.08	12
21350	21152	QPSK	1	0	1	99	2	0	11.07	12

CA_66B										
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	12.7	14
132322	132229	QPSK	1	0	1	24	2	0	12.62	14
132597	132504	QPSK	1	0	1	24	2	0	12.54	14

CA_66C										
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	12.71	14
132322	132124	QPSK	1	0	1	99	2	0	12.55	14
132572	132374	QPSK	1	0	1	99	2	0	12.67	14

CA_38C										
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	11.25	11.5
37901	38099	QPSK	1	0	0	0	1	0	11.09	11.5
38150	37952	QPSK	1	0	1	99	2	0	11.19	11.5

CA_41C										
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	11.06	11.5
40185	39987	QPSK	1	0	1	99	2	0	10.84	11.5
40620	40422	QPSK	1	0	1	99	2	0	10.94	11.5

CA_48C_MIMO 2										
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	12.6	13
55830	55632	QPSK	1	0	1	99	2	0	12.56	13
56150	55952	QPSK	1	0	1	99	2	0	12.5	13

13. 5G NR Output Power (Unit: dBm)

General Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
   a. For DFT-OFDM output power measurement reduction, full measurement on Pi/2 BPSK and QPSK, for16QAM/64QMA/256QAM spot check 1RB 1offset configuration to ensure the output power will not ½ dB higher than Pi/2 BPSK and QPSK, for smaller bandwidth output power will spot check 1RB 1offset configuration at Pi/2 BPSK to ensure output power will not ½ dB higher than largest supported bandwidth.
   b. For CP-OFDM output power measurement reduction, spot check the larger channel bandwidth with 1RB 1offset configuration to ensure the output power wills not ½ dB higher than DFT-OFDM mode, for CP-OFDM SAR spot check the 1RB 1offset configuration to ensure the reported SAR is ≤ 1.45 W/kg.
   c. SAR testing start with the largest channel bandwidth and measure SAR 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.
   d. 50% RB allocation for PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure
   e. PI/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
   f. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will 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.
   g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device

<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	≤ 3.5[1]	≤ 1.2[1]	≤ 0.2[1]
		≤ 0.5[2]	≤ 0.5[2]	0[2]
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	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		

<Full Power>

<n2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	PI/2 BPSK	1	1	22.52	22.65	22.47	24.0	0.0
20	PI/2 BPSK	1	53	22.40	22.63	22.43		
20	PI/2 BPSK	1	104	22.40	22.58	22.37		
20	PI/2 BPSK	50	0	22.21	22.42	22.17	24.0	0.0
20	PI/2 BPSK	50	28	22.41	22.40	22.29		
20	PI/2 BPSK	50	56	22.12	22.35	22.17		
20	PI/2 BPSK	100	0	22.13	22.26	21.99	23.5	0.5
20	QPSK	1	1	22.26	22.48	22.28	24.0	0.0
20	QPSK	1	53	22.44	22.58	22.36		
20	QPSK	1	104	22.44	22.63	22.42		
20	QPSK	50	0	22.36	22.53	22.27	24.0	0.0
20	QPSK	50	28	22.46	22.63	22.35		
20	QPSK	50	56	22.47	22.64	22.36		
20	QPSK	100	0	21.56	21.74	21.50	23.0	1.0
20	16QAM	1	1	21.32	21.46	21.21	23.0	1.0
20	64QAM	1	1	20.17	20.37	20.19	21.5	2.5
20	256QAM	1	1	17.78	17.99	17.80	19.5	4.5
Channel				371500	376000	380500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	PI/2 BPSK	1	1	22.47	22.55	22.42	24.0	0.0
Channel				371000	376000	381000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	PI/2 BPSK	1	1	22.42	22.55	22.44	24.0	0.0
Channel				370500	376000	381500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	PI/2 BPSK	1	1	22.44	22.61	22.39	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	1	21.22	21.45	21.27	22.5	1.5

<n2_MIMO 2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	PI/2 BPSK	1	1	23.43	23.20	23.37	24.0	0.0
20	PI/2 BPSK	1	53	23.22	23.12	23.32		
20	PI/2 BPSK	1	104	23.25	23.12	23.29		
20	PI/2 BPSK	50	0	23.35	23.25	23.32	24.0	0.0
20	PI/2 BPSK	50	28	23.18	23.18	23.18		
20	PI/2 BPSK	50	56	22.85	22.66	22.91		
20	PI/2 BPSK	100	0	22.80	22.66	22.82	23.5	0.5
20	QPSK	1	1	23.32	23.09	23.19	24.0	0.0
20	QPSK	1	53	23.18	23.01	23.24		
20	QPSK	1	104	23.29	23.03	23.24		
20	QPSK	50	0	22.69	22.63	22.84	24.0	0.0
20	QPSK	50	28	23.36	23.17	23.30		
20	QPSK	50	56	22.90	22.79	22.83		
20	QPSK	100	0	22.34	22.19	22.38	23.0	1.0
20	16QAM	1	1	22.17	22.04	22.08	23.0	1.0
20	64QAM	1	1	20.49	20.45	20.63	21.5	2.5
20	256QAM	1	1	18.85	18.68	18.70	19.5	4.5
Channel				371500	376000	380500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	PI/2 BPSK	1	1	23.33	23.17	23.37	24.0	0.0
Channel				371000	376000	381000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	PI/2 BPSK	1	1	23.41	23.10	23.36	24.0	0.0
Channel				370500	376000	381500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	PI/2 BPSK	1	1	23.40	23.17	23.27	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	1	21.34	21.35	21.26	22.5	1.5

<n5>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				166800	167300	167800		
Frequency (MHz)				834	836.5	839		
20	PI/2 BPSK	1	1	23.58	23.62	23.44	24.0	0.0
20	PI/2 BPSK	1	53	23.41	23.51	23.26		
20	PI/2 BPSK	1	104	23.14	23.17	23.03		
20	PI/2 BPSK	50	0	23.40	23.39	23.13	24.0	0.0
20	PI/2 BPSK	50	28	23.31	23.35	23.06		
20	PI/2 BPSK	50	56	22.82	22.91	22.70		
20	PI/2 BPSK	100	0	22.91	22.93	22.84	23.5	0.5
20	QPSK	1	1	23.26	23.36	23.24	24.0	0.0
20	QPSK	1	53	23.27	23.34	23.20		
20	QPSK	1	104	23.08	23.05	22.93		
20	QPSK	50	0	22.57	22.54	22.33	24.0	0.0
20	QPSK	50	28	23.35	23.41	23.14		
20	QPSK	50	56	22.31	22.40	22.20		
20	QPSK	100	0	22.35	22.46	22.26	23.0	1.0
20	16QAM	1	1	22.58	22.61	22.37	23.0	1.0
20	64QAM	1	1	20.62	21.02	20.65	21.5	2.5
20	256QAM	1	1	18.83	19.16	18.76	19.5	4.5
Channel				166300	167300	168300	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				831.5	836.5	841.5		
15	PI/2 BPSK	1	1	23.56	23.51	23.43	24.0	0.0
Channel				165800	167300	168800	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				829	836.5	844		
10	PI/2 BPSK	1	1	23.56	23.59	23.43	24.0	0.0
Channel				165300	167300	169300	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	PI/2 BPSK	1	1	23.55	23.60	23.36	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				166800	167300	167800		
Frequency (MHz)				834	836.5	839		
20	QPSK	1	1	21.29	21.33	21.14	22.5	1.5

<n7_MIMO 2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				502000	507000	512000		
Frequency (MHz)				2510	2535	2560		
20	PI/2 BPSK	1	1	23.49	23.35	23.24	24.0	0.0
20	PI/2 BPSK	1	53	23.34	23.21	23.10		
20	PI/2 BPSK	1	104	23.27	23.17	23.10		
20	PI/2 BPSK	50	0	23.34	23.21	23.09	24.0	0.0
20	PI/2 BPSK	50	28	22.85	22.88	22.70		
20	PI/2 BPSK	50	56	22.79	22.87	22.68		
20	PI/2 BPSK	100	0	22.86	22.78	22.77	23.5	0.5
20	QPSK	1	1	23.30	23.19	22.98	24.0	0.0
20	QPSK	1	53	23.24	23.13	23.01		
20	QPSK	1	104	23.13	23.04	22.89		
20	QPSK	50	0	22.45	22.41	22.21	24.0	0.0
20	QPSK	50	28	23.31	23.16	23.10		
20	QPSK	50	56	22.39	22.26	22.21		
20	QPSK	100	0	22.52	22.34	22.26	23.0	1.0
20	16QAM	1	1	22.49	22.44	22.30	23.0	1.0
20	64QAM	1	1	21.28	21.24	21.11	21.5	2.5
20	256QAM	1	1	18.98	18.87	18.76	19.5	4.5
Channel				501500	507000	512500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	PI/2 BPSK	1	1	23.40	23.31	23.24	24.0	0.0
Channel				501000	507000	513000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	PI/2 BPSK	1	1	23.41	23.33	23.19	24.0	0.0
Channel				500500	507000	513500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	PI/2 BPSK	1	1	23.47	23.26	23.14	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				502000	507000	512000		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	1	21.19	21.13	21.13	22.5	1.5

<n12>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				141300	141500	141700		
Frequency (MHz)				706.5	707.5	708.5		
15	PI/2 BPSK	1	1	23.77	23.75	23.70	24.0	0.0
15	PI/2 BPSK	1	40	23.32	23.31	23.29		
15	PI/2 BPSK	1	77	23.21	23.15	23.05		
15	PI/2 BPSK	36	0	23.32	23.39	23.44	24.0	0.0
15	PI/2 BPSK	36	22	23.31	23.36	23.42		
15	PI/2 BPSK	36	43	22.87	22.79	22.92		
15	PI/2 BPSK	75	0	22.89	22.97	22.86	23.5	0.5
15	QPSK	1	1	23.58	23.46	23.48	24.0	0.0
15	QPSK	1	40	23.45	23.41	23.20		
15	QPSK	1	77	23.21	23.20	23.16		
15	QPSK	36	0	23.00	22.80	22.71	24.0	0.0
15	QPSK	36	22	23.42	23.24	23.32		
15	QPSK	36	43	22.88	22.87	22.77		
15	QPSK	75	0	22.50	22.44	22.41	23.0	1.0
15	16QAM	1	1	22.75	22.70	22.56	23.0	1.0
15	64QAM	1	1	21.34	21.33	21.35	21.5	2.5
15	256QAM	1	1	19.11	19.10	18.95	19.5	4.5
Channel				140800	141500	142200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				704	707.5	711		
10	PI/2 BPSK	1	1	23.73	23.72	23.66	24.0	0.0
Channel				140300	141500	142700	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	PI/2 BPSK	1	1	23.73	23.65	23.70	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				141300	141500	141700		
Frequency (MHz)				706.5	707.5	708.5		
15	QPSK	1	1	21.22	21.24	21.16	22.5	1.5

<n41_MIMO 2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				509202	518598	528000		
Frequency (MHz)				2546.01	2592.99	2640		
100	PI/2 BPSK	1	1	23.48	23.37	23.35	24.0	0.0
100	PI/2 BPSK	1	137	22.97	23.04	23.02		
100	PI/2 BPSK	1	271	22.86	22.96	22.80		
100	PI/2 BPSK	135	0	23.32	23.22	23.29	24.0	0.0
100	PI/2 BPSK	135	69	23.13	23.17	23.29		
100	PI/2 BPSK	135	138	23.12	23.21	23.15		
100	PI/2 BPSK	270	0	23.01	23.02	23.09	23.5	0.5
100	QPSK	1	1	23.25	23.27	23.07	24.0	0.0
100	QPSK	1	137	23.01	23.10	23.03		
100	QPSK	1	271	22.82	22.92	22.94		
100	QPSK	135	0	22.97	23.26	23.18	24.0	0.0
100	QPSK	135	69	22.95	23.22	23.10		
100	QPSK	135	138	23.13	23.29	23.16		
100	QPSK	270	0	22.56	22.63	22.66	23.0	1.0
100	16QAM	1	1	22.08	22.19	22.26	23.0	1.0
100	64QAM	1	1	21.02	21.05	21.05	21.5	2.5
100	256QAM	1	1	19.15	19.23	19.22	19.5	4.5
Channel				508200	518598	528996	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2541	2592.99	2644.98		
90	PI/2 BPSK	1	1	23.41	23.32	23.35	24.0	0.0
Channel				507204	518598	529998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2536.02	2592.99	2649.99		
80	PI/2 BPSK	1	1	23.40	23.37	23.34	24.0	0.0
Channel				505200	518598	531996	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2526	2592.99	2659.98		
60	PI/2 BPSK	1	1	23.37	23.31	23.30	24.0	0.0
Channel				504204	518598	532998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2521.02	2592.99	2664.99		
50	PI/2 BPSK	1	1	23.44	23.35	23.34	24.0	0.0
Channel				503202	518598	534000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2516.01	2592.99	2670		
40	PI/2 BPSK	1	1	23.43	23.34	23.30	24.0	0.0
Channel				501204	518598	535998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2506.02	2592.99	2679.99		
20	PI/2 BPSK	1	1	23.47	23.28	23.26	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				509202	518598	528000		
Frequency (MHz)				2546.01	2592.99	2640		
100	QPSK	1	1	21.12	21.21	21.17	22.5	1.5

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DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	349000	354000		
Frequency (MHz)				1720	1745	1770		
20	PI/2 BPSK	1	1	23.78	23.54	23.66	24.0	0.0
20	PI/2 BPSK	1	53	23.62	22.95	23.53		
20	PI/2 BPSK	1	104	23.56	23.12	23.30		
20	PI/2 BPSK	50	0	23.61	23.26	23.40	24.0	0.0
20	PI/2 BPSK	50	28	23.40	23.09	23.46		
20	PI/2 BPSK	50	56	23.21	23.27	23.02		
20	PI/2 BPSK	100	0	23.23	22.78	23.35	23.5	0.5
20	QPSK	1	1	23.31	23.32	23.39	24.0	0.0
20	QPSK	1	53	23.28	23.47	23.30		
20	QPSK	1	104	23.38	23.34	23.55		
20	QPSK	50	0	23.37	23.27	23.09	24.0	0.0
20	QPSK	50	28	23.42	22.98	23.37		
20	QPSK	50	56	23.34	23.28	23.08		
20	QPSK	100	0	22.81	22.22	22.64	23.0	1.0
20	16QAM	1	1	22.92	22.41	22.91	23.0	1.0
20	64QAM	1	1	21.36	21.01	21.30	21.5	2.5
20	256QAM	1	1	19.31	18.74	19.43	19.5	4.5
Channel				343500	349000	354500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	PI/2 BPSK	1	1	23.70	23.49	23.59	24.0	0.0
Channel				343000	349000	355000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	PI/2 BPSK	1	1	23.67	23.47	23.58	24.0	0.0
Channel				342500	349000	355500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	PI/2 BPSK	1	1	23.68	23.51	23.66	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	349000	354000		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	1	21.23	21.18	21.14	22.5	1.5

<n66_MIMO 2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	349000	354000		
Frequency (MHz)				1720	1745	1770		
20	PI/2 BPSK	1	1	23.95	23.57	23.53	24.0	0.0
20	PI/2 BPSK	1	53	23.82	23.33	23.22		
20	PI/2 BPSK	1	104	23.75	23.28	23.32		
20	PI/2 BPSK	50	0	23.76	23.35	23.24	24.0	0.0
20	PI/2 BPSK	50	28	23.27	23.04	22.95		
20	PI/2 BPSK	50	56	23.24	22.92	22.87		
20	PI/2 BPSK	100	0	23.19	22.78	22.75	23.5	0.5
20	QPSK	1	1	23.72	23.43	23.27	24.0	0.0
20	QPSK	1	53	23.60	23.28	23.09		
20	QPSK	1	104	23.55	23.21	23.14		
20	QPSK	50	0	22.91	22.40	22.42	24.0	0.0
20	QPSK	50	28	23.67	23.22	23.20		
20	QPSK	50	56	22.67	22.29	22.22		
20	QPSK	100	0	22.69	22.26	22.23	23.0	1.0
20	16QAM	1	1	22.63	22.29	22.32	23.0	1.0
20	64QAM	1	1	21.27	20.97	20.82	21.5	2.5
20	256QAM	1	1	19.29	18.85	18.90	19.5	4.5
Channel				343500	349000	354500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	PI/2 BPSK	1	1	23.88	23.48	23.45	24.0	0.0
Channel				343000	349000	355000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	PI/2 BPSK	1	1	23.92	23.53	23.48	24.0	0.0
Channel				342500	349000	355500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	PI/2 BPSK	1	1	23.86	23.55	23.51	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	349000	354000		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	1	21.03	21.07	21.09	22.5	1.5

<n71>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				134600	136100	137600		
Frequency (MHz)				673	680.5	688		
20	PI/2 BPSK	1	1	23.82	23.70	23.71	24.0	0.0
20	PI/2 BPSK	1	53	23.69	23.67	23.60		
20	PI/2 BPSK	1	104	23.70	23.49	23.46		
20	PI/2 BPSK	50	0	23.61	23.63	23.69	24.0	0.0
20	PI/2 BPSK	50	28	23.68	23.61	23.62		
20	PI/2 BPSK	50	56	23.04	22.93	23.01		
20	PI/2 BPSK	100	0	23.33	23.12	23.11	23.5	0.5
20	QPSK	1	1	23.51	23.49	23.42	24.0	0.0
20	QPSK	1	53	23.56	23.52	23.44		
20	QPSK	1	104	23.52	23.40	23.35		
20	QPSK	50	0	22.97	22.84	22.93	24.0	0.0
20	QPSK	50	28	23.61	23.52	23.51		
20	QPSK	50	56	22.92	22.70	22.73		
20	QPSK	100	0	22.87	22.70	22.65	23.0	1.0
20	16QAM	1	1	22.74	22.71	22.71	23.0	1.0
20	64QAM	1	1	21.23	21.29	21.13	21.5	2.5
20	256QAM	1	1	19.25	19.35	19.15	19.5	4.5
Channel				134100	136100	138100	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				670.5	680.5	690.5		
15	PI/2 BPSK	1	1	23.75	23.63	23.68	24.0	0.0
Channel				133600	136100	138600	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				668	680.5	693		
10	PI/2 BPSK	1	1	23.80	23.67	23.69	24.0	0.0
Channel				133100	136100	139100	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				665.5	680.5	695.5		
5	PI/2 BPSK	1	1	23.71	23.63	23.69	24.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				134600	136100	137600		
Frequency (MHz)				673	680.5	688		
20	QPSK	1	1	21.26	21.24	21.21	22.5	1.5

<Down Power>

<n2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	PI/2 BPSK	1	1	10.54	10.61	10.57	11.5	0.0
20	PI/2 BPSK	1	53	10.45	10.52	10.53		
20	PI/2 BPSK	1	104	10.42	10.47	10.48		
20	PI/2 BPSK	50	0	10.35	10.45	10.37	11.5	0.0
20	PI/2 BPSK	50	28	10.43	10.37	10.37		
20	PI/2 BPSK	50	56	10.42	10.34	10.34		
20	PI/2 BPSK	100	0	10.00	10.02	10.00	11.5	0.0
20	QPSK	1	1	10.15	10.21	10.23	11.5	0.0
20	QPSK	1	53	10.16	10.16	10.25		
20	QPSK	1	104	10.23	10.20	10.17		
20	QPSK	50	0	10.22	10.25	10.28	11.5	0.0
20	QPSK	50	28	10.10	10.17	10.16		
20	QPSK	50	56	10.21	10.17	10.10		
20	QPSK	100	0	10.30	10.17	10.11	11.5	0.0
20	16QAM	1	1	10.24	10.28	10.26	11.5	0.0
20	64QAM	1	1	10.23	10.23	10.24	11.5	0.0
20	256QAM	1	1	10.22	10.19	10.23	11.5	0.0
Channel				371500	376000	380500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	PI/2 BPSK	1	1	10.26	10.25	10.21	11.5	0.0
Channel				371000	376000	381000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	PI/2 BPSK	1	1	10.30	10.26	10.13	11.5	0.0
Channel				370500	376000	381500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	PI/2 BPSK	1	1	10.13	10.25	10.16	11.5	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	1	10.03	10.07	10.09	11.5	0.0

<n2_MIMO 2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	PI/2 BPSK	1	1	10.68	10.60	10.62	11.5	0.0
20	PI/2 BPSK	1	53	10.37	10.33	10.30		
20	PI/2 BPSK	1	104	10.33	10.31	10.29		
20	PI/2 BPSK	50	0	10.46	10.42	10.12	11.5	0.0
20	PI/2 BPSK	50	28	10.32	10.35	10.31		
20	PI/2 BPSK	50	56	10.30	10.31	10.32		
20	PI/2 BPSK	100	0	10.43	10.39	10.35	11.5	0.0
20	QPSK	1	1	10.38	10.38	10.32	11.5	0.0
20	QPSK	1	53	10.28	10.31	10.33		
20	QPSK	1	104	10.37	10.28	10.33		
20	QPSK	50	0	10.33	10.30	10.38	11.5	0.0
20	QPSK	50	28	10.30	10.29	10.37		
20	QPSK	50	56	10.38	10.28	10.33		
20	QPSK	100	0	10.37	10.37	10.37	11.5	0.0
20	16QAM	1	1	10.28	10.31	10.31	11.5	0.0
20	64QAM	1	1	10.36	10.37	10.38	11.5	0.0
20	256QAM	1	1	10.33	10.38	10.29	11.5	0.0
Channel				371500	376000	380500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	PI/2 BPSK	1	1	10.28	10.36	10.37	11.5	0.0
Channel				371000	376000	381000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	PI/2 BPSK	1	1	10.32	10.37	10.29	11.5	0.0
Channel				370500	376000	381500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	PI/2 BPSK	1	1	10.36	10.36	10.29	11.5	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	1	10.11	10.06	10.07	11.5	0.0

<n5>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				166800	167300	167800		
Frequency (MHz)				834	836.5	839		
20	PI/2 BPSK	1	1	15.39	15.40	15.21	16.5	0.0
20	PI/2 BPSK	1	53	15.26	15.23	15.30		
20	PI/2 BPSK	1	104	15.34	15.22	15.31		
20	PI/2 BPSK	50	0	15.34	15.36	15.18	16.5	0.0
20	PI/2 BPSK	50	28	15.22	15.24	15.26		
20	PI/2 BPSK	50	56	15.21	15.35	15.33		
20	PI/2 BPSK	100	0	15.27	15.14	15.25	16.5	0.0
20	QPSK	1	1	15.12	15.19	15.13	16.5	0.0
20	QPSK	1	53	15.12	15.26	15.13		
20	QPSK	1	104	15.23	15.16	15.19		
20	QPSK	50	0	15.30	15.15	15.11	16.5	0.0
20	QPSK	50	28	15.19	15.10	15.11		
20	QPSK	50	56	15.30	15.10	15.13		
20	QPSK	100	0	15.30	15.13	15.27	16.5	0.0
20	16QAM	1	1	15.14	15.20	15.25	16.5	0.0
20	64QAM	1	1	15.22	15.30	15.12	16.5	0.0
20	256QAM	1	1	15.27	15.11	15.26	16.5	0.0
Channel				166300	167300	168300	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				831.5	836.5	841.5		
15	PI/2 BPSK	1	1	15.30	15.21	15.16	16.5	0.0
Channel				165800	167300	168800	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				829	836.5	844		
10	PI/2 BPSK	1	1	15.23	15.21	15.27	16.5	0.0
Channel				165300	167300	169300	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	PI/2 BPSK	1	1	15.11	15.16	15.27	16.5	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				166800	167300	167800		
Frequency (MHz)				834	836.5	839		
20	QPSK	1	1	15.01	15.16	15.14	16.5	0.0

<n7_MIMO 2>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				502000	507000	512000		
Frequency (MHz)				2510	2535	2560		
20	PI/2 BPSK	1	1	6.99	6.98	6.92	7.0	0.0
20	PI/2 BPSK	1	53	6.89	6.85	6.88		
20	PI/2 BPSK	1	104	6.95	6.87	6.78		
20	PI/2 BPSK	50	0	6.78	6.69	6.72	7.0	0.0
20	PI/2 BPSK	50	28	6.75	6.68	6.64		
20	PI/2 BPSK	50	56	6.55	6.64	6.77		
20	PI/2 BPSK	100	0	6.30	6.32	6.02	7.0	0.0
20	QPSK	1	1	6.38	6.33	6.32	7.0	0.0
20	QPSK	1	53	6.38	6.40	6.31		
20	QPSK	1	104	6.35	6.36	6.37		
20	QPSK	50	0	6.36	6.37	6.39	7.0	0.0
20	QPSK	50	28	6.33	6.38	6.34		
20	QPSK	50	56	6.32	6.34	6.36		
20	QPSK	100	0	6.34	6.36	6.35	7.0	0.0
20	16QAM	1	1	6.40	6.36	6.37	7.0	0.0
20	64QAM	1	1	6.34	6.34	6.30	7.0	0.0
20	256QAM	1	1	6.38	6.35	6.30	7.0	0.0
Channel				501500	507000	512500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	PI/2 BPSK	1	1	6.35	6.37	6.38	7.0	0.0
Channel				501000	507000	513000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	PI/2 BPSK	1	1	6.40	6.34	6.37	7.0	0.0
Channel				500500	507000	513500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	PI/2 BPSK	1	1	6.40	6.37	6.36	7.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				502000	507000	512000		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	1	6.11	6.06	6.07	7.0	0.0

<n12>

DFT-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				141300	141500	141700		
Frequency (MHz)				706.5	707.5	708.5		
15	PI/2 BPSK	1	1	10.30	10.45	10.34	11.0	0.0
15	PI/2 BPSK	1	40	10.34	10.35	10.28		
15	PI/2 BPSK	1	77	10.28	10.32	10.31		
15	PI/2 BPSK	36	0	10.33	10.44	10.39	11.0	0.0
15	PI/2 BPSK	36	22	10.26	10.18	10.15		
15	PI/2 BPSK	36	43	10.15	10.22	10.26		
15	PI/2 BPSK	75	0	10.34	9.51	9.38	11.0	0.0
15	QPSK	1	1	10.31	10.27	10.15	11.0	0.0
15	QPSK	1	40	10.27	10.28	10.20		
15	QPSK	1	77	10.14	10.30	10.22		
15	QPSK	36	0	10.28	10.31	10.32	11.0	0.0
15	QPSK	36	22	10.33	10.29	10.17		
15	QPSK	36	43	10.18	10.18	10.31		
15	QPSK	75	0	10.21	10.32	10.16	11.0	0.0
15	16QAM	1	1	10.29	10.20	10.23	11.0	0.0
15	64QAM	1	1	10.18	10.29	10.14	11.0	0.0
15	256QAM	1	1	10.17	10.28	10.24	11.0	0.0
Channel				140800	141500	142200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				704	707.5	711		
10	PI/2 BPSK	1	1	10.28	10.22	10.17	11.0	0.0
Channel				140300	141500	142700	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	PI/2 BPSK	1	1	10.17	10.27	10.32	11.0	0.0
CP-OFDM								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				141300	141500	141700		
Frequency (MHz)				706.5	707.5	708.5		
15	QPSK	1	1	10.12	10.16	10.13	11.0	0.0