FCC SAR TEST REPORT

FCC ID	:	**2AJN7-TP00129B**
Equipment	:	**Notebook Computer**
Brand Name	:	**Lenovo**
Model Name	:	**TP00129B**
Applicant	:	**LC Future Center Limited Taiwan Branch 7F., No.780, Beian Rd., Zhongshan Dist., Taipei 104, Taiwan**
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: Fibocom FM350-GL and Intel AX211D2W tested inside of Lenovo Notebook Computer.

The product was received on Oct 08, 2021 and testing was started from Nov 17, 2021 and completed on Jan 06, 2022. 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

Sporton International Inc. EMC & Wireless Communications Laboratory

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History of this test report

Report No.	Version	Description	Issued Date
FA190606	01	Initial issue of report	Jan. 17, 2022

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for LC Future Center Limited Taiwan Branch, Notebook Computer, TP00129B, 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	1.06	1.19
		WCDMA IV	1.18	
		WCDMA V	1.01	
	LTE	LTE Band 7	1.14	
		LTE Band 12 / 17	1.04	
		LTE Band 13	1.13	
		LTE Band 14	1.09	
		LTE Band 2 / 25	1.07	
		LTE Band 5 / 26	0.88	
		LTE Band 30	1.16	
		LTE Band 38	1.12	
		LTE Band 41	1.17	
		LTE Band 48	1.18	
		LTE Band 4 / 66	1.09	
		LTE Band 71	1.09	
	FR1	FR1 n2 / n5	1.15	
		FR1 n7	1.14	
		FR1 n25	1.13	
		FR1 n30	1.03	
		FR1 n 38 / n41	1.19	
		FR1 n66	1.15	
		FR1 n71	1.13	
		FR1 n77 / n78	1.10	
Date of Testing:			2021/11/17 ~ 2022/1/6	

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	TP00129B
FCC ID	2AJN7-TP00129B
Integrated WWAN Module	Brand Name: Fibocom Model Name: FM350-GL
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 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 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink) LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM NFC: ASK
EUT Stage	Production Unit

Remark:

1. This device had two antenna vendors, RF exposure evaluation is selected Amphenol as the main tested, NVC was spot check worst case found in Amphenol.
2. When the EN-DC is active only operating at WWAN main and MIMO2 antenna combination and the Sim-Tx analysis include in section14.
3. This device has NFC operations, the NFC antenna is integrated into the device for this model, therefore, all SAR test were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the antenna can be found in the operational description.
4. According to FCC KDB publication 447498 D01v06, transmitters are consider to be operating simultaneously when there is overlapping transmission, with the exception of transmission during network hand-offs with maximum hand-off duration less than 30 seconds.

WLAN Module Information	
Integrated WLAN Module	Brand Name: Intel® Wi-Fi 6E AX211 Model Name: AX211D2W
Wireless Technology and Frequency Range	WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6E: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 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 AX211D2W WLAN/BT module is also integrated into Lenovo TP00129B host. The WLAN 2.4GHz/5GHz and Bluetooth SAR results are referenced from Intel SAR report, report number: 201120-03.TR10 (FCC ID: PD9AX211D2), WLAN 6GHz SAR refers new report No.:201120-03.TR50 (FCC ID: PD9AX211D2).

WWAN Antenna Information				
Main Antenna	Manufacturer	Amphenol	Peak gain(dBi)	1.97
	Part number	TKC116-16-000-C	Type	PIFA
	Manufacturer	Novocomms/JYT	Peak gain(dBi)	1.83
	Part number	JYAAE0150HR	Type	PIFA
MIMO 2 Antenna	Manufacturer	Amphenol	Peak gain(dBi)	1.93
	Part number	TKC115-16-000-C	Type	PIFA
	Manufacturer	Novocomms/JYT	Peak gain(dBi)	2.28
	Part number	JYAAE0151HR	Type	PIFA

WLAN Antenna Information					
Antenna 1	**Manufacturer**	Amphenol			
	Antenna Type	PIFA Antenna		PIFA Antenna	
	Part number	DC33001VK00		DC33001VK00	
	Peak gain (dbi)	Main Antenna :		Aux Antenna :	
		WLAN(2.4G):	1.23 dBi	BT/WLAN(2.4G):	1.81 dBi
		WLAN(5G B1):	0.92 dBi	WLAN(5G B1):	1.90 dBi
		WLAN(5G B2):	0.60 dBi	WLAN(5G B2):	1.62 dBi
		WLAN(5G B3):	1.20 dBi	WLAN(5G B3):	1.94 dBi
		WLAN(5G B4):	1.20 dBi	WLAN(5G B4):	1.36 dBi
		UNII5:	1.28 dBi	UNII5:	1.57 dBi
Antenna 2	**Manufacturer**	NVC/JYT			
	Antenna Type	PIFA Antenna		PIFA Antenna	
	Part number	DC33001VJ00		DC33001VJ00	
	Peak gain (dbi)	Main Antenna :		Aux Antenna :	
		WLAN(2.4G):	1.06 dBi	BT/WLAN(2.4G):	-0.84 dBi
		WLAN(5G B1):	1.64 dBi	WLAN(5G B1):	0.78 dBi
		WLAN(5G B2):	1.94 dBi	WLAN(5G B2):	0.78 dBi
		WLAN(5G B3):	1.98 dBi	WLAN(5G B3):	0.33 dBi
		WLAN(5G B4):	1.98 dBi	WLAN(5G B4):	0.72 dBi
		UNII5:	2.39 dBi	UNII5:	0.88 dBi

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	2AJN7-TP00129B
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 / 256QAM
LTE Voice / Data requirements	Data only
LTE MPR permanently built-in by design	**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3**

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
256 QAM	≥ 1						≤ 5

LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.
Power reduction applied to satisfy SAR compliance	Yes, Proximity Sensor.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 11.
LTE Carrier Aggregation Additional Information	2This device supports maximum of 5 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

Transmission (H, M, L) channel numbers and frequencies in each LTE band

LTE Band 2

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

LTE Band 4

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

LTE Band 5

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844

LTE Band 7

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560

LTE Band 12

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711

LTE Band 13

	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		

LTE Band 14

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

LTE Band 17

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

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

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

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

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

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

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

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

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

3.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information	
FCC	2AJN7-TP00129B
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 n25 : 1850 MHz ~ 1915 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz
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 n25: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n30: 5MHz, 10MHz 5G NR n38: 10MHz, 15MHz, 20MHz 5G NR n41: 10MHz, 15MHz, 40MHz, 50MHz, 80MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 40MHz 5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n77: 10MHz, 15MHz, 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 100MHz
SCS	FDD/TDD: SCS15KHz and SCS30KHz
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM
A-MPR (Additional MPR) disabled for SAR Testing?	Yes
LTE Anchor Bands for n2	LTE B5/12/13/14
LTE Anchor Bands for n5	LTE B2/7/30/48/66
LTE Anchor Bands for n41	LTE B2/41/66
LTE Anchor Bands for n66	LTE B5/12/13/48
LTE Anchor Bands for n71	LTE B2/66
LTE Anchor Bands for n77	LTE B2/5/12/13/14/30/41/66
LTE Anchor Bands for n78	LTE B2/5/7/38

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 25								
	Bandwidth 5MHz		Bandwidth10MHz		Bandwidth15MHz		Bandwidth20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860
M	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5
H	382500	1912.5	382000	1910	381500	1907.5	381000	1905

NR Band 30				
	Bandwidth 5MHz		Bandwidth 10MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	461500	2307.5	462000	2310
M	462000	2310		
H	462500	2312.5		

NR Band 38						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	515004	2575.02	515502	2577.51	516000	2580
M	519000	2595	519000	2595	519000	2595
H	522996	2614.98	522498	2612.49	522000	2610

NR Band 41										
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 80MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500202	2501.01	500700	2503.5	503202	2516.01	504204	2521.02	507204	2536.02
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	534000	2670	532998	2664.99	529998	2649.99

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

NR Band 71								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133100	665.5	133600	668	13410	670.5	134600	673
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5
H	139100	695.5	138600	693	13810	690.5	137600	688

NR Band 77 (3700MHz – 3980MHz)																
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01	648668	3730.02	649334	3740.01	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664000	3960	663666	3954.99	663332	3949.98	662666	3939.99	662000	3930

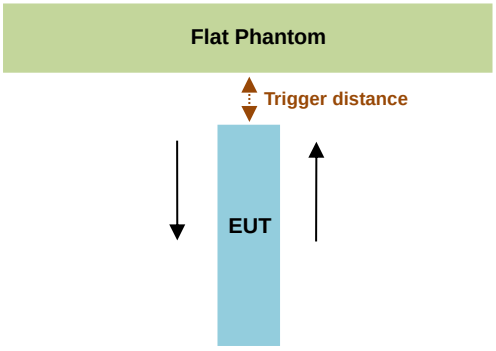
NR Band 78 (3700MHz – 3800MHz)																
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	648000	3720	648334	3725.01	648668	3730.02	649334	3740.01	650000	3750
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652000	3780	651666	3774.99	651332	3769.98	650666	3759.99	650000	3750

NR Band 77/78(3450MHz ~ 3550MHz)																
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631334	3470.01	631668	3475.02	632000	3480	632668	3490.02	633332	3499.98
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H	636332	3544.98	636166	3542.49	636000	3540	635332	3529.98	635000	3525	634666	3519.99	634000	3510	633332	3499.98

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.



Proximity Sensor Trigger Distance (mm)		
Main Antenna		
Position	Bottom of Laptop	
	moving toward	moving away
Minimum	16	16

Proximity Sensor Trigger Distance (mm)		
MIMO 2 Antenna		
Position	Bottom of Laptop	
	moving toward	moving away
Minimum	17	17

<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 for this device, due to the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor on this device.

Proximity sensor power reduction

Exposure Position / wireless mode	Bottom of Laptop (1)
WCDMA Band II Main	8.0 dB
WCDMA Band II MIMO2	7.5 dB
WCDMA Band IV Main	7.0 dB
WCDMA Band IV MIMO2	6.5 dB
WCDMA Band V Main	3.0 dB
LTE Band 7 Main	8.0 dB
LTE Band 7 MIMO2	6.5 dB
LTE Band 12 Main / 17 Main	2.5 dB
LTE Band 13 Main	3.0 dB
LTE Band 14 Main	3.0 dB
LTE Band 2 Main / 25 Main	6.0 dB
LTE Band 2 MIMO2 / 25 MIMO 2	6.0 dB
LTE Band 5 Main / 26 Main	2.5 dB
LTE Band 30 Main	6.0 dB
LTE Band 30 MIMO2	7.0 dB
LTE Band 38 Main	7.0 dB
LTE Band 41 Main	5.0 dB
LTE Band 38 MIMO2 / 41 MIMO2	7.0 dB
LTE Band 41_HPUE Main	8.0 dB
LTE Band 41_HPUE MIMO2	10.0 dB
LTE Band 48 Main	1.0 dB
LTE Band 48 MIMO2	2.0 dB
LTE Band 4 Main / 66 Main	6.0 dB
LTE Band 4 MIMO2 / 66 MIMO2	6.5 dB
LTE Band 71 Main	1.0 dB
FR1 n2 Main / n25 Main	5.0 dB
FR1 n2 MIMO2 / n 25 MIMO2	5.0 dB
FR1 n5 Main	2.5 dB
FR1 n7 Main	7.5 dB
FR1 n7 MIMO 2	6.0 dB
FR1 n30 Main	5.0 dB
FR1 n30 MIMO2	5.0 dB
FR1 n38 Main / n41 Main	8.5 dB
FR1 n41_HPUE Main	6.5 dB
FR1 n38 MIMO2 / n41 MIMO2	8.5 dB
FR1 n41_HPUE MIMO2	8.5 dB
FR1 n66 Main	4.0 dB
FR1 n66 MIMO 2	4.5 dB
FR1 n71 Main	0.5 dB
FR1 n77 Main / n78 Main	9.5 dB
FR1 n77_HPUE Main / n78_HPUE Main	9.0 dB
FR1 n77 MIMO2 / n78 MIMO2	7.0 dB
FR1 n77_HPUE MIMO2 / n78_HPUE MIMO2	7.0 dB

Remark:

1. (1): Reduced maximum limit applied by activation of proximity and G-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 was performed:

Main Antenna:

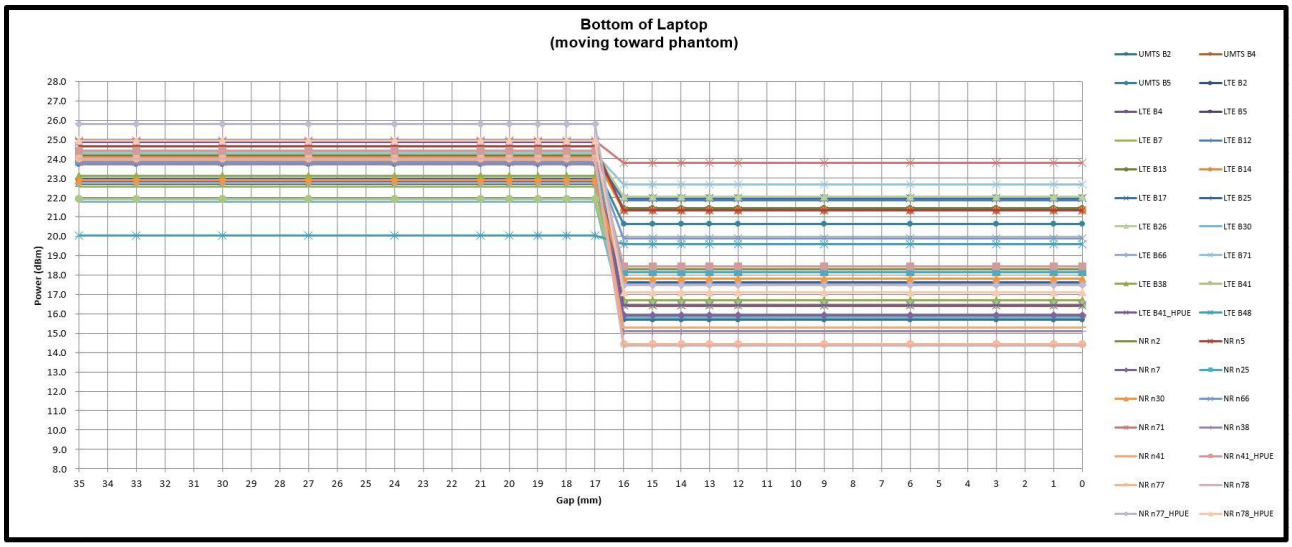
- Bottom of Laptop: 15 mm

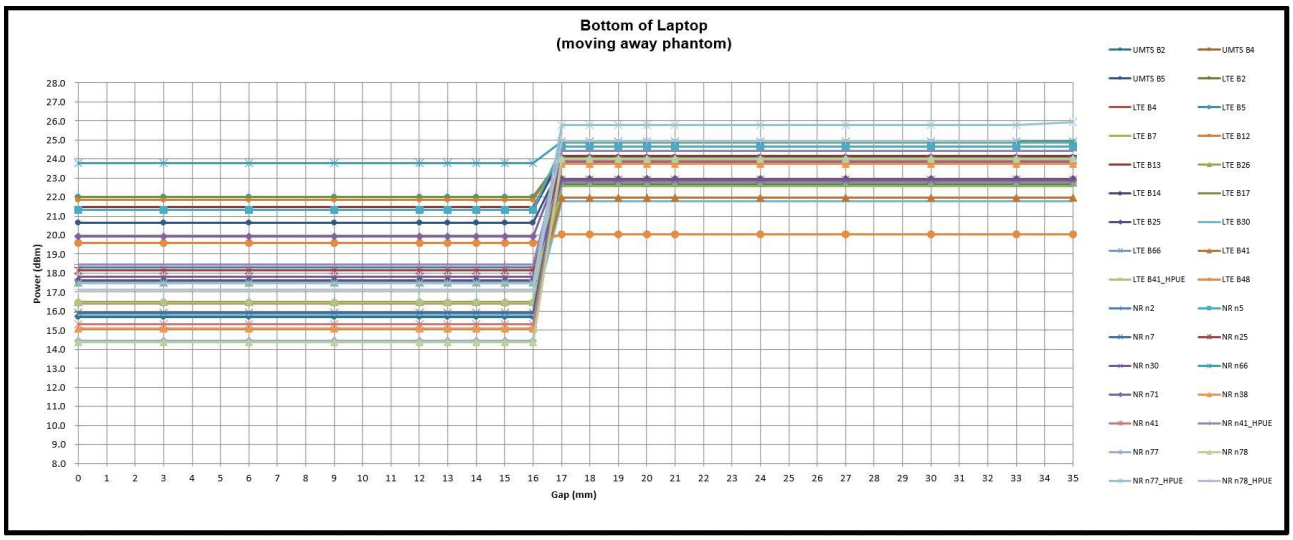
MIMO 2 Antenna:

- Bottom of Laptop: 15 mm

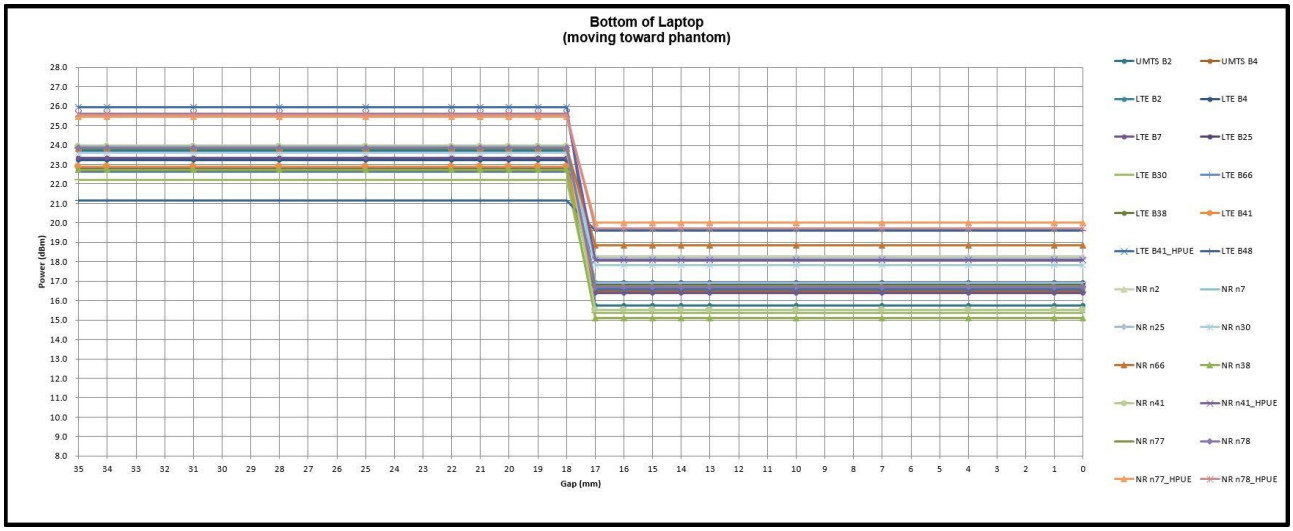
Power Measurement during Sensor Trigger distance testing

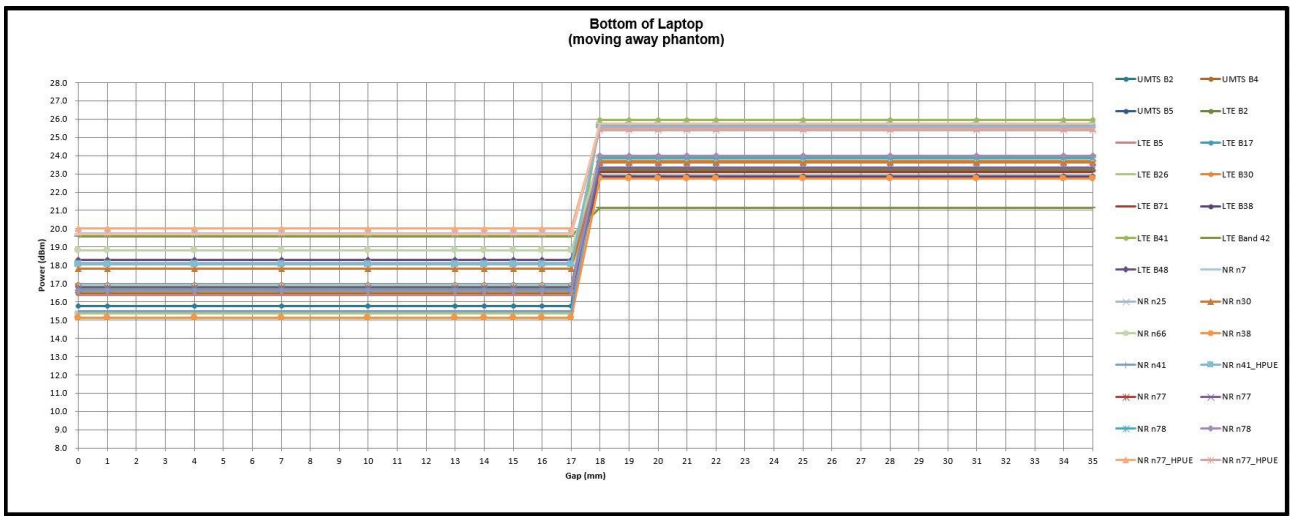
Main Antenna





MIMO 2 Antenna





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:

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

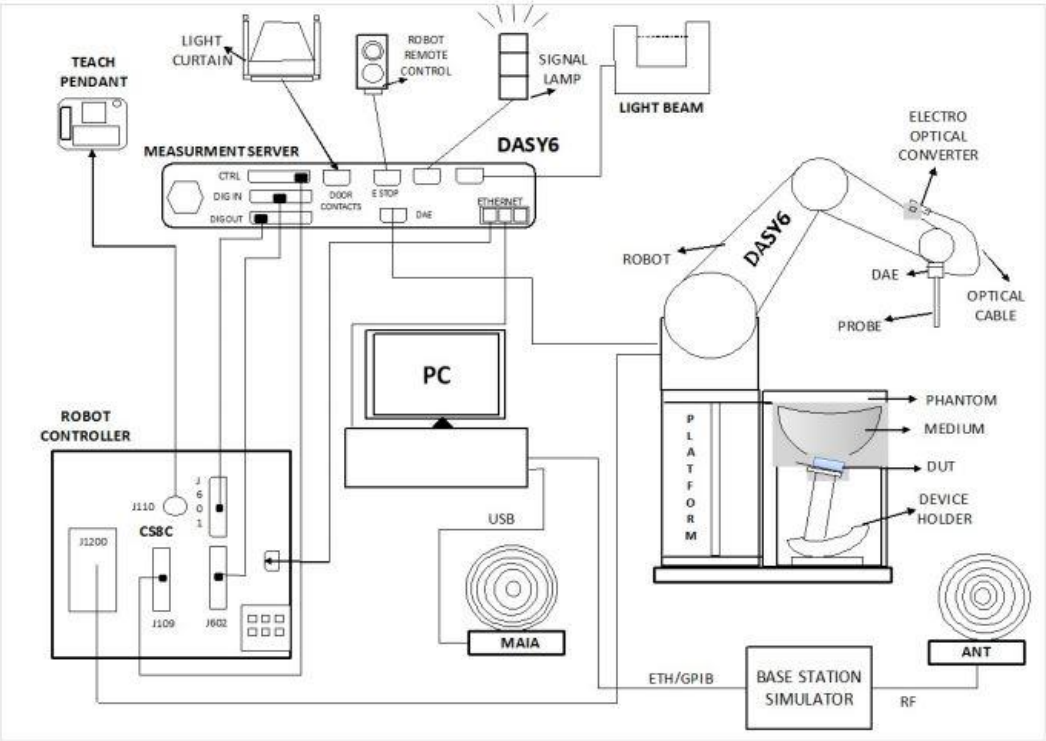
SAR is expressed in units of Watts per kilogram (W/kg)

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

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:



- The DASY system in DASY6/DASY5 V5.2 SAR Configuration is shown above
- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running windows software and the DASY5/DASY6 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

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 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

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

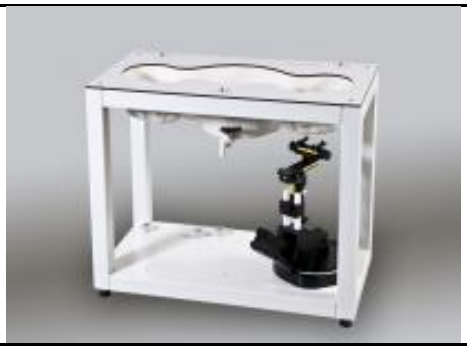
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Fig 5.1 Photo of DAE

7.4 Phantom

<SAM Twin Phantom>

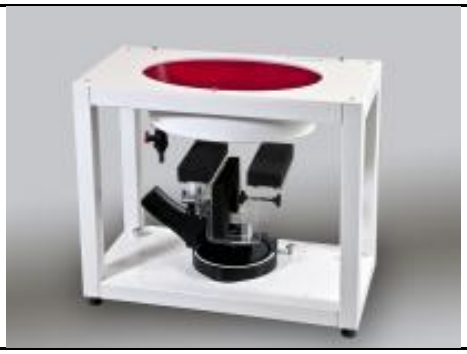
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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. 05, 2022
SPEAG	835MHz System Validation Kit(2)	D835V2	4d167	Nov. 25, 2019	Nov. 23, 2021
SPEAG	1750MHz System Validation Kit(2)	D1750V2	1112	Mar. 07, 2019	Mar. 04, 2022
SPEAG	1900MHz System Validation Kit(2)	D1900V2	5d185	Mar. 07, 2019	Mar. 04, 2022
SPEAG	2300MHz System Validation Kit(2)	D2300V2	1006	Jan. 28, 2019	Jan. 25, 2022
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 17, 2021	Aug. 16, 2022
SPEAG	2600MHz System Validation Kit(2)	D2600V2	1078	Mar. 06, 2019	Mar. 03, 2022
SPEAG	3500MHz System Validation Kit(2)	D3500V2	1014	Jan. 29, 2019	Jan. 26, 2022
SPEAG	3700MHz System Validation Kit(2)	D3700V2	1006	Mar. 05, 2019	Mar. 02, 2022
SPEAG	3900MHz System Validation Kit(2)	D3900V2	1017	Apr. 29, 2019	Apr. 26, 2022
SPEAG	Data Acquisition Electronics	DAE4	778	May. 21, 2021	May. 20, 2022
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	Apr. 23, 2021	Apr. 22, 2022
RCPTWN	Thermometer	HTC-1	TM685-1	Oct. 28, 2021	Oct. 27, 2022
Anritsu	Radio Communication Analyzer	MT8821C	6201074414	Jul. 21, 2021	Jul. 20, 2022
Keysight	Wireless Communication Test Set	E5515C	MY50267236	Mar. 21, 2021	Mar. 20, 2022
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3692A	212506	Jul. 20, 2021	Jul. 19, 2022
Keysight	ENA Network Analyzer	E5071C	MY46104758	Sep. 07, 2021	Sep. 06, 2022
SPEAG	Dielectric Probe Kit	DAK-12	1156	Jul. 16, 2021	Jul. 15, 2022
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3252	Jul. 15, 2021	Jul. 14, 2022
Anritsu	Power Meter	ML2495A	1419002	Aug. 18, 2021	Aug. 17, 2022
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2021	Aug. 17, 2022
Anritsu	Power Meter	ML2496A	2119003	Jun. 09, 2021	Jun. 08, 2022
Anritsu	Power Sensor	MA2411B	1911334	Jun. 01, 2021	May. 31, 2022
Anritsu	Spectrum Analyzer	N9010A	MY53470118	Jan. 15, 2021	Jan. 14, 2022
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 19, 2021	Aug. 18, 2022
Mini-Circuits	Power Amplifier	ZHL-42W+	321501827	Sep. 06, 2021	Sep. 05, 2022
Mini-Circuits	Power Amplifier	ZHL-42W+	715701915	May. 11, 2021	May. 10, 2022
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	22.5	0.890	43.137	0.89	41.90	0.00	2.95	±5	2021/11/19
750	22.5	0.891	43.197	0.89	41.90	0.11	3.10	±5	2021/11/22
835	22.5	0.920	42.721	0.90	41.50	2.22	2.94	±5	2021/11/19
835	22.5	0.922	42.781	0.90	41.50	2.44	3.09	±5	2021/11/22
1750	22.5	1.389	40.296	1.37	40.10	1.39	0.49	±5	2021/11/18
1750	22.5	1.372	39.825	1.37	40.10	0.15	-0.69	±5	2021/11/23
1900	22.5	1.405	40.193	1.40	40.00	0.36	0.48	±5	2021/11/18
1900	22.5	1.386	39.722	1.40	40.00	-1.00	-0.69	±5	2021/11/23
2300	22.5	1.699	39.546	1.67	39.50	1.74	0.12	±5	2021/11/20
2300	22.5	1.685	39.199	1.67	39.50	0.90	-0.76	±5	2021/11/22
2600	22.5	2.050	38.441	1.96	39.00	4.59	-1.43	±5	2021/11/20
2600	22.5	2.033	38.533	1.96	39.00	3.72	-1.20	±5	2021/11/21
2600	22.5	2.034	38.094	1.96	39.00	3.78	-2.32	±5	2021/11/22
2600	22.2	2.028	38.661	1.96	39.00	3.47	-0.87	±5	2022/1/6
3500	22.5	2.950	38.417	2.91	37.90	1.37	1.36	±5	2021/11/17
3500	22.2	2.996	38.487	2.91	37.90	2.96	1.55	±5	2022/1/6
3700	22.5	3.165	38.095	3.12	37.70	1.44	1.05	±5	2021/11/17
3700	22.2	3.200	38.165	3.12	37.70	2.56	1.23	±5	2022/1/6
3900	22.5	3.395	37.887	3.33	37.51	1.95	1.01	±5	2021/11/17
3900	22.2	3.428	38.117	3.33	37.51	2.94	1.62	±5	2022/1/6

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.

Test Site	Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
SAR06	2021/11/19	750	50	D750V3-1107	EX3DV4 - SN3925	DAE4 Sn778	0.400	8.32	8	-3.85
SAR06	2021/11/22	750	50	D750V3-1107	EX3DV4 - SN3925	DAE4 Sn778	0.396	8.32	7.92	-4.81
SAR06	2021/11/19	835	50	D835V2-4d167	EX3DV4 - SN3925	DAE4 Sn778	0.473	9.55	9.46	-0.94
SAR06	2021/11/22	835	50	D835V2-4d167	EX3DV4 - SN3925	DAE4 Sn778	0.456	9.55	9.12	-4.50
SAR06	2021/11/18	1750	50	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	1.77	36.70	35.4	-3.54
SAR06	2021/11/23	1750	50	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	1.82	36.70	36.4	-0.82
SAR06	2021/11/18	1900	50	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	1.89	39.40	37.8	-4.06
SAR06	2021/11/23	1900	50	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	1.89	39.40	37.8	-4.06
SAR06	2021/11/20	2300	50	D2300V2-1006	EX3DV4 - SN3925	DAE4 Sn778	2.29	48.70	45.8	-5.95
SAR06	2021/11/22	2300	50	D2300V2-1006	EX3DV4 - SN3925	DAE4 Sn778	2.41	48.70	48.2	-1.03
SAR06	2021/11/20	2600	50	D2600V2-1078	EX3DV4 - SN3925	DAE4 Sn778	2.72	57.60	54.4	-5.56
SAR06	2021/11/21	2600	50	D2600V2-1078	EX3DV4 - SN3925	DAE4 Sn778	2.67	57.60	53.4	-7.29
SAR06	2021/11/22	2600	50	D2600V2-1078	EX3DV4 - SN3925	DAE4 Sn778	2.67	57.60	53.4	-7.29
SAR06	2022/1/6	2600	50	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	2.70	58.00	54	-6.90
SAR06	2021/11/17	3500	50	D3500V2-1014	EX3DV4 - SN3925	DAE4 Sn778	3.47	67.90	69.4	2.21
SAR06	2022/1/6	3500	50	D3500V2-1014	EX3DV4 - SN3925	DAE4 Sn778	3.16	67.90	63.2	-6.92
SAR06	2021/11/17	3700	50	D3700V2-1006	EX3DV4 - SN3925	DAE4 Sn778	3.13	67.30	62.6	-6.98
SAR06	2022/1/6	3700	100	D3700V2-1006	EX3DV4 - SN3925	DAE4 Sn778	6.79	67.30	67.9	0.89
SAR06	2021/11/17	3900	50	D3900V2-1017-3900	EX3DV4 - SN3925	DAE4 Sn778	3.65	69.50	73	5.04
SAR06	2022/1/6	3900	50	D3900V2-1017-3900	EX3DV4 - SN3925	DAE4 Sn778	3.41	69.50	68.2	-1.87

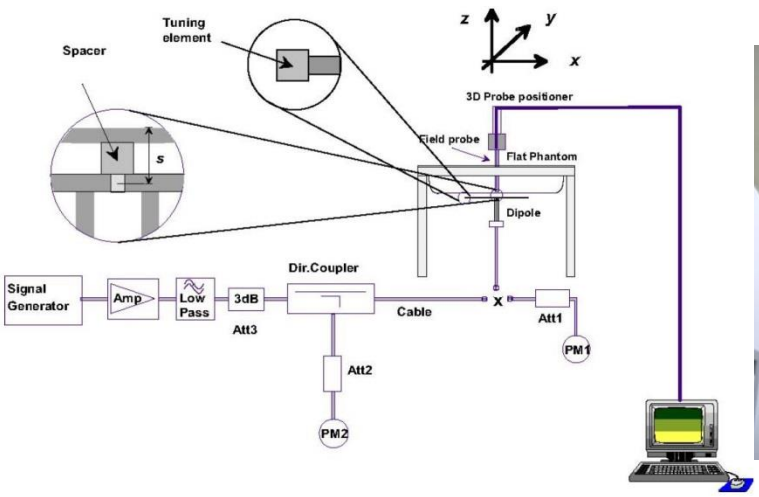


Fig 8.3.1 System Performance Check Setup

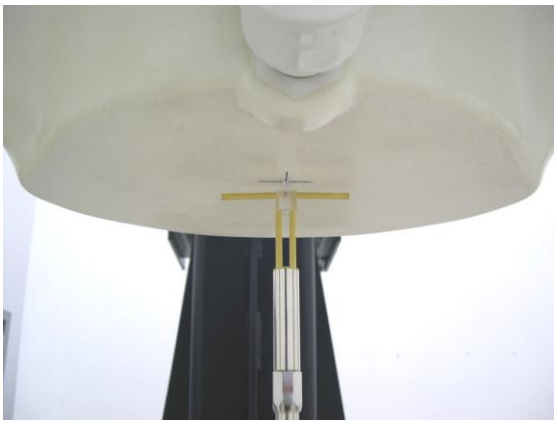


Fig 8.3.2 Setup Photo

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

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (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.		

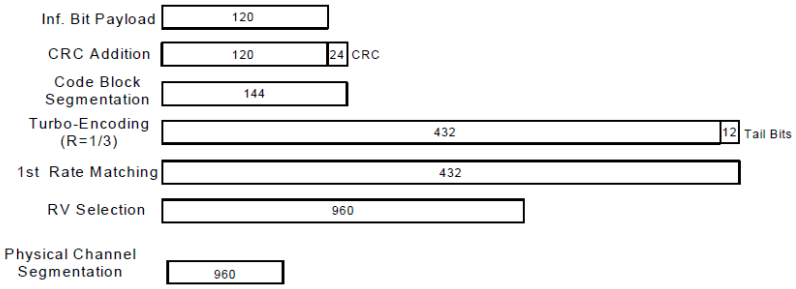


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

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

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

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

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	$\beta_{ed}1$: 30/15 $\beta_{ed}2$: 30/15	$\beta_{ed}3$: 24/15 $\beta_{ed}4$: 24/15	3.5	2.5	14	105	105

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

Setup Configuration

<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ 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

<Main>

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	23.71	23.77	23.73	24.50	23.88	23.80	23.85	24.50	23.73	23.62	23.52	24.50
3GPP Rel 6	HSDPA Subtest-1	22.86	22.96	22.90	23.50	22.92	22.78	22.89	23.50	22.70	22.56	22.59	23.50
3GPP Rel 6	HSDPA Subtest-2	22.98	22.93	22.78	23.50	22.94	22.79	22.76	23.50	22.69	22.47	22.51	23.50
3GPP Rel 6	HSDPA Subtest-3	22.51	22.46	22.38	23.00	22.38	22.35	22.39	23.00	22.22	22.10	22.04	23.00
3GPP Rel 6	HSDPA Subtest-4	22.45	22.43	22.26	23.00	22.45	22.31	22.48	23.00	22.13	22.03	22.04	23.00
3GPP Rel 8	DC-HSDPA Subtest-1	22.90	23.00	22.81	23.50	22.85	22.65	22.86	23.50	22.67	22.45	22.46	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.86	22.90	22.85	23.50	22.78	22.79	22.69	23.50	22.60	22.48	22.47	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	22.32	22.54	22.30	23.00	22.38	22.30	22.34	23.00	22.14	22.06	22.04	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	22.21	22.37	22.38	23.00	22.33	22.42	22.21	23.00	22.07	21.95	21.91	23.00
3GPP Rel 6	HSUPA Subtest-1	21.93	21.86	21.76	23.50	21.59	21.73	21.53	23.50	21.74	21.73	21.68	23.50
3GPP Rel 6	HSUPA Subtest-2	20.79	20.82	20.66	21.50	20.83	20.93	20.83	21.50	20.66	20.45	20.45	21.50
3GPP Rel 6	HSUPA Subtest-3	21.85	21.78	21.74	22.50	21.95	21.85	21.80	22.50	21.63	21.47	21.53	22.50
3GPP Rel 6	HSUPA Subtest-4	20.49	20.38	20.52	21.50	20.63	20.58	20.58	21.50	20.13	19.95	19.97	21.50
3GPP Rel 6	HSUPA Subtest-5	21.79	21.72	21.81	23.50	21.88	21.90	21.76	23.50	21.59	21.56	21.43	23.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	21.78	21.67	21.67	22.50	21.77	21.87	21.81	22.50	21.67	21.55	21.54	22.50

<MIMO 2>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	RMC 12.2Kbps	23.69	23.71	23.63	24.00	23.85	23.72	23.82	24.00
3GPP Rel 6	HSDPA Subtest-1	22.80	22.96	22.90	23.00	22.82	22.77	22.79	23.00
3GPP Rel 6	HSDPA Subtest-2	22.91	22.83	22.75	23.00	22.90	22.76	22.74	23.00
3GPP Rel 6	HSDPA Subtest-3	22.46	22.37	22.35	22.50	22.32	22.31	22.38	22.50
3GPP Rel 6	HSDPA Subtest-4	22.41	22.34	22.17	22.50	22.36	22.27	22.44	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.86	22.97	22.75	23.00	22.76	22.59	22.76	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	22.86	22.85	22.81	23.00	22.71	22.71	22.66	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	22.31	22.47	22.23	22.50	22.34	22.24	22.31	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	22.19	22.33	22.37	22.50	22.23	22.36	22.11	22.50
3GPP Rel 6	HSUPA Subtest-1	21.89	21.83	21.75	23.00	21.53	21.68	21.54	23.00
3GPP Rel 6	HSUPA Subtest-2	20.69	20.77	20.57	21.00	20.80	20.86	20.78	21.00
3GPP Rel 6	HSUPA Subtest-3	21.79	21.78	21.66	22.00	21.91	21.84	21.74	22.00
3GPP Rel 6	HSUPA Subtest-4	20.39	20.38	20.47	21.00	20.53	20.56	20.58	21.00
3GPP Rel 6	HSUPA Subtest-5	21.74	21.72	21.75	23.00	21.81	21.86	21.73	23.00
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	21.73	21.61	21.66	22.50	21.75	21.81	21.81	22.50

Reduced Power Mode

<Main>

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	15.70	15.63	15.65	16.50	16.40	16.31	16.33	17.50	20.59	20.64	20.63	21.50
3GPP Rel 6	HSDPA Subtest-1	14.68	14.50	14.66	15.50	15.47	15.36	15.32	16.50	19.62	19.69	19.68	20.50
3GPP Rel 6	HSDPA Subtest-2	14.57	14.51	14.53	15.50	15.30	15.34	15.28	16.50	19.61	19.69	19.68	20.50
3GPP Rel 6	HSDPA Subtest-3	14.16	14.05	14.03	15.00	14.86	14.83	14.82	16.00	19.15	19.22	19.20	20.00
3GPP Rel 6	HSDPA Subtest-4	14.21	13.98	14.10	15.00	14.93	14.72	14.86	16.00	19.11	19.19	19.20	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.47	14.54	14.58	15.50	15.35	15.20	15.25	16.50	19.26	19.22	19.22	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.53	14.52	14.43	15.50	15.34	15.28	15.34	16.50	19.54	19.66	19.66	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	14.18	13.94	13.95	15.00	14.90	14.67	14.77	16.00	19.10	19.13	19.15	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	14.03	14.05	13.85	15.00	14.82	14.78	14.86	16.00	19.02	19.15	19.17	20.00
3GPP Rel 6	HSUPA Subtest-1	11.69	12.61	12.46	13.50	13.37	13.22	13.06	14.50	17.57	17.50	17.53	18.50
3GPP Rel 6	HSUPA Subtest-2	12.58	12.63	12.55	13.50	13.28	13.27	13.35	14.50	17.58	17.64	17.63	18.50
3GPP Rel 6	HSUPA Subtest-3	13.71	13.60	13.52	14.50	13.84	14.00	13.94	15.50	18.38	18.33	18.45	19.50
3GPP Rel 6	HSUPA Subtest-4	12.75	12.57	12.65	13.50	13.29	13.30	13.25	14.50	17.60	17.67	17.65	18.50
3GPP Rel 6	HSUPA Subtest-5	13.60	13.57	13.48	14.50	14.33	14.26	14.22	15.50	18.60	18.70	18.60	19.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	13.61	13.45	13.60	14.50	14.19	14.32	14.18	15.50	18.57	18.68	18.56	19.50

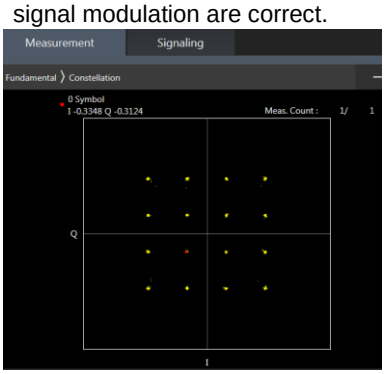
<MIMO 2>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	RMC 12.2Kbps	15.76	15.66	15.65	16.50	16.46	16.38	16.40	17.50
3GPP Rel 6	HSDPA Subtest-1	14.74	14.68	14.72	15.50	15.47	15.44	15.43	16.50
3GPP Rel 6	HSDPA Subtest-2	14.73	14.64	14.66	15.50	15.46	15.43	15.43	16.50
3GPP Rel 6	HSDPA Subtest-3	14.24	14.15	14.20	15.00	15.00	14.97	14.96	16.00
3GPP Rel 6	HSDPA Subtest-4	14.26	14.12	14.15	15.00	14.96	14.92	14.92	16.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.65	14.66	14.64	15.50	15.41	15.40	15.35	16.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.72	14.54	14.60	15.50	15.46	15.34	15.36	16.50
3GPP Rel 8	DC-HSDPA Subtest-3	14.23	14.09	14.10	15.00	15.00	14.87	14.93	16.00
3GPP Rel 8	DC-HSDPA Subtest-4	14.17	14.07	14.05	15.00	14.88	14.92	14.90	16.00
3GPP Rel 6	HSUPA Subtest-1	11.76	12.64	12.63	13.50	13.39	13.35	13.24	14.50
3GPP Rel 6	HSUPA Subtest-2	12.76	12.67	12.64	13.50	13.41	13.38	13.37	14.50
3GPP Rel 6	HSUPA Subtest-3	13.76	13.61	13.63	14.50	14.01	14.04	14.06	15.50
3GPP Rel 6	HSUPA Subtest-4	12.78	12.69	12.69	13.50	13.44	13.40	13.39	14.50
3GPP Rel 6	HSUPA Subtest-5	13.80	13.60	13.68	14.50	14.40	14.40	14.30	15.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	13.79	13.61	13.65	14.50	14.38	14.37	14.18	15.50

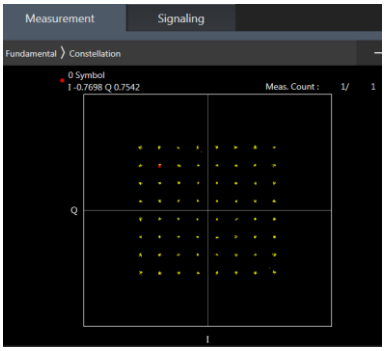
<LTE Conducted Power>

General Note:

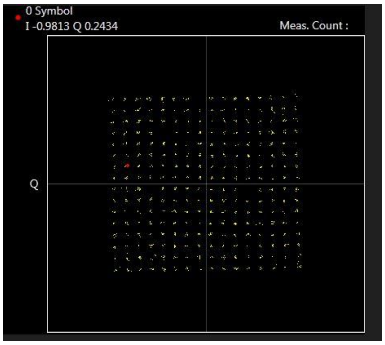
1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested 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 B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ 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 16QAM, 64QAM, 256QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



16QAM



64QAM



256QAM

Default Power Mode

<LTE Band 2_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	22.70	22.66	22.58	24
20	QPSK	1	49	22.37	22.40	22.18	
20	QPSK	1	99	22.28	22.19	22.06	
20	QPSK	50	0	21.14	21.07	21.17	23
20	QPSK	50	24	21.17	21.32	21.25	
20	QPSK	50	50	21.08	21.15	21.15	
20	QPSK	100	0	21.10	21.21	21.17	
20	16QAM	1	0	21.84	21.89	21.70	23
20	16QAM	1	49	21.94	21.93	21.81	
20	16QAM	1	99	21.78	21.87	21.75	
20	16QAM	50	0	20.93	20.60	20.66	22
20	16QAM	50	24	20.84	20.81	20.75	
20	16QAM	50	50	20.80	20.68	20.65	
20	16QAM	100	0	20.80	20.74	20.66	
20	64QAM	1	0	20.83	20.84	20.69	22
20	64QAM	1	49	20.88	20.86	20.76	
20	64QAM	1	99	20.77	20.69	20.63	
20	64QAM	50	0	19.84	19.58	19.65	21
20	64QAM	50	24	19.85	19.81	19.70	
20	64QAM	50	50	19.72	19.64	19.65	
20	64QAM	100	0	19.83	19.71	19.67	
20	256QAM	1	0	17.75	17.77	17.68	19
20	256QAM	1	49	17.91	17.83	17.76	
20	256QAM	1	99	17.68	17.68	17.68	
20	256QAM	50	0	17.84	17.52	17.65	19
20	256QAM	50	24	17.83	17.75	17.67	
20	256QAM	50	50	17.70	17.62	17.62	
20	256QAM	100	0	17.81	17.62	17.64	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.63	22.59	22.53	24
15	QPSK	1	37	22.31	22.33	22.15	
15	QPSK	1	74	22.20	22.16	22.06	
15	QPSK	36	0	21.08	21.02	21.11	23
15	QPSK	36	20	21.15	21.25	21.20	
15	QPSK	36	39	21.08	21.05	21.10	
15	QPSK	75	0	21.10	21.18	21.09	
15	16QAM	1	0	21.76	21.84	21.63	23
15	16QAM	1	37	21.90	21.84	21.77	
15	16QAM	1	74	21.70	21.77	21.73	
15	16QAM	36	0	20.83	20.58	20.58	22
15	16QAM	36	20	20.74	20.78	20.72	
15	16QAM	36	39	20.74	20.59	20.55	
15	16QAM	75	0	20.72	20.72	20.64	
15	64QAM	1	0	20.78	20.77	20.68	22
15	64QAM	1	37	20.78	20.82	20.69	
15	64QAM	1	74	20.69	20.66	20.62	
15	64QAM	36	0	19.78	19.55	19.55	21
15	64QAM	36	20	19.79	19.71	19.68	
15	64QAM	36	39	19.62	19.63	19.60	

15	64QAM	75	0	19.76	19.71	19.57	
15	256QAM	1	0	17.67	17.71	17.65	19
15	256QAM	1	37	17.91	17.77	17.75	
15	256QAM	1	74	17.66	17.60	17.62	
15	256QAM	36	0	17.78	17.44	17.59	19
15	256QAM	36	20	17.74	17.73	17.65	
15	256QAM	36	39	17.66	17.56	17.55	
15	256QAM	75	0	17.81	17.59	17.60	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	22.63	22.65	22.51	24
10	QPSK	1	25	22.33	22.35	22.10	
10	QPSK	1	49	22.27	22.09	22.03	
10	QPSK	25	0	21.04	21.08	21.16	23
10	QPSK	25	12	21.12	21.26	21.19	
10	QPSK	25	25	21.01	21.15	21.12	
10	QPSK	50	0	21.10	21.14	21.13	
10	16QAM	1	0	21.77	21.86	21.70	23
10	16QAM	1	25	21.91	21.90	21.80	
10	16QAM	1	49	21.71	21.80	21.75	
10	16QAM	25	0	20.88	20.58	20.59	22
10	16QAM	25	12	20.82	20.74	20.67	
10	16QAM	25	25	20.76	20.67	20.64	
10	16QAM	50	0	20.80	20.74	20.60	
10	64QAM	1	0	20.76	20.80	20.62	22
10	64QAM	1	25	20.83	20.85	20.72	
10	64QAM	1	49	20.76	20.61	20.55	
10	64QAM	25	0	19.83	19.48	19.62	21
10	64QAM	25	12	19.78	19.79	19.70	
10	64QAM	25	25	19.68	19.60	19.62	
10	64QAM	50	0	19.75	19.67	19.65	
10	256QAM	1	0	17.72	17.77	17.64	19
10	256QAM	1	25	17.91	17.73	17.68	
10	256QAM	1	49	17.62	17.68	17.60	
10	256QAM	25	0	17.84	17.50	17.62	19
10	256QAM	25	12	17.76	17.75	17.57	
10	256QAM	25	25	17.67	17.58	17.57	
10	256QAM	50	0	17.79	17.57	17.58	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	22.69	22.65	22.52	24
5	QPSK	1	12	22.33	22.32	22.13	
5	QPSK	1	24	22.23	22.19	22.00	
5	QPSK	12	0	21.09	21.07	21.10	23
5	QPSK	12	7	21.15	21.29	21.19	
5	QPSK	12	13	21.07	21.05	21.10	
5	QPSK	25	0	21.00	21.16	21.14	
5	16QAM	1	0	21.77	21.84	21.61	23
5	16QAM	1	12	21.93	21.86	21.74	
5	16QAM	1	24	21.78	21.84	21.68	
5	16QAM	12	0	20.89	20.57	20.64	22
5	16QAM	12	7	20.78	20.76	20.66	
5	16QAM	12	13	20.80	20.61	20.55	
5	16QAM	25	0	20.71	20.66	20.57	
5	64QAM	1	0	20.78	20.77	20.59	22
5	64QAM	1	12	20.79	20.83	20.74	

5	64QAM	1	24	20.75	20.67	20.57	
5	64QAM	12	0	19.78	19.49	19.62	21
5	64QAM	12	7	19.81	19.75	19.60	
5	64QAM	12	13	19.69	19.55	19.57	
5	64QAM	25	0	19.76	19.69	19.60	
5	256QAM	1	0	17.67	17.72	17.59	19
5	256QAM	1	12	17.84	17.81	17.69	
5	256QAM	1	24	17.68	17.68	17.63	
5	256QAM	12	0	17.81	17.51	17.62	19
5	256QAM	12	7	17.74	17.69	17.63	
5	256QAM	12	13	17.63	17.62	17.60	
5	256QAM	25	0	17.75	17.58	17.64	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.62	22.63	22.54	24
3	QPSK	1	8	22.31	22.35	22.17	
3	QPSK	1	14	22.20	22.13	22.01	
3	QPSK	8	0	21.06	21.00	21.17	23
3	QPSK	8	4	21.13	21.25	21.24	
3	QPSK	8	7	21.00	21.13	21.09	
3	QPSK	15	0	21.03	21.16	21.08	
3	16QAM	1	0	21.77	21.84	21.60	23
3	16QAM	1	8	21.90	21.90	21.79	
3	16QAM	1	14	21.70	21.79	21.70	
3	16QAM	8	0	20.85	20.51	20.57	22
3	16QAM	8	4	20.77	20.77	20.66	
3	16QAM	8	7	20.71	20.64	20.58	
3	16QAM	15	0	20.70	20.72	20.64	
3	64QAM	1	0	20.83	20.83	20.68	22
3	64QAM	1	8	20.81	20.85	20.67	
3	64QAM	1	14	20.76	20.63	20.60	
3	64QAM	8	0	19.74	19.55	19.55	21
3	64QAM	8	4	19.79	19.81	19.65	
3	64QAM	8	7	19.63	19.62	19.57	
3	64QAM	15	0	19.73	19.68	19.67	
3	256QAM	1	0	17.66	17.72	17.63	19
3	256QAM	1	8	17.85	17.78	17.73	
3	256QAM	1	14	17.66	17.67	17.64	
3	256QAM	8	0	17.76	17.42	17.61	19
3	256QAM	8	4	17.79	17.71	17.65	
3	256QAM	8	7	17.64	17.57	17.60	
3	256QAM	15	0	17.78	17.57	17.63	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.69	22.57	22.55	24
1.4	QPSK	1	3	22.36	22.32	22.18	
1.4	QPSK	1	5	22.28	22.11	22.00	
1.4	QPSK	3	0	22.68	22.66	22.48	
1.4	QPSK	3	1	22.37	22.36	22.11	
1.4	QPSK	3	3	22.28	22.12	22.00	
1.4	QPSK	6	0	21.00	21.02	21.15	23
1.4	16QAM	1	0	21.74	21.86	21.68	23
1.4	16QAM	1	3	21.86	21.84	21.74	
1.4	16QAM	1	5	21.76	21.87	21.71	
1.4	16QAM	3	0	21.81	21.88	21.64	
1.4	16QAM	3	1	21.92	21.89	21.79	

1.4	16QAM	3	3	21.68	21.78	21.65	
1.4	16QAM	6	0	20.93	20.53	20.64	22
1.4	64QAM	1	0	20.83	20.82	20.62	22
1.4	64QAM	1	3	20.88	20.86	20.75	
1.4	64QAM	1	5	20.70	20.64	20.63	
1.4	64QAM	3	0	20.77	20.75	20.59	
1.4	64QAM	3	1	20.78	20.85	20.71	
1.4	64QAM	3	3	20.68	20.59	20.54	
1.4	64QAM	6	0	19.76	19.52	19.65	21
1.4	256QAM	1	0	17.72	17.68	17.64	19
1.4	256QAM	1	3	17.90	17.80	17.67	
1.4	256QAM	1	5	17.58	17.64	17.63	
1.4	256QAM	3	0	17.72	17.67	17.63	
1.4	256QAM	3	1	17.89	17.74	17.67	
1.4	256QAM	3	3	17.67	17.66	17.59	
1.4	256QAM	6	0	17.79	17.49	17.58	19

<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)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	22.71	22.82	22.63	24
20	QPSK	1	49	22.36	22.37	22.15	
20	QPSK	1	99	22.21	22.10	22.17	
20	QPSK	50	0	21.10	21.05	21.07	23
20	QPSK	50	24	21.15	21.29	21.25	
20	QPSK	50	50	21.08	21.07	21.06	
20	QPSK	100	0	21.02	21.17	21.07	
20	16QAM	1	0	21.75	21.88	21.60	23
20	16QAM	1	49	21.84	21.89	21.75	
20	16QAM	1	99	21.77	21.84	21.70	
20	16QAM	50	0	20.88	20.59	20.62	22
20	16QAM	50	24	20.74	20.75	20.74	
20	16QAM	50	50	20.70	20.60	20.59	
20	16QAM	100	0	20.72	20.70	20.64	
20	64QAM	1	0	20.80	20.77	20.69	22
20	64QAM	1	49	20.88	20.77	20.68	
20	64QAM	1	99	20.72	20.66	20.56	
20	64QAM	50	0	19.81	19.56	19.58	21
20	64QAM	50	24	19.79	19.79	19.69	
20	64QAM	50	50	19.65	19.58	19.56	
20	64QAM	100	0	19.83	19.67	19.57	
20	256QAM	1	0	17.71	17.76	17.65	19
20	256QAM	1	49	17.83	17.78	17.72	
20	256QAM	1	99	17.65	17.61	17.66	
20	256QAM	50	0	17.81	17.46	17.60	19
20	256QAM	50	24	17.76	17.68	17.62	
20	256QAM	50	50	17.61	17.54	17.60	
20	256QAM	100	0	17.80	17.62	17.61	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.63	22.81	22.59	24
15	QPSK	1	37	22.30	22.34	22.14	

15	QPSK	1	74	22.21	22.05	22.08	
15	QPSK	36	0	21.04	21.15	21.03	23
15	QPSK	36	20	21.12	21.21	21.25	
15	QPSK	36	39	21.00	21.04	21.06	
15	QPSK	75	0	21.04	21.13	21.08	
15	16QAM	1	0	21.68	21.80	21.59	23
15	16QAM	1	37	21.84	21.86	21.68	
15	16QAM	1	74	21.73	21.83	21.67	
15	16QAM	36	0	20.88	20.57	20.53	22
15	16QAM	36	20	20.71	20.75	20.73	
15	16QAM	36	39	20.65	20.50	20.51	
15	16QAM	75	0	20.63	20.67	20.54	
15	64QAM	1	0	20.71	20.75	20.59	22
15	64QAM	1	37	20.79	20.74	20.62	
15	64QAM	1	74	20.63	20.61	20.54	
15	64QAM	36	0	19.78	19.50	19.50	21
15	64QAM	36	20	19.76	19.78	19.64	
15	64QAM	36	39	19.61	19.55	19.53	
15	64QAM	75	0	19.73	19.57	19.56	
15	256QAM	1	0	17.67	17.76	17.59	19
15	256QAM	1	37	17.83	17.73	17.65	
15	256QAM	1	74	17.61	17.54	17.65	
15	256QAM	36	0	17.73	17.39	17.51	19
15	256QAM	36	20	17.76	17.63	17.55	
15	256QAM	36	39	17.58	17.53	17.53	
15	256QAM	75	0	17.76	17.55	17.56	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	22.69	22.76	22.60	24
10	QPSK	1	25	22.28	22.36	22.07	
10	QPSK	1	49	22.19	22.08	22.17	
10	QPSK	25	0	21.08	21.18	21.00	23
10	QPSK	25	12	21.07	21.23	21.21	
10	QPSK	25	25	21.06	21.04	21.01	
10	QPSK	50	0	21.08	21.07	21.01	
10	16QAM	1	0	21.65	21.78	21.51	23
10	16QAM	1	25	21.80	21.84	21.72	
10	16QAM	1	49	21.74	21.83	21.68	
10	16QAM	25	0	20.84	20.51	20.57	22
10	16QAM	25	12	20.67	20.75	20.73	
10	16QAM	25	25	20.67	20.54	20.52	
10	16QAM	50	0	20.65	20.66	20.56	
10	64QAM	1	0	20.76	20.70	20.63	22
10	64QAM	1	25	20.85	20.71	20.61	
10	64QAM	1	49	20.68	20.65	20.46	
10	64QAM	25	0	19.73	19.49	19.49	21
10	64QAM	25	12	19.73	19.69	19.68	
10	64QAM	25	25	19.55	19.58	19.50	
10	64QAM	50	0	19.82	19.59	19.55	
10	256QAM	1	0	17.62	17.70	17.61	19
10	256QAM	1	25	17.82	17.74	17.68	
10	256QAM	1	49	17.65	17.52	17.64	
10	256QAM	25	0	17.81	17.45	17.59	19
10	256QAM	25	12	17.74	17.65	17.61	
10	256QAM	25	25	17.53	17.54	17.50	
10	256QAM	50	0	17.79	17.62	17.51	

Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	22.64	22.74	22.63	24
5	QPSK	1	12	22.29	22.35	22.05	
5	QPSK	1	24	22.12	22.07	22.13	
5	QPSK	12	0	21.03	21.19	21.18	23
5	QPSK	12	7	21.06	21.24	21.19	
5	QPSK	12	13	21.09	21.05	21.03	
5	QPSK	25	0	21.18	21.09	21.05	
5	16QAM	1	0	21.66	21.84	21.60	23
5	16QAM	1	12	21.84	21.85	21.70	
5	16QAM	1	24	21.70	21.83	21.70	
5	16QAM	12	0	20.86	20.51	20.61	22
5	16QAM	12	7	20.74	20.74	20.71	
5	16QAM	12	13	20.70	20.52	20.58	
5	16QAM	25	0	20.70	20.61	20.57	
5	64QAM	1	0	20.76	20.71	20.69	22
5	64QAM	1	12	20.85	20.68	20.66	
5	64QAM	1	24	20.69	20.58	20.52	
5	64QAM	12	0	19.80	19.49	19.52	21
5	64QAM	12	7	19.71	19.78	19.60	
5	64QAM	12	13	19.63	19.53	19.56	
5	64QAM	25	0	19.75	19.59	19.49	
5	256QAM	1	0	17.69	17.69	17.55	19
5	256QAM	1	12	17.73	17.68	17.71	
5	256QAM	1	24	17.56	17.61	17.64	
5	256QAM	12	0	17.74	17.41	17.53	19
5	256QAM	12	7	17.74	17.68	17.55	
5	256QAM	12	13	17.57	17.54	17.53	
5	256QAM	25	0	17.71	17.53	17.53	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.69	22.73	22.60	24
3	QPSK	1	8	22.26	22.37	22.13	
3	QPSK	1	14	22.16	22.08	22.11	
3	QPSK	8	0	21.09	21.04	21.05	23
3	QPSK	8	4	21.12	21.19	21.17	
3	QPSK	8	7	21.06	21.06	21.05	
3	QPSK	15	0	21.19	21.12	21.00	
3	16QAM	1	0	21.71	21.83	21.51	23
3	16QAM	1	8	21.81	21.87	21.72	
3	16QAM	1	14	21.76	21.75	21.63	
3	16QAM	8	0	20.79	20.54	20.52	22
3	16QAM	8	4	20.65	20.68	20.64	
3	16QAM	8	7	20.64	20.55	20.55	
3	16QAM	15	0	20.69	20.65	20.61	
3	64QAM	1	0	20.73	20.75	20.67	22
3	64QAM	1	8	20.79	20.73	20.58	
3	64QAM	1	14	20.67	20.56	20.56	
3	64QAM	8	0	19.77	19.53	19.48	21
3	64QAM	8	4	19.73	19.74	19.65	
3	64QAM	8	7	19.59	19.48	19.49	
3	64QAM	15	0	19.77	19.64	19.55	
3	256QAM	1	0	17.62	17.74	17.61	19
3	256QAM	1	8	17.76	17.73	17.72	
3	256QAM	1	14	17.64	17.52	17.57	

3	256QAM	8	0	17.77	17.43	17.53	19
3	256QAM	8	4	17.71	17.58	17.60	
3	256QAM	8	7	17.60	17.48	17.51	
3	256QAM	15	0	17.75	17.59	17.56	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.71	22.81	22.59	24
1.4	QPSK	1	3	22.36	22.28	22.08	
1.4	QPSK	1	5	22.15	22.04	22.12	
1.4	QPSK	3	0	22.27	22.30	22.07	
1.4	QPSK	3	1	22.16	22.09	22.09	
1.4	QPSK	3	3	22.21	22.06	22.15	
1.4	QPSK	6	0	21.73	21.88	21.54	23
1.4	16QAM	1	0	21.72	21.85	21.53	23
1.4	16QAM	1	3	21.75	21.80	21.69	
1.4	16QAM	1	5	21.67	21.81	21.62	
1.4	16QAM	3	0	21.73	21.88	21.54	
1.4	16QAM	3	1	21.75	21.82	21.75	
1.4	16QAM	3	3	21.69	21.76	21.70	
1.4	16QAM	6	0	20.72	20.63	20.59	22
1.4	64QAM	1	0	20.72	20.75	20.66	22
1.4	64QAM	1	3	20.83	20.67	20.67	
1.4	64QAM	1	5	20.62	20.57	20.54	
1.4	64QAM	3	0	20.66	20.66	20.64	
1.4	64QAM	3	1	20.68	20.52	20.49	
1.4	64QAM	3	3	20.67	20.61	20.63	
1.4	64QAM	6	0	19.74	19.61	19.52	21
1.4	256QAM	1	0	17.65	17.68	17.62	19
1.4	256QAM	1	3	17.83	17.76	17.66	
1.4	256QAM	1	5	17.58	17.56	17.60	
1.4	256QAM	3	0	17.72	17.44	17.51	
1.4	256QAM	3	1	17.73	17.68	17.59	
1.4	256QAM	3	3	17.57	17.53	17.56	
1.4	256QAM	6	0	17.75	17.60	17.55	19

<LTE Band 4_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	22.84	22.77	22.85	24
20	QPSK	1	49	22.77	22.22	22.01	
20	QPSK	1	99	22.83	22.01	22.04	
20	QPSK	50	0	21.80	21.19	21.00	23
20	QPSK	50	24	21.94	21.21	21.06	
20	QPSK	50	50	21.93	21.21	21.02	
20	QPSK	100	0	21.88	21.17	21.09	
20	16QAM	1	0	21.90	21.87	21.97	23
20	16QAM	1	49	22.16	22.05	21.89	
20	16QAM	1	99	22.22	21.86	21.80	
20	16QAM	50	0	20.84	20.85	20.78	22
20	16QAM	50	24	20.88	20.87	20.79	
20	16QAM	50	50	20.90	20.92	20.73	
20	16QAM	100	0	20.85	20.84	20.75	

20	64QAM	1	0	20.85	20.80	20.83	22
20	64QAM	1	49	20.95	20.98	20.77	
20	64QAM	1	99	20.97	20.78	20.72	
20	64QAM	50	0	19.73	19.90	19.75	21
20	64QAM	50	24	19.78	19.94	19.76	
20	64QAM	50	50	19.81	19.94	19.73	
20	64QAM	100	0	19.81	19.85	19.71	
20	256QAM	1	0	17.80	17.77	17.87	19
20	256QAM	1	49	17.90	18.00	17.83	
20	256QAM	1	99	17.89	17.74	17.73	
20	256QAM	50	0	17.72	17.86	17.69	19
20	256QAM	50	24	17.76	17.84	17.76	
20	256QAM	50	50	17.79	17.84	17.70	
20	256QAM	100	0	17.76	17.85	17.70	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	22.73	22.67	22.84	24
15	QPSK	1	37	22.79	22.14	22.08	
15	QPSK	1	74	22.83	22.04	22.05	
15	QPSK	36	0	21.70	21.14	21.07	23
15	QPSK	36	20	21.93	21.14	21.04	
15	QPSK	36	39	21.87	21.15	21.04	
15	QPSK	75	0	21.87	21.12	21.05	
15	16QAM	1	0	21.89	21.85	21.91	23
15	16QAM	1	37	22.06	22.00	21.84	
15	16QAM	1	74	22.18	21.78	21.75	
15	16QAM	36	0	20.74	20.82	20.76	22
15	16QAM	36	20	20.86	20.82	20.72	
15	16QAM	36	39	20.89	20.90	20.70	
15	16QAM	75	0	20.77	20.80	20.69	
15	64QAM	1	0	20.82	20.70	20.77	22
15	64QAM	1	37	20.87	20.95	20.67	
15	64QAM	1	74	20.90	20.76	20.62	
15	64QAM	36	0	19.66	19.81	19.66	21
15	64QAM	36	20	19.75	19.89	19.75	
15	64QAM	36	39	19.71	19.94	19.67	
15	64QAM	75	0	19.71	19.80	19.62	
15	256QAM	1	0	17.72	17.69	17.86	19
15	256QAM	1	37	17.90	17.96	17.80	
15	256QAM	1	74	17.86	17.66	17.70	
15	256QAM	36	0	17.66	17.86	17.67	19
15	256QAM	36	20	17.68	17.74	17.68	
15	256QAM	36	39	17.74	17.77	17.68	
15	256QAM	75	0	17.70	17.85	17.67	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	22.68	22.73	22.84	24
10	QPSK	1	25	22.84	22.13	22.02	
10	QPSK	1	49	22.81	22.03	22.04	
10	QPSK	25	0	21.75	21.15	21.03	23
10	QPSK	25	12	21.94	21.20	21.04	
10	QPSK	25	25	21.84	21.17	21.03	
10	QPSK	50	0	21.78	21.07	21.02	
10	16QAM	1	0	21.80	21.87	21.93	23
10	16QAM	1	25	22.07	21.98	21.83	
10	16QAM	1	49	22.19	21.76	21.79	

10	16QAM	25	0	20.84	20.82	20.72	22
10	16QAM	25	12	20.85	20.81	20.74	
10	16QAM	25	25	20.87	20.87	20.65	
10	16QAM	50	0	20.80	20.82	20.72	
10	64QAM	1	0	20.80	20.77	20.80	22
10	64QAM	1	25	20.92	20.98	20.77	
10	64QAM	1	49	20.96	20.71	20.67	
10	64QAM	25	0	19.69	19.89	19.74	21
10	64QAM	25	12	19.78	19.93	19.74	
10	64QAM	25	25	19.73	19.85	19.68	
10	64QAM	50	0	19.74	19.75	19.63	
10	256QAM	1	0	17.79	17.73	17.87	19
10	256QAM	1	25	17.80	17.92	17.78	
10	256QAM	1	49	17.85	17.64	17.66	
10	256QAM	25	0	17.66	17.84	17.61	19
10	256QAM	25	12	17.68	17.75	17.76	
10	256QAM	25	25	17.77	17.74	17.62	
10	256QAM	50	0	17.70	17.78	17.70	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	22.74	22.74	22.82	24
5	QPSK	1	12	22.75	22.17	22.03	
5	QPSK	1	24	22.75	22.02	22.04	
5	QPSK	12	0	21.70	21.17	21.02	23
5	QPSK	12	7	21.85	21.15	21.01	
5	QPSK	12	13	21.86	21.17	21.06	
5	QPSK	25	0	21.78	21.08	21.02	
5	16QAM	1	0	21.86	21.79	21.87	23
5	16QAM	1	12	22.08	22.03	21.80	
5	16QAM	1	24	22.15	21.82	21.71	
5	16QAM	12	0	20.82	20.76	20.71	22
5	16QAM	12	7	20.82	20.87	20.69	
5	16QAM	12	13	20.89	20.88	20.67	
5	16QAM	25	0	20.76	20.77	20.71	
5	64QAM	1	0	20.78	20.72	20.79	22
5	64QAM	1	12	20.91	20.92	20.75	
5	64QAM	1	24	20.91	20.71	20.64	
5	64QAM	12	0	19.71	19.88	19.75	21
5	64QAM	12	7	19.73	19.89	19.71	
5	64QAM	12	13	19.73	19.87	19.66	
5	64QAM	25	0	19.78	19.77	19.70	
5	256QAM	1	0	17.79	17.70	17.80	19
5	256QAM	1	12	17.81	17.94	17.77	
5	256QAM	1	24	17.88	17.64	17.65	
5	256QAM	12	0	17.63	17.85	17.65	19
5	256QAM	12	7	17.66	17.80	17.69	
5	256QAM	12	13	17.72	17.75	17.67	
5	256QAM	25	0	17.70	17.76	17.62	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	22.68	22.76	22.77	24
3	QPSK	1	8	22.75	22.22	22.08	
3	QPSK	1	14	22.74	22.03	22.00	
3	QPSK	8	0	21.80	21.12	21.03	23
3	QPSK	8	4	21.93	21.20	21.06	
3	QPSK	8	7	21.84	21.15	21.09	

3	QPSK	15	0	21.79	21.10	21.03	
3	16QAM	1	0	21.90	21.79	21.96	23
3	16QAM	1	8	22.16	21.97	21.87	
3	16QAM	1	14	22.20	21.76	21.74	
3	16QAM	8	0	20.76	20.75	20.70	22
3	16QAM	8	4	20.88	20.81	20.75	
3	16QAM	8	7	20.80	20.87	20.65	
3	16QAM	15	0	20.81	20.81	20.73	
3	64QAM	1	0	20.80	20.75	20.73	22
3	64QAM	1	8	20.95	20.93	20.67	
3	64QAM	1	14	20.92	20.75	20.71	
3	64QAM	8	0	19.66	19.81	19.67	21
3	64QAM	8	4	19.72	19.90	19.74	
3	64QAM	8	7	19.80	19.90	19.67	
3	64QAM	15	0	19.76	19.83	19.71	
3	256QAM	1	0	17.79	17.75	17.87	19
3	256QAM	1	8	17.90	17.93	17.75	
3	256QAM	1	14	17.87	17.70	17.69	
3	256QAM	8	0	17.64	17.83	17.59	19
3	256QAM	8	4	17.69	17.80	17.66	
3	256QAM	8	7	17.70	17.77	17.64	
3	256QAM	15	0	17.71	17.82	17.65	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	22.69	22.67	22.83	24
1.4	QPSK	1	3	22.74	22.16	22.06	
1.4	QPSK	1	5	22.74	22.01	22.07	
1.4	QPSK	3	0	22.74	22.67	22.83	
1.4	QPSK	3	1	22.82	22.16	22.01	
1.4	QPSK	3	3	22.81	22.06	22.05	
1.4	QPSK	6	0	21.73	21.11	21.01	23
1.4	16QAM	1	0	21.88	21.80	21.92	23
1.4	16QAM	1	3	22.11	22.01	21.89	
1.4	16QAM	1	5	22.18	21.78	21.70	
1.4	16QAM	3	0	21.86	21.83	21.96	
1.4	16QAM	3	1	22.12	21.97	21.79	
1.4	16QAM	3	3	22.16	21.78	21.73	
1.4	16QAM	6	0	20.74	20.81	20.78	22
1.4	64QAM	1	0	20.76	20.76	20.83	22
1.4	64QAM	1	3	20.95	20.91	20.73	
1.4	64QAM	1	5	20.95	20.73	20.70	
1.4	64QAM	3	0	20.80	20.73	20.78	
1.4	64QAM	3	1	20.86	20.89	20.68	
1.4	64QAM	3	3	20.92	20.76	20.70	
1.4	64QAM	6	0	19.65	19.88	19.68	21
1.4	256QAM	1	0	17.72	17.77	17.87	19
1.4	256QAM	1	3	17.86	17.92	17.78	
1.4	256QAM	1	5	17.88	17.64	17.70	
1.4	256QAM	3	0	17.70	17.74	17.77	
1.4	256QAM	3	1	17.86	17.96	17.75	
1.4	256QAM	3	3	17.85	17.65	17.63	
1.4	256QAM	6	0	17.63	17.86	17.65	19

<LTE Band 4 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)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	23.20	23.19	23.23	24
20	QPSK	1	49	23.17	22.59	22.53	
20	QPSK	1	99	23.18	22.55	22.37	
20	QPSK	50	0	22.13	21.50	21.50	23
20	QPSK	50	24	22.21	21.54	21.42	
20	QPSK	50	50	22.27	21.53	21.38	
20	QPSK	100	0	22.20	21.50	21.40	
20	16QAM	1	0	22.17	22.18	22.24	23
20	16QAM	1	49	22.48	22.39	22.18	
20	16QAM	1	99	22.58	22.23	22.15	
20	16QAM	50	0	21.20	21.14	21.11	22
20	16QAM	50	24	21.17	21.18	21.09	
20	16QAM	50	50	21.17	21.27	21.01	
20	16QAM	100	0	21.18	21.17	21.08	
20	64QAM	1	0	21.20	21.13	21.16	22
20	64QAM	1	49	21.32	21.34	21.09	
20	64QAM	1	99	21.32	21.07	21.05	
20	64QAM	50	0	20.07	20.24	20.11	21
20	64QAM	50	24	20.10	20.22	20.11	
20	64QAM	50	50	20.17	20.27	20.10	
20	64QAM	100	0	20.13	20.21	19.98	
20	256QAM	1	0	18.07	18.05	18.23	19
20	256QAM	1	49	18.25	18.29	18.20	
20	256QAM	1	99	18.25	18.04	18.03	
20	256QAM	50	0	18.02	18.16	18.01	19
20	256QAM	50	24	18.03	18.16	18.06	
20	256QAM	50	50	18.11	18.13	18.07	
20	256QAM	100	0	18.05	18.21	18.03	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	23.13	23.09	23.14	24
15	QPSK	1	37	23.17	22.55	22.53	
15	QPSK	1	74	23.15	22.51	22.30	
15	QPSK	36	0	22.11	21.42	21.43	23
15	QPSK	36	20	22.18	21.48	21.38	
15	QPSK	36	39	22.25	21.51	21.33	
15	QPSK	75	0	22.18	21.44	21.31	
15	16QAM	1	0	22.13	22.14	22.23	23
15	16QAM	1	37	22.46	22.30	22.11	
15	16QAM	1	74	22.50	22.19	22.09	
15	16QAM	36	0	21.18	21.08	21.05	22
15	16QAM	36	20	21.09	21.15	21.07	
15	16QAM	36	39	21.15	21.20	20.96	
15	16QAM	75	0	21.11	21.14	21.07	
15	64QAM	1	0	21.12	21.08	21.08	22
15	64QAM	1	37	21.24	21.31	21.01	
15	64QAM	1	74	21.27	21.00	20.97	
15	64QAM	36	0	20.03	20.15	20.04	21
15	64QAM	36	20	20.02	20.12	20.05	
15	64QAM	36	39	20.12	20.24	20.06	
15	64QAM	75	0	20.03	20.21	19.98	

15	256QAM	1	0	18.07	17.98	18.18	19
15	256QAM	1	37	18.25	18.21	18.14	
15	256QAM	1	74	18.15	18.00	17.95	
15	256QAM	36	0	18.01	18.14	17.95	19
15	256QAM	36	20	17.95	18.08	17.99	
15	256QAM	36	39	18.08	18.10	17.97	
15	256QAM	75	0	18.03	18.18	17.95	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	23.18	23.17	23.20	24
10	QPSK	1	25	23.15	22.54	22.43	
10	QPSK	1	49	23.18	22.54	22.28	
10	QPSK	25	0	22.11	21.41	21.44	23
10	QPSK	25	12	22.21	21.53	21.35	
10	QPSK	25	25	22.22	21.48	21.28	
10	QPSK	50	0	22.13	21.49	21.31	
10	16QAM	1	0	22.08	22.18	22.14	23
10	16QAM	1	25	22.47	22.32	22.11	
10	16QAM	1	49	22.52	22.21	22.15	
10	16QAM	25	0	21.18	21.06	21.10	22
10	16QAM	25	12	21.09	21.17	21.01	
10	16QAM	25	25	21.15	21.18	20.98	
10	16QAM	50	0	21.11	21.13	20.98	
10	64QAM	1	0	21.12	21.06	21.12	22
10	64QAM	1	25	21.25	21.28	21.03	
10	64QAM	1	49	21.32	21.02	21.00	
10	64QAM	25	0	19.97	20.19	20.11	21
10	64QAM	25	12	20.05	20.14	20.05	
10	64QAM	25	25	20.07	20.17	20.05	
10	64QAM	50	0	20.04	20.20	19.98	
10	256QAM	1	0	17.98	17.96	18.20	19
10	256QAM	1	25	18.17	18.22	18.19	
10	256QAM	1	49	18.16	17.99	18.03	
10	256QAM	25	0	17.93	18.08	17.95	19
10	256QAM	25	12	17.93	18.08	18.04	
10	256QAM	25	25	18.08	18.07	18.07	
10	256QAM	50	0	18.02	18.15	17.98	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	23.18	23.15	23.22	24
5	QPSK	1	12	23.08	22.54	22.52	
5	QPSK	1	24	23.16	22.45	22.28	
5	QPSK	12	0	22.06	21.41	21.43	23
5	QPSK	12	7	22.11	21.53	21.33	
5	QPSK	12	13	22.19	21.53	21.30	
5	QPSK	25	0	22.18	21.47	21.31	
5	16QAM	1	0	22.11	22.09	22.23	23
5	16QAM	1	12	22.41	22.37	22.17	
5	16QAM	1	24	22.58	22.14	22.05	
5	16QAM	12	0	21.11	21.08	21.03	22
5	16QAM	12	7	21.15	21.15	21.06	
5	16QAM	12	13	21.08	21.26	21.01	
5	16QAM	25	0	21.13	21.08	21.01	
5	64QAM	1	0	21.11	21.07	21.16	22
5	64QAM	1	12	21.31	21.27	21.08	
5	64QAM	1	24	21.24	21.01	20.96	

5	64QAM	12	0	19.99	20.17	20.01	21
5	64QAM	12	7	20.09	20.15	20.11	
5	64QAM	12	13	20.17	20.27	20.05	
5	64QAM	25	0	20.07	20.19	19.95	
5	256QAM	1	0	18.02	18.03	18.16	19
5	256QAM	1	12	18.22	18.21	18.19	
5	256QAM	1	24	18.18	18.01	17.96	
5	256QAM	12	0	17.95	18.06	17.93	19
5	256QAM	12	7	17.94	18.16	18.03	
5	256QAM	12	13	18.11	18.09	18.02	
5	256QAM	25	0	18.03	18.13	18.03	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	23.16	23.14	23.16	24
3	QPSK	1	8	23.15	22.52	22.47	
3	QPSK	1	14	23.12	22.51	22.35	
3	QPSK	8	0	22.08	21.49	21.48	23
3	QPSK	8	4	22.12	21.47	21.32	
3	QPSK	8	7	22.22	21.50	21.29	
3	QPSK	15	0	22.20	21.45	21.37	
3	16QAM	1	0	22.10	22.08	22.22	23
3	16QAM	1	8	22.47	22.32	22.14	
3	16QAM	1	14	22.55	22.14	22.12	
3	16QAM	8	0	21.11	21.10	21.06	22
3	16QAM	8	4	21.12	21.11	21.04	
3	16QAM	8	7	21.15	21.26	20.96	
3	16QAM	15	0	21.12	21.14	21.01	
3	64QAM	1	0	21.15	21.03	21.12	22
3	64QAM	1	8	21.31	21.32	21.05	
3	64QAM	1	14	21.24	21.02	21.05	
3	64QAM	8	0	19.98	20.19	20.04	21
3	64QAM	8	4	20.02	20.12	20.01	
3	64QAM	8	7	20.08	20.26	20.09	
3	64QAM	15	0	20.08	20.16	19.98	
3	256QAM	1	0	18.02	18.03	18.20	19
3	256QAM	1	8	18.24	18.28	18.19	
3	256QAM	1	14	18.23	18.01	17.99	
3	256QAM	8	0	18.01	18.07	17.99	19
3	256QAM	8	4	18.03	18.06	18.05	
3	256QAM	8	7	18.04	18.12	18.07	
3	256QAM	15	0	17.97	18.12	17.93	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	23.20	23.19	23.16	24
1.4	QPSK	1	3	23.16	22.51	22.52	
1.4	QPSK	1	5	23.14	22.54	22.33	
1.4	QPSK	3	0	23.09	22.53	22.49	
1.4	QPSK	3	1	23.15	22.49	22.34	
1.4	QPSK	3	3	23.09	22.54	22.50	
1.4	QPSK	6	0	22.18	21.44	21.31	23
1.4	16QAM	1	0	22.16	22.09	22.14	23
1.4	16QAM	1	3	22.41	22.34	22.18	
1.4	16QAM	1	5	22.50	22.16	22.14	
1.4	16QAM	3	0	22.08	22.08	22.21	
1.4	16QAM	3	1	22.39	22.29	22.10	
1.4	16QAM	3	3	22.58	22.18	22.07	

1.4	16QAM	6	0	21.14	21.07	21.05	22
1.4	64QAM	1	0	21.19	21.06	21.13	22
1.4	64QAM	1	3	21.25	21.25	21.02	
1.4	64QAM	1	5	21.31	21.07	21.02	
1.4	64QAM	3	0	21.13	21.10	21.00	
1.4	64QAM	3	1	21.09	21.24	21.00	
1.4	64QAM	3	3	21.08	21.08	21.07	
1.4	64QAM	6	0	20.12	20.12	19.89	21
1.4	256QAM	1	0	18.07	18.02	18.21	19
1.4	256QAM	1	3	18.19	18.23	18.20	
1.4	256QAM	1	5	18.16	18.03	18.01	
1.4	256QAM	3	0	18.03	17.98	18.19	
1.4	256QAM	3	1	18.23	18.20	18.14	
1.4	256QAM	3	3	18.23	18.00	18.01	
1.4	256QAM	6	0	18.02	18.12	18.02	19

<LTE Band 5 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	24.01	24.10	23.96	25
10	QPSK	1	25	24.08	24.09	23.94	
10	QPSK	1	49	23.90	23.92	23.95	
10	QPSK	25	0	22.77	22.71	22.76	24
10	QPSK	25	12	22.74	22.64	22.63	
10	QPSK	25	25	22.69	22.69	22.62	
10	QPSK	50	0	22.74	22.70	22.65	
10	16QAM	1	0	23.87	23.90	23.75	24
10	16QAM	1	25	23.95	23.86	23.80	
10	16QAM	1	49	23.84	23.81	23.70	
10	16QAM	25	0	22.77	22.67	22.69	23
10	16QAM	25	12	22.71	22.65	22.69	
10	16QAM	25	25	22.66	22.61	22.61	
10	16QAM	50	0	22.71	22.66	22.64	
10	64QAM	1	0	22.78	22.76	22.78	23
10	64QAM	1	25	22.89	22.74	22.67	
10	64QAM	1	49	22.72	22.68	22.69	
10	64QAM	25	0	21.76	21.62	21.70	22
10	64QAM	25	12	21.66	21.59	21.59	
10	64QAM	25	25	21.70	21.56	21.55	
10	64QAM	50	0	21.65	21.65	21.57	
10	256QAM	1	0	19.74	19.73	19.77	20
10	256QAM	1	25	19.86	19.78	19.67	
10	256QAM	1	49	19.71	19.71	19.69	
10	256QAM	25	0	19.76	19.66	19.70	20
10	256QAM	25	12	19.70	19.65	19.64	
10	256QAM	25	25	19.68	19.57	19.59	
10	256QAM	50	0	19.68	19.58	19.65	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	23.83	23.95	23.80	25
5	QPSK	1	12	23.89	23.95	23.76	
5	QPSK	1	24	23.77	23.75	23.78	

5	QPSK	12	0	22.62	22.54	22.62	24
5	QPSK	12	7	22.63	22.46	22.45	
5	QPSK	12	13	22.50	22.55	22.46	
5	QPSK	25	0	22.62	22.52	22.55	
5	16QAM	1	0	23.76	23.80	23.64	24
5	16QAM	1	12	23.80	23.67	23.70	
5	16QAM	1	24	23.64	23.64	23.58	
5	16QAM	12	0	22.60	22.53	22.49	23
5	16QAM	12	7	22.51	22.50	22.54	
5	16QAM	12	13	22.56	22.51	22.43	
5	16QAM	25	0	22.52	22.54	22.54	
5	64QAM	1	0	22.63	22.62	22.58	23
5	64QAM	1	12	22.77	22.56	22.52	
5	64QAM	1	24	22.59	22.52	22.55	
5	64QAM	12	0	21.65	21.45	21.55	22
5	64QAM	12	7	21.50	21.43	21.39	
5	64QAM	12	13	21.50	21.44	21.41	
5	64QAM	25	0	21.55	21.52	21.38	
5	256QAM	1	0	19.59	19.56	19.59	20
5	256QAM	1	12	19.74	19.63	19.52	
5	256QAM	1	24	19.60	19.60	19.58	
5	256QAM	12	0	19.66	19.50	19.54	20
5	256QAM	12	7	19.58	19.51	19.50	
5	256QAM	12	13	19.53	19.42	19.39	
5	256QAM	25	0	19.58	19.38	19.46	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	23.87	23.97	23.79	25
3	QPSK	1	8	23.90	23.94	23.81	
3	QPSK	1	14	23.71	23.79	23.76	
3	QPSK	8	0	22.64	22.54	22.60	24
3	QPSK	8	4	22.63	22.47	22.53	
3	QPSK	8	7	22.57	22.56	22.44	
3	QPSK	15	0	22.54	22.53	22.50	
3	16QAM	1	0	23.68	23.79	23.60	24
3	16QAM	1	8	23.83	23.73	23.61	
3	16QAM	1	14	23.69	23.65	23.56	
3	16QAM	8	0	22.64	22.51	22.57	23
3	16QAM	8	4	22.58	22.46	22.52	
3	16QAM	8	7	22.50	22.48	22.50	
3	16QAM	15	0	22.58	22.49	22.50	
3	64QAM	1	0	22.60	22.58	22.64	23
3	64QAM	1	8	22.76	22.63	22.47	
3	64QAM	1	14	22.56	22.57	22.55	
3	64QAM	8	0	21.59	21.52	21.55	22
3	64QAM	8	4	21.56	21.49	21.49	
3	64QAM	8	7	21.51	21.41	21.40	
3	64QAM	15	0	21.48	21.48	21.46	
3	256QAM	1	0	19.60	19.55	19.65	20
3	256QAM	1	8	19.72	19.60	19.54	
3	256QAM	1	14	19.57	19.55	19.49	
3	256QAM	8	0	19.60	19.51	19.52	20
3	256QAM	8	4	19.51	19.49	19.53	
3	256QAM	8	7	19.54	19.44	19.41	
3	256QAM	15	0	19.52	19.39	19.46	
Channel				20407	20525	20643	Tune-up limit

Frequency (MHz)				824.7	836.5	848.3	(dBm)
1.4	QPSK	1	0	23.87	23.93	23.78	25
1.4	QPSK	1	3	23.90	23.94	23.83	
1.4	QPSK	1	5	23.70	23.74	23.81	
1.4	QPSK	3	0	23.85	23.95	23.86	
1.4	QPSK	3	1	23.95	23.92	23.83	
1.4	QPSK	3	3	23.76	23.80	23.81	
1.4	QPSK	6	0	22.57	22.49	22.58	24
1.4	16QAM	1	0	23.73	23.80	23.63	24
1.4	16QAM	1	3	23.85	23.75	23.69	
1.4	16QAM	1	5	23.65	23.68	23.59	
1.4	16QAM	3	0	23.70	23.75	23.60	
1.4	16QAM	3	1	23.80	23.67	23.63	
1.4	16QAM	3	3	23.65	23.65	23.58	
1.4	16QAM	6	0	22.61	22.57	22.55	23
1.4	64QAM	1	0	22.61	22.57	22.59	23
1.4	64QAM	1	3	22.76	22.56	22.52	
1.4	64QAM	1	5	22.54	22.54	22.51	
1.4	64QAM	3	0	22.62	22.61	22.68	
1.4	64QAM	3	1	22.73	22.64	22.57	
1.4	64QAM	3	3	22.52	22.57	22.53	
1.4	64QAM	6	0	21.64	21.50	21.53	22
1.4	256QAM	1	0	19.62	19.53	19.61	20
1.4	256QAM	1	3	19.75	19.60	19.56	
1.4	256QAM	1	5	19.52	19.57	19.58	
1.4	256QAM	3	0	19.63	19.53	19.67	
1.4	256QAM	3	1	19.67	19.61	19.49	
1.4	256QAM	3	3	19.53	19.54	19.49	
1.4	256QAM	6	0	19.65	19.50	19.55	20

<LTE Band 7_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.50	22.49	22.58	24
20	QPSK	1	49	22.13	22.12	22.15	
20	QPSK	1	99	22.09	22.17	22.04	
20	QPSK	50	0	21.01	21.22	21.42	23
20	QPSK	50	24	21.02	21.21	21.37	
20	QPSK	50	50	21.03	21.24	21.31	
20	QPSK	100	0	21.00	21.22	21.35	
20	16QAM	1	0	21.65	21.79	21.96	23
20	16QAM	1	49	21.69	21.91	22.01	
20	16QAM	1	99	21.68	21.82	21.84	
20	16QAM	50	0	20.45	20.75	20.94	22
20	16QAM	50	24	20.53	20.75	20.87	
20	16QAM	50	50	20.59	20.73	20.88	
20	16QAM	100	0	20.49	20.75	20.86	
20	64QAM	1	0	20.46	20.60	20.79	22
20	64QAM	1	49	20.59	20.88	20.83	
20	64QAM	1	99	20.53	20.74	20.78	
20	64QAM	50	0	19.43	19.74	19.90	21
20	64QAM	50	24	19.51	19.73	19.83	

20	64QAM	50	50	19.52	19.73	19.83	
20	64QAM	100	0	19.43	19.71	19.83	
20	256QAM	1	0	17.45	17.53	17.66	19
20	256QAM	1	49	17.64	17.70	17.74	
20	256QAM	1	99	17.57	17.57	17.66	
20	256QAM	50	0	17.45	17.56	17.75	19
20	256QAM	50	24	17.54	17.55	17.65	
20	256QAM	50	50	17.54	17.51	17.64	
20	256QAM	100	0	17.45	17.54	17.70	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.49	22.40	22.55	24
15	QPSK	1	37	22.05	22.02	22.08	
15	QPSK	1	74	22.03	22.15	22.02	
15	QPSK	36	0	21.08	21.17	21.44	23
15	QPSK	36	20	21.07	21.20	21.34	
15	QPSK	36	39	21.03	21.24	21.30	
15	QPSK	75	0	21.10	21.20	21.26	
15	16QAM	1	0	21.63	21.79	21.87	23
15	16QAM	1	37	21.61	21.88	21.99	
15	16QAM	1	74	21.67	21.81	21.84	
15	16QAM	36	0	20.40	20.72	20.93	22
15	16QAM	36	20	20.47	20.70	20.83	
15	16QAM	36	39	20.53	20.67	20.88	
15	16QAM	75	0	20.46	20.67	20.80	
15	64QAM	1	0	20.43	20.52	20.76	22
15	64QAM	1	37	20.52	20.80	20.83	
15	64QAM	1	74	20.50	20.69	20.75	
15	64QAM	36	0	19.41	19.73	19.88	21
15	64QAM	36	20	19.50	19.64	19.81	
15	64QAM	36	39	19.42	19.70	19.74	
15	64QAM	75	0	19.41	19.66	19.77	
15	256QAM	1	0	17.36	17.48	17.65	19
15	256QAM	1	37	17.55	17.67	17.64	
15	256QAM	1	74	17.53	17.51	17.58	
15	256QAM	36	0	17.42	17.54	17.74	19
15	256QAM	36	20	17.45	17.51	17.55	
15	256QAM	36	39	17.53	17.49	17.55	
15	256QAM	75	0	17.42	17.49	17.61	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	22.41	22.39	22.54	24
10	QPSK	1	25	22.10	22.06	22.06	
10	QPSK	1	49	22.09	22.13	22.09	
10	QPSK	25	0	21.05	21.15	21.43	23
10	QPSK	25	12	21.03	21.20	21.31	
10	QPSK	25	25	21.07	21.18	21.25	
10	QPSK	50	0	21.00	21.12	21.29	
10	16QAM	1	0	21.56	21.79	21.94	23
10	16QAM	1	25	21.68	21.81	21.92	
10	16QAM	1	49	21.63	21.76	21.84	
10	16QAM	25	0	20.39	20.71	20.92	22
10	16QAM	25	12	20.50	20.75	20.77	
10	16QAM	25	25	20.53	20.66	20.79	
10	16QAM	50	0	20.42	20.71	20.78	
10	64QAM	1	0	20.39	20.56	20.74	22

10	64QAM	1	25	20.55	20.78	20.75	
10	64QAM	1	49	20.48	20.74	20.78	
10	64QAM	25	0	19.43	19.65	19.82	21
10	64QAM	25	12	19.49	19.66	19.75	
10	64QAM	25	25	19.52	19.66	19.74	
10	64QAM	50	0	19.37	19.66	19.76	
10	256QAM	1	0	17.40	17.46	17.63	19
10	256QAM	1	25	17.55	17.66	17.67	
10	256QAM	1	49	17.47	17.49	17.56	
10	256QAM	25	0	17.38	17.48	17.65	19
10	256QAM	25	12	17.44	17.48	17.65	
10	256QAM	25	25	17.51	17.51	17.59	
10	256QAM	50	0	17.38	17.54	17.66	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	22.48	22.48	22.54	24
5	QPSK	1	12	22.07	22.03	22.14	
5	QPSK	1	24	22.07	22.16	22.03	
5	QPSK	12	0	21.06	21.17	21.39	23
5	QPSK	12	7	21.00	21.20	21.31	
5	QPSK	12	13	21.00	21.16	21.23	
5	QPSK	25	0	21.06	21.21	21.31	
5	16QAM	1	0	21.59	21.74	21.95	23
5	16QAM	1	12	21.64	21.86	22.00	
5	16QAM	1	24	21.62	21.76	21.83	
5	16QAM	12	0	20.45	20.66	20.88	22
5	16QAM	12	7	20.47	20.68	20.86	
5	16QAM	12	13	20.49	20.72	20.79	
5	16QAM	25	0	20.43	20.67	20.85	
5	64QAM	1	0	20.43	20.58	20.78	22
5	64QAM	1	12	20.56	20.87	20.82	
5	64QAM	1	24	20.50	20.65	20.73	
5	64QAM	12	0	19.36	19.67	19.82	21
5	64QAM	12	7	19.51	19.65	19.78	
5	64QAM	12	13	19.45	19.68	19.74	
5	64QAM	25	0	19.37	19.69	19.75	
5	256QAM	1	0	17.44	17.45	17.62	19
5	256QAM	1	12	17.64	17.64	17.71	
5	256QAM	1	24	17.50	17.52	17.65	
5	256QAM	12	0	17.41	17.53	17.65	19
5	256QAM	12	7	17.45	17.45	17.56	
5	256QAM	12	13	17.54	17.45	17.57	
5	256QAM	25	0	17.42	17.49	17.68	

<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)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	23.31	23.23	23.35	24
20	QPSK	1	49	22.70	22.72	22.73	
20	QPSK	1	99	22.68	22.75	22.67	
20	QPSK	50	0	21.84	21.85	22.08	23
20	QPSK	50	24	21.83	21.87	22.04	
20	QPSK	50	50	21.82	21.91	21.88	

20	QPSK	100	0	21.75	21.80	21.99	
20	16QAM	1	0	22.26	22.46	22.62	23
20	16QAM	1	49	22.36	22.56	22.64	
20	16QAM	1	99	22.26	22.48	22.47	
20	16QAM	50	0	21.08	21.32	21.56	22
20	16QAM	50	24	21.19	21.38	21.52	
20	16QAM	50	50	21.24	21.35	21.54	
20	16QAM	100	0	21.10	21.32	21.48	
20	64QAM	1	0	21.13	21.17	21.39	22
20	64QAM	1	49	21.24	21.51	21.48	
20	64QAM	1	99	21.11	21.40	21.42	
20	64QAM	50	0	20.05	20.34	20.53	21
20	64QAM	50	24	20.09	20.40	20.49	
20	64QAM	50	50	20.09	20.35	20.42	
20	64QAM	100	0	20.04	20.32	20.43	
20	256QAM	1	0	18.06	18.18	18.33	19
20	256QAM	1	49	18.22	18.37	18.41	
20	256QAM	1	99	18.14	18.23	18.32	
20	256QAM	50	0	18.04	18.15	18.32	19
20	256QAM	50	24	18.17	18.22	18.27	
20	256QAM	50	50	18.18	18.10	18.30	
20	256QAM	100	0	18.08	18.19	18.32	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	23.23	23.16	23.34	24
15	QPSK	1	37	22.65	22.64	22.66	
15	QPSK	1	74	22.66	22.71	22.65	
15	QPSK	36	0	21.81	21.78	22.05	23
15	QPSK	36	20	21.79	21.86	22.00	
15	QPSK	36	39	21.81	21.86	21.84	
15	QPSK	75	0	21.68	21.79	21.99	
15	16QAM	1	0	22.23	22.43	22.59	23
15	16QAM	1	37	22.33	22.53	22.61	
15	16QAM	1	74	22.20	22.43	22.37	
15	16QAM	36	0	21.02	21.28	21.50	22
15	16QAM	36	20	21.16	21.38	21.48	
15	16QAM	36	39	21.19	21.26	21.50	
15	16QAM	75	0	21.08	21.25	21.44	
15	64QAM	1	0	21.06	21.08	21.37	22
15	64QAM	1	37	21.18	21.43	21.48	
15	64QAM	1	74	21.04	21.38	21.42	
15	64QAM	36	0	19.98	20.28	20.43	21
15	64QAM	36	20	20.04	20.38	20.39	
15	64QAM	36	39	20.05	20.29	20.40	
15	64QAM	75	0	20.03	20.29	20.38	
15	256QAM	1	0	18.04	18.11	18.31	19
15	256QAM	1	37	18.17	18.28	18.36	
15	256QAM	1	74	18.12	18.23	18.32	
15	256QAM	36	0	17.97	18.08	18.22	19
15	256QAM	36	20	18.09	18.20	18.21	
15	256QAM	36	39	18.17	18.10	18.20	
15	256QAM	75	0	18.00	18.11	18.30	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	23.22	23.13	23.33	24
10	QPSK	1	25	22.63	22.65	22.68	
10	QPSK	1	49	22.65	22.73	22.65	
10	QPSK	25	0	21.75	21.80	22.00	23

10	QPSK	25	12	21.77	21.78	21.99	
10	QPSK	25	25	21.73	21.88	21.83	
10	QPSK	50	0	21.72	21.74	21.99	
10	16QAM	1	0	22.23	22.43	22.62	23
10	16QAM	1	25	22.27	22.47	22.54	
10	16QAM	1	49	22.16	22.45	22.43	
10	16QAM	25	0	20.99	21.32	21.54	22
10	16QAM	25	12	21.15	21.30	21.42	
10	16QAM	25	25	21.18	21.33	21.49	
10	16QAM	50	0	21.03	21.26	21.43	
10	64QAM	1	0	21.05	21.09	21.38	22
10	64QAM	1	25	21.15	21.50	21.44	
10	64QAM	1	49	21.10	21.33	21.41	
10	64QAM	25	0	20.00	20.25	20.51	21
10	64QAM	25	12	20.03	20.39	20.41	
10	64QAM	25	25	20.04	20.33	20.33	
10	64QAM	50	0	19.97	20.30	20.34	
10	256QAM	1	0	18.02	18.13	18.31	19
10	256QAM	1	25	18.19	18.27	18.32	
10	256QAM	1	49	18.13	18.19	18.27	
10	256QAM	25	0	18.02	18.14	18.28	19
10	256QAM	25	12	18.14	18.13	18.20	
10	256QAM	25	25	18.11	18.01	18.27	
10	256QAM	50	0	18.05	18.15	18.32	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	23.24	23.23	23.33	24
5	QPSK	1	12	22.61	22.62	22.66	
5	QPSK	1	24	22.65	22.71	22.67	
5	QPSK	12	0	21.82	21.80	22.01	23
5	QPSK	12	7	21.77	21.77	21.95	
5	QPSK	12	13	21.80	21.82	21.83	
5	QPSK	25	0	21.71	21.75	21.90	
5	16QAM	1	0	22.23	22.36	22.62	23
5	16QAM	1	12	22.26	22.53	22.60	
5	16QAM	1	24	22.23	22.42	22.41	
5	16QAM	12	0	21.04	21.24	21.48	22
5	16QAM	12	7	21.10	21.35	21.50	
5	16QAM	12	13	21.15	21.25	21.48	
5	16QAM	25	0	21.07	21.23	21.40	
5	64QAM	1	0	21.03	21.12	21.30	22
5	64QAM	1	12	21.19	21.41	21.39	
5	64QAM	1	24	21.04	21.31	21.39	
5	64QAM	12	0	20.03	20.33	20.45	21
5	64QAM	12	7	20.01	20.34	20.42	
5	64QAM	12	13	20.08	20.35	20.38	
5	64QAM	25	0	19.94	20.25	20.40	
5	256QAM	1	0	18.04	18.17	18.26	19
5	256QAM	1	12	18.14	18.37	18.36	
5	256QAM	1	24	18.14	18.16	18.31	
5	256QAM	12	0	18.02	18.12	18.26	19
5	256QAM	12	7	18.15	18.15	18.17	
5	256QAM	12	13	18.13	18.04	18.24	
5	256QAM	25	0	18.08	18.17	18.22	

<LTE Band 12 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	24.07	23.94	23.92	25
10	QPSK	1	25	24.06	23.89	23.87	
10	QPSK	1	49	23.78	23.81	23.79	
10	QPSK	25	0	22.64	22.55	22.49	24
10	QPSK	25	12	22.61	22.54	22.51	
10	QPSK	25	25	22.63	22.46	22.52	
10	QPSK	50	0	22.57	22.51	22.52	
10	16QAM	1	0	23.85	23.71	23.76	24
10	16QAM	1	25	23.75	23.75	23.72	
10	16QAM	1	49	23.68	23.59	23.70	
10	16QAM	25	0	22.68	22.50	22.49	23
10	16QAM	25	12	22.58	22.52	22.49	
10	16QAM	25	25	22.62	22.50	22.51	
10	16QAM	50	0	22.65	22.51	22.57	
10	64QAM	1	0	22.66	22.59	22.58	23
10	64QAM	1	25	22.62	22.59	22.60	
10	64QAM	1	49	22.54	22.55	22.46	
10	64QAM	25	0	21.64	21.48	21.46	22
10	64QAM	25	12	21.57	21.57	21.50	
10	64QAM	25	25	21.63	21.46	21.50	
10	64QAM	50	0	21.58	21.49	21.50	
10	256QAM	1	0	19.75	19.61	19.55	20
10	256QAM	1	25	19.71	19.63	19.61	
10	256QAM	1	49	19.59	19.51	19.54	
10	256QAM	25	0	19.63	19.51	19.47	20
10	256QAM	25	12	19.54	19.50	19.51	
10	256QAM	25	25	19.54	19.44	19.49	
10	256QAM	50	0	19.61	19.49	19.43	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	23.93	23.84	23.91	25
5	QPSK	1	12	24.01	23.83	23.87	
5	QPSK	1	24	23.74	23.78	23.77	
5	QPSK	12	0	22.57	22.41	22.48	24
5	QPSK	12	7	22.58	22.50	22.43	
5	QPSK	12	13	22.63	22.44	22.47	
5	QPSK	25	0	22.52	22.50	22.52	
5	16QAM	1	0	23.78	23.65	23.73	24
5	16QAM	1	12	23.72	23.72	23.71	
5	16QAM	1	24	23.60	23.52	23.62	
5	16QAM	12	0	22.64	22.50	22.46	23
5	16QAM	12	7	22.52	22.52	22.44	
5	16QAM	12	13	22.59	22.50	22.44	
5	16QAM	25	0	22.58	22.49	22.49	
5	64QAM	1	0	22.58	22.52	22.48	23
5	64QAM	1	12	22.61	22.58	22.52	
5	64QAM	1	24	22.52	22.52	22.39	
5	64QAM	12	0	21.56	21.43	21.36	22
5	64QAM	12	7	21.56	21.56	21.48	
5	64QAM	12	13	21.60	21.37	21.45	
5	64QAM	25	0	21.57	21.45	21.44	

5	256QAM	1	0	19.73	19.57	19.47	20
5	256QAM	1	12	19.69	19.58	19.56	
5	256QAM	1	24	19.59	19.44	19.53	
5	256QAM	12	0	19.58	19.45	19.39	20
5	256QAM	12	7	19.49	19.47	19.51	
5	256QAM	12	13	19.44	19.36	19.43	
5	256QAM	25	0	19.52	19.42	19.42	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	23.93	23.86	23.84	25
3	QPSK	1	8	24.02	23.80	23.77	
3	QPSK	1	14	23.71	23.71	23.72	
3	QPSK	8	0	22.54	22.47	22.40	24
3	QPSK	8	4	22.61	22.44	22.47	
3	QPSK	8	7	22.63	22.47	22.52	
3	QPSK	15	0	22.54	22.48	22.42	
3	16QAM	1	0	23.80	23.64	23.76	24
3	16QAM	1	8	23.65	23.70	23.65	
3	16QAM	1	14	23.58	23.50	23.68	
3	16QAM	8	0	22.58	22.49	22.42	23
3	16QAM	8	4	22.52	22.45	22.49	
3	16QAM	8	7	22.62	22.43	22.41	
3	16QAM	15	0	22.64	22.47	22.49	
3	64QAM	1	0	22.61	22.52	22.54	23
3	64QAM	1	8	22.56	22.52	22.50	
3	64QAM	1	14	22.53	22.51	22.42	
3	64QAM	8	0	21.57	21.40	21.43	22
3	64QAM	8	4	21.55	21.52	21.45	
3	64QAM	8	7	21.54	21.41	21.40	
3	64QAM	15	0	21.51	21.46	21.47	
3	256QAM	1	0	19.71	19.59	19.53	20
3	256QAM	1	8	19.62	19.53	19.56	
3	256QAM	1	14	19.49	19.49	19.49	
3	256QAM	8	0	19.59	19.50	19.42	20
3	256QAM	8	4	19.51	19.47	19.48	
3	256QAM	8	7	19.48	19.42	19.41	
3	256QAM	15	0	19.57	19.46	19.35	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	23.93	23.91	23.89	25
1.4	QPSK	1	3	24.01	23.80	23.78	
1.4	QPSK	1	5	23.78	23.76	23.79	
1.4	QPSK	3	0	23.98	23.86	23.92	
1.4	QPSK	3	1	24.00	23.81	23.81	
1.4	QPSK	3	3	23.78	23.75	23.75	
1.4	QPSK	6	0	22.53	22.49	22.40	24
1.4	16QAM	1	0	23.76	23.71	23.70	24
1.4	16QAM	1	3	23.68	23.75	23.71	
1.4	16QAM	1	5	23.68	23.52	23.68	
1.4	16QAM	3	0	23.81	23.61	23.70	
1.4	16QAM	3	1	23.65	23.70	23.64	
1.4	16QAM	3	3	23.64	23.54	23.61	
1.4	16QAM	6	0	22.61	22.41	22.42	23
1.4	64QAM	1	0	22.64	22.52	22.53	23
1.4	64QAM	1	3	22.54	22.57	22.57	
1.4	64QAM	1	5	22.51	22.54	22.36	

1.4	64QAM	3	0	22.60	22.56	22.57	
1.4	64QAM	3	1	22.54	22.54	22.50	
1.4	64QAM	3	3	22.49	22.49	22.36	
1.4	64QAM	6	0	21.63	21.46	21.42	22
1.4	256QAM	1	0	19.72	19.61	19.45	20
1.4	256QAM	1	3	19.66	19.54	19.53	
1.4	256QAM	1	5	19.53	19.41	19.54	
1.4	256QAM	3	0	19.73	19.54	19.53	
1.4	256QAM	3	1	19.64	19.62	19.55	
1.4	256QAM	3	3	19.57	19.45	19.47	
1.4	256QAM	6	0	19.55	19.43	19.43	20

<LTE Band 13_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					23230		
Frequency (MHz)					782		
10	QPSK	1	0		24.15		25
10	QPSK	1	25		24.09		
10	QPSK	1	49		23.88		
10	QPSK	25	0		22.79		24
10	QPSK	25	12		22.75		
10	QPSK	25	25		22.77		
10	QPSK	50	0		22.75		
10	16QAM	1	0		23.94		24
10	16QAM	1	25		23.96		
10	16QAM	1	49		23.77		
10	16QAM	25	0		22.73		23
10	16QAM	25	12		22.75		
10	16QAM	25	25		22.82		
10	16QAM	50	0		22.78		
10	64QAM	1	0		22.94		23
10	64QAM	1	25		22.86		
10	64QAM	1	49		22.68		
10	64QAM	25	0		21.75		22
10	64QAM	25	12		21.70		
10	64QAM	25	25		21.74		
10	64QAM	50	0		21.73		
10	256QAM	1	0		19.92		20
10	256QAM	1	25		19.86		
10	256QAM	1	49		19.70		
10	256QAM	25	0		19.70		20
10	256QAM	25	12		19.71		
10	256QAM	25	25		19.76		
10	256QAM	50	0		19.69		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	24.08	24.12	24.03	25
5	QPSK	1	12	24.07	24.09	24.09	
5	QPSK	1	24	23.82	23.82	23.88	
5	QPSK	12	0	22.74	22.71	22.69	24
5	QPSK	12	7	22.77	22.72	22.72	
5	QPSK	12	13	22.70	22.74	22.71	
5	QPSK	25	0	22.71	22.74	22.78	

5	16QAM	1	0	23.93	23.91	23.90	24
5	16QAM	1	12	23.94	23.89	23.89	
5	16QAM	1	24	23.76	23.76	23.74	
5	16QAM	12	0	22.63	22.67	22.65	23
5	16QAM	12	7	22.71	22.75	22.75	
5	16QAM	12	13	22.80	22.77	22.77	
5	16QAM	25	0	22.77	22.69	22.78	
5	64QAM	1	0	22.90	22.88	22.87	23
5	64QAM	1	12	22.85	22.83	22.84	
5	64QAM	1	24	22.58	22.64	22.66	
5	64QAM	12	0	21.70	21.70	21.74	22
5	64QAM	12	7	21.68	21.69	21.60	
5	64QAM	12	13	21.70	21.71	21.71	
5	64QAM	25	0	21.72	21.64	21.69	
5	256QAM	1	0	19.82	19.91	19.91	20
5	256QAM	1	12	19.83	19.80	19.85	
5	256QAM	1	24	19.60	19.68	19.63	
5	256QAM	12	0	19.60	19.60	19.69	20
5	256QAM	12	7	19.61	19.69	19.69	
5	256QAM	12	13	19.70	19.69	19.69	
5	256QAM	25	0	19.62	19.66	19.65	

<LTE Band 14_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23330			
Frequency (MHz)				793			
10	QPSK	1	0		24.08		25
10	QPSK	1	25		24.07		
10	QPSK	1	49		23.87		
10	QPSK	25	0		22.78		24
10	QPSK	25	12		22.75		
10	QPSK	25	25		22.76		
10	QPSK	50	0		22.74		
10	16QAM	1	0		23.87		24
10	16QAM	1	25		23.91		
10	16QAM	1	49		23.81		
10	16QAM	25	0		22.74		23
10	16QAM	25	12		22.77		
10	16QAM	25	25		22.78		
10	16QAM	50	0		22.77		
10	64QAM	1	0		22.83		23
10	64QAM	1	25		22.83		
10	64QAM	1	49		22.71		
10	64QAM	25	0		21.72		22
10	64QAM	25	12		21.71		
10	64QAM	25	25		21.73		
10	64QAM	50	0		21.70		
10	256QAM	1	0		19.81		20
10	256QAM	1	25		19.84		
10	256QAM	1	49		19.73		
10	256QAM	25	0		19.76		20
10	256QAM	25	12		19.69		
10	256QAM	25	25		19.75		

10	256QAM	50	0		19.72		
Channel				23305	23330	23355	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	QPSK	1	0	23.90	23.92	23.94	25
5	QPSK	1	12	24.00	24.01	24.07	
5	QPSK	1	24	23.84	23.80	23.85	
5	QPSK	12	0	22.78	22.73	22.76	24
5	QPSK	12	7	22.76	22.77	22.70	
5	QPSK	12	13	22.76	22.69	22.78	
5	QPSK	25	0	22.75	22.70	22.73	
5	16QAM	1	0	23.84	23.82	23.79	24
5	16QAM	1	12	23.84	23.83	23.91	
5	16QAM	1	24	23.73	23.76	23.79	
5	16QAM	12	0	22.74	22.73	22.70	23
5	16QAM	12	7	22.75	22.67	22.71	
5	16QAM	12	13	22.71	22.74	22.75	
5	16QAM	25	0	22.77	22.71	22.67	
5	64QAM	1	0	22.82	22.73	22.76	23
5	64QAM	1	12	22.73	22.82	22.79	
5	64QAM	1	24	22.70	22.63	22.65	
5	64QAM	12	0	21.72	21.71	21.69	22
5	64QAM	12	7	21.63	21.62	21.68	
5	64QAM	12	13	21.66	21.66	21.70	
5	64QAM	25	0	21.67	21.65	21.67	
5	256QAM	1	0	19.74	19.75	19.72	20
5	256QAM	1	12	19.76	19.80	19.84	
5	256QAM	1	24	19.65	19.70	19.72	
5	256QAM	12	0	19.70	19.67	19.73	20
5	256QAM	12	7	19.68	19.69	19.63	
5	256QAM	12	13	19.65	19.74	19.72	
5	256QAM	25	0	19.67	19.71	19.65	

<LTE Band 17_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	24.00	24.03	23.95	25
10	QPSK	1	25	24.00	23.90	23.90	
10	QPSK	1	49	23.79	23.80	23.81	
10	QPSK	25	0	22.59	22.74	22.54	24
10	QPSK	25	12	22.50	22.56	22.53	
10	QPSK	25	25	22.50	22.69	22.49	
10	QPSK	50	0	22.50	22.52	22.55	
10	16QAM	1	0	23.79	23.84	23.81	24
10	16QAM	1	25	23.78	23.82	23.73	
10	16QAM	1	49	23.61	23.64	23.58	
10	16QAM	25	0	22.48	22.50	22.51	23
10	16QAM	25	12	22.54	22.54	22.53	
10	16QAM	25	25	22.45	22.45	22.50	
10	16QAM	50	0	22.55	22.53	22.54	
10	64QAM	1	0	22.68	22.66	22.59	23
10	64QAM	1	25	22.65	22.60	22.57	
10	64QAM	1	49	22.51	22.43	22.54	

10	64QAM	25	0	21.49	21.47	21.51	22
10	64QAM	25	12	21.51	21.52	21.52	
10	64QAM	25	25	21.46	21.45	21.46	
10	64QAM	50	0	21.52	21.51	21.50	
10	256QAM	1	0	19.64	19.69	19.66	20
10	256QAM	1	25	19.62	19.65	19.62	
10	256QAM	1	49	19.51	19.50	19.54	
10	256QAM	25	0	19.45	19.47	19.48	20
10	256QAM	25	12	19.52	19.54	19.51	
10	256QAM	25	25	19.43	19.44	19.45	
10	256QAM	50	0	19.41	19.44	19.44	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	24.02	23.85	23.91	25
5	QPSK	1	12	23.99	23.90	23.82	
5	QPSK	1	24	23.73	23.72	23.73	
5	QPSK	12	0	22.57	22.68	22.52	24
5	QPSK	12	7	22.55	22.56	22.55	
5	QPSK	12	13	22.54	22.64	22.49	
5	QPSK	25	0	22.54	22.53	22.49	
5	16QAM	1	0	23.79	23.74	23.81	24
5	16QAM	1	12	23.75	23.80	23.63	
5	16QAM	1	24	23.60	23.61	23.52	
5	16QAM	12	0	22.43	22.45	22.42	23
5	16QAM	12	7	22.48	22.51	22.52	
5	16QAM	12	13	22.41	22.41	22.48	
5	16QAM	25	0	22.53	22.51	22.54	
5	64QAM	1	0	22.68	22.62	22.50	23
5	64QAM	1	12	22.64	22.52	22.50	
5	64QAM	1	24	22.51	22.42	22.44	
5	64QAM	12	0	21.49	21.41	21.47	22
5	64QAM	12	7	21.41	21.46	21.44	
5	64QAM	12	13	21.36	21.43	21.36	
5	64QAM	25	0	21.45	21.49	21.45	
5	256QAM	1	0	19.59	19.69	19.63	20
5	256QAM	1	12	19.62	19.61	19.57	
5	256QAM	1	24	19.42	19.42	19.44	
5	256QAM	12	0	19.40	19.38	19.42	20
5	256QAM	12	7	19.46	19.49	19.46	
5	256QAM	12	13	19.34	19.43	19.45	
5	256QAM	25	0	19.35	19.34	19.37	

<LTE Band 25_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	22.88	22.93	22.96	24
20	QPSK	1	49	22.32	22.27	22.21	
20	QPSK	1	99	22.16	22.17	22.08	
20	QPSK	50	0	21.07	21.18	21.26	23
20	QPSK	50	24	21.04	21.23	21.24	
20	QPSK	50	50	21.04	21.21	21.07	
20	QPSK	100	0	21.06	21.17	21.16	

20	16QAM	1	0	22.17	22.06	22.03	23
20	16QAM	1	49	22.20	22.08	22.03	
20	16QAM	1	99	22.09	21.92	21.98	
20	16QAM	50	0	21.06	20.84	20.92	22
20	16QAM	50	24	21.08	20.95	20.91	
20	16QAM	50	50	21.03	20.90	20.76	
20	16QAM	100	0	21.02	20.89	20.86	
20	64QAM	1	0	21.05	20.89	20.89	22
20	64QAM	1	49	21.10	21.00	20.91	
20	64QAM	1	99	20.94	20.88	20.81	
20	64QAM	50	0	20.08	19.81	19.89	21
20	64QAM	50	24	19.99	19.87	19.87	
20	64QAM	50	50	19.97	19.90	19.80	
20	64QAM	100	0	19.99	19.88	19.85	
20	256QAM	1	0	18.04	17.93	17.87	19
20	256QAM	1	49	18.12	18.07	18.04	
20	256QAM	1	99	17.98	17.91	17.84	
20	256QAM	50	0	18.02	17.71	17.71	19
20	256QAM	50	24	18.04	17.89	17.83	
20	256QAM	50	50	17.90	17.81	17.65	
20	256QAM	100	0	18.01	17.79	17.74	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	22.94	22.88	22.87	24
15	QPSK	1	37	22.29	22.22	22.20	
15	QPSK	1	74	22.15	22.14	22.02	
15	QPSK	36	0	21.01	21.10	21.14	23
15	QPSK	36	20	21.05	21.18	21.16	
15	QPSK	36	39	21.06	21.15	21.02	
15	QPSK	75	0	21.09	21.07	21.13	
15	16QAM	1	0	22.07	22.05	21.98	23
15	16QAM	1	37	22.17	22.00	22.00	
15	16QAM	1	74	22.07	21.92	21.89	
15	16QAM	36	0	20.97	20.83	20.86	22
15	16QAM	36	20	21.06	20.90	20.90	
15	16QAM	36	39	20.95	20.80	20.68	
15	16QAM	75	0	20.94	20.85	20.84	
15	64QAM	1	0	20.99	20.83	20.85	22
15	64QAM	1	37	21.04	20.92	20.90	
15	64QAM	1	74	20.84	20.85	20.74	
15	64QAM	36	0	20.07	19.80	19.83	21
15	64QAM	36	20	19.93	19.79	19.85	
15	64QAM	36	39	19.92	19.86	19.75	
15	64QAM	75	0	19.96	19.80	19.84	
15	256QAM	1	0	17.95	17.90	17.80	19
15	256QAM	1	37	18.04	17.99	17.95	
15	256QAM	1	74	17.93	17.84	17.75	
15	256QAM	36	0	18.02	17.68	17.63	19
15	256QAM	36	20	17.95	17.86	17.83	
15	256QAM	36	39	17.83	17.72	17.59	
15	256QAM	75	0	18.01	17.73	17.73	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	22.89	22.93	22.79	24
10	QPSK	1	25	22.23	22.21	22.17	
10	QPSK	1	49	22.12	22.13	22.08	

10	QPSK	25	0	21.08	21.06	21.12	23
10	QPSK	25	12	21.09	21.23	21.19	
10	QPSK	25	25	21.00	21.21	21.06	
10	QPSK	50	0	21.07	21.07	21.12	
10	16QAM	1	0	22.15	21.97	21.98	23
10	16QAM	1	25	22.20	22.02	21.99	
10	16QAM	1	49	22.03	21.86	21.98	
10	16QAM	25	0	21.06	20.77	20.91	22
10	16QAM	25	12	21.08	20.88	20.88	
10	16QAM	25	25	20.98	20.83	20.71	
10	16QAM	50	0	20.92	20.85	20.78	
10	64QAM	1	0	20.98	20.87	20.79	22
10	64QAM	1	25	21.05	20.98	20.86	
10	64QAM	1	49	20.85	20.83	20.72	
10	64QAM	25	0	20.02	19.76	19.83	21
10	64QAM	25	12	19.96	19.77	19.86	
10	64QAM	25	25	19.88	19.80	19.77	
10	64QAM	50	0	19.94	19.78	19.84	
10	256QAM	1	0	17.95	17.93	17.86	19
10	256QAM	1	25	18.06	18.00	17.95	
10	256QAM	1	49	17.93	17.84	17.78	
10	256QAM	25	0	17.92	17.68	17.68	19
10	256QAM	25	12	18.04	17.79	17.81	
10	256QAM	25	25	17.81	17.80	17.62	
10	256QAM	50	0	17.96	17.70	17.64	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	22.91	22.89	22.85	24
5	QPSK	1	12	22.24	22.21	22.14	
5	QPSK	1	24	22.07	22.07	22.04	
5	QPSK	12	0	21.06	21.11	21.21	23
5	QPSK	12	7	21.03	21.19	21.14	
5	QPSK	12	13	21.08	21.20	21.06	
5	QPSK	25	0	21.06	21.07	21.16	
5	16QAM	1	0	22.12	22.01	21.95	23
5	16QAM	1	12	22.17	22.01	22.03	
5	16QAM	1	24	21.99	21.88	21.98	
5	16QAM	12	0	21.00	20.83	20.87	22
5	16QAM	12	7	21.01	20.86	20.89	
5	16QAM	12	13	20.99	20.85	20.74	
5	16QAM	25	0	20.96	20.80	20.85	
5	64QAM	1	0	21.00	20.89	20.89	22
5	64QAM	1	12	21.00	20.93	20.86	
5	64QAM	1	24	20.91	20.88	20.78	
5	64QAM	12	0	20.06	19.72	19.84	21
5	64QAM	12	7	19.96	19.87	19.79	
5	64QAM	12	13	19.95	19.86	19.73	
5	64QAM	25	0	19.95	19.88	19.75	
5	256QAM	1	0	17.96	17.86	17.86	19
5	256QAM	1	12	18.06	18.02	18.03	
5	256QAM	1	24	17.93	17.89	17.82	
5	256QAM	12	0	17.93	17.67	17.61	19
5	256QAM	12	7	18.01	17.88	17.74	
5	256QAM	12	13	17.84	17.73	17.61	
5	256QAM	25	0	17.94	17.71	17.67	
Channel				26055	26340	26675	Tune-up limit

Frequency (MHz)				1851.5	1880	1913.5	(dBm)
3	QPSK	1	0	22.95	22.84	22.81	24
3	QPSK	1	8	22.23	22.25	22.14	
3	QPSK	1	14	22.08	22.07	22.09	
3	QPSK	8	0	21.00	21.06	21.18	23
3	QPSK	8	4	21.04	21.13	21.17	
3	QPSK	8	7	21.08	21.20	21.02	
3	QPSK	15	0	21.06	21.07	21.16	
3	16QAM	1	0	22.10	22.04	21.95	23
3	16QAM	1	8	22.11	21.98	21.98	
3	16QAM	1	14	22.04	21.89	21.92	
3	16QAM	8	0	20.99	20.75	20.90	22
3	16QAM	8	4	21.05	20.91	20.90	
3	16QAM	8	7	20.95	20.87	20.68	
3	16QAM	15	0	21.02	20.82	20.77	
3	64QAM	1	0	21.05	20.89	20.82	22
3	64QAM	1	8	21.06	20.96	20.82	
3	64QAM	1	14	20.92	20.85	20.72	
3	64QAM	8	0	19.99	19.71	19.85	21
3	64QAM	8	4	19.89	19.82	19.77	
3	64QAM	8	7	19.87	19.87	19.78	
3	64QAM	15	0	19.93	19.88	19.80	
3	256QAM	1	0	17.97	17.90	17.87	19
3	256QAM	1	8	18.12	17.97	17.98	
3	256QAM	1	14	17.90	17.85	17.78	
3	256QAM	8	0	18.02	17.69	17.65	19
3	256QAM	8	4	18.01	17.85	17.73	
3	256QAM	8	7	17.90	17.81	17.59	
3	256QAM	15	0	17.92	17.79	17.66	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	22.89	22.90	22.88	24
1.4	QPSK	1	3	22.28	22.25	22.21	
1.4	QPSK	1	5	22.12	22.14	22.00	
1.4	QPSK	3	0	22.95	22.88	22.80	
1.4	QPSK	3	1	22.26	22.26	22.16	
1.4	QPSK	3	3	22.06	22.11	22.06	
1.4	QPSK	6	0	21.06	21.10	21.21	23
1.4	16QAM	1	0	22.07	22.02	21.93	23
1.4	16QAM	1	3	22.16	21.98	21.96	
1.4	16QAM	1	5	22.06	21.87	21.89	
1.4	16QAM	3	0	22.17	21.96	21.96	
1.4	16QAM	3	1	22.15	21.99	22.00	
1.4	16QAM	3	3	22.00	21.84	21.97	
1.4	16QAM	6	0	20.98	20.83	20.83	22
1.4	64QAM	1	0	20.97	20.89	20.84	22
1.4	64QAM	1	3	21.06	20.92	20.88	
1.4	64QAM	1	5	20.85	20.80	20.80	
1.4	64QAM	3	0	20.96	20.83	20.80	
1.4	64QAM	3	1	21.09	20.91	20.91	
1.4	64QAM	3	3	20.85	20.88	20.78	
1.4	64QAM	6	0	20.01	19.78	19.79	21
1.4	256QAM	1	0	17.96	17.89	17.82	19
1.4	256QAM	1	3	18.03	18.04	17.94	
1.4	256QAM	1	5	17.89	17.84	17.77	
1.4	256QAM	3	0	18.03	17.89	17.78	

1.4	256QAM	3	1	18.05	18.06	18.04	
1.4	256QAM	3	3	17.92	17.88	17.74	
1.4	256QAM	6	0	17.99	17.71	17.64	19

<LTE Band 25_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)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	22.59	22.79	22.80	24
20	QPSK	1	49	22.65	22.54	22.53	
20	QPSK	1	99	22.49	22.47	22.44	
20	QPSK	50	0	21.51	21.62	21.63	23
20	QPSK	50	24	21.50	21.57	21.54	
20	QPSK	50	50	21.54	21.48	21.39	
20	QPSK	100	0	21.51	21.49	21.50	
20	16QAM	1	0	22.54	22.37	22.35	23
20	16QAM	1	49	22.52	22.44	22.31	
20	16QAM	1	99	22.38	22.24	22.35	
20	16QAM	50	0	21.35	21.17	21.19	22
20	16QAM	50	24	21.40	21.29	21.20	
20	16QAM	50	50	21.38	21.21	21.09	
20	16QAM	100	0	21.32	21.25	21.14	
20	64QAM	1	0	21.42	21.25	21.25	22
20	64QAM	1	49	21.44	21.35	21.24	
20	64QAM	1	99	21.29	21.21	21.11	
20	64QAM	50	0	20.38	20.11	20.24	21
20	64QAM	50	24	20.32	20.17	20.18	
20	64QAM	50	50	20.27	20.25	20.17	
20	64QAM	100	0	20.29	20.16	20.17	
20	256QAM	1	0	18.33	18.22	18.17	19
20	256QAM	1	49	18.43	18.43	18.36	
20	256QAM	1	99	18.26	18.23	18.21	
20	256QAM	50	0	18.37	18.02	18.03	19
20	256QAM	50	24	18.34	18.23	18.18	
20	256QAM	50	50	18.22	18.14	17.92	
20	256QAM	100	0	18.34	18.08	18.10	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	22.49	22.71	22.71	24
15	QPSK	1	37	22.65	22.49	22.47	
15	QPSK	1	74	22.49	22.42	22.41	
15	QPSK	36	0	21.44	21.54	21.55	23
15	QPSK	36	20	21.46	21.57	21.54	
15	QPSK	36	39	21.51	21.38	21.32	
15	QPSK	75	0	21.50	21.39	21.42	
15	16QAM	1	0	22.51	22.29	22.27	23
15	16QAM	1	37	22.49	22.44	22.28	
15	16QAM	1	74	22.34	22.23	22.25	
15	16QAM	36	0	21.33	21.14	21.11	22
15	16QAM	36	20	21.33	21.24	21.12	
15	16QAM	36	39	21.33	21.13	21.05	
15	16QAM	75	0	21.24	21.22	21.12	
15	64QAM	1	0	21.42	21.25	21.19	22

15	64QAM	1	37	21.39	21.34	21.19	
15	64QAM	1	74	21.27	21.14	21.08	
15	64QAM	36	0	20.30	20.07	20.14	21
15	64QAM	36	20	20.29	20.07	20.17	
15	64QAM	36	39	20.19	20.18	20.09	
15	64QAM	75	0	20.25	20.06	20.12	
15	256QAM	1	0	18.23	18.17	18.08	19
15	256QAM	1	37	18.35	18.38	18.36	
15	256QAM	1	74	18.25	18.19	18.16	
15	256QAM	36	0	18.28	17.92	17.98	19
15	256QAM	36	20	18.28	18.22	18.15	
15	256QAM	36	39	18.14	18.13	17.92	
15	256QAM	75	0	18.34	18.01	18.10	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	22.59	22.76	22.77	24
10	QPSK	1	25	22.56	22.49	22.48	
10	QPSK	1	49	22.42	22.39	22.39	
10	QPSK	25	0	21.48	21.59	21.55	23
10	QPSK	25	12	21.47	21.55	21.48	
10	QPSK	25	25	21.52	21.48	21.33	
10	QPSK	50	0	21.42	21.47	21.40	
10	16QAM	1	0	22.50	22.31	22.32	23
10	16QAM	1	25	22.46	22.34	22.24	
10	16QAM	1	49	22.36	22.24	22.34	
10	16QAM	25	0	21.32	21.08	21.09	22
10	16QAM	25	12	21.40	21.29	21.14	
10	16QAM	25	25	21.29	21.21	21.06	
10	16QAM	50	0	21.29	21.21	21.10	
10	64QAM	1	0	21.40	21.19	21.24	22
10	64QAM	1	25	21.42	21.28	21.22	
10	64QAM	1	49	21.23	21.17	21.05	
10	64QAM	25	0	20.34	20.03	20.24	21
10	64QAM	25	12	20.32	20.16	20.08	
10	64QAM	25	25	20.27	20.24	20.08	
10	64QAM	50	0	20.23	20.15	20.11	
10	256QAM	1	0	18.31	18.12	18.10	19
10	256QAM	1	25	18.34	18.40	18.33	
10	256QAM	1	49	18.18	18.17	18.17	
10	256QAM	25	0	18.29	17.92	18.01	19
10	256QAM	25	12	18.31	18.15	18.14	
10	256QAM	25	25	18.12	18.11	17.88	
10	256QAM	50	0	18.30	18.07	18.06	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	22.56	22.75	22.72	24
5	QPSK	1	12	22.55	22.46	22.53	
5	QPSK	1	24	22.44	22.46	22.36	
5	QPSK	12	0	21.44	21.61	21.57	23
5	QPSK	12	7	21.48	21.54	21.54	
5	QPSK	12	13	21.50	21.48	21.35	
5	QPSK	25	0	21.48	21.39	21.41	
5	16QAM	1	0	22.54	22.35	22.34	23
5	16QAM	1	12	22.42	22.39	22.26	
5	16QAM	1	24	22.33	22.24	22.29	
5	16QAM	12	0	21.29	21.09	21.12	22

5	16QAM	12	7	21.33	21.25	21.20	
5	16QAM	12	13	21.35	21.19	21.05	
5	16QAM	25	0	21.30	21.17	21.14	
5	64QAM	1	0	21.39	21.17	21.17	22
5	64QAM	1	12	21.42	21.35	21.22	
5	64QAM	1	24	21.26	21.12	21.05	
5	64QAM	12	0	20.32	20.10	20.19	21
5	64QAM	12	7	20.22	20.13	20.10	
5	64QAM	12	13	20.26	20.21	20.07	
5	64QAM	25	0	20.28	20.15	20.15	
5	256QAM	1	0	18.31	18.17	18.12	19
5	256QAM	1	12	18.34	18.34	18.26	
5	256QAM	1	24	18.17	18.18	18.19	
5	256QAM	12	0	18.33	18.02	17.96	19
5	256QAM	12	7	18.27	18.18	18.11	
5	256QAM	12	13	18.16	18.14	17.89	
5	256QAM	25	0	18.30	18.03	18.03	
Channel				26055	26340	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	22.53	22.79	22.79	24
3	QPSK	1	8	22.61	22.53	22.52	
3	QPSK	1	14	22.39	22.40	22.35	
3	QPSK	8	0	21.47	21.61	21.62	23
3	QPSK	8	4	21.40	21.48	21.51	
3	QPSK	8	7	21.48	21.44	21.35	
3	QPSK	15	0	21.41	21.42	21.50	
3	16QAM	1	0	22.54	22.29	22.34	23
3	16QAM	1	8	22.47	22.40	22.24	
3	16QAM	1	14	22.31	22.21	22.25	
3	16QAM	8	0	21.31	21.10	21.15	22
3	16QAM	8	4	21.33	21.26	21.19	
3	16QAM	8	7	21.38	21.14	21.04	
3	16QAM	15	0	21.25	21.23	21.05	
3	64QAM	1	0	21.36	21.20	21.25	22
3	64QAM	1	8	21.41	21.31	21.16	
3	64QAM	1	14	21.23	21.19	21.08	
3	64QAM	8	0	20.34	20.03	20.17	21
3	64QAM	8	4	20.27	20.14	20.18	
3	64QAM	8	7	20.18	20.18	20.14	
3	64QAM	15	0	20.26	20.15	20.12	
3	256QAM	1	0	18.31	18.18	18.13	19
3	256QAM	1	8	18.35	18.42	18.31	
3	256QAM	1	14	18.18	18.22	18.14	
3	256QAM	8	0	18.27	17.99	17.96	19
3	256QAM	8	4	18.31	18.17	18.13	
3	256QAM	8	7	18.15	18.12	17.85	
3	256QAM	15	0	18.33	18.00	18.01	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	22.50	22.71	22.71	24
1.4	QPSK	1	3	22.55	22.53	22.52	
1.4	QPSK	1	5	22.45	22.46	22.42	
1.4	QPSK	3	0	22.49	22.72	22.54	
1.4	QPSK	3	1	22.56	22.48	22.43	
1.4	QPSK	3	3	22.48	22.42	22.39	
1.4	QPSK	6	0	21.48	21.47	21.49	23

1.4	16QAM	1	0	22.53	22.27	22.30	23
1.4	16QAM	1	3	22.46	22.34	22.25	
1.4	16QAM	1	5	22.34	22.18	22.31	
1.4	16QAM	3	0	22.50	22.31	22.31	
1.4	16QAM	3	1	22.51	22.42	22.23	
1.4	16QAM	3	3	22.32	22.21	22.28	
1.4	16QAM	6	0	21.32	21.17	21.05	22
1.4	64QAM	1	0	21.35	21.17	21.23	22
1.4	64QAM	1	3	21.34	21.26	21.24	
1.4	64QAM	1	5	21.29	21.12	21.01	
1.4	64QAM	3	0	21.29	21.15	21.14	
1.4	64QAM	3	1	21.33	21.21	21.22	
1.4	64QAM	3	3	21.35	21.31	21.15	
1.4	64QAM	6	0	20.29	20.09	20.07	21
1.4	256QAM	1	0	18.27	18.13	18.13	19
1.4	256QAM	1	3	18.36	18.39	18.26	
1.4	256QAM	1	5	18.22	18.21	18.17	
1.4	256QAM	3	0	18.37	17.99	18.02	
1.4	256QAM	3	1	18.30	18.17	18.14	
1.4	256QAM	3	3	18.19	18.13	17.91	
1.4	256QAM	6	0	18.27	18.03	18.04	19

<LTE Band 26_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	24.33	24.34	24.25	25
15	QPSK	1	37	24.30	24.32	24.31	
15	QPSK	1	74	24.30	24.26	24.14	
15	QPSK	36	0	23.29	23.37	23.35	24
15	QPSK	36	20	23.32	23.28	23.25	
15	QPSK	36	39	23.31	23.32	23.17	
15	QPSK	75	0	23.33	23.34	23.27	
15	16QAM	1	0	23.47	23.49	23.42	24
15	16QAM	1	37	23.56	23.47	23.47	
15	16QAM	1	74	23.53	23.40	23.25	
15	16QAM	36	0	22.32	22.32	22.27	23
15	16QAM	36	20	22.31	22.31	22.25	
15	16QAM	36	39	22.27	22.29	22.25	
15	16QAM	75	0	22.27	22.35	22.25	
15	64QAM	1	0	22.33	22.30	22.30	23
15	64QAM	1	37	22.38	22.39	22.32	
15	64QAM	1	74	22.37	22.27	22.25	
15	64QAM	36	0	21.26	21.34	21.28	22
15	64QAM	36	20	21.30	21.26	21.28	
15	64QAM	36	39	21.26	21.23	21.19	
15	64QAM	75	0	21.25	21.29	21.26	
15	256QAM	1	0	19.35	19.36	19.25	20
15	256QAM	1	37	19.36	19.46	19.21	
15	256QAM	1	74	19.33	19.08	19.06	
15	256QAM	36	0	19.32	19.30	19.07	20
15	256QAM	36	20	19.33	19.32	19.07	
15	256QAM	36	39	19.28	19.23	19.03	

15	256QAM	75	0	19.30	19.28	19.09	
Channel				26740	26865	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	24.24	24.29	24.24	25
10	QPSK	1	25	24.27	24.25	24.24	
10	QPSK	1	49	24.26	24.22	24.06	
10	QPSK	25	0	23.22	23.28	23.36	24
10	QPSK	25	12	23.32	23.26	23.16	
10	QPSK	25	25	23.30	23.30	23.11	
10	QPSK	50	0	23.27	23.30	23.27	
10	16QAM	1	0	23.42	23.47	23.32	24
10	16QAM	1	25	23.54	23.45	23.44	
10	16QAM	1	49	23.46	23.39	23.25	
10	16QAM	25	0	22.27	22.28	22.17	23
10	16QAM	25	12	22.24	22.21	22.22	
10	16QAM	25	25	22.17	22.21	22.25	
10	16QAM	50	0	22.22	22.33	22.21	
10	64QAM	1	0	22.29	22.22	22.20	23
10	64QAM	1	25	22.31	22.35	22.27	
10	64QAM	1	49	22.36	22.19	22.16	
10	64QAM	25	0	21.21	21.32	21.26	22
10	64QAM	25	12	21.20	21.19	21.28	
10	64QAM	25	25	21.25	21.16	21.15	
10	64QAM	50	0	21.25	21.22	21.16	
10	256QAM	1	0	19.26	19.35	19.25	20
10	256QAM	1	25	19.32	19.44	19.21	
10	256QAM	1	49	19.30	18.98	18.97	
10	256QAM	25	0	19.27	19.24	19.05	20
10	256QAM	25	12	19.30	19.23	19.03	
10	256QAM	25	25	19.21	19.13	18.96	
10	256QAM	50	0	19.21	19.21	19.03	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	24.27	24.24	24.24	25
5	QPSK	1	12	24.24	24.31	24.29	
5	QPSK	1	24	24.22	24.24	24.06	
5	QPSK	12	0	23.20	23.28	23.31	24
5	QPSK	12	7	23.23	23.28	23.20	
5	QPSK	12	13	23.28	23.22	23.07	
5	QPSK	25	0	23.31	23.27	23.19	
5	16QAM	1	0	23.47	23.41	23.37	24
5	16QAM	1	12	23.56	23.42	23.42	
5	16QAM	1	24	23.45	23.32	23.23	
5	16QAM	12	0	22.30	22.30	22.25	23
5	16QAM	12	7	22.23	22.26	22.18	
5	16QAM	12	13	22.18	22.24	22.25	
5	16QAM	25	0	22.17	22.32	22.23	
5	64QAM	1	0	22.25	22.25	22.30	23
5	64QAM	1	12	22.37	22.35	22.30	
5	64QAM	1	24	22.31	22.25	22.20	
5	64QAM	12	0	21.25	21.24	21.28	22
5	64QAM	12	7	21.30	21.22	21.28	
5	64QAM	12	13	21.18	21.16	21.10	
5	64QAM	25	0	21.15	21.27	21.22	
5	256QAM	1	0	19.27	19.34	19.16	20
5	256QAM	1	12	19.30	19.40	19.21	

5	256QAM	1	24	19.33	19.04	19.05	
5	256QAM	12	0	19.29	19.20	19.04	20
5	256QAM	12	7	19.25	19.26	18.97	
5	256QAM	12	13	19.23	19.15	18.99	
5	256QAM	25	0	19.29	19.23	19.06	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	24.26	24.30	24.24	25
3	QPSK	1	8	24.25	24.22	24.27	
3	QPSK	1	14	24.24	24.18	24.04	
3	QPSK	8	0	23.25	23.30	23.33	24
3	QPSK	8	4	23.27	23.28	23.22	
3	QPSK	8	7	23.21	23.25	23.15	
3	QPSK	15	0	23.24	23.31	23.26	
3	16QAM	1	0	23.38	23.44	23.41	24
3	16QAM	1	8	23.55	23.38	23.46	
3	16QAM	1	14	23.43	23.30	23.23	
3	16QAM	8	0	22.27	22.27	22.26	23
3	16QAM	8	4	22.26	22.22	22.25	
3	16QAM	8	7	22.25	22.25	22.25	
3	16QAM	15	0	22.23	22.28	22.15	
3	64QAM	1	0	22.29	22.29	22.21	23
3	64QAM	1	8	22.37	22.37	22.30	
3	64QAM	1	14	22.34	22.17	22.18	
3	64QAM	8	0	21.23	21.31	21.24	22
3	64QAM	8	4	21.21	21.26	21.22	
3	64QAM	8	7	21.24	21.19	21.15	
3	64QAM	15	0	21.22	21.19	21.26	
3	256QAM	1	0	19.26	19.31	19.21	20
3	256QAM	1	8	19.31	19.45	19.14	
3	256QAM	1	14	19.28	19.04	19.00	
3	256QAM	8	0	19.22	19.27	19.04	20
3	256QAM	8	4	19.28	19.29	18.99	
3	256QAM	8	7	19.25	19.21	19.01	
3	256QAM	15	0	19.26	19.19	19.02	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	24.30	24.23	24.22	25
1.4	QPSK	1	3	24.28	24.26	24.31	
1.4	QPSK	1	5	24.25	24.17	24.11	
1.4	QPSK	3	0	24.33	24.20	24.16	
1.4	QPSK	3	1	24.28	24.28	24.30	
1.4	QPSK	3	3	24.27	24.22	24.08	
1.4	QPSK	6	0	23.23	23.26	23.32	24
1.4	16QAM	1	0	23.45	23.47	23.34	24
1.4	16QAM	1	3	23.54	23.41	23.37	
1.4	16QAM	1	5	23.47	23.40	23.19	
1.4	16QAM	3	0	23.43	23.40	23.33	
1.4	16QAM	3	1	23.54	23.44	23.45	
1.4	16QAM	3	3	23.45	23.36	23.15	
1.4	16QAM	6	0	22.24	22.30	22.19	23
1.4	64QAM	1	0	22.32	22.26	22.23	23
1.4	64QAM	1	3	22.38	22.34	22.22	
1.4	64QAM	1	5	22.31	22.17	22.23	
1.4	64QAM	3	0	22.30	22.30	22.20	
1.4	64QAM	3	1	22.29	22.31	22.24	

1.4	64QAM	3	3	22.27	22.22	22.20	
1.4	64QAM	6	0	21.16	21.26	21.23	22
1.4	256QAM	1	0	19.29	19.32	19.15	20
1.4	256QAM	1	3	19.36	19.39	19.12	
1.4	256QAM	1	5	19.31	19.05	18.99	
1.4	256QAM	3	0	19.31	19.32	19.16	
1.4	256QAM	3	1	19.36	19.43	19.15	
1.4	256QAM	3	3	19.32	19.01	18.99	
1.4	256QAM	6	0	19.29	19.22	19.02	20

<LTE Band 30_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				27710			
Frequency (MHz)				2310			
10	QPSK	1	0		21.79		23
10	QPSK	1	25		21.12		
10	QPSK	1	49		21.14		
10	QPSK	25	0		21.07		22
10	QPSK	25	12		20.10		
10	QPSK	25	25		20.14		
10	QPSK	50	0		20.09		
10	16QAM	1	0		21.13		22
10	16QAM	1	25		21.00		
10	16QAM	1	49		21.09		
10	16QAM	25	0		20.93		21
10	16QAM	25	12		19.77		
10	16QAM	25	25		19.86		
10	16QAM	50	0		19.70		
10	64QAM	1	0		19.83		21
10	64QAM	1	25		19.93		
10	64QAM	1	49		19.96		
10	64QAM	25	0		19.84		20
10	64QAM	25	12		18.75		
10	64QAM	25	25		18.83		
10	64QAM	50	0		18.72		
10	256QAM	1	0		17.56		18
10	256QAM	1	25		16.91		
10	256QAM	1	49		17.01		
10	256QAM	25	0		16.88		18
10	256QAM	25	12		16.64		
10	256QAM	25	25		16.86		
10	256QAM	50	0		16.66		
Channel				27685	16.68	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	21.74	21.76	21.70	23
5	QPSK	1	12	21.02	21.05	21.08	
5	QPSK	1	24	21.04	21.07	21.06	
5	QPSK	12	0	20.99	21.02	20.97	22
5	QPSK	12	7	20.02	20.00	20.09	
5	QPSK	12	13	20.07	20.14	20.12	
5	QPSK	25	0	20.05	20.04	20.07	
5	16QAM	1	0	21.07	21.04	21.08	22
5	16QAM	1	12	20.95	20.99	20.96	

5	16QAM	1	24	21.02	21.06	21.00	
5	16QAM	12	0	20.88	20.88	20.91	21
5	16QAM	12	7	19.75	19.75	19.73	
5	16QAM	12	13	19.86	19.84	19.83	
5	16QAM	25	0	19.63	19.65	19.69	
5	64QAM	1	0	19.74	19.82	19.73	21
5	64QAM	1	12	19.85	19.93	19.88	
5	64QAM	1	24	19.88	19.88	19.94	
5	64QAM	12	0	19.81	19.75	19.75	20
5	64QAM	12	7	18.75	18.67	18.69	
5	64QAM	12	13	18.79	18.82	18.79	
5	64QAM	25	0	18.70	18.70	18.65	
5	256QAM	1	0	17.47	17.46	17.54	18
5	256QAM	1	12	16.88	16.81	16.84	
5	256QAM	1	24	16.95	16.96	16.98	
5	256QAM	12	0	16.85	16.82	16.84	18
5	256QAM	12	7	16.62	16.54	16.64	
5	256QAM	12	13	16.78	16.81	16.78	
5	256QAM	25	0	16.63	16.59	16.64	

<LTE Band 30_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)
Channel				27710			
Frequency (MHz)				2310			
10	QPSK	1	0		22.21		23
10	QPSK	1	25		21.91		
10	QPSK	1	49		22.01		
10	QPSK	25	0		21.92		22
10	QPSK	25	12		21.44		
10	QPSK	25	25		21.46		
10	QPSK	50	0		20.98		
10	16QAM	1	0		21.92		22
10	16QAM	1	25		21.89		
10	16QAM	1	49		21.98		
10	16QAM	25	0		20.72		21
10	16QAM	25	12		20.65		
10	16QAM	25	25		20.75		
10	16QAM	50	0		20.56		
10	64QAM	1	0		20.67		21
10	64QAM	1	25		20.74		
10	64QAM	1	49		20.76		
10	64QAM	25	0		19.66		20
10	64QAM	25	12		19.64		
10	64QAM	25	25		19.63		
10	64QAM	50	0		19.59		
10	256QAM	1	0		17.64		18
10	256QAM	1	25		17.70		
10	256QAM	1	49		17.80		
10	256QAM	25	0		17.73		18
10	256QAM	25	12		17.49		
10	256QAM	25	25		17.72		
10	256QAM	50	0		17.55		
Channel				27685	16.68	27735	Tune-up limit

Frequency (MHz)				2307.5	2310	2312.5	(dBm)
5	QPSK	1	0	22.15	22.20	22.16	23
5	QPSK	1	12	21.85	21.86	21.83	
5	QPSK	1	24	21.94	21.94	21.96	
5	QPSK	12	0	21.85	21.88	21.82	22
5	QPSK	12	7	21.40	21.41	21.42	
5	QPSK	12	13	21.41	21.44	21.40	
5	QPSK	25	0	20.98	20.98	20.88	
5	16QAM	1	0	21.87	21.82	21.92	22
5	16QAM	1	12	21.83	21.79	21.86	
5	16QAM	1	24	21.95	21.93	21.97	
5	16QAM	12	0	20.63	20.66	20.70	21
5	16QAM	12	7	20.64	20.62	20.63	
5	16QAM	12	13	20.75	20.74	20.65	
5	16QAM	25	0	20.56	20.53	20.55	
5	64QAM	1	0	20.67	20.67	20.59	21
5	64QAM	1	12	20.66	20.74	20.70	
5	64QAM	1	24	20.66	20.74	20.72	
5	64QAM	12	0	19.59	19.58	19.63	20
5	64QAM	12	7	19.54	19.55	19.64	
5	64QAM	12	13	19.58	19.56	19.61	
5	64QAM	25	0	19.49	19.53	19.57	
5	256QAM	1	0	17.59	17.58	17.62	18
5	256QAM	1	12	17.64	17.60	17.61	
5	256QAM	1	24	17.72	17.70	17.76	
5	256QAM	12	0	17.72	17.63	17.68	18
5	256QAM	12	7	17.45	17.39	17.44	
5	256QAM	12	13	17.70	17.71	17.70	
5	256QAM	25	0	17.46	17.55	17.49	

<LTE Band 66_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.75	22.67	22.66	24
20	QPSK	1	49	22.00	22.04	22.00	
20	QPSK	1	99	22.07	22.25	22.20	
20	QPSK	50	0	21.12	21.01	21.06	23
20	QPSK	50	24	21.09	21.01	21.04	
20	QPSK	50	50	21.04	21.00	21.08	
20	QPSK	100	0	21.07	21.02	21.05	
20	16QAM	1	0	21.83	21.77	21.80	23
20	16QAM	1	49	21.87	21.84	21.83	
20	16QAM	1	99	21.78	21.82	21.83	
20	16QAM	50	0	20.75	20.74	20.83	22
20	16QAM	50	24	20.83	20.73	20.77	
20	16QAM	50	50	20.71	20.67	20.82	
20	16QAM	100	0	20.73	20.72	20.73	
20	64QAM	1	0	20.78	20.71	20.74	22
20	64QAM	1	49	20.87	20.80	20.77	
20	64QAM	1	99	20.72	20.68	20.74	
20	64QAM	50	0	19.68	19.66	19.73	21
20	64QAM	50	24	19.73	19.76	19.76	

20	64QAM	50	50	19.70	19.64	19.75	
20	64QAM	100	0	19.74	19.68	19.76	
20	256QAM	1	0	17.77	17.77	17.80	19
20	256QAM	1	49	17.84	17.80	17.82	
20	256QAM	1	99	17.77	17.69	17.77	
20	256QAM	50	0	17.68	17.65	17.72	19
20	256QAM	50	24	17.71	17.74	17.74	
20	256QAM	50	50	17.64	17.67	17.76	
20	256QAM	100	0	17.69	17.71	17.79	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.74	22.60	22.57	24
15	QPSK	1	37	22.07	22.04	22.00	
15	QPSK	1	74	22.04	22.23	22.15	
15	QPSK	36	0	21.04	21.01	21.06	23
15	QPSK	36	20	21.14	21.01	21.05	
15	QPSK	36	39	21.05	21.01	21.12	
15	QPSK	75	0	21.04	21.01	21.02	
15	16QAM	1	0	21.78	21.68	21.70	23
15	16QAM	1	37	21.80	21.75	21.74	
15	16QAM	1	74	21.69	21.78	21.75	
15	16QAM	36	0	20.69	20.67	20.73	22
15	16QAM	36	20	20.77	20.64	20.69	
15	16QAM	36	39	20.70	20.67	20.79	
15	16QAM	75	0	20.63	20.65	20.64	
15	64QAM	1	0	20.69	20.64	20.64	22
15	64QAM	1	37	20.83	20.76	20.67	
15	64QAM	1	74	20.67	20.68	20.72	
15	64QAM	36	0	19.61	19.58	19.65	21
15	64QAM	36	20	19.66	19.73	19.72	
15	64QAM	36	39	19.68	19.62	19.69	
15	64QAM	75	0	19.67	19.62	19.76	
15	256QAM	1	0	17.70	17.71	17.76	19
15	256QAM	1	37	17.78	17.79	17.74	
15	256QAM	1	74	17.74	17.61	17.74	
15	256QAM	36	0	17.65	17.65	17.71	19
15	256QAM	36	20	17.63	17.72	17.68	
15	256QAM	36	39	17.62	17.65	17.70	
15	256QAM	75	0	17.59	17.70	17.79	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.67	22.59	22.62	24
10	QPSK	1	25	22.08	22.05	22.06	
10	QPSK	1	49	22.04	22.23	22.18	
10	QPSK	25	0	21.03	21.11	21.07	23
10	QPSK	25	12	21.18	21.08	21.11	
10	QPSK	25	25	21.13	21.02	21.08	
10	QPSK	50	0	21.15	21.08	21.11	
10	16QAM	1	0	21.83	21.71	21.72	23
10	16QAM	1	25	21.87	21.77	21.73	
10	16QAM	1	49	21.70	21.72	21.77	
10	16QAM	25	0	20.66	20.66	20.82	22
10	16QAM	25	12	20.77	20.67	20.73	
10	16QAM	25	25	20.62	20.58	20.74	
10	16QAM	50	0	20.70	20.63	20.63	
10	64QAM	1	0	20.68	20.63	20.70	22

10	64QAM	1	25	20.77	20.70	20.68	
10	64QAM	1	49	20.63	20.68	20.71	
10	64QAM	25	0	19.60	19.62	19.72	21
10	64QAM	25	12	19.71	19.66	19.71	
10	64QAM	25	25	19.68	19.62	19.72	
10	64QAM	50	0	19.73	19.65	19.69	
10	256QAM	1	0	17.67	17.76	17.78	19
10	256QAM	1	25	17.83	17.79	17.74	
10	256QAM	1	49	17.75	17.66	17.71	
10	256QAM	25	0	17.66	17.60	17.71	19
10	256QAM	25	12	17.69	17.71	17.64	
10	256QAM	25	25	17.56	17.60	17.76	
10	256QAM	50	0	17.64	17.70	17.71	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.65	22.60	22.66	24
5	QPSK	1	12	22.03	22.09	22.00	
5	QPSK	1	24	22.03	22.22	22.12	
5	QPSK	12	0	21.02	21.02	21.07	23
5	QPSK	12	7	21.21	21.02	21.05	
5	QPSK	12	13	21.13	21.07	21.13	
5	QPSK	25	0	21.08	21.07	21.06	
5	16QAM	1	0	21.76	21.74	21.73	23
5	16QAM	1	12	21.87	21.75	21.73	
5	16QAM	1	24	21.77	21.73	21.76	
5	16QAM	12	0	20.67	20.64	20.83	22
5	16QAM	12	7	20.76	20.65	20.74	
5	16QAM	12	13	20.63	20.58	20.80	
5	16QAM	25	0	20.72	20.65	20.63	
5	64QAM	1	0	20.74	20.67	20.68	22
5	64QAM	1	12	20.78	20.76	20.76	
5	64QAM	1	24	20.71	20.61	20.66	
5	64QAM	12	0	19.67	19.61	19.69	21
5	64QAM	12	7	19.65	19.72	19.69	
5	64QAM	12	13	19.68	19.59	19.73	
5	64QAM	25	0	19.68	19.61	19.72	
5	256QAM	1	0	17.69	17.73	17.70	19
5	256QAM	1	12	17.75	17.74	17.77	
5	256QAM	1	24	17.67	17.69	17.73	
5	256QAM	12	0	17.60	17.57	17.68	19
5	256QAM	12	7	17.66	17.72	17.73	
5	256QAM	12	13	17.62	17.67	17.71	
5	256QAM	25	0	17.64	17.64	17.79	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.66	22.66	22.57	24
3	QPSK	1	8	22.01	22.05	22.08	
3	QPSK	1	14	22.00	22.20	22.11	
3	QPSK	8	0	21.01	21.02	21.10	23
3	QPSK	8	4	21.12	21.05	21.09	
3	QPSK	8	7	21.04	21.06	21.08	
3	QPSK	15	0	21.07	21.12	21.09	
3	16QAM	1	0	21.80	21.71	21.78	23
3	16QAM	1	8	21.81	21.84	21.76	
3	16QAM	1	14	21.73	21.76	21.83	
3	16QAM	8	0	20.73	20.64	20.77	22

3	16QAM	8	4	20.78	20.71	20.68	
3	16QAM	8	7	20.67	20.65	20.82	
3	16QAM	15	0	20.72	20.71	20.64	
3	64QAM	1	0	20.75	20.64	20.72	22
3	64QAM	1	8	20.85	20.74	20.75	
3	64QAM	1	14	20.64	20.68	20.64	
3	64QAM	8	0	19.61	19.60	19.73	21
3	64QAM	8	4	19.71	19.73	19.75	
3	64QAM	8	7	19.69	19.57	19.73	
3	64QAM	15	0	19.73	19.65	19.67	
3	256QAM	1	0	17.73	17.72	17.70	19
3	256QAM	1	8	17.79	17.77	17.72	
3	256QAM	1	14	17.77	17.69	17.70	
3	256QAM	8	0	17.68	17.63	17.72	19
3	256QAM	8	4	17.69	17.69	17.73	
3	256QAM	8	7	17.54	17.66	17.70	
3	256QAM	15	0	17.65	17.61	17.78	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.65	22.59	22.56	24
1.4	QPSK	1	3	22.00	22.08	22.00	
1.4	QPSK	1	5	22.09	22.25	22.15	
1.4	QPSK	3	0	22.74	22.67	22.65	
1.4	QPSK	3	1	22.02	22.05	22.00	
1.4	QPSK	3	3	22.05	22.17	22.19	
1.4	QPSK	6	0	21.01	21.09	21.09	23
1.4	16QAM	1	0	21.83	21.71	21.79	23
1.4	16QAM	1	3	21.82	21.81	21.75	
1.4	16QAM	1	5	21.71	21.77	21.75	
1.4	16QAM	3	0	21.77	21.72	21.76	
1.4	16QAM	3	1	21.82	21.78	21.81	
1.4	16QAM	3	3	21.68	21.82	21.79	
1.4	16QAM	6	0	20.71	20.69	20.82	22
1.4	64QAM	1	0	20.72	20.64	20.74	22
1.4	64QAM	1	3	20.81	20.73	20.75	
1.4	64QAM	1	5	20.66	20.60	20.67	
1.4	64QAM	3	0	20.70	20.69	20.69	
1.4	64QAM	3	1	20.81	20.73	20.76	
1.4	64QAM	3	3	20.68	20.62	20.69	
1.4	64QAM	6	0	19.61	19.57	19.66	21
1.4	256QAM	1	0	17.72	17.71	17.79	19
1.4	256QAM	1	3	17.82	17.77	17.79	
1.4	256QAM	1	5	17.71	17.64	17.67	
1.4	256QAM	3	0	17.69	17.67	17.74	
1.4	256QAM	3	1	17.84	17.79	17.77	
1.4	256QAM	3	3	17.72	17.69	17.68	
1.4	256QAM	6	0	17.62	17.59	17.71	19

<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)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.63	22.60	22.62	24
20	QPSK	1	49	22.29	22.02	22.20	
20	QPSK	1	99	22.05	22.25	22.14	
20	QPSK	50	0	21.25	21.19	21.06	23
20	QPSK	50	24	21.23	21.14	21.02	
20	QPSK	50	50	21.20	21.07	21.08	
20	QPSK	100	0	21.14	21.09	21.09	
20	16QAM	1	0	21.79	21.77	21.70	23
20	16QAM	1	49	21.82	21.84	21.74	
20	16QAM	1	99	21.69	21.78	21.75	
20	16QAM	50	0	20.71	20.71	20.74	22
20	16QAM	50	24	20.77	20.63	20.67	
20	16QAM	50	50	20.67	20.67	20.80	
20	16QAM	100	0	20.70	20.68	20.65	
20	64QAM	1	0	20.75	20.62	20.72	22
20	64QAM	1	49	20.81	20.70	20.71	
20	64QAM	1	99	20.64	20.68	20.74	
20	64QAM	50	0	19.58	19.58	19.66	21
20	64QAM	50	24	19.70	19.74	19.66	
20	64QAM	50	50	19.60	19.62	19.67	
20	64QAM	100	0	19.67	19.68	19.67	
20	256QAM	1	0	17.72	17.69	17.75	19
20	256QAM	1	49	17.77	17.74	17.77	
20	256QAM	1	99	17.71	17.61	17.73	
20	256QAM	50	0	17.62	17.55	17.72	19
20	256QAM	50	24	17.71	17.72	17.66	
20	256QAM	50	50	17.58	17.63	17.71	
20	256QAM	100	0	17.63	17.69	17.72	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.58	22.54	22.55	24
15	QPSK	1	37	22.29	22.15	22.12	
15	QPSK	1	74	22.19	22.21	22.14	
15	QPSK	36	0	21.24	21.12	21.00	23
15	QPSK	36	20	21.15	21.05	21.01	
15	QPSK	36	39	21.20	21.06	21.04	
15	QPSK	75	0	21.14	21.04	21.03	
15	16QAM	1	0	21.69	21.71	21.60	23
15	16QAM	1	37	21.73	21.81	21.71	
15	16QAM	1	74	21.68	21.75	21.73	
15	16QAM	36	0	20.66	20.62	20.74	22
15	16QAM	36	20	20.76	20.62	20.64	
15	16QAM	36	39	20.64	20.64	20.77	
15	16QAM	75	0	20.65	20.66	20.63	
15	64QAM	1	0	20.68	20.54	20.66	22
15	64QAM	1	37	20.77	20.70	20.66	
15	64QAM	1	74	20.59	20.62	20.73	
15	64QAM	36	0	19.53	19.55	19.60	21
15	64QAM	36	20	19.69	19.74	19.57	
15	64QAM	36	39	19.58	19.53	19.62	
15	64QAM	75	0	19.66	19.67	19.62	

15	256QAM	1	0	17.66	17.67	17.71	19
15	256QAM	1	37	17.77	17.72	17.71	
15	256QAM	1	74	17.65	17.56	17.70	
15	256QAM	36	0	17.55	17.45	17.64	19
15	256QAM	36	20	17.65	17.67	17.65	
15	256QAM	36	39	17.52	17.59	17.64	
15	256QAM	75	0	17.62	17.64	17.63	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.61	22.58	22.60	24
10	QPSK	1	25	22.21	22.22	22.14	
10	QPSK	1	49	22.00	22.24	22.06	
10	QPSK	25	0	21.19	21.12	21.00	23
10	QPSK	25	12	21.21	21.10	21.05	
10	QPSK	25	25	21.20	21.02	21.03	
10	QPSK	50	0	21.05	21.09	21.01	
10	16QAM	1	0	21.77	21.70	21.61	23
10	16QAM	1	25	21.76	21.84	21.69	
10	16QAM	1	49	21.63	21.71	21.75	
10	16QAM	25	0	20.65	20.62	20.65	22
10	16QAM	25	12	20.70	20.63	20.60	
10	16QAM	25	25	20.67	20.67	20.74	
10	16QAM	50	0	20.62	20.62	20.59	
10	64QAM	1	0	20.74	20.56	20.66	22
10	64QAM	1	25	20.81	20.64	20.66	
10	64QAM	1	49	20.61	20.58	20.65	
10	64QAM	25	0	19.48	19.48	19.57	21
10	64QAM	25	12	19.64	19.74	19.59	
10	64QAM	25	25	19.55	19.53	19.65	
10	64QAM	50	0	19.64	19.63	19.61	
10	256QAM	1	0	17.63	17.59	17.75	19
10	256QAM	1	25	17.67	17.70	17.77	
10	256QAM	1	49	17.68	17.61	17.68	
10	256QAM	25	0	17.54	17.45	17.64	19
10	256QAM	25	12	17.64	17.65	17.61	
10	256QAM	25	25	17.52	17.63	17.62	
10	256QAM	50	0	17.59	17.61	17.66	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.53	22.52	22.57	24
5	QPSK	1	12	22.22	22.14	22.10	
5	QPSK	1	24	22.05	22.24	22.12	
5	QPSK	12	0	21.17	21.13	21.04	23
5	QPSK	12	7	21.23	21.11	21.01	
5	QPSK	12	13	21.12	21.07	21.09	
5	QPSK	25	0	21.09	21.00	21.06	
5	16QAM	1	0	21.71	21.67	21.70	23
5	16QAM	1	12	21.73	21.76	21.70	
5	16QAM	1	24	21.61	21.75	21.72	
5	16QAM	12	0	20.65	20.66	20.65	22
5	16QAM	12	7	20.67	20.57	20.59	
5	16QAM	12	13	20.64	20.57	20.77	
5	16QAM	25	0	20.67	20.68	20.65	
5	64QAM	1	0	20.68	20.60	20.64	22
5	64QAM	1	12	20.72	20.67	20.66	
5	64QAM	1	24	20.60	20.61	20.73	

5	64QAM	12	0	19.55	19.57	19.63	21
5	64QAM	12	7	19.70	19.74	19.64	
5	64QAM	12	13	19.52	19.59	19.57	
5	64QAM	25	0	19.63	19.65	19.61	
5	256QAM	1	0	17.70	17.63	17.70	19
5	256QAM	1	12	17.73	17.73	17.67	
5	256QAM	1	24	17.67	17.58	17.70	
5	256QAM	12	0	17.59	17.52	17.62	19
5	256QAM	12	7	17.64	17.70	17.60	
5	256QAM	12	13	17.51	17.62	17.65	
5	256QAM	25	0	17.61	17.68	17.70	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.58	22.52	22.58	24
3	QPSK	1	8	22.28	22.00	22.11	
3	QPSK	1	14	22.04	22.18	22.08	
3	QPSK	8	0	21.16	21.12	21.05	23
3	QPSK	8	4	21.22	21.15	21.02	
3	QPSK	8	7	21.14	21.10	21.08	
3	QPSK	15	0	21.10	21.09	21.00	
3	16QAM	1	0	21.73	21.72	21.65	23
3	16QAM	1	8	21.76	21.81	21.74	
3	16QAM	1	14	21.65	21.75	21.72	
3	16QAM	8	0	20.66	20.65	20.66	22
3	16QAM	8	4	20.75	20.63	20.62	
3	16QAM	8	7	20.64	20.64	20.80	
3	16QAM	15	0	20.63	20.66	20.64	
3	64QAM	1	0	20.74	20.60	20.72	22
3	64QAM	1	8	20.73	20.61	20.69	
3	64QAM	1	14	20.54	20.68	20.64	
3	64QAM	8	0	19.55	19.51	19.58	21
3	64QAM	8	4	19.69	19.69	19.57	
3	64QAM	8	7	19.59	19.57	19.60	
3	64QAM	15	0	19.64	19.65	19.63	
3	256QAM	1	0	17.71	17.64	17.67	19
3	256QAM	1	8	17.73	17.64	17.76	
3	256QAM	1	14	17.64	17.56	17.67	
3	256QAM	8	0	17.61	17.45	17.66	19
3	256QAM	8	4	17.68	17.63	17.66	
3	256QAM	8	7	17.51	17.61	17.68	
3	256QAM	15	0	17.53	17.66	17.63	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.59	22.59	22.60	24
1.4	QPSK	1	3	22.27	22.13	22.15	
1.4	QPSK	1	5	22.01	22.25	22.12	
1.4	QPSK	3	0	22.22	22.15	22.19	
1.4	QPSK	3	1	22.17	22.24	22.05	
1.4	QPSK	3	3	22.20	22.18	22.15	
1.4	QPSK	6	0	21.08	21.05	21.05	23
1.4	16QAM	1	0	21.77	21.71	21.70	23
1.4	16QAM	1	3	21.79	21.75	21.68	
1.4	16QAM	1	5	21.63	21.78	21.70	
1.4	16QAM	3	0	21.74	21.67	21.66	
1.4	16QAM	3	1	21.77	21.79	21.71	
1.4	16QAM	3	3	21.60	21.70	21.66	

1.4	16QAM	6	0	20.69	20.59	20.63	22
1.4	64QAM	1	0	20.72	20.54	20.64	22
1.4	64QAM	1	3	20.72	20.66	20.71	
1.4	64QAM	1	5	20.59	20.64	20.71	
1.4	64QAM	3	0	20.69	20.67	20.72	
1.4	64QAM	3	1	20.74	20.60	20.57	
1.4	64QAM	3	3	20.67	20.66	20.77	
1.4	64QAM	6	0	19.57	19.61	19.58	21
1.4	256QAM	1	0	17.71	17.60	17.75	19
1.4	256QAM	1	3	17.71	17.73	17.70	
1.4	256QAM	1	5	17.64	17.58	17.70	
1.4	256QAM	3	0	17.53	17.47	17.66	
1.4	256QAM	3	1	17.63	17.67	17.56	
1.4	256QAM	3	3	17.57	17.56	17.68	
1.4	256QAM	6	0	17.58	17.65	17.62	19

<LTE Band 71 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133322	133372	
Frequency (MHz)				673	683	688	
20	QPSK	1	0	24.14	24.27	24.20	25
20	QPSK	1	49	23.45	23.62	23.50	
20	QPSK	1	99	23.48	23.39	23.34	
20	QPSK	50	0	22.11	22.41	22.31	24
20	QPSK	50	24	22.15	22.27	22.23	
20	QPSK	50	50	22.14	22.34	22.14	
20	QPSK	100	0	22.09	22.29	22.21	
20	16QAM	1	0	23.26	23.32	23.39	24
20	16QAM	1	49	23.46	23.48	23.42	
20	16QAM	1	99	23.37	23.21	23.17	
20	16QAM	50	0	22.15	22.35	22.29	23
20	16QAM	50	24	22.15	22.32	22.27	
20	16QAM	50	50	22.09	22.34	22.15	
20	16QAM	100	0	22.13	22.26	22.19	
20	64QAM	1	0	22.08	22.23	22.21	23
20	64QAM	1	49	22.26	22.35	22.27	
20	64QAM	1	99	22.18	22.13	22.05	
20	64QAM	50	0	21.10	21.39	21.26	22
20	64QAM	50	24	21.13	21.32	21.26	
20	64QAM	50	50	21.07	21.35	21.11	
20	64QAM	100	0	21.08	21.21	21.17	
20	256QAM	1	0	19.12	19.20	19.27	20
20	256QAM	1	49	19.33	19.37	19.35	
20	256QAM	1	99	19.20	19.14	19.09	
20	256QAM	50	0	19.15	19.43	19.29	20
20	256QAM	50	24	19.16	19.33	19.22	
20	256QAM	50	50	19.02	19.30	19.13	
20	256QAM	100	0	19.12	19.38	19.21	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	24.12	24.17	24.25	25
15	QPSK	1	37	23.35	23.58	23.41	
15	QPSK	1	74	23.46	23.31	23.27	

15	QPSK	36	0	22.10	22.33	22.21	24
15	QPSK	36	20	22.09	22.18	22.23	
15	QPSK	36	39	22.04	22.31	22.10	
15	QPSK	75	0	22.05	22.19	22.20	
15	16QAM	1	0	23.18	23.25	23.35	24
15	16QAM	1	37	23.42	23.45	23.36	
15	16QAM	1	74	23.30	23.21	23.11	
15	16QAM	36	0	22.13	22.25	22.22	23
15	16QAM	36	20	22.13	22.28	22.19	
15	16QAM	36	39	22.03	22.28	22.12	
15	16QAM	75	0	22.13	22.17	22.17	
15	64QAM	1	0	22.08	22.15	22.14	23
15	64QAM	1	37	22.25	22.33	22.22	
15	64QAM	1	74	22.13	22.08	22.00	
15	64QAM	36	0	21.00	21.34	21.25	22
15	64QAM	36	20	21.05	21.30	21.23	
15	64QAM	36	39	21.05	21.34	21.02	
15	64QAM	75	0	20.98	21.13	21.09	
15	256QAM	1	0	19.06	19.14	19.25	20
15	256QAM	1	37	19.28	19.27	19.29	
15	256QAM	1	74	19.20	19.13	19.00	
15	256QAM	36	0	19.06	19.40	19.28	20
15	256QAM	36	20	19.14	19.30	19.16	
15	256QAM	36	39	19.01	19.27	19.03	
15	256QAM	75	0	19.02	19.38	19.14	
Channel				133172	133272	133422	Tune-up limit (dBm)
Frequency (MHz)				668	678	693	
10	QPSK	1	0	24.06	24.10	24.19	25
10	QPSK	1	25	23.41	23.59	23.40	
10	QPSK	1	49	23.45	23.36	23.24	
10	QPSK	25	0	22.04	22.41	22.29	24
10	QPSK	25	12	22.07	22.26	22.14	
10	QPSK	25	25	22.06	22.24	22.05	
10	QPSK	50	0	21.99	22.26	22.21	
10	16QAM	1	0	23.17	23.26	23.35	24
10	16QAM	1	25	23.37	23.45	23.34	
10	16QAM	1	49	23.27	23.18	23.08	
10	16QAM	25	0	22.08	22.33	22.26	23
10	16QAM	25	12	22.15	22.29	22.25	
10	16QAM	25	25	22.02	22.34	22.06	
10	16QAM	50	0	22.05	22.26	22.09	
10	64QAM	1	0	22.06	22.14	22.15	23
10	64QAM	1	25	22.26	22.26	22.26	
10	64QAM	1	49	22.13	22.05	21.95	
10	64QAM	25	0	21.00	21.36	21.20	22
10	64QAM	25	12	21.03	21.23	21.26	
10	64QAM	25	25	21.03	21.33	21.07	
10	64QAM	50	0	20.98	21.11	21.12	
10	256QAM	1	0	19.05	19.13	19.17	20
10	256QAM	1	25	19.24	19.27	19.27	
10	256QAM	1	49	19.17	19.05	19.07	
10	256QAM	25	0	19.06	19.37	19.26	20
10	256QAM	25	12	19.16	19.31	19.19	
10	256QAM	25	25	19.02	19.30	19.07	
10	256QAM	50	0	19.11	19.29	19.18	
Channel				133147	133247	133447	Tune-up limit

Frequency (MHz)				665.5	675.5	695.5	(dBm)
5	QPSK	1	0	24.11	24.17	24.25	25
5	QPSK	1	12	23.40	23.62	23.44	
5	QPSK	1	24	23.39	23.37	23.27	
5	QPSK	12	0	22.08	22.35	22.27	24
5	QPSK	12	7	22.06	22.22	22.18	
5	QPSK	12	13	22.06	22.28	22.06	
5	QPSK	25	0	22.06	22.21	22.19	
5	16QAM	1	0	23.23	23.24	23.33	24
5	16QAM	1	12	23.39	23.48	23.33	
5	16QAM	1	24	23.31	23.15	23.09	
5	16QAM	12	0	22.13	22.35	22.21	23
5	16QAM	12	7	22.10	22.27	22.27	
5	16QAM	12	13	22.01	22.29	22.07	
5	16QAM	25	0	22.13	22.17	22.17	
5	64QAM	1	0	22.08	22.19	22.16	23
5	64QAM	1	12	22.17	22.25	22.21	
5	64QAM	1	24	22.11	22.04	21.96	
5	64QAM	12	0	21.03	21.32	21.26	22
5	64QAM	12	7	21.06	21.26	21.25	
5	64QAM	12	13	21.04	21.33	21.09	
5	64QAM	25	0	21.07	21.19	21.09	
5	256QAM	1	0	19.07	19.19	19.22	20
5	256QAM	1	12	19.28	19.35	19.35	
5	256QAM	1	24	19.19	19.10	19.04	
5	256QAM	12	0	19.13	19.38	19.24	20
5	256QAM	12	7	19.13	19.33	19.17	
5	256QAM	12	13	19.01	19.22	19.05	
5	256QAM	25	0	19.06	19.35	19.15	

Reduced Power Mode

<LTE Band 2_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	17.52	17.55	17.49	18
20	QPSK	1	49	17.50	17.53	17.46	
20	QPSK	1	99	17.51	17.44	17.47	
20	QPSK	50	0	17.26	17.31	17.28	18
20	QPSK	50	24	17.26	17.29	17.27	
20	QPSK	50	50	17.22	17.28	17.22	
20	QPSK	100	0	17.24	17.26	17.22	
20	16QAM	1	0	17.49	17.45	17.46	18
20	16QAM	1	49	17.42	17.43	17.49	
20	16QAM	1	99	17.41	17.44	17.47	
20	16QAM	50	0	17.28	17.08	17.23	18
20	16QAM	50	24	17.30	17.27	17.25	
20	16QAM	50	50	17.20	17.24	17.23	
20	16QAM	100	0	17.23	17.16	17.21	
20	64QAM	1	0	17.36	17.43	17.32	18
20	64QAM	1	49	17.37	17.40	17.37	
20	64QAM	1	99	17.32	17.33	17.37	
20	64QAM	50	0	17.27	17.09	17.23	18
20	64QAM	50	24	17.24	17.27	17.25	
20	64QAM	50	50	17.20	17.29	17.23	
20	64QAM	100	0	17.22	17.16	17.20	
20	256QAM	1	0	17.22	17.31	17.25	18
20	256QAM	1	49	17.21	17.35	17.21	
20	256QAM	1	99	17.20	17.16	17.20	
20	256QAM	50	0	17.18	17.20	17.06	18
20	256QAM	50	24	17.29	17.31	17.21	
20	256QAM	50	50	17.25	17.24	17.38	
20	256QAM	100	0	17.21	17.32	17.31	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	17.47	17.50	17.48	18
15	QPSK	1	37	17.49	17.50	17.45	
15	QPSK	1	74	17.49	17.35	17.42	
15	QPSK	36	0	17.23	17.26	17.26	18
15	QPSK	36	20	17.20	17.26	17.20	
15	QPSK	36	39	17.18	17.23	17.16	
15	QPSK	75	0	17.23	17.18	17.15	
15	16QAM	1	0	17.40	17.39	17.36	18
15	16QAM	1	37	17.33	17.37	17.39	
15	16QAM	1	74	17.39	17.42	17.41	
15	16QAM	36	0	17.21	17.00	17.17	18
15	16QAM	36	20	17.22	17.18	17.23	
15	16QAM	36	39	17.18	17.15	17.13	
15	16QAM	75	0	17.17	17.13	17.11	
15	64QAM	1	0	17.31	17.36	17.23	18
15	64QAM	1	37	17.32	17.37	17.29	
15	64QAM	1	74	17.23	17.29	17.34	
15	64QAM	36	0	17.23	17.08	17.14	18
15	64QAM	36	20	17.15	17.26	17.22	
15	64QAM	36	39	17.15	17.28	17.18	

15	64QAM	75	0	17.16	17.07	17.14	
15	256QAM	1	0	17.20	17.21	17.24	18
15	256QAM	1	37	17.15	17.27	17.14	
15	256QAM	1	74	17.13	17.16	17.11	
15	256QAM	36	0	17.12	17.11	16.97	18
15	256QAM	36	20	17.28	17.25	17.16	
15	256QAM	36	39	17.25	17.24	17.37	
15	256QAM	75	0	17.13	17.29	17.27	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	17.48	17.53	17.49	18
10	QPSK	1	25	17.50	17.48	17.44	
10	QPSK	1	49	17.51	17.38	17.46	
10	QPSK	25	0	17.21	17.21	17.25	18
10	QPSK	25	12	17.21	17.23	17.19	
10	QPSK	25	25	17.16	17.27	17.17	
10	QPSK	50	0	17.16	17.26	17.12	
10	16QAM	1	0	17.46	17.40	17.42	18
10	16QAM	1	25	17.37	17.33	17.47	
10	16QAM	1	49	17.38	17.36	17.38	
10	16QAM	25	0	17.23	17.08	17.15	18
10	16QAM	25	12	17.30	17.17	17.20	
10	16QAM	25	25	17.10	17.22	17.14	
10	16QAM	50	0	17.17	17.13	17.16	
10	64QAM	1	0	17.35	17.42	17.24	18
10	64QAM	1	25	17.35	17.36	17.28	
10	64QAM	1	49	17.25	17.29	17.35	
10	64QAM	25	0	17.20	17.06	17.13	18
10	64QAM	25	12	17.17	17.17	17.19	
10	64QAM	25	25	17.19	17.19	17.14	
10	64QAM	50	0	17.21	17.09	17.14	
10	256QAM	1	0	17.13	17.27	17.23	18
10	256QAM	1	25	17.19	17.33	17.20	
10	256QAM	1	49	17.18	17.13	17.16	
10	256QAM	25	0	17.17	17.15	17.03	18
10	256QAM	25	12	17.20	17.23	17.21	
10	256QAM	25	25	17.16	17.22	17.28	
10	256QAM	50	0	17.18	17.29	17.28	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	17.45	17.52	17.42	18
5	QPSK	1	12	17.44	17.50	17.37	
5	QPSK	1	24	17.46	17.35	17.42	
5	QPSK	12	0	17.21	17.23	17.28	18
5	QPSK	12	7	17.25	17.22	17.24	
5	QPSK	12	13	17.15	17.18	17.22	
5	QPSK	25	0	17.16	17.17	17.22	
5	16QAM	1	0	17.45	17.41	17.38	18
5	16QAM	1	12	17.39	17.39	17.43	
5	16QAM	1	24	17.34	17.41	17.47	
5	16QAM	12	0	17.26	17.08	17.13	18
5	16QAM	12	7	17.28	17.20	17.24	
5	16QAM	12	13	17.10	17.17	17.22	
5	16QAM	25	0	17.16	17.10	17.15	
5	64QAM	1	0	17.31	17.43	17.26	18
5	64QAM	1	12	17.31	17.37	17.33	

5	64QAM	1	24	17.30	17.28	17.27	
5	64QAM	12	0	17.24	17.01	17.21	18
5	64QAM	12	7	17.18	17.20	17.22	
5	64QAM	12	13	17.17	17.29	17.15	
5	64QAM	25	0	17.13	17.15	17.16	
5	256QAM	1	0	17.19	17.22	17.16	18
5	256QAM	1	12	17.16	17.30	17.13	
5	256QAM	1	24	17.13	17.16	17.14	
5	256QAM	12	0	17.08	17.16	17.03	18
5	256QAM	12	7	17.22	17.31	17.13	
5	256QAM	12	13	17.23	17.20	17.28	
5	256QAM	25	0	17.15	17.28	17.26	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	17.46	17.51	17.42	18
3	QPSK	1	8	17.42	17.44	17.37	
3	QPSK	1	14	17.49	17.43	17.44	
3	QPSK	8	0	17.26	17.29	17.25	18
3	QPSK	8	4	17.25	17.22	17.26	
3	QPSK	8	7	17.20	17.27	17.13	
3	QPSK	15	0	17.24	17.19	17.14	
3	16QAM	1	0	17.44	17.36	17.37	18
3	16QAM	1	8	17.37	17.43	17.39	
3	16QAM	1	14	17.37	17.34	17.39	
3	16QAM	8	0	17.21	17.08	17.20	18
3	16QAM	8	4	17.24	17.22	17.25	
3	16QAM	8	7	17.20	17.19	17.20	
3	16QAM	15	0	17.23	17.07	17.11	
3	64QAM	1	0	17.28	17.37	17.31	18
3	64QAM	1	8	17.29	17.37	17.33	
3	64QAM	1	14	17.29	17.29	17.33	
3	64QAM	8	0	17.20	17.09	17.16	18
3	64QAM	8	4	17.19	17.27	17.18	
3	64QAM	8	7	17.10	17.22	17.17	
3	64QAM	15	0	17.19	17.08	17.15	
3	256QAM	1	0	17.21	17.31	17.15	18
3	256QAM	1	8	17.12	17.25	17.18	
3	256QAM	1	14	17.18	17.10	17.12	
3	256QAM	8	0	17.14	17.15	17.04	18
3	256QAM	8	4	17.26	17.25	17.17	
3	256QAM	8	7	17.18	17.20	17.38	
3	256QAM	15	0	17.14	17.27	17.26	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	17.46	17.53	17.45	18
1.4	QPSK	1	3	17.42	17.53	17.44	
1.4	QPSK	1	5	17.47	17.44	17.43	
1.4	QPSK	3	0	17.21	17.28	17.27	
1.4	QPSK	3	1	17.26	17.25	17.23	
1.4	QPSK	3	3	17.20	17.18	17.21	
1.4	QPSK	6	0	17.22	17.17	17.18	18
1.4	16QAM	1	0	17.44	17.39	17.44	18
1.4	16QAM	1	3	17.39	17.40	17.47	
1.4	16QAM	1	5	17.33	17.36	17.47	
1.4	16QAM	3	0	17.21	17.06	17.22	
1.4	16QAM	3	1	17.21	17.27	17.22	

1.4	16QAM	3	3	17.15	17.16	17.19	
1.4	16QAM	6	0	17.22	17.08	17.20	18
1.4	64QAM	1	0	17.32	17.39	17.31	18
1.4	64QAM	1	3	17.28	17.38	17.34	
1.4	64QAM	1	5	17.29	17.26	17.32	
1.4	64QAM	3	0	17.19	17.02	17.15	
1.4	64QAM	3	1	17.23	17.20	17.22	
1.4	64QAM	3	3	17.19	17.27	17.15	
1.4	64QAM	6	0	17.22	17.12	17.14	18
1.4	256QAM	1	0	17.17	17.24	17.17	18
1.4	256QAM	1	3	17.11	17.27	17.21	
1.4	256QAM	1	5	17.19	17.13	17.17	
1.4	256QAM	3	0	17.15	17.17	16.97	
1.4	256QAM	3	1	17.24	17.21	17.15	
1.4	256QAM	3	3	17.17	17.23	17.37	
1.4	256QAM	6	0	17.17	17.25	17.24	18

<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)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	16.72	16.85	16.91	18
20	QPSK	1	49	16.40	16.50	16.44	
20	QPSK	1	99	16.55	16.70	16.69	
20	QPSK	50	0	16.44	16.54	16.58	18
20	QPSK	50	24	16.62	16.66	16.61	
20	QPSK	50	50	16.35	16.41	16.51	
20	QPSK	100	0	16.55	16.61	16.52	
20	16QAM	1	0	16.32	16.36	16.35	18
20	16QAM	1	49	16.34	16.56	16.50	
20	16QAM	1	99	16.24	16.44	16.51	
20	16QAM	50	0	16.35	16.49	16.59	18
20	16QAM	50	24	16.49	16.56	16.86	
20	16QAM	50	50	16.41	16.45	16.62	
20	16QAM	100	0	16.34	16.35	16.38	
20	64QAM	1	0	16.26	16.48	16.45	18
20	64QAM	1	49	16.47	16.56	16.69	
20	64QAM	1	99	16.12	16.31	16.32	
20	64QAM	50	0	16.39	16.41	16.46	18
20	64QAM	50	24	16.17	16.30	16.32	
20	64QAM	50	50	16.34	16.48	16.50	
20	64QAM	100	0	16.44	16.45	16.56	
20	256QAM	1	0	16.30	16.39	16.33	18
20	256QAM	1	49	16.31	16.21	16.39	
20	256QAM	1	99	16.43	16.46	16.61	
20	256QAM	50	0	16.44	16.65	16.82	18
20	256QAM	50	24	16.20	16.42	16.48	
20	256QAM	50	50	16.19	16.24	16.34	
20	256QAM	100	0	16.05	16.45	16.46	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	16.65	16.78	16.89	18
15	QPSK	1	37	16.38	16.45	16.39	

15	QPSK	1	74	16.48	16.65	16.68	
15	QPSK	36	0	16.38	16.45	16.55	18
15	QPSK	36	20	16.62	16.63	16.58	
15	QPSK	36	39	16.31	16.36	16.43	
15	QPSK	75	0	16.50	16.57	16.43	
15	16QAM	1	0	16.31	16.32	16.32	18
15	16QAM	1	37	16.29	16.53	16.46	
15	16QAM	1	74	16.15	16.34	16.51	
15	16QAM	36	0	16.35	16.43	16.54	18
15	16QAM	36	20	16.43	16.47	16.86	
15	16QAM	36	39	16.40	16.38	16.62	
15	16QAM	75	0	16.25	16.34	16.35	
15	64QAM	1	0	16.21	16.40	16.35	18
15	64QAM	1	37	16.41	16.52	16.67	
15	64QAM	1	74	16.07	16.21	16.26	
15	64QAM	36	0	16.34	16.38	16.38	18
15	64QAM	36	20	16.13	16.25	16.28	
15	64QAM	36	39	16.33	16.38	16.48	
15	64QAM	75	0	16.44	16.39	16.51	
15	256QAM	1	0	16.29	16.38	16.24	18
15	256QAM	1	37	16.31	16.14	16.32	
15	256QAM	1	74	16.37	16.46	16.59	
15	256QAM	36	0	16.39	16.62	16.73	18
15	256QAM	36	20	16.19	16.38	16.48	
15	256QAM	36	39	16.10	16.19	16.34	
15	256QAM	75	0	16.03	16.42	16.44	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	16.62	16.75	16.81	18
10	QPSK	1	25	16.35	16.45	16.41	
10	QPSK	1	49	16.52	16.65	16.67	
10	QPSK	25	0	16.39	16.54	16.55	18
10	QPSK	25	12	16.55	16.60	16.54	
10	QPSK	25	25	16.29	16.34	16.43	
10	QPSK	50	0	16.46	16.52	16.46	
10	16QAM	1	0	16.24	16.34	16.29	18
10	16QAM	1	25	16.31	16.47	16.50	
10	16QAM	1	49	16.15	16.40	16.50	
10	16QAM	25	0	16.31	16.39	16.57	18
10	16QAM	25	12	16.48	16.52	16.76	
10	16QAM	25	25	16.32	16.38	16.58	
10	16QAM	50	0	16.29	16.33	16.30	
10	64QAM	1	0	16.20	16.40	16.44	18
10	64QAM	1	25	16.41	16.48	16.67	
10	64QAM	1	49	16.07	16.22	16.26	
10	64QAM	25	0	16.35	16.38	16.42	18
10	64QAM	25	12	16.09	16.23	16.28	
10	64QAM	25	25	16.30	16.48	16.40	
10	64QAM	50	0	16.39	16.45	16.47	
10	256QAM	1	0	16.25	16.31	16.32	18
10	256QAM	1	25	16.30	16.17	16.38	
10	256QAM	1	49	16.36	16.42	16.58	
10	256QAM	25	0	16.35	16.57	16.82	18
10	256QAM	25	12	16.15	16.37	16.38	
10	256QAM	25	25	16.19	16.16	16.24	
10	256QAM	50	0	16.00	16.37	16.46	

Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	16.69	16.82	16.88	18
5	QPSK	1	12	16.39	16.46	16.43	
5	QPSK	1	24	16.54	16.70	16.65	
5	QPSK	12	0	16.43	16.54	16.52	18
5	QPSK	12	7	16.55	16.64	16.53	
5	QPSK	12	13	16.33	16.34	16.50	
5	QPSK	25	0	16.45	16.60	16.47	
5	16QAM	1	0	16.27	16.31	16.26	18
5	16QAM	1	12	16.31	16.56	16.41	
5	16QAM	1	24	16.17	16.42	16.45	
5	16QAM	12	0	16.32	16.44	16.53	18
5	16QAM	12	7	16.44	16.47	16.86	
5	16QAM	12	13	16.38	16.40	16.53	
5	16QAM	25	0	16.27	16.27	16.33	
5	64QAM	1	0	16.18	16.46	16.42	18
5	64QAM	1	12	16.41	16.56	16.65	
5	64QAM	1	24	16.09	16.31	16.29	
5	64QAM	12	0	16.39	16.38	16.38	18
5	64QAM	12	7	16.16	16.29	16.27	
5	64QAM	12	13	16.25	16.45	16.48	
5	64QAM	25	0	16.40	16.37	16.53	
5	256QAM	1	0	16.21	16.33	16.25	18
5	256QAM	1	12	16.23	16.20	16.33	
5	256QAM	1	24	16.37	16.44	16.55	
5	256QAM	12	0	16.35	16.63	16.81	18
5	256QAM	12	7	16.19	16.42	16.44	
5	256QAM	12	13	16.17	16.15	16.25	
5	256QAM	25	0	16.08	16.42	16.45	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	16.72	16.85	16.89	18
3	QPSK	1	8	16.40	16.46	16.41	
3	QPSK	1	14	16.49	16.64	16.63	
3	QPSK	8	0	16.40	16.47	16.49	18
3	QPSK	8	4	16.59	16.61	16.57	
3	QPSK	8	7	16.25	16.38	16.47	
3	QPSK	15	0	16.52	16.58	16.51	
3	16QAM	1	0	16.24	16.28	16.30	18
3	16QAM	1	8	16.24	16.50	16.46	
3	16QAM	1	14	16.19	16.36	16.49	
3	16QAM	8	0	16.30	16.43	16.55	18
3	16QAM	8	4	16.42	16.50	16.86	
3	16QAM	8	7	16.35	16.39	16.58	
3	16QAM	15	0	16.33	16.33	16.37	
3	64QAM	1	0	16.25	16.45	16.40	18
3	64QAM	1	8	16.37	16.51	16.68	
3	64QAM	1	14	16.07	16.31	16.30	
3	64QAM	8	0	16.37	16.32	16.44	18
3	64QAM	8	4	16.11	16.21	16.32	
3	64QAM	8	7	16.24	16.46	16.42	
3	64QAM	15	0	16.40	16.36	16.47	
3	256QAM	1	0	16.29	16.31	16.27	18
3	256QAM	1	8	16.24	16.17	16.36	
3	256QAM	1	14	16.42	16.39	16.57	

3	256QAM	8	0	16.41	16.65	16.73	18
3	256QAM	8	4	16.13	16.41	16.40	
3	256QAM	8	7	16.13	16.17	16.30	
3	256QAM	15	0	16.07	16.37	16.39	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	16.69	16.75	16.81	18
1.4	QPSK	1	3	16.35	16.44	16.42	
1.4	QPSK	1	5	16.50	16.68	16.60	
1.4	QPSK	3	0	16.37	16.47	16.53	
1.4	QPSK	3	1	16.55	16.64	16.61	
1.4	QPSK	3	3	16.25	16.36	16.45	
1.4	QPSK	6	0	16.46	16.51	16.45	18
1.4	16QAM	1	0	16.28	16.29	16.30	18
1.4	16QAM	1	3	16.27	16.52	16.44	
1.4	16QAM	1	5	16.20	16.43	16.51	
1.4	16QAM	3	0	16.27	16.40	16.52	
1.4	16QAM	3	1	16.49	16.46	16.81	
1.4	16QAM	3	3	16.37	16.36	16.58	
1.4	16QAM	6	0	16.31	16.27	16.30	18
1.4	64QAM	1	0	16.25	16.45	16.45	18
1.4	64QAM	1	3	16.37	16.46	16.65	
1.4	64QAM	1	5	16.07	16.30	16.31	
1.4	64QAM	3	0	16.38	16.36	16.42	
1.4	64QAM	3	1	16.14	16.20	16.22	
1.4	64QAM	3	3	16.26	16.48	16.40	
1.4	64QAM	6	0	16.42	16.36	16.53	18
1.4	256QAM	1	0	16.26	16.34	16.25	18
1.4	256QAM	1	3	16.26	16.16	16.29	
1.4	256QAM	1	5	16.35	16.38	16.51	
1.4	256QAM	3	0	16.35	16.64	16.76	
1.4	256QAM	3	1	16.16	16.39	16.43	
1.4	256QAM	3	3	16.17	16.22	16.30	
1.4	256QAM	6	0	16.04	16.38	16.41	18

<LTE Band 4_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	17.57	17.63	17.55	18
20	QPSK	1	49	17.54	17.54	17.49	
20	QPSK	1	99	17.49	17.55	17.61	
20	QPSK	50	0	17.36	17.43	17.32	18
20	QPSK	50	24	17.37	17.40	17.37	
20	QPSK	50	50	17.32	17.33	17.37	
20	QPSK	100	0	17.24	17.33	17.29	
20	16QAM	1	0	17.21	17.25	17.21	18
20	16QAM	1	49	17.19	17.24	17.19	
20	16QAM	1	99	17.14	17.16	17.16	
20	16QAM	50	0	17.15	17.34	17.29	18
20	16QAM	50	24	17.32	17.32	17.30	
20	16QAM	50	50	17.30	17.33	17.26	
20	16QAM	100	0	17.21	17.34	17.26	

20	64QAM	1	0	17.17	17.34	17.32	18
20	64QAM	1	49	17.30	17.34	17.33	
20	64QAM	1	99	17.30	17.33	17.25	
20	64QAM	50	0	17.13	17.34	17.29	18
20	64QAM	50	24	17.31	17.35	17.31	
20	64QAM	50	50	17.31	17.34	17.25	
20	64QAM	100	0	17.23	17.33	17.28	
20	256QAM	1	0	17.22	17.30	17.25	18
20	256QAM	1	49	17.20	17.25	17.21	
20	256QAM	1	99	17.23	17.35	17.30	
20	256QAM	50	0	17.16	17.22	17.20	18
20	256QAM	50	24	17.25	17.26	17.31	
20	256QAM	50	50	17.29	17.33	17.26	
20	256QAM	100	0	17.32	17.21	17.35	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	17.57	17.60	17.51	18
15	QPSK	1	37	17.50	17.52	17.44	
15	QPSK	1	74	17.48	17.53	17.54	
15	QPSK	36	0	17.27	17.33	17.31	18
15	QPSK	36	20	17.30	17.39	17.33	
15	QPSK	36	39	17.27	17.24	17.35	
15	QPSK	75	0	17.14	17.33	17.23	
15	16QAM	1	0	17.11	17.15	17.20	18
15	16QAM	1	37	17.10	17.17	17.18	
15	16QAM	1	74	17.14	17.14	17.11	
15	16QAM	36	0	17.13	17.34	17.28	18
15	16QAM	36	20	17.29	17.29	17.26	
15	16QAM	36	39	17.21	17.23	17.24	
15	16QAM	75	0	17.13	17.28	17.25	
15	64QAM	1	0	17.16	17.26	17.32	18
15	64QAM	1	37	17.21	17.24	17.32	
15	64QAM	1	74	17.20	17.28	17.24	
15	64QAM	36	0	17.09	17.25	17.20	18
15	64QAM	36	20	17.24	17.32	17.24	
15	64QAM	36	39	17.27	17.25	17.22	
15	64QAM	75	0	17.21	17.25	17.25	
15	256QAM	1	0	17.12	17.21	17.18	18
15	256QAM	1	37	17.12	17.15	17.11	
15	256QAM	1	74	17.16	17.26	17.23	
15	256QAM	36	0	17.16	17.16	17.10	18
15	256QAM	36	20	17.17	17.22	17.30	
15	256QAM	36	39	17.22	17.31	17.17	
15	256QAM	75	0	17.27	17.14	17.34	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	17.53	17.58	17.53	18
10	QPSK	1	25	17.52	17.50	17.45	
10	QPSK	1	49	17.46	17.55	17.53	
10	QPSK	25	0	17.32	17.40	17.23	18
10	QPSK	25	12	17.30	17.32	17.29	
10	QPSK	25	25	17.28	17.31	17.30	
10	QPSK	50	0	17.19	17.32	17.24	
10	16QAM	1	0	17.20	17.20	17.21	18
10	16QAM	1	25	17.10	17.22	17.16	
10	16QAM	1	49	17.06	17.16	17.12	

10	16QAM	25	0	17.08	17.34	17.21	18
10	16QAM	25	12	17.26	17.26	17.25	
10	16QAM	25	25	17.20	17.26	17.23	
10	16QAM	50	0	17.13	17.32	17.17	
10	64QAM	1	0	17.09	17.24	17.26	18
10	64QAM	1	25	17.20	17.32	17.29	
10	64QAM	1	49	17.25	17.24	17.18	
10	64QAM	25	0	17.09	17.32	17.29	18
10	64QAM	25	12	17.29	17.27	17.21	
10	64QAM	25	25	17.25	17.32	17.23	
10	64QAM	50	0	17.14	17.24	17.23	
10	256QAM	1	0	17.21	17.21	17.19	18
10	256QAM	1	25	17.11	17.15	17.14	
10	256QAM	1	49	17.17	17.31	17.28	
10	256QAM	25	0	17.12	17.17	17.20	18
10	256QAM	25	12	17.20	17.20	17.29	
10	256QAM	25	25	17.21	17.27	17.26	
10	256QAM	50	0	17.29	17.11	17.32	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	17.53	17.55	17.46	18
5	QPSK	1	12	17.51	17.45	17.44	
5	QPSK	1	24	17.46	17.46	17.59	
5	QPSK	12	0	17.31	17.36	17.27	18
5	QPSK	12	7	17.33	17.33	17.35	
5	QPSK	12	13	17.27	17.29	17.30	
5	QPSK	25	0	17.17	17.23	17.28	
5	16QAM	1	0	17.16	17.20	17.14	18
5	16QAM	1	12	17.19	17.15	17.16	
5	16QAM	1	24	17.11	17.09	17.12	
5	16QAM	12	0	17.11	17.26	17.20	18
5	16QAM	12	7	17.28	17.26	17.24	
5	16QAM	12	13	17.29	17.27	17.21	
5	16QAM	25	0	17.16	17.26	17.24	
5	64QAM	1	0	17.17	17.30	17.23	18
5	64QAM	1	12	17.30	17.28	17.23	
5	64QAM	1	24	17.28	17.31	17.15	
5	64QAM	12	0	17.07	17.25	17.19	18
5	64QAM	12	7	17.23	17.29	17.30	
5	64QAM	12	13	17.21	17.24	17.22	
5	64QAM	25	0	17.19	17.33	17.21	
5	256QAM	1	0	17.19	17.26	17.21	18
5	256QAM	1	12	17.13	17.25	17.21	
5	256QAM	1	24	17.22	17.27	17.21	
5	256QAM	12	0	17.13	17.19	17.13	18
5	256QAM	12	7	17.22	17.17	17.28	
5	256QAM	12	13	17.19	17.33	17.18	
5	256QAM	25	0	17.22	17.20	17.26	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	17.56	17.53	17.50	18
3	QPSK	1	8	17.50	17.47	17.44	
3	QPSK	1	14	17.40	17.49	17.59	
3	QPSK	8	0	17.30	17.36	17.28	18
3	QPSK	8	4	17.29	17.34	17.27	
3	QPSK	8	7	17.32	17.23	17.29	

3	QPSK	15	0	17.24	17.32	17.24	
3	16QAM	1	0	17.19	17.19	17.20	18
3	16QAM	1	8	17.09	17.17	17.12	
3	16QAM	1	14	17.04	17.12	17.14	
3	16QAM	8	0	17.14	17.26	17.19	18
3	16QAM	8	4	17.32	17.23	17.26	
3	16QAM	8	7	17.24	17.32	17.20	
3	16QAM	15	0	17.14	17.30	17.25	
3	64QAM	1	0	17.12	17.28	17.28	18
3	64QAM	1	8	17.27	17.32	17.25	
3	64QAM	1	14	17.21	17.29	17.15	
3	64QAM	8	0	17.08	17.26	17.28	18
3	64QAM	8	4	17.24	17.27	17.29	
3	64QAM	8	7	17.29	17.32	17.20	
3	64QAM	15	0	17.21	17.27	17.25	
3	256QAM	1	0	17.20	17.23	17.15	18
3	256QAM	1	8	17.18	17.15	17.21	
3	256QAM	1	14	17.23	17.30	17.30	
3	256QAM	8	0	17.08	17.20	17.20	18
3	256QAM	8	4	17.17	17.22	17.21	
3	256QAM	8	7	17.26	17.26	17.19	
3	256QAM	15	0	17.31	17.15	17.30	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	17.54	17.58	17.49	18
1.4	QPSK	1	3	17.52	17.52	17.47	
1.4	QPSK	1	5	17.43	17.47	17.53	
1.4	QPSK	3	0	17.35	17.34	17.31	
1.4	QPSK	3	1	17.35	17.30	17.35	
1.4	QPSK	3	3	17.22	17.31	17.37	
1.4	QPSK	6	0	17.20	17.30	17.24	18
1.4	16QAM	1	0	17.18	17.20	17.15	18
1.4	16QAM	1	3	17.09	17.19	17.18	
1.4	16QAM	1	5	17.09	17.15	17.12	
1.4	16QAM	3	0	17.05	17.29	17.25	
1.4	16QAM	3	1	17.25	17.23	17.20	
1.4	16QAM	3	3	17.25	17.32	17.24	
1.4	16QAM	6	0	17.12	17.29	17.25	18
1.4	64QAM	1	0	17.11	17.27	17.27	18
1.4	64QAM	1	3	17.26	17.31	17.23	
1.4	64QAM	1	5	17.24	17.25	17.24	
1.4	64QAM	3	0	17.10	17.29	17.25	
1.4	64QAM	3	1	17.24	17.30	17.28	
1.4	64QAM	3	3	17.29	17.24	17.16	
1.4	64QAM	6	0	17.18	17.29	17.21	18
1.4	256QAM	1	0	17.14	17.29	17.23	18
1.4	256QAM	1	3	17.20	17.19	17.16	
1.4	256QAM	1	5	17.20	17.31	17.23	
1.4	256QAM	3	0	17.08	17.15	17.19	
1.4	256QAM	3	1	17.19	17.25	17.26	
1.4	256QAM	3	3	17.23	17.31	17.21	
1.4	256QAM	6	0	17.29	17.12	17.26	18

<LTE Band 4 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)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	16.85	16.85	16.90	17.5
20	QPSK	1	49	16.36	16.44	16.50	
20	QPSK	1	99	16.66	16.77	16.62	
20	QPSK	50	0	16.44	16.45	16.73	17.5
20	QPSK	50	24	16.72	16.74	16.84	
20	QPSK	50	50	16.36	16.39	16.61	
20	QPSK	100	0	16.64	16.74	16.67	
20	16QAM	1	0	16.25	16.28	16.35	17.5
20	16QAM	1	49	16.45	16.49	16.50	
20	16QAM	1	99	16.37	16.36	16.55	
20	16QAM	50	0	16.48	16.55	16.50	17.5
20	16QAM	50	24	16.58	16.78	16.89	
20	16QAM	50	50	16.50	16.40	16.61	
20	16QAM	100	0	16.29	16.26	16.44	
20	64QAM	1	0	16.42	16.46	16.46	17.5
20	64QAM	1	49	16.51	16.57	16.84	
20	64QAM	1	99	16.21	16.17	16.30	
20	64QAM	50	0	16.53	16.48	16.32	17.5
20	64QAM	50	24	16.33	16.32	16.29	
20	64QAM	50	50	16.40	16.36	16.50	
20	64QAM	100	0	16.54	16.51	16.72	
20	256QAM	1	0	16.42	16.48	16.56	17.5
20	256QAM	1	49	16.34	16.29	16.42	
20	256QAM	1	99	16.36	16.49	16.68	
20	256QAM	50	0	16.60	16.54	16.74	17.5
20	256QAM	50	24	16.49	16.47	16.47	
20	256QAM	50	50	16.28	16.26	16.40	
20	256QAM	100	0	16.35	16.34	16.42	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	16.75	16.81	16.86	17.5
15	QPSK	1	37	16.27	16.42	16.48	
15	QPSK	1	74	16.63	16.72	16.58	
15	QPSK	36	0	16.41	16.36	16.69	17.5
15	QPSK	36	20	16.63	16.67	16.77	
15	QPSK	36	39	16.31	16.33	16.51	
15	QPSK	75	0	16.57	16.69	16.66	
15	16QAM	1	0	16.20	16.18	16.31	17.5
15	16QAM	1	37	16.39	16.47	16.45	
15	16QAM	1	74	16.34	16.34	16.55	
15	16QAM	36	0	16.43	16.47	16.42	17.5
15	16QAM	36	20	16.54	16.78	16.83	
15	16QAM	36	39	16.49	16.32	16.52	
15	16QAM	75	0	16.19	16.20	16.39	
15	64QAM	1	0	16.34	16.41	16.42	17.5
15	64QAM	1	37	16.51	16.49	16.81	
15	64QAM	1	74	16.17	16.17	16.20	
15	64QAM	36	0	16.45	16.43	16.32	17.5
15	64QAM	36	20	16.28	16.22	16.23	
15	64QAM	36	39	16.31	16.26	16.47	
15	64QAM	75	0	16.46	16.44	16.63	

15	256QAM	1	0	16.39	16.48	16.55	17.5
15	256QAM	1	37	16.30	16.24	16.35	
15	256QAM	1	74	16.33	16.41	16.63	
15	256QAM	36	0	16.50	16.49	16.72	17.5
15	256QAM	36	20	16.49	16.46	16.37	
15	256QAM	36	39	16.20	16.20	16.37	
15	256QAM	75	0	16.25	16.33	16.36	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	16.76	16.81	16.83	17.5
10	QPSK	1	25	16.35	16.34	16.43	
10	QPSK	1	49	16.58	16.76	16.56	
10	QPSK	25	0	16.41	16.36	16.68	17.5
10	QPSK	25	12	16.69	16.69	16.83	
10	QPSK	25	25	16.27	16.39	16.55	
10	QPSK	50	0	16.61	16.68	16.59	
10	16QAM	1	0	16.15	16.18	16.27	17.5
10	16QAM	1	25	16.36	16.45	16.44	
10	16QAM	1	49	16.34	16.34	16.48	
10	16QAM	25	0	16.46	16.52	16.48	17.5
10	16QAM	25	12	16.50	16.72	16.79	
10	16QAM	25	25	16.40	16.32	16.53	
10	16QAM	50	0	16.26	16.26	16.44	
10	64QAM	1	0	16.37	16.41	16.40	17.5
10	64QAM	1	25	16.41	16.57	16.79	
10	64QAM	1	49	16.14	16.13	16.26	
10	64QAM	25	0	16.51	16.38	16.32	17.5
10	64QAM	25	12	16.25	16.26	16.28	
10	64QAM	25	25	16.36	16.34	16.44	
10	64QAM	50	0	16.51	16.48	16.70	
10	256QAM	1	0	16.41	16.38	16.54	17.5
10	256QAM	1	25	16.28	16.25	16.33	
10	256QAM	1	49	16.26	16.46	16.65	
10	256QAM	25	0	16.51	16.46	16.66	17.5
10	256QAM	25	12	16.45	16.37	16.38	
10	256QAM	25	25	16.28	16.25	16.40	
10	256QAM	50	0	16.26	16.27	16.42	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	16.83	16.80	16.82	17.5
5	QPSK	1	12	16.29	16.43	16.46	
5	QPSK	1	24	16.58	16.73	16.52	
5	QPSK	12	0	16.42	16.45	16.70	17.5
5	QPSK	12	7	16.68	16.73	16.77	
5	QPSK	12	13	16.35	16.34	16.55	
5	QPSK	25	0	16.64	16.66	16.64	
5	16QAM	1	0	16.20	16.24	16.25	17.5
5	16QAM	1	12	16.44	16.39	16.43	
5	16QAM	1	24	16.32	16.32	16.55	
5	16QAM	12	0	16.43	16.48	16.41	17.5
5	16QAM	12	7	16.58	16.72	16.85	
5	16QAM	12	13	16.48	16.38	16.51	
5	16QAM	25	0	16.24	16.19	16.43	
5	64QAM	1	0	16.35	16.45	16.38	17.5
5	64QAM	1	12	16.49	16.52	16.81	
5	64QAM	1	24	16.19	16.08	16.28	

5	64QAM	12	0	16.49	16.44	16.31	17.5
5	64QAM	12	7	16.25	16.31	16.27	
5	64QAM	12	13	16.30	16.28	16.43	
5	64QAM	25	0	16.44	16.42	16.65	
5	256QAM	1	0	16.32	16.38	16.49	17.5
5	256QAM	1	12	16.27	16.28	16.35	
5	256QAM	1	24	16.32	16.46	16.58	
5	256QAM	12	0	16.56	16.52	16.69	17.5
5	256QAM	12	7	16.47	16.37	16.40	
5	256QAM	12	13	16.21	16.23	16.36	
5	256QAM	25	0	16.29	16.25	16.40	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	16.83	16.75	16.82	17.5
3	QPSK	1	8	16.35	16.37	16.45	
3	QPSK	1	14	16.66	16.69	16.52	
3	QPSK	8	0	16.35	16.39	16.73	17.5
3	QPSK	8	4	16.70	16.69	16.74	
3	QPSK	8	7	16.35	16.39	16.56	
3	QPSK	15	0	16.62	16.69	16.63	
3	16QAM	1	0	16.22	16.18	16.33	17.5
3	16QAM	1	8	16.39	16.39	16.40	
3	16QAM	1	14	16.37	16.33	16.53	
3	16QAM	8	0	16.44	16.48	16.46	17.5
3	16QAM	8	4	16.56	16.77	16.88	
3	16QAM	8	7	16.41	16.36	16.60	
3	16QAM	15	0	16.20	16.26	16.40	
3	64QAM	1	0	16.34	16.38	16.39	17.5
3	64QAM	1	8	16.46	16.57	16.80	
3	64QAM	1	14	16.17	16.09	16.21	
3	64QAM	8	0	16.43	16.40	16.23	17.5
3	64QAM	8	4	16.32	16.23	16.21	
3	64QAM	8	7	16.36	16.33	16.48	
3	64QAM	15	0	16.48	16.48	16.63	
3	256QAM	1	0	16.37	16.41	16.47	17.5
3	256QAM	1	8	16.31	16.26	16.39	
3	256QAM	1	14	16.32	16.46	16.63	
3	256QAM	8	0	16.59	16.53	16.73	17.5
3	256QAM	8	4	16.41	16.37	16.44	
3	256QAM	8	7	16.26	16.16	16.34	
3	256QAM	15	0	16.29	16.29	16.37	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	16.84	16.80	16.82	17.5
1.4	QPSK	1	3	16.35	16.41	16.40	
1.4	QPSK	1	5	16.64	16.75	16.58	
1.4	QPSK	3	0	16.41	16.43	16.63	
1.4	QPSK	3	1	16.72	16.73	16.80	
1.4	QPSK	3	3	16.35	16.29	16.56	
1.4	QPSK	6	0	16.55	16.72	16.58	17.5
1.4	16QAM	1	0	16.24	16.25	16.29	17.5
1.4	16QAM	1	3	16.37	16.46	16.50	
1.4	16QAM	1	5	16.34	16.33	16.54	
1.4	16QAM	3	0	16.41	16.47	16.49	
1.4	16QAM	3	1	16.52	16.75	16.81	
1.4	16QAM	3	3	16.41	16.33	16.56	

1.4	16QAM	6	0	16.20	16.16	16.37	17.5
1.4	64QAM	1	0	16.37	16.46	16.38	17.5
1.4	64QAM	1	3	16.49	16.48	16.76	
1.4	64QAM	1	5	16.12	16.14	16.30	
1.4	64QAM	3	0	16.53	16.47	16.25	
1.4	64QAM	3	1	16.23	16.23	16.23	
1.4	64QAM	3	3	16.36	16.36	16.40	
1.4	64QAM	6	0	16.51	16.50	16.62	17.5
1.4	256QAM	1	0	16.32	16.45	16.47	17.5
1.4	256QAM	1	3	16.25	16.19	16.39	
1.4	256QAM	1	5	16.36	16.43	16.63	
1.4	256QAM	3	0	16.57	16.46	16.68	
1.4	256QAM	3	1	16.44	16.43	16.39	
1.4	256QAM	3	3	16.21	16.25	16.31	
1.4	256QAM	6	0	16.35	16.24	16.39	17.5

<LTE Band 5_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	21.94	22.01	21.97	22.5
10	QPSK	1	25	21.85	21.97	21.89	
10	QPSK	1	49	21.84	21.88	21.88	
10	QPSK	25	0	21.85	21.94	21.92	22.5
10	QPSK	25	12	21.64	21.72	21.70	
10	QPSK	25	25	21.67	21.74	21.61	
10	QPSK	50	0	21.73	21.74	21.76	
10	16QAM	1	0	21.95	21.97	21.91	22.5
10	16QAM	1	25	21.59	21.76	21.70	
10	16QAM	1	49	21.71	21.72	21.58	
10	16QAM	25	0	21.89	21.94	21.94	22.5
10	16QAM	25	12	21.81	21.95	21.89	
10	16QAM	25	25	21.90	21.85	21.87	
10	16QAM	50	0	21.95	21.90	21.88	
10	64QAM	1	0	21.03	21.08	21.08	22.5
10	64QAM	1	25	21.10	21.07	21.03	
10	64QAM	1	49	20.89	20.96	21.01	
10	64QAM	25	0	20.97	20.94	20.97	22
10	64QAM	25	12	21.02	21.09	21.07	
10	64QAM	25	25	20.84	20.92	20.99	
10	64QAM	50	0	20.93	20.90	20.89	
10	256QAM	1	0	19.66	19.64	19.70	20
10	256QAM	1	25	19.82	19.76	19.57	
10	256QAM	1	49	19.68	19.61	19.63	
10	256QAM	25	0	19.76	19.65	19.66	20
10	256QAM	25	12	19.66	19.56	19.61	
10	256QAM	25	25	19.62	19.56	19.55	
10	256QAM	50	0	19.61	19.52	19.57	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	21.93	21.90	21.98	22.5
5	QPSK	1	12	21.77	21.90	21.79	
5	QPSK	1	24	21.75	21.86	21.87	

5	QPSK	12	0	21.88	21.92	21.82	22.5
5	QPSK	12	7	21.64	21.63	21.70	
5	QPSK	12	13	21.66	21.66	21.58	
5	QPSK	25	0	21.81	21.84	21.87	
5	16QAM	1	0	21.91	21.93	21.87	22.5
5	16QAM	1	12	21.57	21.70	21.70	
5	16QAM	1	24	21.63	21.69	21.56	
5	16QAM	12	0	21.89	21.93	21.93	22.5
5	16QAM	12	7	21.75	21.88	21.87	
5	16QAM	12	13	21.88	21.77	21.78	
5	16QAM	25	0	21.87	21.84	21.83	
5	64QAM	1	0	20.99	21.02	21.04	22.5
5	64QAM	1	12	21.03	21.07	21.02	
5	64QAM	1	24	20.86	20.96	20.93	
5	64QAM	12	0	20.93	20.87	20.89	22
5	64QAM	12	7	20.96	21.06	20.97	
5	64QAM	12	13	20.78	20.90	20.99	
5	64QAM	25	0	20.84	20.82	20.88	
5	256QAM	1	0	19.61	19.56	19.64	20
5	256QAM	1	12	19.80	19.75	19.50	
5	256QAM	1	24	19.60	19.58	19.62	
5	256QAM	12	0	19.74	19.63	19.59	20
5	256QAM	12	7	19.61	19.51	19.59	
5	256QAM	12	13	19.61	19.52	19.55	
5	256QAM	25	0	19.55	19.46	19.55	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	21.85	21.96	21.99	22.5
3	QPSK	1	8	21.83	21.91	21.86	
3	QPSK	1	14	21.83	21.88	21.88	
3	QPSK	8	0	21.95	21.93	21.82	22.5
3	QPSK	8	4	21.55	21.62	21.69	
3	QPSK	8	7	21.60	21.72	21.51	
3	QPSK	15	0	21.79	21.75	21.90	
3	16QAM	1	0	21.94	21.95	21.81	22.5
3	16QAM	1	8	21.53	21.74	21.62	
3	16QAM	1	14	21.68	21.65	21.54	
3	16QAM	8	0	21.83	21.93	21.94	22.5
3	16QAM	8	4	21.77	21.92	21.87	
3	16QAM	8	7	21.82	21.84	21.84	
3	16QAM	15	0	21.95	21.83	21.82	
3	64QAM	1	0	20.98	21.06	21.07	22.5
3	64QAM	1	8	21.03	21.02	21.00	
3	64QAM	1	14	20.79	20.92	20.99	
3	64QAM	8	0	20.91	20.88	20.88	22
3	64QAM	8	4	20.99	21.02	20.97	
3	64QAM	8	7	20.82	20.84	20.94	
3	64QAM	15	0	20.83	20.85	20.86	
3	256QAM	1	0	19.60	19.55	19.66	20
3	256QAM	1	8	19.78	19.70	19.54	
3	256QAM	1	14	19.68	19.52	19.58	
3	256QAM	8	0	19.75	19.59	19.66	20
3	256QAM	8	4	19.66	19.50	19.60	
3	256QAM	8	7	19.56	19.53	19.47	
3	256QAM	15	0	19.51	19.47	19.51	
Channel				20407	20525	20643	Tune-up limit

Frequency (MHz)				824.7	836.5	848.3	(dBm)
1.4	QPSK	1	0	21.92	21.97	21.99	22.5
1.4	QPSK	1	3	21.83	21.93	21.82	
1.4	QPSK	1	5	21.75	21.82	21.79	
1.4	QPSK	3	0	21.89	21.94	21.88	
1.4	QPSK	3	1	21.59	21.72	21.61	
1.4	QPSK	3	3	21.63	21.64	21.54	
1.4	QPSK	6	0	21.79	21.83	21.88	22.5
1.4	16QAM	1	0	21.90	21.97	21.88	22.5
1.4	16QAM	1	3	21.51	21.76	21.70	
1.4	16QAM	1	5	21.61	21.70	21.54	
1.4	16QAM	3	0	21.89	21.86	21.90	
1.4	16QAM	3	1	21.73	21.85	21.80	
1.4	16QAM	3	3	21.88	21.82	21.85	
1.4	16QAM	6	0	21.91	21.83	21.81	22.5
1.4	64QAM	1	0	21.71	21.72	21.52	22.5
1.4	64QAM	1	3	21.88	21.90	21.93	
1.4	64QAM	1	5	21.80	21.85	21.86	
1.4	64QAM	3	0	21.84	21.79	21.81	
1.4	64QAM	3	1	21.64	21.71	21.64	
1.4	64QAM	3	3	21.57	21.67	21.59	
1.4	64QAM	6	0	20.93	20.80	20.83	22
1.4	256QAM	1	0	19.58	19.64	19.69	20
1.4	256QAM	1	3	19.76	19.76	19.51	
1.4	256QAM	1	5	19.65	19.59	19.59	
1.4	256QAM	3	0	19.71	19.56	19.64	
1.4	256QAM	3	1	19.57	19.50	19.51	
1.4	256QAM	3	3	19.55	19.49	19.50	
1.4	256QAM	6	0	19.55	19.45	19.54	20

<LTE Band 7_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	15.83	15.88	15.92	16
20	QPSK	1	49	15.68	15.68	15.84	
20	QPSK	1	99	15.38	15.45	15.58	
20	QPSK	50	0	15.66	15.66	15.81	16
20	QPSK	50	24	15.58	15.61	15.64	
20	QPSK	50	50	15.69	15.76	15.70	
20	QPSK	100	0	15.39	15.56	15.60	
20	16QAM	1	0	15.58	15.74	15.76	16
20	16QAM	1	49	15.33	15.38	15.46	
20	16QAM	1	99	15.51	15.54	15.65	
20	16QAM	50	0	15.23	15.42	15.56	16
20	16QAM	50	24	15.53	15.58	15.72	
20	16QAM	50	50	15.20	15.31	15.42	
20	16QAM	100	0	15.33	15.54	15.61	
20	64QAM	1	0	15.22	15.39	15.51	16
20	64QAM	1	49	15.47	15.47	15.62	
20	64QAM	1	99	15.57	15.57	15.70	
20	64QAM	50	0	15.69	15.84	15.87	16
20	64QAM	50	24	15.41	15.56	15.57	

20	64QAM	50	50	15.51	15.69	15.74	
20	64QAM	100	0	15.34	15.43	15.41	
20	256QAM	1	0	15.53	15.57	15.59	16
20	256QAM	1	49	15.28	15.47	15.54	
20	256QAM	1	99	15.51	15.62	15.71	
20	256QAM	50	0	15.24	15.28	15.35	16
20	256QAM	50	24	15.33	15.46	15.51	
20	256QAM	50	50	15.21	15.44	15.50	
20	256QAM	100	0	15.45	15.49	15.61	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	15.73	15.83	15.84	16
15	QPSK	1	37	15.61	15.68	15.74	
15	QPSK	1	74	15.28	15.36	15.51	
15	QPSK	36	0	15.61	15.60	15.78	16
15	QPSK	36	20	15.54	15.52	15.62	
15	QPSK	36	39	15.66	15.70	15.63	
15	QPSK	75	0	15.29	15.46	15.53	
15	16QAM	1	0	15.57	15.65	15.67	16
15	16QAM	1	37	15.27	15.28	15.41	
15	16QAM	1	74	15.51	15.47	15.63	
15	16QAM	36	0	15.19	15.36	15.53	16
15	16QAM	36	20	15.52	15.50	15.70	
15	16QAM	36	39	15.12	15.25	15.33	
15	16QAM	75	0	15.28	15.46	15.61	
15	64QAM	1	0	15.17	15.30	15.45	16
15	64QAM	1	37	15.38	15.45	15.60	
15	64QAM	1	74	15.51	15.54	15.64	
15	64QAM	36	0	15.63	15.81	15.83	16
15	64QAM	36	20	15.34	15.52	15.52	
15	64QAM	36	39	15.42	15.66	15.65	
15	64QAM	75	0	15.28	15.41	15.35	
15	256QAM	1	0	15.51	15.53	15.49	16
15	256QAM	1	37	15.23	15.45	15.49	
15	256QAM	1	74	15.46	15.59	15.63	
15	256QAM	36	0	15.14	15.18	15.32	16
15	256QAM	36	20	15.31	15.40	15.49	
15	256QAM	36	39	15.16	15.43	15.46	
15	256QAM	75	0	15.35	15.48	15.54	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	15.83	15.78	15.83	16
10	QPSK	1	25	15.64	15.63	15.77	
10	QPSK	1	49	15.32	15.39	15.54	
10	QPSK	25	0	15.59	15.60	15.73	16
10	QPSK	25	12	15.49	15.57	15.59	
10	QPSK	25	25	15.69	15.74	15.60	
10	QPSK	50	0	15.38	15.51	15.53	
10	16QAM	1	0	15.54	15.73	15.71	16
10	16QAM	1	25	15.26	15.37	15.36	
10	16QAM	1	49	15.41	15.50	15.62	
10	16QAM	25	0	15.18	15.38	15.50	16
10	16QAM	25	12	15.53	15.50	15.64	
10	16QAM	25	25	15.13	15.28	15.35	
10	16QAM	50	0	15.24	15.44	15.55	
10	64QAM	1	0	15.12	15.32	15.48	16

10	64QAM	1	25	15.43	15.40	15.62	
10	64QAM	1	49	15.52	15.55	15.64	
10	64QAM	25	0	15.63	15.81	15.85	16
10	64QAM	25	12	15.41	15.52	15.48	
10	64QAM	25	25	15.45	15.62	15.73	
10	64QAM	50	0	15.26	15.41	15.35	
10	256QAM	1	0	15.52	15.52	15.57	16
10	256QAM	1	25	15.26	15.43	15.54	
10	256QAM	1	49	15.41	15.56	15.64	
10	256QAM	25	0	15.20	15.28	15.28	16
10	256QAM	25	12	15.27	15.38	15.45	
10	256QAM	25	25	15.19	15.40	15.45	
10	256QAM	50	0	15.40	15.49	15.60	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	15.76	15.84	15.90	16
5	QPSK	1	12	15.58	15.68	15.75	
5	QPSK	1	24	15.33	15.45	15.49	
5	QPSK	12	0	15.62	15.64	15.75	16
5	QPSK	12	7	15.58	15.52	15.56	
5	QPSK	12	13	15.69	15.76	15.64	
5	QPSK	25	0	15.39	15.46	15.53	
5	16QAM	1	0	15.53	15.72	15.75	16
5	16QAM	1	12	15.33	15.37	15.44	
5	16QAM	1	24	15.48	15.51	15.55	
5	16QAM	12	0	15.16	15.39	15.48	16
5	16QAM	12	7	15.46	15.48	15.71	
5	16QAM	12	13	15.18	15.27	15.41	
5	16QAM	25	0	15.31	15.45	15.52	
5	64QAM	1	0	15.19	15.39	15.50	16
5	64QAM	1	12	15.47	15.47	15.59	
5	64QAM	1	24	15.49	15.55	15.68	
5	64QAM	12	0	15.63	15.76	15.83	16
5	64QAM	12	7	15.31	15.53	15.51	
5	64QAM	12	13	15.42	15.64	15.69	
5	64QAM	25	0	15.31	15.35	15.35	
5	256QAM	1	0	15.53	15.49	15.57	16
5	256QAM	1	12	15.21	15.45	15.44	
5	256QAM	1	24	15.51	15.53	15.65	
5	256QAM	12	0	15.24	15.25	15.35	16
5	256QAM	12	7	15.23	15.46	15.50	
5	256QAM	12	13	15.11	15.34	15.47	
5	256QAM	25	0	15.39	15.39	15.58	

<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)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	16.27	16.36	16.38	17.5
20	QPSK	1	49	15.84	15.92	16.03	
20	QPSK	1	99	15.99	16.12	16.13	
20	QPSK	50	0	15.92	16.00	16.12	17.5
20	QPSK	50	24	16.12	16.22	16.24	
20	QPSK	50	50	15.81	15.89	16.04	

20	QPSK	100	0	15.96	16.09	16.10	
20	16QAM	1	0	15.72	15.78	15.90	17.5
20	16QAM	1	49	15.91	16.03	16.03	
20	16QAM	1	99	15.79	15.85	15.97	
20	16QAM	50	0	15.91	16.05	16.06	17.5
20	16QAM	50	24	16.06	16.14	16.26	
20	16QAM	50	50	15.88	15.95	16.02	
20	16QAM	100	0	15.79	15.79	15.87	
20	64QAM	1	0	15.83	15.99	16.00	17.5
20	64QAM	1	49	15.97	16.09	16.20	
20	64QAM	1	99	15.62	15.71	15.73	
20	64QAM	50	0	15.84	15.95	15.87	17.5
20	64QAM	50	24	15.76	15.79	15.85	
20	64QAM	50	50	15.74	15.88	15.91	
20	64QAM	100	0	15.89	16.02	16.12	
20	256QAM	1	0	15.80	15.90	15.92	17.5
20	256QAM	1	49	15.71	15.76	15.85	
20	256QAM	1	99	15.83	15.95	16.05	
20	256QAM	50	0	15.93	16.09	16.22	17.5
20	256QAM	50	24	15.80	15.84	15.94	
20	256QAM	50	50	15.67	15.69	15.83	
20	256QAM	100	0	15.65	15.86	15.88	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	16.20	16.30	16.32	17.5
15	QPSK	1	37	15.84	15.88	16.03	
15	QPSK	1	74	15.91	16.08	16.08	
15	QPSK	36	0	15.84	15.96	16.05	17.5
15	QPSK	36	20	16.08	16.19	16.24	
15	QPSK	36	39	15.77	15.81	16.04	
15	QPSK	75	0	15.88	15.99	16.02	
15	16QAM	1	0	15.68	15.73	15.84	17.5
15	16QAM	1	37	15.89	15.97	15.97	
15	16QAM	1	74	15.78	15.79	15.87	
15	16QAM	36	0	15.86	15.98	16.01	17.5
15	16QAM	36	20	15.99	16.05	16.22	
15	16QAM	36	39	15.88	15.93	15.97	
15	16QAM	75	0	15.77	15.71	15.87	
15	64QAM	1	0	15.75	15.95	16.00	17.5
15	64QAM	1	37	15.89	16.09	16.14	
15	64QAM	1	74	15.59	15.61	15.72	
15	64QAM	36	0	15.81	15.92	15.86	17.5
15	64QAM	36	20	15.67	15.72	15.75	
15	64QAM	36	39	15.68	15.83	15.90	
15	64QAM	75	0	15.85	16.02	16.12	
15	256QAM	1	0	15.70	15.86	15.89	17.5
15	256QAM	1	37	15.64	15.67	15.81	
15	256QAM	1	74	15.80	15.88	15.96	
15	256QAM	36	0	15.86	16.07	16.21	17.5
15	256QAM	36	20	15.72	15.77	15.94	
15	256QAM	36	39	15.63	15.65	15.76	
15	256QAM	75	0	15.55	15.84	15.83	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	16.19	16.36	16.35	17.5
10	QPSK	1	25	15.84	15.84	15.96	
10	QPSK	1	49	15.99	16.08	16.13	
10	QPSK	25	0	15.86	15.91	16.07	17.5

10	QPSK	25	12	16.08	16.21	16.20	
10	QPSK	25	25	15.71	15.83	15.96	
10	QPSK	50	0	15.92	16.03	16.10	
10	16QAM	1	0	15.69	15.71	15.88	17.5
10	16QAM	1	25	15.84	15.96	15.96	
10	16QAM	1	49	15.70	15.80	15.90	
10	16QAM	25	0	15.88	15.99	16.02	17.5
10	16QAM	25	12	16.06	16.07	16.21	
10	16QAM	25	25	15.88	15.90	15.94	
10	16QAM	50	0	15.69	15.71	15.85	
10	64QAM	1	0	15.78	15.94	15.96	17.5
10	64QAM	1	25	15.94	16.07	16.12	
10	64QAM	1	49	15.57	15.65	15.70	
10	64QAM	25	0	15.84	15.95	15.87	17.5
10	64QAM	25	12	15.70	15.75	15.85	
10	64QAM	25	25	15.74	15.83	15.81	
10	64QAM	50	0	15.87	16.01	16.08	
10	256QAM	1	0	15.75	15.85	15.83	17.5
10	256QAM	1	25	15.70	15.66	15.79	
10	256QAM	1	49	15.81	15.90	15.99	
10	256QAM	25	0	15.84	16.00	16.16	17.5
10	256QAM	25	12	15.76	15.77	15.93	
10	256QAM	25	25	15.61	15.65	15.79	
10	256QAM	50	0	15.65	15.76	15.79	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	16.21	16.29	16.28	17.5
5	QPSK	1	12	15.78	15.89	16.02	
5	QPSK	1	24	15.94	16.08	16.10	
5	QPSK	12	0	15.86	15.95	16.05	17.5
5	QPSK	12	7	16.05	16.16	16.14	
5	QPSK	12	13	15.75	15.84	15.99	
5	QPSK	25	0	15.87	16.04	16.02	
5	16QAM	1	0	15.69	15.73	15.87	17.5
5	16QAM	1	12	15.91	16.00	15.93	
5	16QAM	1	24	15.78	15.75	15.95	
5	16QAM	12	0	15.88	16.05	15.96	17.5
5	16QAM	12	7	16.01	16.08	16.20	
5	16QAM	12	13	15.79	15.92	16.02	
5	16QAM	25	0	15.69	15.72	15.78	
5	64QAM	1	0	15.81	15.97	15.94	17.5
5	64QAM	1	12	15.97	16.06	16.20	
5	64QAM	1	24	15.55	15.62	15.69	
5	64QAM	12	0	15.81	15.95	15.79	17.5
5	64QAM	12	7	15.68	15.70	15.83	
5	64QAM	12	13	15.67	15.84	15.84	
5	64QAM	25	0	15.81	15.94	16.05	
5	256QAM	1	0	15.70	15.82	15.90	17.5
5	256QAM	1	12	15.62	15.74	15.75	
5	256QAM	1	24	15.75	15.91	15.98	
5	256QAM	12	0	15.93	15.99	16.15	17.5
5	256QAM	12	7	15.74	15.78	15.89	
5	256QAM	12	13	15.57	15.62	15.77	
5	256QAM	25	0	15.55	15.83	15.78	

<LTE Band 12 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	21.87	21.83	21.83	22.5
10	QPSK	1	25	21.81	21.81	21.82	
10	QPSK	1	49	21.80	21.77	21.80	
10	QPSK	25	0	21.77	21.74	21.56	22.5
10	QPSK	25	12	21.65	21.64	21.62	
10	QPSK	25	25	21.67	21.66	21.65	
10	QPSK	50	0	21.70	21.63	21.64	
10	16QAM	1	0	21.80	21.83	21.83	22.5
10	16QAM	1	25	21.78	21.67	21.79	
10	16QAM	1	49	21.68	21.81	21.66	
10	16QAM	25	0	21.68	21.08	21.06	22.5
10	16QAM	25	12	21.64	21.19	21.11	
10	16QAM	25	25	21.79	21.19	21.14	
10	16QAM	50	0	21.62	21.13	21.13	
10	64QAM	1	0	21.49	21.48	21.53	22.5
10	64QAM	1	25	21.59	21.66	21.61	
10	64QAM	1	49	21.69	21.62	21.67	
10	64QAM	25	0	21.63	21.55	21.54	22
10	64QAM	25	12	21.65	21.66	21.61	
10	64QAM	25	25	21.76	21.66	21.64	
10	64QAM	50	0	21.65	21.65	21.65	
10	256QAM	1	0	19.67	19.56	19.52	20
10	256QAM	1	25	19.68	19.54	19.58	
10	256QAM	1	49	19.52	19.42	19.45	
10	256QAM	25	0	19.62	19.42	19.45	20
10	256QAM	25	12	19.52	19.45	19.44	
10	256QAM	25	25	19.50	19.43	19.46	
10	256QAM	50	0	19.60	19.45	19.41	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	21.81	21.83	21.73	22.5
5	QPSK	1	12	21.79	21.75	21.79	
5	QPSK	1	24	21.75	21.70	21.72	
5	QPSK	12	0	21.71	21.53	21.52	22.5
5	QPSK	12	7	21.56	21.54	21.54	
5	QPSK	12	13	21.62	21.57	21.57	
5	QPSK	25	0	21.66	21.56	21.62	
5	16QAM	1	0	21.77	21.77	21.73	22.5
5	16QAM	1	12	21.73	21.57	21.69	
5	16QAM	1	24	21.67	21.80	21.57	
5	16QAM	12	0	21.67	21.06	21.02	22.5
5	16QAM	12	7	21.58	21.11	21.02	
5	16QAM	12	13	21.73	21.15	21.10	
5	16QAM	25	0	21.54	21.12	21.08	
5	64QAM	1	0	21.44	21.43	21.48	22.5
5	64QAM	1	12	21.56	21.65	21.54	
5	64QAM	1	24	21.65	21.54	21.60	
5	64QAM	12	0	21.62	21.55	21.51	22
5	64QAM	12	7	21.58	21.59	21.55	
5	64QAM	12	13	21.74	21.66	21.56	
5	64QAM	25	0	21.56	21.64	21.58	

5	256QAM	1	0	19.57	19.54	19.50	20
5	256QAM	1	12	19.61	19.48	19.54	
5	256QAM	1	24	19.50	19.33	19.35	
5	256QAM	12	0	19.53	19.35	19.41	20
5	256QAM	12	7	19.43	19.36	19.39	
5	256QAM	12	13	19.41	19.34	19.37	
5	256QAM	25	0	19.53	19.39	19.41	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	21.85	21.74	21.83	22.5
3	QPSK	1	8	21.81	21.78	21.81	
3	QPSK	1	14	21.73	21.75	21.76	
3	QPSK	8	0	21.77	21.47	21.55	22.5
3	QPSK	8	4	21.64	21.55	21.59	
3	QPSK	8	7	21.60	21.61	21.57	
3	QPSK	15	0	21.61	21.63	21.58	
3	16QAM	1	0	21.75	21.83	21.80	22.5
3	16QAM	1	8	21.71	21.61	21.78	
3	16QAM	1	14	21.64	21.77	21.65	
3	16QAM	8	0	21.61	21.04	21.06	22.5
3	16QAM	8	4	21.64	21.18	21.03	
3	16QAM	8	7	21.75	21.10	21.07	
3	16QAM	15	0	21.61	21.12	21.10	
3	64QAM	1	0	21.45	21.44	21.45	22.5
3	64QAM	1	8	21.50	21.63	21.53	
3	64QAM	1	14	21.69	21.60	21.60	
3	64QAM	8	0	21.57	21.45	21.49	22
3	64QAM	8	4	21.65	21.60	21.55	
3	64QAM	8	7	21.69	21.59	21.59	
3	64QAM	15	0	21.56	21.56	21.56	
3	256QAM	1	0	19.62	19.47	19.52	20
3	256QAM	1	8	19.59	19.47	19.53	
3	256QAM	1	14	19.45	19.32	19.39	
3	256QAM	8	0	19.57	19.32	19.44	20
3	256QAM	8	4	19.46	19.44	19.35	
3	256QAM	8	7	19.50	19.43	19.39	
3	256QAM	15	0	19.57	19.45	19.37	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	21.83	21.82	21.79	22.5
1.4	QPSK	1	3	21.72	21.71	21.73	
1.4	QPSK	1	5	21.79	21.75	21.71	
1.4	QPSK	3	0	21.67	21.44	21.50	
1.4	QPSK	3	1	21.65	21.56	21.60	
1.4	QPSK	3	3	21.57	21.57	21.56	
1.4	QPSK	6	0	21.66	21.55	21.58	22.5
1.4	16QAM	1	0	21.75	21.76	21.76	22.5
1.4	16QAM	1	3	21.68	21.61	21.69	
1.4	16QAM	1	5	21.61	21.80	21.66	
1.4	16QAM	3	0	21.58	21.02	20.99	
1.4	16QAM	3	1	21.54	21.11	21.01	
1.4	16QAM	3	3	21.72	21.15	21.04	
1.4	16QAM	6	0	21.52	21.12	21.06	22.5
1.4	64QAM	1	0	21.40	21.38	21.44	22.5
1.4	64QAM	1	3	21.49	21.61	21.53	
1.4	64QAM	1	5	21.60	21.52	21.61	

1.4	64QAM	3	0	21.58	21.47	21.54	
1.4	64QAM	3	1	21.61	21.62	21.55	
1.4	64QAM	3	3	21.75	21.60	21.56	
1.4	64QAM	6	0	21.55	21.63	21.55	22
1.4	256QAM	1	0	19.61	19.56	19.48	20
1.4	256QAM	1	3	19.59	19.53	19.52	
1.4	256QAM	1	5	19.51	19.32	19.37	
1.4	256QAM	3	0	19.61	19.33	19.35	
1.4	256QAM	3	1	19.42	19.39	19.35	
1.4	256QAM	3	3	19.42	19.38	19.41	
1.4	256QAM	6	0	19.51	19.41	19.41	20

<LTE Band 13_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23230			
Frequency (MHz)				782			
10	QPSK	1	0		21.46		22
10	QPSK	1	25		21.42		
10	QPSK	1	49		21.37		
10	QPSK	25	0		21.25		22
10	QPSK	25	12		21.19		
10	QPSK	25	25		21.19		
10	QPSK	50	0		21.19		
10	16QAM	1	0		21.38		22
10	16QAM	1	25		21.37		
10	16QAM	1	49		21.35		
10	16QAM	25	0		21.10		22
10	16QAM	25	12		21.19		
10	16QAM	25	25		21.22		
10	16QAM	50	0		21.18		
10	64QAM	1	0		21.25		22
10	64QAM	1	25		21.19		
10	64QAM	1	49		21.14		
10	64QAM	25	0		21.07		22
10	64QAM	25	12		21.16		
10	64QAM	25	25		21.19		
10	64QAM	50	0		21.19		
10	256QAM	1	0		19.85		20
10	256QAM	1	25		19.85		
10	256QAM	1	49		19.69		
10	256QAM	25	0		19.61		20
10	256QAM	25	12		19.65		
10	256QAM	25	25		19.68		
10	256QAM	50	0		19.69		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	21.34	21.32	21.33	22
5	QPSK	1	12	21.23	21.19	21.21	
5	QPSK	1	24	21.22	21.24	21.20	
5	QPSK	12	0	21.25	21.19	21.17	22
5	QPSK	12	7	21.19	21.12	21.20	
5	QPSK	12	13	21.01	21.08	21.08	
5	QPSK	25	0	21.15	21.13	21.12	

5	16QAM	1	0	21.11	21.07	21.06	22
5	16QAM	1	12	21.10	21.14	21.14	
5	16QAM	1	24	21.08	21.01	21.01	
5	16QAM	12	0	21.05	20.99	21.01	22
5	16QAM	12	7	21.06	21.02	21.02	
5	16QAM	12	13	20.96	20.95	21.04	
5	16QAM	25	0	21.09	21.09	21.05	
5	64QAM	1	0	21.04	21.00	21.05	22
5	64QAM	1	12	21.12	21.08	21.07	
5	64QAM	1	24	21.11	21.07	21.11	
5	64QAM	12	0	21.10	21.06	21.05	22
5	64QAM	12	7	20.98	21.02	21.00	
5	64QAM	12	13	21.01	20.93	20.97	
5	64QAM	25	0	21.04	21.07	21.08	
5	256QAM	1	0	19.75	19.76	19.74	20
5	256QAM	1	12	19.74	19.78	19.78	
5	256QAM	1	24	19.65	19.58	19.66	
5	256QAM	12	0	19.69	19.65	19.73	20
5	256QAM	12	7	19.62	19.67	19.65	
5	256QAM	12	13	19.66	19.70	19.65	
5	256QAM	25	0	19.60	19.59	19.56	

<LTE Band 14_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23330			
Frequency (MHz)				793			
10	QPSK	1	0		21.34		22
10	QPSK	1	25		21.29		
10	QPSK	1	49		21.30		
10	QPSK	25	0		21.26		22
10	QPSK	25	12		21.22		
10	QPSK	25	25		21.09		
10	QPSK	50	0		21.21		
10	16QAM	1	0		21.12		22
10	16QAM	1	25		21.14		
10	16QAM	1	49		21.11		
10	16QAM	25	0		21.09		22
10	16QAM	25	12		21.09		
10	16QAM	25	25		21.05		
10	16QAM	50	0		21.09		
10	64QAM	1	0		21.08		22
10	64QAM	1	25		21.16		
10	64QAM	1	49		21.16		
10	64QAM	25	0		21.12		22
10	64QAM	25	12		21.05		
10	64QAM	25	25		21.03		
10	64QAM	50	0		21.13		
10	256QAM	1	0		19.80		20
10	256QAM	1	25		19.81		
10	256QAM	1	49		19.67		
10	256QAM	25	0		19.75		20
10	256QAM	25	12		19.68		
10	256QAM	25	25		19.73		

10	256QAM	50	0		19.66		
Channel				23305	23330	23355	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	QPSK	1	0	21.26	21.24	21.31	22
5	QPSK	1	12	21.23	21.24	21.22	
5	QPSK	1	24	21.25	21.26	21.29	
5	QPSK	12	0	21.20	21.20	21.16	22
5	QPSK	12	7	21.13	21.12	21.13	
5	QPSK	12	13	21.03	21.05	21.06	
5	QPSK	25	0	21.21	21.13	21.14	
5	16QAM	1	0	21.08	21.06	21.12	22
5	16QAM	1	12	21.06	21.04	21.06	
5	16QAM	1	24	21.05	21.05	21.09	
5	16QAM	12	0	21.02	21.03	21.07	22
5	16QAM	12	7	21.01	21.04	20.99	
5	16QAM	12	13	20.99	21.02	21.01	
5	16QAM	25	0	20.99	21.09	21.03	
5	64QAM	1	0	21.01	21.08	21.05	22
5	64QAM	1	12	21.06	21.08	21.08	
5	64QAM	1	24	21.16	21.11	21.11	
5	64QAM	12	0	21.11	21.10	21.08	22
5	64QAM	12	7	21.03	20.96	21.01	
5	64QAM	12	13	21.00	20.96	20.93	
5	64QAM	25	0	21.05	21.11	21.07	
5	256QAM	1	0	19.71	19.80	19.71	20
5	256QAM	1	12	19.78	19.75	19.71	
5	256QAM	1	24	19.64	19.59	19.63	
5	256QAM	12	0	19.65	19.69	19.68	20
5	256QAM	12	7	19.59	19.66	19.61	
5	256QAM	12	13	19.70	19.65	19.72	
5	256QAM	25	0	19.56	19.60	19.56	

<LTE Band 17_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	21.99	21.95	21.95	22.5
10	QPSK	1	25	21.89	21.92	21.94	
10	QPSK	1	49	21.88	21.92	21.92	
10	QPSK	25	0	21.84	21.81	21.77	22.5
10	QPSK	25	12	21.78	21.77	21.78	
10	QPSK	25	25	21.73	21.73	21.75	
10	QPSK	50	0	21.60	21.63	21.63	
10	16QAM	1	0	21.54	21.53	21.51	22.5
10	16QAM	1	25	21.64	21.63	21.64	
10	16QAM	1	49	21.66	21.59	21.60	
10	16QAM	25	0	21.52	21.50	21.52	22.5
10	16QAM	25	12	21.59	21.60	21.65	
10	16QAM	25	25	21.59	21.59	21.66	
10	16QAM	50	0	21.60	21.63	21.63	
10	64QAM	1	0	21.50	21.50	21.56	22.5
10	64QAM	1	25	21.61	21.61	21.64	
10	64QAM	1	49	21.61	21.58	21.65	

10	64QAM	25	0	21.02	20.99	21.01	22
10	64QAM	25	12	21.10	21.13	21.12	
10	64QAM	25	25	21.13	21.08	21.17	
10	64QAM	50	0	21.10	21.13	21.12	
10	256QAM	1	0	19.54	19.65	19.62	20
10	256QAM	1	25	19.56	19.62	19.58	
10	256QAM	1	49	19.46	19.48	19.48	
10	256QAM	25	0	19.40	19.37	19.45	20
10	256QAM	25	12	19.49	19.44	19.49	
10	256QAM	25	25	19.34	19.43	19.44	
10	256QAM	50	0	19.33	19.38	19.43	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	21.95	21.95	21.93	22.5
5	QPSK	1	12	21.86	21.92	21.94	
5	QPSK	1	24	21.79	21.89	21.86	
5	QPSK	12	0	21.77	21.71	21.67	22.5
5	QPSK	12	7	21.74	21.69	21.68	
5	QPSK	12	13	21.65	21.71	21.66	
5	QPSK	25	0	21.54	21.54	21.54	
5	16QAM	1	0	21.44	21.49	21.43	22.5
5	16QAM	1	12	21.59	21.63	21.54	
5	16QAM	1	24	21.63	21.51	21.54	
5	16QAM	12	0	21.52	21.41	21.43	22.5
5	16QAM	12	7	21.54	21.59	21.59	
5	16QAM	12	13	21.50	21.54	21.62	
5	16QAM	25	0	21.53	21.61	21.58	
5	64QAM	1	0	21.50	21.44	21.52	22.5
5	64QAM	1	12	21.57	21.56	21.59	
5	64QAM	1	24	21.58	21.57	21.65	
5	64QAM	12	0	20.97	20.96	20.94	22
5	64QAM	12	7	21.05	21.09	21.08	
5	64QAM	12	13	21.04	21.07	21.13	
5	64QAM	25	0	21.07	21.12	21.06	
5	256QAM	1	0	19.53	19.62	19.55	20
5	256QAM	1	12	19.50	19.60	19.57	
5	256QAM	1	24	19.38	19.42	19.38	
5	256QAM	12	0	19.35	19.29	19.45	20
5	256QAM	12	7	19.45	19.38	19.44	
5	256QAM	12	13	19.28	19.40	19.42	
5	256QAM	25	0	19.29	19.32	19.40	

<LTE Band 25_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	17.52	17.42	17.61	18
20	QPSK	1	49	17.50	17.37	17.52	
20	QPSK	1	99	17.44	17.34	17.50	
20	QPSK	50	0	17.21	17.33	17.35	18
20	QPSK	50	24	17.17	17.21	17.28	
20	QPSK	50	50	17.14	17.13	17.15	
20	QPSK	100	0	17.17	17.13	17.28	

20	16QAM	1	0	17.32	17.42	17.41	18
20	16QAM	1	49	17.40	17.42	17.40	
20	16QAM	1	99	17.41	17.39	17.36	
20	16QAM	50	0	17.19	17.01	17.14	18
20	16QAM	50	24	17.20	17.19	17.18	
20	16QAM	50	50	17.17	17.23	17.03	
20	16QAM	100	0	17.13	17.12	17.07	
20	64QAM	1	0	17.18	17.33	17.25	18
20	64QAM	1	49	17.26	17.30	17.29	
20	64QAM	1	99	17.24	17.28	17.26	
20	64QAM	50	0	17.17	17.02	17.13	18
20	64QAM	50	24	17.15	17.21	17.19	
20	64QAM	50	50	17.12	17.23	17.02	
20	64QAM	100	0	17.15	17.13	17.05	
20	256QAM	1	0	17.20	17.18	17.04	18
20	256QAM	1	49	17.21	17.18	17.32	
20	256QAM	1	99	17.20	17.32	17.34	
20	256QAM	50	0	17.18	17.20	17.11	18
20	256QAM	50	24	17.23	17.18	17.12	
20	256QAM	50	50	17.25	17.32	17.25	
20	256QAM	100	0	17.26	17.15	17.16	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	17.44	17.42	17.58	18
15	QPSK	1	37	17.49	17.31	17.47	
15	QPSK	1	74	17.35	17.31	17.45	
15	QPSK	36	0	17.17	17.21	17.26	18
15	QPSK	36	20	17.16	17.17	17.23	
15	QPSK	36	39	17.06	17.12	17.12	
15	QPSK	75	0	17.12	17.13	17.22	
15	16QAM	1	0	17.25	17.34	17.32	18
15	16QAM	1	37	17.39	17.39	17.31	
15	16QAM	1	74	17.40	17.33	17.30	
15	16QAM	36	0	17.19	16.98	17.11	18
15	16QAM	36	20	17.10	17.15	17.18	
15	16QAM	36	39	17.14	17.13	16.93	
15	16QAM	75	0	17.11	17.04	16.98	
15	64QAM	1	0	17.16	17.32	17.21	18
15	64QAM	1	37	17.21	17.27	17.23	
15	64QAM	1	74	17.20	17.24	17.21	
15	64QAM	36	0	17.10	16.99	17.05	18
15	64QAM	36	20	17.05	17.14	17.10	
15	64QAM	36	39	17.07	17.14	16.93	
15	64QAM	75	0	17.07	17.03	16.99	
15	256QAM	1	0	17.13	17.12	16.94	18
15	256QAM	1	37	17.21	17.14	17.23	
15	256QAM	1	74	17.15	17.29	17.26	
15	256QAM	36	0	17.17	17.13	17.02	18
15	256QAM	36	20	17.13	17.12	17.03	
15	256QAM	36	39	17.16	17.30	17.16	
15	256QAM	75	0	17.25	17.13	17.14	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	17.44	17.39	17.52	18
10	QPSK	1	25	17.48	17.33	17.45	
10	QPSK	1	49	17.35	17.25	17.47	

10	QPSK	25	0	17.14	17.21	17.21	18
10	QPSK	25	12	17.11	17.16	17.20	
10	QPSK	25	25	17.11	17.13	17.12	
10	QPSK	50	0	17.07	17.06	17.20	
10	16QAM	1	0	17.30	17.40	17.41	18
10	16QAM	1	25	17.34	17.41	17.40	
10	16QAM	1	49	17.35	17.36	17.35	
10	16QAM	25	0	17.12	17.01	17.12	18
10	16QAM	25	12	17.15	17.09	17.18	
10	16QAM	25	25	17.09	17.16	17.02	
10	16QAM	50	0	17.10	17.05	17.02	
10	64QAM	1	0	17.11	17.31	17.21	18
10	64QAM	1	25	17.21	17.27	17.28	
10	64QAM	1	49	17.23	17.21	17.25	
10	64QAM	25	0	17.17	16.94	17.12	18
10	64QAM	25	12	17.11	17.15	17.12	
10	64QAM	25	25	17.05	17.21	16.93	
10	64QAM	50	0	17.05	17.11	16.99	
10	256QAM	1	0	17.14	17.09	17.00	18
10	256QAM	1	25	17.16	17.12	17.29	
10	256QAM	1	49	17.13	17.27	17.33	
10	256QAM	25	0	17.10	17.13	17.09	18
10	256QAM	25	12	17.14	17.10	17.07	
10	256QAM	25	25	17.22	17.22	17.18	
10	256QAM	50	0	17.18	17.08	17.12	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	17.51	17.34	17.56	18
5	QPSK	1	12	17.49	17.32	17.47	
5	QPSK	1	24	17.37	17.26	17.44	
5	QPSK	12	0	17.17	17.23	17.30	18
5	QPSK	12	7	17.16	17.16	17.24	
5	QPSK	12	13	17.12	17.06	17.09	
5	QPSK	25	0	17.15	17.03	17.19	
5	16QAM	1	0	17.30	17.36	17.33	18
5	16QAM	1	12	17.34	17.39	17.36	
5	16QAM	1	24	17.39	17.39	17.32	
5	16QAM	12	0	17.17	16.98	17.06	18
5	16QAM	12	7	17.17	17.14	17.12	
5	16QAM	12	13	17.17	17.23	16.99	
5	16QAM	25	0	17.03	17.05	16.98	
5	64QAM	1	0	17.12	17.29	17.18	18
5	64QAM	1	12	17.16	17.27	17.22	
5	64QAM	1	24	17.15	17.21	17.18	
5	64QAM	12	0	17.11	16.98	17.10	18
5	64QAM	12	7	17.06	17.13	17.13	
5	64QAM	12	13	17.09	17.22	17.00	
5	64QAM	25	0	17.14	17.09	16.97	
5	256QAM	1	0	17.15	17.08	16.94	18
5	256QAM	1	12	17.11	17.11	17.30	
5	256QAM	1	24	17.12	17.27	17.27	
5	256QAM	12	0	17.14	17.15	17.01	18
5	256QAM	12	7	17.15	17.16	17.07	
5	256QAM	12	13	17.17	17.32	17.18	
5	256QAM	25	0	17.21	17.07	17.14	
Channel				26055	26340	26675	Tune-up limit

Frequency (MHz)				1851.5	1880	1913.5	(dBm)
3	QPSK	1	0	17.45	17.41	17.57	18
3	QPSK	1	8	17.50	17.35	17.46	
3	QPSK	1	14	17.42	17.28	17.42	
3	QPSK	8	0	17.17	17.18	17.21	18
3	QPSK	8	4	17.14	17.16	17.28	
3	QPSK	8	7	17.12	17.07	17.05	
3	QPSK	15	0	17.09	17.13	17.19	
3	16QAM	1	0	17.27	17.42	17.36	18
3	16QAM	1	8	17.32	17.32	17.39	
3	16QAM	1	14	17.36	17.39	17.35	
3	16QAM	8	0	17.18	17.01	17.11	18
3	16QAM	8	4	17.13	17.12	17.10	
3	16QAM	8	7	17.08	17.22	17.00	
3	16QAM	15	0	17.05	17.02	16.99	
3	64QAM	1	0	17.14	17.28	17.15	18
3	64QAM	1	8	17.24	17.21	17.25	
3	64QAM	1	14	17.20	17.20	17.22	
3	64QAM	8	0	17.15	16.97	17.11	18
3	64QAM	8	4	17.10	17.19	17.17	
3	64QAM	8	7	17.07	17.21	17.01	
3	64QAM	15	0	17.05	17.13	17.05	
3	256QAM	1	0	17.19	17.16	16.99	18
3	256QAM	1	8	17.20	17.10	17.27	
3	256QAM	1	14	17.13	17.28	17.27	
3	256QAM	8	0	17.09	17.20	17.11	18
3	256QAM	8	4	17.16	17.16	17.11	
3	256QAM	8	7	17.24	17.23	17.18	
3	256QAM	15	0	17.16	17.15	17.08	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	17.49	17.40	17.57	18
1.4	QPSK	1	3	17.40	17.36	17.48	
1.4	QPSK	1	5	17.42	17.31	17.49	
1.4	QPSK	3	0	17.16	17.13	17.26	
1.4	QPSK	3	1	17.07	17.19	17.21	
1.4	QPSK	3	3	17.08	17.09	17.09	
1.4	QPSK	6	0	17.17	17.07	17.24	18
1.4	16QAM	1	0	17.32	17.39	17.33	18
1.4	16QAM	1	3	17.40	17.40	17.36	
1.4	16QAM	1	5	17.31	17.39	17.35	
1.4	16QAM	3	0	17.11	17.00	17.12	
1.4	16QAM	3	1	17.10	17.09	17.12	
1.4	16QAM	3	3	17.14	17.22	16.96	
1.4	16QAM	6	0	17.06	17.04	17.05	18
1.4	64QAM	1	0	17.11	17.33	17.18	18
1.4	64QAM	1	3	17.21	17.25	17.21	
1.4	64QAM	1	5	17.17	17.22	17.26	
1.4	64QAM	3	0	17.13	16.92	17.10	
1.4	64QAM	3	1	17.10	17.12	17.15	
1.4	64QAM	3	3	17.08	17.20	17.00	
1.4	64QAM	6	0	17.05	17.10	16.99	18
1.4	256QAM	1	0	17.19	17.09	17.04	18
1.4	256QAM	1	3	17.14	17.12	17.29	
1.4	256QAM	1	5	17.14	17.27	17.28	
1.4	256QAM	3	0	17.16	17.19	17.08	

1.4	256QAM	3	1	17.23	17.12	17.09	
1.4	256QAM	3	3	17.25	17.32	17.21	
1.4	256QAM	6	0	17.19	17.15	17.13	18

<LTE Band 25_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)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	16.77	16.86	16.88	18
20	QPSK	1	49	16.34	16.42	16.53	
20	QPSK	1	99	16.49	16.62	16.63	
20	QPSK	50	0	16.43	16.51	16.74	18
20	QPSK	50	24	16.42	16.50	16.62	
20	QPSK	50	50	16.31	16.39	16.54	
20	QPSK	100	0	16.46	16.59	16.59	
20	16QAM	1	0	16.22	16.28	16.40	18
20	16QAM	1	49	16.41	16.53	16.53	
20	16QAM	1	99	16.29	16.35	16.47	
20	16QAM	50	0	16.41	16.55	16.56	18
20	16QAM	50	24	16.56	16.64	16.76	
20	16QAM	50	50	16.38	16.45	16.52	
20	16QAM	100	0	16.29	16.29	16.37	
20	64QAM	1	0	16.33	16.49	16.50	18
20	64QAM	1	49	16.47	16.59	16.70	
20	64QAM	1	99	16.12	16.21	16.23	
20	64QAM	50	0	16.34	16.45	16.37	18
20	64QAM	50	24	16.26	16.29	16.35	
20	64QAM	50	50	16.24	16.38	16.41	
20	64QAM	100	0	16.39	16.52	16.62	
20	256QAM	1	0	16.30	16.40	16.42	18
20	256QAM	1	49	16.21	16.26	16.35	
20	256QAM	1	99	16.33	16.45	16.55	
20	256QAM	50	0	16.43	16.59	16.72	18
20	256QAM	50	24	16.30	16.34	16.44	
20	256QAM	50	50	16.17	16.19	16.33	
20	256QAM	100	0	16.15	16.36	16.38	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	16.72	16.79	16.85	18
15	QPSK	1	37	16.24	16.37	16.48	
15	QPSK	1	74	16.43	16.53	16.56	
15	QPSK	36	0	16.38	16.43	16.57	18
15	QPSK	36	20	16.52	16.71	16.65	
15	QPSK	36	39	16.30	16.34	16.46	
15	QPSK	75	0	16.45	16.59	16.57	
15	16QAM	1	0	16.15	16.19	16.31	18
15	16QAM	1	37	16.38	16.46	16.50	
15	16QAM	1	74	16.24	16.31	16.39	
15	16QAM	36	0	16.31	16.48	16.50	18
15	16QAM	36	20	16.52	16.61	16.66	
15	16QAM	36	39	16.29	16.44	16.46	
15	16QAM	75	0	16.27	16.21	16.35	
15	64QAM	1	0	16.23	16.47	16.40	18

15	64QAM	1	37	16.42	16.53	16.64	
15	64QAM	1	74	16.04	16.17	16.20	
15	64QAM	36	0	16.26	16.37	16.28	18
15	64QAM	36	20	16.26	16.20	16.25	
15	64QAM	36	39	16.24	16.37	16.39	
15	64QAM	75	0	16.32	16.51	16.59	
15	256QAM	1	0	16.25	16.36	16.40	18
15	256QAM	1	37	16.20	16.18	16.28	
15	256QAM	1	74	16.29	16.44	16.45	
15	256QAM	36	0	16.42	16.51	16.67	18
15	256QAM	36	20	16.21	16.28	16.36	
15	256QAM	36	39	16.09	16.14	16.31	
15	256QAM	75	0	16.13	16.29	16.37	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	16.67	16.76	16.80	18
10	QPSK	1	25	16.31	16.42	16.46	
10	QPSK	1	49	16.46	16.62	16.61	
10	QPSK	25	0	16.38	16.50	16.56	18
10	QPSK	25	12	16.61	16.65	16.72	
10	QPSK	25	25	16.31	16.38	16.48	
10	QPSK	50	0	16.38	16.54	16.57	
10	16QAM	1	0	16.14	16.24	16.36	18
10	16QAM	1	25	16.37	16.50	16.52	
10	16QAM	1	49	16.28	16.25	16.39	
10	16QAM	25	0	16.31	16.55	16.50	18
10	16QAM	25	12	16.52	16.54	16.75	
10	16QAM	25	25	16.28	16.36	16.49	
10	16QAM	50	0	16.20	16.27	16.31	
10	64QAM	1	0	16.28	16.48	16.42	18
10	64QAM	1	25	16.43	16.56	16.66	
10	64QAM	1	49	16.07	16.15	16.22	
10	64QAM	25	0	16.25	16.41	16.33	18
10	64QAM	25	12	16.22	16.19	16.30	
10	64QAM	25	25	16.15	16.28	16.39	
10	64QAM	50	0	16.29	16.45	16.57	
10	256QAM	1	0	16.23	16.36	16.39	18
10	256QAM	1	25	16.21	16.21	16.28	
10	256QAM	1	49	16.33	16.41	16.46	
10	256QAM	25	0	16.35	16.51	16.72	18
10	256QAM	25	12	16.30	16.34	16.36	
10	256QAM	25	25	16.11	16.14	16.31	
10	256QAM	50	0	16.09	16.36	16.37	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	16.73	16.83	16.83	18
5	QPSK	1	12	16.32	16.42	16.45	
5	QPSK	1	24	16.49	16.55	16.57	
5	QPSK	12	0	16.38	16.49	16.62	18
5	QPSK	12	7	16.62	16.71	16.64	
5	QPSK	12	13	16.27	16.34	16.51	
5	QPSK	25	0	16.38	16.56	16.55	
5	16QAM	1	0	16.15	16.20	16.35	18
5	16QAM	1	12	16.31	16.45	16.50	
5	16QAM	1	24	16.26	16.25	16.46	
5	16QAM	12	0	16.40	16.50	16.47	18

5	16QAM	12	7	16.47	16.59	16.72	
5	16QAM	12	13	16.38	16.45	16.50	
5	16QAM	25	0	16.28	16.29	16.30	
5	64QAM	1	0	16.32	16.46	16.49	18
5	64QAM	1	12	16.42	16.56	16.65	
5	64QAM	1	24	16.10	16.12	16.22	
5	64QAM	12	0	16.29	16.44	16.28	18
5	64QAM	12	7	16.24	16.24	16.26	
5	64QAM	12	13	16.17	16.37	16.40	
5	64QAM	25	0	16.31	16.50	16.55	
5	256QAM	1	0	16.26	16.33	16.33	18
5	256QAM	1	12	16.17	16.25	16.29	
5	256QAM	1	24	16.28	16.36	16.49	
5	256QAM	12	0	16.34	16.51	16.68	18
5	256QAM	12	7	16.30	16.25	16.43	
5	256QAM	12	13	16.09	16.12	16.33	
5	256QAM	25	0	16.06	16.28	16.29	
Channel				26055	26340	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	16.72	16.86	16.81	18
3	QPSK	1	8	16.29	16.38	16.47	
3	QPSK	1	14	16.41	16.60	16.57	
3	QPSK	8	0	16.42	16.40	16.62	18
3	QPSK	8	4	16.60	16.70	16.67	
3	QPSK	8	7	16.26	16.37	16.44	
3	QPSK	15	0	16.38	16.50	16.58	
3	16QAM	1	0	16.18	16.22	16.36	18
3	16QAM	1	8	16.37	16.43	16.48	
3	16QAM	1	14	16.27	16.28	16.47	
3	16QAM	8	0	16.40	16.46	16.52	18
3	16QAM	8	4	16.53	16.57	16.76	
3	16QAM	8	7	16.35	16.39	16.51	
3	16QAM	15	0	16.22	16.20	16.27	
3	64QAM	1	0	16.25	16.48	16.50	18
3	64QAM	1	8	16.43	16.52	16.60	
3	64QAM	1	14	16.06	16.15	16.21	
3	64QAM	8	0	16.27	16.42	16.36	18
3	64QAM	8	4	16.25	16.21	16.30	
3	64QAM	8	7	16.17	16.32	16.39	
3	64QAM	15	0	16.29	16.48	16.57	
3	256QAM	1	0	16.28	16.36	16.39	18
3	256QAM	1	8	16.20	16.19	16.26	
3	256QAM	1	14	16.28	16.36	16.52	
3	256QAM	8	0	16.34	16.49	16.68	18
3	256QAM	8	4	16.24	16.25	16.38	
3	256QAM	8	7	16.12	16.19	16.33	
3	256QAM	15	0	16.11	16.26	16.28	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	16.67	16.86	16.78	18
1.4	QPSK	1	3	16.26	16.32	16.47	
1.4	QPSK	1	5	16.39	16.56	16.56	
1.4	QPSK	3	0	16.40	16.49	16.60	
1.4	QPSK	3	1	16.56	16.66	16.73	
1.4	QPSK	3	3	16.25	16.32	16.44	
1.4	QPSK	6	0	16.38	16.50	16.53	18

1.4	16QAM	1	0	16.14	16.23	16.37	18
1.4	16QAM	1	3	16.41	16.47	16.49	
1.4	16QAM	1	5	16.23	16.34	16.39	
1.4	16QAM	3	0	16.40	16.49	16.46	
1.4	16QAM	3	1	16.53	16.57	16.76	
1.4	16QAM	3	3	16.33	16.36	16.48	
1.4	16QAM	6	0	16.28	16.27	16.28	18
1.4	64QAM	1	0	16.28	16.42	16.50	18
1.4	64QAM	1	3	16.44	16.51	16.64	
1.4	64QAM	1	5	16.08	16.12	16.20	
1.4	64QAM	3	0	16.30	16.41	16.29	
1.4	64QAM	3	1	16.16	16.24	16.27	
1.4	64QAM	3	3	16.24	16.35	16.41	
1.4	64QAM	6	0	16.31	16.48	16.54	18
1.4	256QAM	1	0	16.24	16.38	16.38	18
1.4	256QAM	1	3	16.21	16.17	16.33	
1.4	256QAM	1	5	16.27	16.42	16.53	
1.4	256QAM	3	0	16.37	16.49	16.71	
1.4	256QAM	3	1	16.27	16.27	16.43	
1.4	256QAM	3	3	16.07	16.12	16.27	
1.4	256QAM	6	0	16.13	16.34	16.34	18

<LTE Band 26_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	22.05	21.97	21.90	22.5
15	QPSK	1	37	21.95	21.94	21.93	
15	QPSK	1	74	21.67	21.61	21.71	
15	QPSK	36	0	21.93	21.83	21.67	22.5
15	QPSK	36	20	21.71	21.67	21.72	
15	QPSK	36	39	21.75	21.78	21.79	
15	QPSK	75	0	21.84	21.80	21.83	
15	16QAM	1	0	21.71	21.66	21.61	22.5
15	16QAM	1	37	21.66	21.67	21.57	
15	16QAM	1	74	21.72	21.60	21.69	
15	16QAM	36	0	21.64	21.60	21.65	22.5
15	16QAM	36	20	21.63	21.53	21.68	
15	16QAM	36	39	21.65	21.54	21.69	
15	16QAM	75	0	21.69	21.66	21.63	
15	64QAM	1	0	21.69	21.59	21.64	22.5
15	64QAM	1	37	21.66	21.60	21.65	
15	64QAM	1	74	21.68	21.69	21.67	
15	64QAM	36	0	21.21	21.32	21.28	22
15	64QAM	36	20	21.24	21.19	21.19	
15	64QAM	36	39	21.19	21.20	21.19	
15	64QAM	75	0	21.25	21.19	21.21	
15	256QAM	1	0	19.33	19.28	19.21	20
15	256QAM	1	37	19.36	19.38	19.18	
15	256QAM	1	74	19.26	19.01	18.97	
15	256QAM	36	0	19.22	19.29	19.04	20
15	256QAM	36	20	19.32	19.31	19.01	
15	256QAM	36	39	19.27	19.21	18.98	

15	256QAM	75	0	19.21	19.24	19.08	
Channel				26740	26865	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	22.02	21.92	21.86	22.5
10	QPSK	1	25	21.89	21.93	21.87	
10	QPSK	1	49	21.61	21.53	21.70	
10	QPSK	25	0	21.90	21.83	21.61	22.5
10	QPSK	25	12	21.61	21.57	21.65	
10	QPSK	25	25	21.65	21.70	21.79	
10	QPSK	50	0	21.80	21.79	21.73	
10	16QAM	1	0	21.68	21.63	21.54	22.5
10	16QAM	1	25	21.59	21.63	21.50	
10	16QAM	1	49	21.62	21.59	21.64	
10	16QAM	25	0	21.63	21.57	21.58	22.5
10	16QAM	25	12	21.53	21.47	21.65	
10	16QAM	25	25	21.55	21.51	21.66	
10	16QAM	50	0	21.68	21.64	21.54	
10	64QAM	1	0	21.64	21.56	21.64	22.5
10	64QAM	1	25	21.60	21.57	21.60	
10	64QAM	1	49	21.59	21.66	21.66	
10	64QAM	25	0	21.18	21.22	21.22	22
10	64QAM	25	12	21.24	21.10	21.12	
10	64QAM	25	25	21.13	21.20	21.16	
10	64QAM	50	0	21.22	21.19	21.20	
10	256QAM	1	0	19.29	19.26	19.14	20
10	256QAM	1	25	19.31	19.33	19.10	
10	256QAM	1	49	19.22	18.97	18.91	
10	256QAM	25	0	19.13	19.20	18.97	20
10	256QAM	25	12	19.28	19.22	19.01	
10	256QAM	25	25	19.27	19.14	18.89	
10	256QAM	50	0	19.18	19.22	19.00	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	21.98	21.90	21.80	22.5
5	QPSK	1	12	21.85	21.90	21.86	
5	QPSK	1	24	21.57	21.53	21.67	
5	QPSK	12	0	21.87	21.80	21.65	22.5
5	QPSK	12	7	21.65	21.57	21.64	
5	QPSK	12	13	21.74	21.73	21.71	
5	QPSK	25	0	21.77	21.78	21.74	
5	16QAM	1	0	21.71	21.57	21.56	22.5
5	16QAM	1	12	21.61	21.66	21.50	
5	16QAM	1	24	21.69	21.57	21.62	
5	16QAM	12	0	21.59	21.57	21.61	22.5
5	16QAM	12	7	21.62	21.51	21.67	
5	16QAM	12	13	21.63	21.48	21.67	
5	16QAM	25	0	21.61	21.66	21.53	
5	64QAM	1	0	21.59	21.56	21.63	22.5
5	64QAM	1	12	21.66	21.59	21.64	
5	64QAM	1	24	21.67	21.59	21.67	
5	64QAM	12	0	21.13	21.25	21.20	22
5	64QAM	12	7	21.21	21.16	21.09	
5	64QAM	12	13	21.12	21.11	21.10	
5	64QAM	25	0	21.17	21.12	21.17	
5	256QAM	1	0	19.26	19.26	19.15	20
5	256QAM	1	12	19.36	19.33	19.08	

5	256QAM	1	24	19.25	18.95	18.97	
5	256QAM	12	0	19.19	19.29	19.02	20
5	256QAM	12	7	19.32	19.29	18.93	
5	256QAM	12	13	19.17	19.20	18.98	
5	256QAM	25	0	19.21	19.15	19.07	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	22.04	21.87	21.86	22.5
3	QPSK	1	8	21.94	21.86	21.90	
3	QPSK	1	14	21.57	21.58	21.68	
3	QPSK	8	0	21.87	21.83	21.57	22.5
3	QPSK	8	4	21.65	21.59	21.70	
3	QPSK	8	7	21.71	21.69	21.76	
3	QPSK	15	0	21.83	21.78	21.75	
3	16QAM	1	0	21.68	21.56	21.60	22.5
3	16QAM	1	8	21.56	21.63	21.50	
3	16QAM	1	14	21.72	21.52	21.65	
3	16QAM	8	0	21.60	21.59	21.64	22.5
3	16QAM	8	4	21.61	21.48	21.64	
3	16QAM	8	7	21.64	21.50	21.61	
3	16QAM	15	0	21.69	21.62	21.63	
3	64QAM	1	0	21.61	21.57	21.59	22.5
3	64QAM	1	8	21.66	21.51	21.63	
3	64QAM	1	14	21.67	21.69	21.67	
3	64QAM	8	0	21.18	21.22	21.26	22
3	64QAM	8	4	21.21	21.15	21.17	
3	64QAM	8	7	21.13	21.16	21.12	
3	64QAM	15	0	21.15	21.19	21.15	
3	256QAM	1	0	19.24	19.24	19.19	20
3	256QAM	1	8	19.28	19.32	19.09	
3	256QAM	1	14	19.20	18.95	18.89	
3	256QAM	8	0	19.17	19.26	19.02	20
3	256QAM	8	4	19.32	19.22	19.01	
3	256QAM	8	7	19.27	19.19	18.90	
3	256QAM	15	0	19.16	19.17	19.04	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	21.99	21.89	21.87	22.5
1.4	QPSK	1	3	21.91	21.90	21.84	
1.4	QPSK	1	5	21.62	21.56	21.66	
1.4	QPSK	3	0	21.89	21.83	21.66	
1.4	QPSK	3	1	21.71	21.61	21.66	
1.4	QPSK	3	3	21.74	21.75	21.73	
1.4	QPSK	6	0	21.74	21.79	21.80	22.5
1.4	16QAM	1	0	21.61	21.61	21.60	22.5
1.4	16QAM	1	3	21.62	21.64	21.47	
1.4	16QAM	1	5	21.67	21.60	21.62	
1.4	16QAM	3	0	21.57	21.60	21.62	
1.4	16QAM	3	1	21.53	21.43	21.66	
1.4	16QAM	3	3	21.56	21.50	21.60	
1.4	16QAM	6	0	21.61	21.63	21.57	22.5
1.4	64QAM	1	0	21.59	21.53	21.61	22.5
1.4	64QAM	1	3	21.63	21.56	21.62	
1.4	64QAM	1	5	21.64	21.65	21.63	
1.4	64QAM	3	0	21.61	21.53	21.56	
1.4	64QAM	3	1	21.62	21.52	21.65	

1.4	64QAM	3	3	21.61	21.60	21.65	
1.4	64QAM	6	0	21.16	21.15	21.13	22
1.4	256QAM	1	0	19.31	19.18	19.18	20
1.4	256QAM	1	3	19.33	19.35	19.14	
1.4	256QAM	1	5	19.21	18.93	18.97	
1.4	256QAM	3	0	19.17	19.20	19.00	
1.4	256QAM	3	1	19.22	19.21	18.91	
1.4	256QAM	3	3	19.21	19.16	18.97	
1.4	256QAM	6	0	19.14	19.19	19.02	20

<LTE Band 30_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				27710			
Frequency (MHz)				2310			
10	QPSK	1	0		15.82		17
10	QPSK	1	25		15.77		
10	QPSK	1	49		15.77		
10	QPSK	25	0		15.72		17
10	QPSK	25	12		15.37		
10	QPSK	25	25		15.48		
10	QPSK	50	0		15.58		
10	16QAM	1	0		15.65		17
10	16QAM	1	25		15.64		
10	16QAM	1	49		15.50		
10	16QAM	25	0		15.51		17
10	16QAM	25	12		15.37		
10	16QAM	25	25		15.47		
10	16QAM	50	0		15.42		
10	64QAM	1	0		15.52		17
10	64QAM	1	25		15.49		
10	64QAM	1	49		15.50		
10	64QAM	25	0		15.50		17
10	64QAM	25	12		15.36		
10	64QAM	25	25		15.47		
10	64QAM	50	0		15.51		
10	256QAM	1	0		15.51		17
10	256QAM	1	25		15.47		
10	256QAM	1	49		15.46		
10	256QAM	25	0		15.46		17
10	256QAM	25	12		15.27		
10	256QAM	25	25		15.39		
10	256QAM	50	0		15.51		
Channel				27685	16.68	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	15.79	15.79	15.78	17
5	QPSK	1	12	15.69	15.74	15.70	
5	QPSK	1	24	15.71	15.73	15.67	
5	QPSK	12	0	15.49	15.42	15.42	17
5	QPSK	12	7	15.31	15.28	15.35	
5	QPSK	12	13	15.43	15.41	15.48	
5	QPSK	25	0	15.48	15.50	15.57	
5	16QAM	1	0	15.65	15.56	15.59	17
5	16QAM	1	12	15.55	15.63	15.57	

5	16QAM	1	24	15.50	15.49	15.42	
5	16QAM	12	0	15.42	15.44	15.43	17
5	16QAM	12	7	15.27	15.34	15.29	
5	16QAM	12	13	15.47	15.42	15.42	
5	16QAM	25	0	15.39	15.38	15.36	
5	64QAM	1	0	15.45	15.47	15.46	17
5	64QAM	1	12	15.48	15.40	15.44	
5	64QAM	1	24	15.47	15.46	15.47	
5	64QAM	12	0	15.42	15.45	15.50	17
5	64QAM	12	7	15.28	15.27	15.30	
5	64QAM	12	13	15.43	15.46	15.41	
5	64QAM	25	0	15.41	15.45	15.46	
5	256QAM	1	0	15.51	15.41	15.50	17
5	256QAM	1	12	15.41	15.43	15.40	
5	256QAM	1	24	15.36	15.46	15.41	
5	256QAM	12	0	15.43	15.44	15.46	17
5	256QAM	12	7	15.19	15.20	15.17	
5	256QAM	12	13	15.35	15.30	15.29	
5	256QAM	25	0	15.42	15.41	15.42	

<LTE Band 30_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)
Channel					27710		
Frequency (MHz)					2310		
10	QPSK	1	0		15.38		16
10	QPSK	1	25		14.87		
10	QPSK	1	49		15.13		
10	QPSK	25	0		15.14		16
10	QPSK	25	12		15.12		
10	QPSK	25	25		14.80		
10	QPSK	50	0		15.12		
10	16QAM	1	0		14.68		16
10	16QAM	1	25		15.06		
10	16QAM	1	49		14.75		
10	16QAM	25	0		15.15		16
10	16QAM	25	12		15.24		
10	16QAM	25	25		15.02		
10	16QAM	50	0		14.85		
10	64QAM	1	0		14.99		16
10	64QAM	1	25		15.07		
10	64QAM	1	49		14.67		
10	64QAM	25	0		14.90		16
10	64QAM	25	12		14.82		
10	64QAM	25	25		14.91		
10	64QAM	50	0		14.98		
10	256QAM	1	0		14.93		16
10	256QAM	1	25		14.76		
10	256QAM	1	49		14.95		
10	256QAM	25	0		14.99		16
10	256QAM	25	12		14.83		
10	256QAM	25	25		14.61		
10	256QAM	50	0		14.87		
Channel				27685	16.68	27735	Tune-up limit

Frequency (MHz)				2307.5	2310	2312.5	(dBm)
5	QPSK	1	0	15.29	15.28	15.28	16
5	QPSK	1	12	14.85	14.82	14.85	
5	QPSK	1	24	15.08	15.12	15.09	
5	QPSK	12	0	15.05	15.07	15.14	16
5	QPSK	12	7	15.04	15.11	15.06	
5	QPSK	12	13	14.78	14.77	14.75	
5	QPSK	25	0	15.10	15.02	15.08	
5	16QAM	1	0	14.64	14.60	14.59	16
5	16QAM	1	12	15.03	15.06	14.97	
5	16QAM	1	24	14.72	14.74	14.65	
5	16QAM	12	0	15.09	15.05	15.09	16
5	16QAM	12	7	15.24	15.21	15.21	
5	16QAM	12	13	14.98	14.96	15.00	
5	16QAM	25	0	14.76	14.82	14.84	
5	64QAM	1	0	14.92	14.93	14.97	16
5	64QAM	1	12	15.03	15.00	15.02	
5	64QAM	1	24	14.66	14.57	14.57	
5	64QAM	12	0	14.90	14.84	14.80	16
5	64QAM	12	7	14.77	14.80	14.81	
5	64QAM	12	13	14.86	14.84	14.89	
5	64QAM	25	0	14.90	14.97	14.94	
5	256QAM	1	0	14.92	14.87	14.87	16
5	256QAM	1	12	14.66	14.72	14.71	
5	256QAM	1	24	14.92	14.85	14.91	
5	256QAM	12	0	14.92	14.95	14.94	16
5	256QAM	12	7	14.78	14.73	14.77	
5	256QAM	12	13	14.61	14.58	14.60	
5	256QAM	25	0	14.83	14.81	14.78	

<LTE Band 66 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	17.51	17.48	17.39	18
20	QPSK	1	49	17.49	17.42	17.33	
20	QPSK	1	99	17.42	17.42	17.36	
20	QPSK	50	0	17.41	17.23	17.31	18
20	QPSK	50	24	17.34	17.25	17.28	
20	QPSK	50	50	17.30	17.14	17.27	
20	QPSK	100	0	17.31	17.23	17.29	
20	16QAM	1	0	17.46	17.40	17.32	18
20	16QAM	1	49	17.41	17.42	17.35	
20	16QAM	1	99	17.42	17.42	17.48	
20	16QAM	50	0	17.19	17.25	17.30	18
20	16QAM	50	24	17.23	17.31	17.33	
20	16QAM	50	50	17.20	17.19	17.28	
20	16QAM	100	0	17.19	17.21	17.26	
20	64QAM	1	0	17.33	17.34	17.39	18
20	64QAM	1	49	17.38	17.37	17.41	
20	64QAM	1	99	17.33	17.27	17.34	
20	64QAM	50	0	17.22	17.21	17.29	18
20	64QAM	50	24	17.23	17.28	17.33	

20	64QAM	50	50	17.19	17.20	17.27	
20	64QAM	100	0	17.19	17.22	17.28	
20	256QAM	1	0	17.20	17.25	17.26	18
20	256QAM	1	49	17.15	17.18	17.20	
20	256QAM	1	99	17.20	17.06	17.15	
20	256QAM	50	0	17.05	17.12	17.06	18
20	256QAM	50	24	17.12	17.20	17.12	
20	256QAM	50	50	17.13	17.13	17.20	
20	256QAM	100	0	17.05	17.20	17.30	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	17.44	17.44	17.30	18
15	QPSK	1	37	17.43	17.37	17.30	
15	QPSK	1	74	17.35	17.41	17.29	
15	QPSK	36	0	17.38	17.22	17.25	18
15	QPSK	36	20	17.33	17.15	17.18	
15	QPSK	36	39	17.25	17.07	17.23	
15	QPSK	75	0	17.28	17.22	17.21	
15	16QAM	1	0	17.44	17.33	17.27	18
15	16QAM	1	37	17.38	17.41	17.26	
15	16QAM	1	74	17.42	17.39	17.43	
15	16QAM	36	0	17.15	17.19	17.30	18
15	16QAM	36	20	17.18	17.26	17.23	
15	16QAM	36	39	17.12	17.10	17.24	
15	16QAM	75	0	17.10	17.15	17.22	
15	64QAM	1	0	17.32	17.25	17.33	18
15	64QAM	1	37	17.28	17.28	17.35	
15	64QAM	1	74	17.30	17.26	17.31	
15	64QAM	36	0	17.18	17.11	17.24	18
15	64QAM	36	20	17.22	17.21	17.26	
15	64QAM	36	39	17.19	17.13	17.26	
15	64QAM	75	0	17.09	17.21	17.20	
15	256QAM	1	0	17.13	17.15	17.23	18
15	256QAM	1	37	17.14	17.16	17.12	
15	256QAM	1	74	17.10	16.97	17.09	
15	256QAM	36	0	16.95	17.09	17.02	18
15	256QAM	36	20	17.04	17.10	17.06	
15	256QAM	36	39	17.09	17.08	17.12	
15	256QAM	75	0	17.00	17.16	17.20	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	17.46	17.41	17.34	18
10	QPSK	1	25	17.46	17.37	17.31	
10	QPSK	1	49	17.32	17.42	17.30	
10	QPSK	25	0	17.32	17.13	17.21	18
10	QPSK	25	12	17.29	17.19	17.24	
10	QPSK	25	25	17.20	17.12	17.25	
10	QPSK	50	0	17.23	17.14	17.27	
10	16QAM	1	0	17.44	17.33	17.27	18
10	16QAM	1	25	17.35	17.41	17.30	
10	16QAM	1	49	17.32	17.40	17.38	
10	16QAM	25	0	17.13	17.17	17.26	18
10	16QAM	25	12	17.14	17.28	17.24	
10	16QAM	25	25	17.16	17.10	17.22	
10	16QAM	50	0	17.16	17.15	17.24	
10	64QAM	1	0	17.29	17.28	17.36	18

10	64QAM	1	25	17.34	17.36	17.32	
10	64QAM	1	49	17.33	17.21	17.25	
10	64QAM	25	0	17.22	17.16	17.23	18
10	64QAM	25	12	17.22	17.27	17.23	
10	64QAM	25	25	17.14	17.12	17.25	
10	64QAM	50	0	17.17	17.22	17.20	
10	256QAM	1	0	17.20	17.21	17.21	18
10	256QAM	1	25	17.10	17.13	17.16	
10	256QAM	1	49	17.12	16.96	17.15	
10	256QAM	25	0	16.95	17.11	17.04	18
10	256QAM	25	12	17.04	17.11	17.09	
10	256QAM	25	25	17.10	17.12	17.19	
10	256QAM	50	0	17.00	17.20	17.26	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	17.43	17.48	17.38	18
5	QPSK	1	12	17.41	17.41	17.26	
5	QPSK	1	24	17.33	17.41	17.28	
5	QPSK	12	0	17.41	17.23	17.25	18
5	QPSK	12	7	17.29	17.18	17.20	
5	QPSK	12	13	17.20	17.06	17.22	
5	QPSK	25	0	17.25	17.15	17.27	
5	16QAM	1	0	17.45	17.31	17.29	18
5	16QAM	1	12	17.36	17.32	17.35	
5	16QAM	1	24	17.37	17.37	17.38	
5	16QAM	12	0	17.12	17.20	17.20	18
5	16QAM	12	7	17.21	17.28	17.31	
5	16QAM	12	13	17.16	17.17	17.21	
5	16QAM	25	0	17.17	17.15	17.21	
5	64QAM	1	0	17.24	17.25	17.32	18
5	64QAM	1	12	17.35	17.29	17.40	
5	64QAM	1	24	17.26	17.24	17.33	
5	64QAM	12	0	17.19	17.11	17.19	18
5	64QAM	12	7	17.17	17.26	17.23	
5	64QAM	12	13	17.19	17.15	17.17	
5	64QAM	25	0	17.12	17.15	17.24	
5	256QAM	1	0	17.12	17.25	17.21	18
5	256QAM	1	12	17.07	17.10	17.13	
5	256QAM	1	24	17.18	16.98	17.06	
5	256QAM	12	0	17.01	17.09	17.05	18
5	256QAM	12	7	17.03	17.11	17.06	
5	256QAM	12	13	17.04	17.10	17.14	
5	256QAM	25	0	16.95	17.13	17.29	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	17.41	17.38	17.34	18
3	QPSK	1	8	17.44	17.33	17.28	
3	QPSK	1	14	17.41	17.38	17.29	
3	QPSK	8	0	17.39	17.19	17.23	18
3	QPSK	8	4	17.26	17.22	17.26	
3	QPSK	8	7	17.27	17.06	17.24	
3	QPSK	15	0	17.31	17.19	17.19	
3	16QAM	1	0	17.37	17.37	17.26	18
3	16QAM	1	8	17.34	17.39	17.28	
3	16QAM	1	14	17.32	17.38	17.46	
3	16QAM	8	0	17.10	17.19	17.24	18

3	16QAM	8	4	17.13	17.21	17.24	
3	16QAM	8	7	17.19	17.11	17.20	
3	16QAM	15	0	17.13	17.15	17.23	
3	64QAM	1	0	17.26	17.29	17.35	18
3	64QAM	1	8	17.28	17.32	17.40	
3	64QAM	1	14	17.27	17.25	17.26	
3	64QAM	8	0	17.21	17.15	17.24	18
3	64QAM	8	4	17.21	17.23	17.27	
3	64QAM	8	7	17.12	17.16	17.17	
3	64QAM	15	0	17.12	17.15	17.22	
3	256QAM	1	0	17.10	17.18	17.26	18
3	256QAM	1	8	17.09	17.12	17.11	
3	256QAM	1	14	17.16	17.05	17.11	
3	256QAM	8	0	17.04	17.04	16.98	18
3	256QAM	8	4	17.04	17.10	17.03	
3	256QAM	8	7	17.08	17.05	17.18	
3	256QAM	15	0	17.00	17.19	17.30	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	17.46	17.48	17.32	18
1.4	QPSK	1	3	17.49	17.42	17.33	
1.4	QPSK	1	5	17.38	17.38	17.27	
1.4	QPSK	3	0	17.36	17.16	17.26	
1.4	QPSK	3	1	17.33	17.15	17.19	
1.4	QPSK	3	3	17.30	17.11	17.23	
1.4	QPSK	6	0	17.22	17.18	17.21	18
1.4	16QAM	1	0	17.44	17.34	17.29	18
1.4	16QAM	1	3	17.32	17.40	17.28	
1.4	16QAM	1	5	17.42	17.41	17.45	
1.4	16QAM	3	0	17.10	17.17	17.20	
1.4	16QAM	3	1	17.19	17.26	17.33	
1.4	16QAM	3	3	17.10	17.12	17.28	
1.4	16QAM	6	0	17.17	17.19	17.19	18
1.4	64QAM	1	0	17.25	17.26	17.32	18
1.4	64QAM	1	3	17.34	17.32	17.39	
1.4	64QAM	1	5	17.27	17.21	17.33	
1.4	64QAM	3	0	17.21	17.11	17.27	
1.4	64QAM	3	1	17.14	17.18	17.25	
1.4	64QAM	3	3	17.09	17.15	17.19	
1.4	64QAM	6	0	17.16	17.21	17.26	18
1.4	256QAM	1	0	17.10	17.20	17.24	18
1.4	256QAM	1	3	17.09	17.08	17.20	
1.4	256QAM	1	5	17.20	16.97	17.10	
1.4	256QAM	3	0	16.98	17.11	16.98	
1.4	256QAM	3	1	17.06	17.13	17.10	
1.4	256QAM	3	3	17.09	17.07	17.16	
1.4	256QAM	6	0	16.98	17.18	17.26	18

<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)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	16.91	16.71	16.90	17.5
20	QPSK	1	49	16.41	16.51	16.64	
20	QPSK	1	99	16.54	16.60	16.65	
20	QPSK	50	0	16.73	16.55	16.72	17.5
20	QPSK	50	24	16.70	16.45	16.72	
20	QPSK	50	50	16.34	16.43	16.63	
20	QPSK	100	0	16.66	16.56	16.57	
20	16QAM	1	0	16.41	16.36	16.54	17.5
20	16QAM	1	49	16.41	16.57	16.64	
20	16QAM	1	99	16.41	16.46	16.52	
20	16QAM	50	0	16.61	16.68	16.62	17.5
20	16QAM	50	24	16.67	16.59	16.78	
20	16QAM	50	50	16.50	16.40	16.61	
20	16QAM	100	0	16.32	16.37	16.45	
20	64QAM	1	0	16.45	16.53	16.44	17.5
20	64QAM	1	49	16.48	16.62	16.82	
20	64QAM	1	99	16.31	16.29	16.21	
20	64QAM	50	0	16.45	16.41	16.35	17.5
20	64QAM	50	24	16.29	16.36	16.32	
20	64QAM	50	50	16.35	16.33	16.47	
20	64QAM	100	0	16.42	16.50	16.61	
20	256QAM	1	0	16.42	16.40	16.38	17.5
20	256QAM	1	49	16.29	16.33	16.35	
20	256QAM	1	99	16.33	16.48	16.66	
20	256QAM	50	0	16.61	16.65	16.66	17.5
20	256QAM	50	24	16.33	16.38	16.58	
20	256QAM	50	50	16.32	16.15	16.41	
20	256QAM	100	0	16.18	16.43	16.39	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	16.89	16.63	16.90	17.5
15	QPSK	1	37	16.35	16.51	16.56	
15	QPSK	1	74	16.44	16.51	16.63	
15	QPSK	36	0	16.64	16.52	16.61	17.5
15	QPSK	36	20	16.65	16.39	16.71	
15	QPSK	36	39	16.25	16.33	16.60	
15	QPSK	75	0	16.56	16.46	16.50	
15	16QAM	1	0	16.36	16.32	16.46	17.5
15	16QAM	1	37	16.36	16.56	16.62	
15	16QAM	1	74	16.39	16.41	16.43	
15	16QAM	36	0	16.54	16.61	16.57	17.5
15	16QAM	36	20	16.61	16.49	16.78	
15	16QAM	36	39	16.42	16.39	16.54	
15	16QAM	75	0	16.23	16.29	16.45	
15	64QAM	1	0	16.36	16.49	16.42	17.5
15	64QAM	1	37	16.39	16.61	16.82	
15	64QAM	1	74	16.28	16.23	16.16	
15	64QAM	36	0	16.36	16.36	16.27	17.5
15	64QAM	36	20	16.29	16.27	16.23	
15	64QAM	36	39	16.32	16.32	16.44	
15	64QAM	75	0	16.36	16.49	16.60	

15	256QAM	1	0	16.37	16.40	16.37	17.5
15	256QAM	1	37	16.20	16.27	16.26	
15	256QAM	1	74	16.32	16.48	16.62	
15	256QAM	36	0	16.54	16.57	16.65	17.5
15	256QAM	36	20	16.31	16.37	16.58	
15	256QAM	36	39	16.27	16.15	16.34	
15	256QAM	75	0	16.12	16.38	16.38	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	16.86	16.64	16.85	17.5
10	QPSK	1	25	16.35	16.44	16.62	
10	QPSK	1	49	16.49	16.56	16.57	
10	QPSK	25	0	16.66	16.45	16.62	17.5
10	QPSK	25	12	16.61	16.43	16.72	
10	QPSK	25	25	16.34	16.35	16.59	
10	QPSK	50	0	16.60	16.50	16.51	
10	16QAM	1	0	16.39	16.27	16.44	17.5
10	16QAM	1	25	16.40	16.54	16.59	
10	16QAM	1	49	16.38	16.36	16.43	
10	16QAM	25	0	16.60	16.65	16.61	17.5
10	16QAM	25	12	16.64	16.55	16.72	
10	16QAM	25	25	16.41	16.38	16.52	
10	16QAM	50	0	16.27	16.27	16.40	
10	64QAM	1	0	16.38	16.47	16.42	17.5
10	64QAM	1	25	16.48	16.60	16.82	
10	64QAM	1	49	16.25	16.25	16.18	
10	64QAM	25	0	16.35	16.32	16.27	17.5
10	64QAM	25	12	16.21	16.34	16.31	
10	64QAM	25	25	16.30	16.26	16.39	
10	64QAM	50	0	16.33	16.43	16.56	
10	256QAM	1	0	16.35	16.36	16.31	17.5
10	256QAM	1	25	16.25	16.26	16.28	
10	256QAM	1	49	16.31	16.40	16.62	
10	256QAM	25	0	16.61	16.62	16.65	17.5
10	256QAM	25	12	16.27	16.34	16.49	
10	256QAM	25	25	16.27	16.06	16.32	
10	256QAM	50	0	16.16	16.38	16.36	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	16.82	16.70	16.89	17.5
5	QPSK	1	12	16.33	16.41	16.57	
5	QPSK	1	24	16.46	16.59	16.63	
5	QPSK	12	0	16.71	16.51	16.63	17.5
5	QPSK	12	7	16.62	16.36	16.69	
5	QPSK	12	13	16.26	16.39	16.60	
5	QPSK	25	0	16.62	16.53	16.53	
5	16QAM	1	0	16.41	16.35	16.48	17.5
5	16QAM	1	12	16.34	16.52	16.61	
5	16QAM	1	24	16.36	16.42	16.42	
5	16QAM	12	0	16.51	16.68	16.53	17.5
5	16QAM	12	7	16.59	16.56	16.76	
5	16QAM	12	13	16.50	16.34	16.53	
5	16QAM	25	0	16.25	16.27	16.35	
5	64QAM	1	0	16.44	16.53	16.41	17.5
5	64QAM	1	12	16.43	16.61	16.72	
5	64QAM	1	24	16.29	16.28	16.16	

5	64QAM	12	0	16.35	16.39	16.34	17.5
5	64QAM	12	7	16.23	16.32	16.30	
5	64QAM	12	13	16.28	16.25	16.45	
5	64QAM	25	0	16.39	16.40	16.56	
5	256QAM	1	0	16.39	16.36	16.28	17.5
5	256QAM	1	12	16.24	16.24	16.29	
5	256QAM	1	24	16.29	16.48	16.66	
5	256QAM	12	0	16.56	16.64	16.60	17.5
5	256QAM	12	7	16.25	16.29	16.50	
5	256QAM	12	13	16.25	16.05	16.35	
5	256QAM	25	0	16.16	16.39	16.38	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	16.87	16.68	16.89	17.5
3	QPSK	1	8	16.33	16.44	16.61	
3	QPSK	1	14	16.48	16.57	16.56	
3	QPSK	8	0	16.67	16.52	16.58	17.5
3	QPSK	8	4	16.65	16.45	16.66	
3	QPSK	8	7	16.28	16.40	16.59	
3	QPSK	15	0	16.60	16.46	16.47	
3	16QAM	1	0	16.34	16.35	16.46	17.5
3	16QAM	1	8	16.38	16.57	16.54	
3	16QAM	1	14	16.35	16.44	16.45	
3	16QAM	8	0	16.56	16.67	16.60	17.5
3	16QAM	8	4	16.58	16.59	16.78	
3	16QAM	8	7	16.41	16.36	16.59	
3	16QAM	15	0	16.25	16.31	16.44	
3	64QAM	1	0	16.43	16.52	16.41	17.5
3	64QAM	1	8	16.43	16.52	16.77	
3	64QAM	1	14	16.30	16.29	16.13	
3	64QAM	8	0	16.35	16.39	16.31	17.5
3	64QAM	8	4	16.22	16.33	16.27	
3	64QAM	8	7	16.35	16.29	16.45	
3	64QAM	15	0	16.38	16.40	16.51	
3	256QAM	1	0	16.36	16.35	16.30	17.5
3	256QAM	1	8	16.27	16.25	16.29	
3	256QAM	1	14	16.30	16.48	16.56	
3	256QAM	8	0	16.54	16.64	16.66	17.5
3	256QAM	8	4	16.30	16.29	16.50	
3	256QAM	8	7	16.22	16.06	16.36	
3	256QAM	15	0	16.15	16.37	16.35	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	16.89	16.68	16.82	17.5
1.4	QPSK	1	3	16.37	16.49	16.64	
1.4	QPSK	1	5	16.45	16.52	16.62	
1.4	QPSK	3	0	16.67	16.52	16.63	
1.4	QPSK	3	1	16.69	16.38	16.68	
1.4	QPSK	3	3	16.29	16.38	16.54	
1.4	QPSK	6	0	16.56	16.46	16.57	17.5
1.4	16QAM	1	0	16.41	16.34	16.51	17.5
1.4	16QAM	1	3	16.37	16.51	16.55	
1.4	16QAM	1	5	16.34	16.39	16.42	
1.4	16QAM	3	0	16.60	16.63	16.59	
1.4	16QAM	3	1	16.59	16.54	16.75	
1.4	16QAM	3	3	16.40	16.34	16.61	

1.4	16QAM	6	0	16.28	16.32	16.36	17.5
1.4	64QAM	1	0	16.35	16.52	16.43	17.5
1.4	64QAM	1	3	16.47	16.61	16.82	
1.4	64QAM	1	5	16.22	16.27	16.16	
1.4	64QAM	3	0	16.41	16.41	16.30	
1.4	64QAM	3	1	16.25	16.28	16.27	
1.4	64QAM	3	3	16.31	16.32	16.41	
1.4	64QAM	6	0	16.32	16.46	16.56	17.5
1.4	256QAM	1	0	16.32	16.37	16.31	17.5
1.4	256QAM	1	3	16.26	16.30	16.30	
1.4	256QAM	1	5	16.31	16.39	16.66	
1.4	256QAM	3	0	16.57	16.56	16.57	
1.4	256QAM	3	1	16.32	16.31	16.55	
1.4	256QAM	3	3	16.27	16.10	16.33	
1.4	256QAM	6	0	16.12	16.41	16.39	17.5

<LTE Band 71 Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133322	133372	
Frequency (MHz)				673	683	688	
20	QPSK	1	0	22.68	22.59	22.60	24
20	QPSK	1	49	22.61	22.55	22.55	
20	QPSK	1	99	22.55	22.45	22.51	
20	QPSK	50	0	22.49	22.45	22.32	24
20	QPSK	50	24	22.30	22.38	22.30	
20	QPSK	50	50	22.30	22.37	22.23	
20	QPSK	100	0	22.34	22.32	22.31	
20	16QAM	1	0	22.41	22.35	22.41	24
20	16QAM	1	49	22.52	22.45	22.50	
20	16QAM	1	99	22.45	22.44	22.43	
20	16QAM	50	0	22.18	22.20	22.23	23
20	16QAM	50	24	22.32	22.32	22.29	
20	16QAM	50	50	22.23	22.26	22.32	
20	16QAM	100	0	22.33	22.47	22.32	
20	64QAM	1	0	22.32	22.40	22.36	23
20	64QAM	1	49	22.29	22.51	22.42	
20	64QAM	1	99	22.33	22.37	22.33	
20	64QAM	50	0	21.33	21.44	21.35	22
20	64QAM	50	24	21.33	21.39	21.32	
20	64QAM	50	50	21.28	21.45	21.40	
20	64QAM	100	0	21.30	21.46	21.33	
20	256QAM	1	0	19.08	19.15	19.25	20
20	256QAM	1	49	19.28	19.31	19.29	
20	256QAM	1	99	19.18	19.08	19.07	
20	256QAM	50	0	19.13	19.41	19.19	20
20	256QAM	50	24	19.09	19.28	19.18	
20	256QAM	50	50	18.92	19.22	19.05	
20	256QAM	100	0	19.07	19.35	19.11	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	22.67	22.50	22.59	24
15	QPSK	1	37	22.58	22.49	22.48	
15	QPSK	1	74	22.54	22.41	22.48	

15	QPSK	36	0	22.26	22.43	22.30	24
15	QPSK	36	20	22.20	22.37	22.29	
15	QPSK	36	39	22.23	22.37	22.36	
15	QPSK	75	0	22.18	22.23	22.28	
15	16QAM	1	0	22.33	22.26	22.31	24
15	16QAM	1	37	22.44	22.37	22.42	
15	16QAM	1	74	22.40	22.42	22.34	
15	16QAM	36	0	22.17	22.19	22.22	23
15	16QAM	36	20	22.25	22.26	22.19	
15	16QAM	36	39	22.18	22.23	22.24	
15	16QAM	75	0	22.24	22.47	22.27	
15	64QAM	1	0	22.22	22.32	22.33	23
15	64QAM	1	37	22.28	22.43	22.33	
15	64QAM	1	74	22.30	22.30	22.23	
15	64QAM	36	0	21.30	21.39	21.26	22
15	64QAM	36	20	21.24	21.39	21.30	
15	64QAM	36	39	21.20	21.36	21.38	
15	64QAM	75	0	21.26	21.42	21.31	
15	256QAM	1	0	19.06	19.07	19.24	20
15	256QAM	1	37	19.18	19.25	19.19	
15	256QAM	1	74	19.10	19.00	18.98	
15	256QAM	36	0	19.11	19.37	19.16	20
15	256QAM	36	20	19.00	19.21	19.15	
15	256QAM	36	39	18.88	19.22	19.02	
15	256QAM	75	0	18.99	19.30	19.02	
Channel				133172	133272	133422	Tune-up limit (dBm)
Frequency (MHz)				668	678	693	
10	QPSK	1	0	22.63	22.55	22.58	24
10	QPSK	1	25	22.58	22.54	22.46	
10	QPSK	1	49	22.54	22.42	22.50	
10	QPSK	25	0	22.33	22.41	22.30	24
10	QPSK	25	12	22.23	22.30	22.29	
10	QPSK	25	25	22.20	22.41	22.40	
10	QPSK	50	0	22.17	22.24	22.23	
10	16QAM	1	0	22.41	22.34	22.36	24
10	16QAM	1	25	22.44	22.43	22.47	
10	16QAM	1	49	22.35	22.42	22.38	
10	16QAM	25	0	22.09	22.19	22.22	23
10	16QAM	25	12	22.30	22.22	22.25	
10	16QAM	25	25	22.23	22.16	22.23	
10	16QAM	50	0	22.28	22.37	22.32	
10	64QAM	1	0	22.23	22.38	22.29	23
10	64QAM	1	25	22.22	22.49	22.36	
10	64QAM	1	49	22.23	22.30	22.27	
10	64QAM	25	0	21.29	21.36	21.27	22
10	64QAM	25	12	21.30	21.33	21.30	
10	64QAM	25	25	21.18	21.36	21.32	
10	64QAM	50	0	21.25	21.41	21.23	
10	256QAM	1	0	19.08	19.11	19.17	20
10	256QAM	1	25	19.25	19.22	19.20	
10	256QAM	1	49	19.13	19.01	18.97	
10	256QAM	25	0	19.12	19.41	19.16	20
10	256QAM	25	12	19.07	19.19	19.08	
10	256QAM	25	25	18.88	19.15	19.01	
10	256QAM	50	0	19.05	19.30	19.03	
Channel				133147	133247	133447	Tune-up limit

Frequency (MHz)				665.5	675.5	695.5	(dBm)
5	QPSK	1	0	22.66	22.59	22.55	24
5	QPSK	1	12	22.54	22.46	22.51	
5	QPSK	1	24	22.47	22.35	22.49	
5	QPSK	12	0	22.30	22.42	22.24	24
5	QPSK	12	7	22.20	22.32	22.26	
5	QPSK	12	13	22.27	22.46	22.41	
5	QPSK	25	0	22.23	22.30	22.29	
5	16QAM	1	0	22.34	22.26	22.33	24
5	16QAM	1	12	22.51	22.38	22.49	
5	16QAM	1	24	22.42	22.34	22.43	
5	16QAM	12	0	22.12	22.16	22.23	23
5	16QAM	12	7	22.26	22.23	22.21	
5	16QAM	12	13	22.22	22.21	22.23	
5	16QAM	25	0	22.32	22.43	22.28	
5	64QAM	1	0	22.28	22.34	22.36	23
5	64QAM	1	12	22.21	22.47	22.39	
5	64QAM	1	24	22.32	22.34	22.30	
5	64QAM	12	0	21.29	21.40	21.29	22
5	64QAM	12	7	21.31	21.31	21.23	
5	64QAM	12	13	21.20	21.45	21.37	
5	64QAM	25	0	21.24	21.37	21.30	
5	256QAM	1	0	19.06	19.07	19.20	20
5	256QAM	1	12	19.20	19.25	19.22	
5	256QAM	1	24	19.10	19.06	19.02	
5	256QAM	12	0	19.12	19.40	19.12	20
5	256QAM	12	7	19.04	19.25	19.17	
5	256QAM	12	13	18.88	19.18	19.00	
5	256QAM	25	0	19.03	19.30	19.06	

<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.

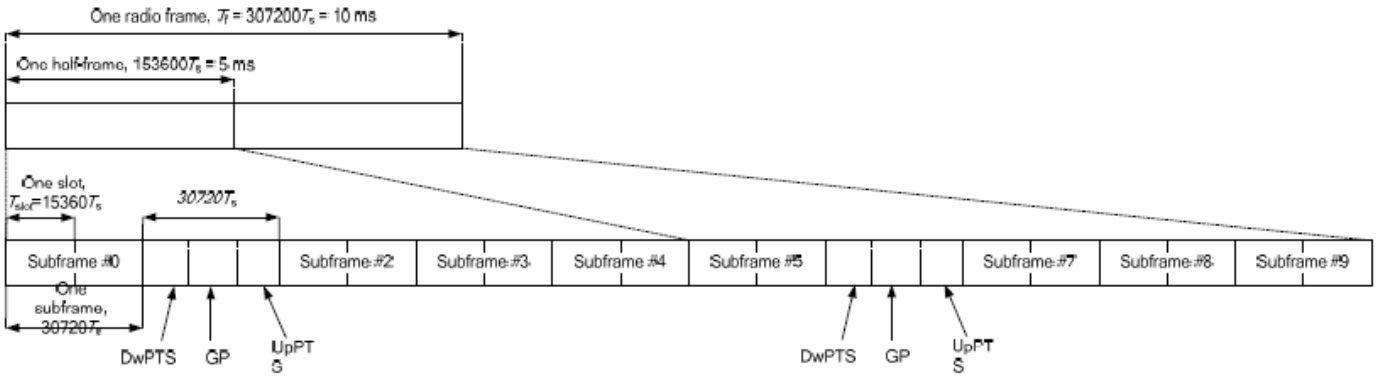


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	23.12	23.08	23.03	24
20	QPSK	1	49	22.93	22.89	23.05	
20	QPSK	1	99	22.92	22.86	22.88	
20	QPSK	50	0	21.97	21.94	21.93	23
20	QPSK	50	24	21.96	21.93	21.90	
20	QPSK	50	50	21.85	21.81	21.89	
20	QPSK	100	0	21.81	21.83	21.99	
20	16QAM	1	0	21.88	21.92	21.85	23
20	16QAM	1	49	21.79	21.89	21.91	
20	16QAM	1	99	21.82	21.90	21.92	
20	16QAM	50	0	20.65	20.60	20.61	22
20	16QAM	50	24	20.66	20.66	20.77	
20	16QAM	50	50	20.86	20.89	20.95	
20	16QAM	100	0	20.84	20.93	21.00	
20	64QAM	1	0	20.55	20.61	20.85	22
20	64QAM	1	49	20.61	20.57	20.73	
20	64QAM	1	99	20.49	20.59	20.92	
20	64QAM	50	0	19.77	19.82	19.85	21
20	64QAM	50	24	19.85	19.79	19.77	
20	64QAM	50	50	19.77	19.67	19.72	
20	64QAM	100	0	19.75	19.85	19.73	
20	256QAM	1	0	17.82	17.85	17.73	19
20	256QAM	1	49	17.81	17.79	17.75	
20	256QAM	1	99	17.75	17.71	17.68	
20	256QAM	50	0	17.69	17.82	17.65	19
20	256QAM	50	24	17.77	17.85	17.63	
20	256QAM	50	50	17.72	17.91	17.72	
20	256QAM	100	0	17.71	17.77	17.75	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	23.10	23.00	22.94	24
15	QPSK	1	37	22.92	22.89	22.96	
15	QPSK	1	74	22.90	22.82	22.83	
15	QPSK	36	0	21.97	21.89	21.93	23
15	QPSK	36	20	21.94	21.90	22.14	
15	QPSK	36	39	21.75	21.72	21.88	
15	QPSK	75	0	21.77	21.75	21.94	
15	16QAM	1	0	21.79	21.87	21.81	23
15	16QAM	1	37	21.70	21.87	21.84	
15	16QAM	1	74	21.79	21.80	21.90	
15	16QAM	36	0	20.63	20.51	20.54	22
15	16QAM	36	20	20.58	20.64	20.70	
15	16QAM	36	39	20.76	20.79	20.88	
15	16QAM	75	0	20.83	20.84	20.90	
15	64QAM	1	0	20.51	20.58	20.76	22
15	64QAM	1	37	20.60	20.56	20.67	
15	64QAM	1	74	20.47	20.55	20.85	
15	64QAM	36	0	19.77	19.75	19.82	21
15	64QAM	36	20	19.76	19.69	19.77	
15	64QAM	36	39	19.72	19.57	19.62	

15	64QAM	75	0	19.67	19.81	19.63	
15	256QAM	1	0	17.77	17.84	17.68	19
15	256QAM	1	37	17.81	17.73	17.66	
15	256QAM	1	74	17.73	17.61	17.67	
15	256QAM	36	0	17.64	17.72	17.59	19
15	256QAM	36	20	17.76	17.84	17.58	
15	256QAM	36	39	17.63	17.87	17.72	
15	256QAM	75	0	17.65	17.73	17.74	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	23.02	23.05	22.98	24
10	QPSK	1	25	22.90	22.83	23.01	
10	QPSK	1	49	22.88	22.84	22.87	
10	QPSK	25	0	21.94	21.89	21.86	23
10	QPSK	25	12	21.94	21.99	22.12	
10	QPSK	25	25	21.85	21.80	21.86	
10	QPSK	50	0	21.80	21.83	21.90	
10	16QAM	1	0	21.83	21.92	21.84	23
10	16QAM	1	25	21.79	21.88	21.83	
10	16QAM	1	49	21.76	21.90	21.92	
10	16QAM	25	0	20.56	20.57	20.54	22
10	16QAM	25	12	20.61	20.64	20.75	
10	16QAM	25	25	20.78	20.79	20.87	
10	16QAM	50	0	20.78	20.88	20.91	
10	64QAM	1	0	20.53	20.58	20.78	22
10	64QAM	1	25	20.52	20.56	20.67	
10	64QAM	1	49	20.46	20.59	20.91	
10	64QAM	25	0	19.77	19.72	19.75	21
10	64QAM	25	12	19.75	19.74	19.73	
10	64QAM	25	25	19.76	19.66	19.63	
10	64QAM	50	0	19.65	19.85	19.67	
10	256QAM	1	0	17.78	17.77	17.70	19
10	256QAM	1	25	17.74	17.76	17.73	
10	256QAM	1	49	17.75	17.63	17.65	
10	256QAM	25	0	17.68	17.82	17.62	19
10	256QAM	25	12	17.71	17.85	17.58	
10	256QAM	25	25	17.65	17.87	17.71	
10	256QAM	50	0	17.70	17.73	17.71	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	23.09	23.06	22.96	24
5	QPSK	1	12	22.85	22.85	23.03	
5	QPSK	1	24	22.91	22.77	22.80	
5	QPSK	12	0	21.88	21.90	21.91	23
5	QPSK	12	7	21.93	21.94	22.09	
5	QPSK	12	13	21.84	21.72	21.88	
5	QPSK	25	0	21.81	21.77	21.98	
5	16QAM	1	0	21.84	21.84	21.79	23
5	16QAM	1	12	21.69	21.88	21.88	
5	16QAM	1	24	21.77	21.86	21.84	
5	16QAM	12	0	20.59	20.52	20.57	22
5	16QAM	12	7	20.60	20.57	20.76	
5	16QAM	12	13	20.81	20.87	20.90	
5	16QAM	25	0	20.81	20.84	20.93	
5	64QAM	1	0	20.49	20.59	20.79	22
5	64QAM	1	12	20.57	20.55	20.71	

5	64QAM	1	24	20.41	20.51	20.89	
5	64QAM	12	0	19.70	19.76	19.76	21
5	64QAM	12	7	19.81	19.72	19.77	
5	64QAM	12	13	19.71	19.57	19.69	
5	64QAM	25	0	19.68	19.83	19.65	
5	256QAM	1	0	17.74	17.79	17.70	19
5	256QAM	1	12	17.77	17.75	17.66	
5	256QAM	1	24	17.75	17.68	17.58	
5	256QAM	12	0	17.67	17.74	17.59	19
5	256QAM	12	7	17.76	17.80	17.58	
5	256QAM	12	13	17.65	17.90	17.68	
5	256QAM	25	0	17.63	17.74	17.74	

<LTE Band 38_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)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	22.54	22.70	22.62	24
20	QPSK	1	49	22.18	22.21	22.22	
20	QPSK	1	99	22.12	22.01	22.19	
20	QPSK	50	0	21.31	21.25	21.20	23
20	QPSK	50	24	21.28	21.19	21.18	
20	QPSK	50	50	21.29	21.22	21.13	
20	QPSK	100	0	21.27	21.24	21.16	
20	16QAM	1	0	21.58	21.78	21.70	23
20	16QAM	1	49	21.78	21.79	21.70	
20	16QAM	1	99	21.71	21.59	21.61	
20	16QAM	50	0	20.79	20.79	20.78	22
20	16QAM	50	24	20.81	20.69	20.83	
20	16QAM	50	50	20.82	20.71	20.63	
20	16QAM	100	0	20.79	20.70	20.74	
20	64QAM	1	0	20.31	20.53	20.43	22
20	64QAM	1	49	20.45	20.48	20.38	
20	64QAM	1	99	20.35	20.25	20.18	
20	64QAM	50	0	19.79	19.75	19.74	21
20	64QAM	50	24	19.86	19.74	19.78	
20	64QAM	50	50	19.72	19.74	19.71	
20	64QAM	100	0	19.68	19.66	19.65	
20	256QAM	1	0	17.38	17.60	17.44	19
20	256QAM	1	49	17.57	17.52	17.61	
20	256QAM	1	99	17.46	17.34	17.33	
20	256QAM	50	0	17.85	17.84	17.77	19
20	256QAM	50	24	17.82	17.80	17.76	
20	256QAM	50	50	17.81	17.70	17.74	
20	256QAM	100	0	17.78	17.76	17.74	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	22.53	22.64	22.57	24
15	QPSK	1	37	22.21	22.16	22.19	
15	QPSK	1	74	22.16	22.07	22.14	
15	QPSK	36	0	21.15	21.30	21.26	23
15	QPSK	36	20	21.24	21.19	21.23	
15	QPSK	36	39	21.24	21.19	21.16	

15	QPSK	75	0	21.30	21.21	21.17	
15	16QAM	1	0	21.60	21.77	21.73	23
15	16QAM	1	37	21.78	21.76	21.75	
15	16QAM	1	74	21.71	21.49	21.52	
15	16QAM	36	0	20.80	20.76	20.75	22
15	16QAM	36	20	20.82	20.71	20.84	
15	16QAM	36	39	20.76	20.71	20.68	
15	16QAM	75	0	20.74	20.76	20.71	
15	64QAM	1	0	20.30	20.44	20.38	22
15	64QAM	1	37	20.46	20.43	20.38	
15	64QAM	1	74	20.36	20.26	20.23	
15	64QAM	36	0	19.88	19.80	19.75	21
15	64QAM	36	20	19.87	19.79	19.76	
15	64QAM	36	39	19.79	19.68	19.65	
15	64QAM	75	0	19.77	19.68	19.68	
15	256QAM	1	0	17.45	17.59	17.48	19
15	256QAM	1	37	17.58	17.46	17.55	
15	256QAM	1	74	17.49	17.28	17.31	
15	256QAM	36	0	17.88	17.84	17.73	19
15	256QAM	36	20	17.82	17.80	17.80	
15	256QAM	36	39	17.78	17.72	17.66	
15	256QAM	75	0	17.74	17.75	17.65	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	22.47	22.57	22.59	24
10	QPSK	1	25	22.19	22.17	22.14	
10	QPSK	1	49	22.19	22.09	22.09	
10	QPSK	25	0	21.20	21.22	21.23	23
10	QPSK	25	12	21.25	21.26	21.15	
10	QPSK	25	25	21.14	21.25	21.20	
10	QPSK	50	0	21.30	21.27	21.21	
10	16QAM	1	0	21.62	21.82	21.69	23
10	16QAM	1	25	21.73	21.72	21.71	
10	16QAM	1	49	21.70	21.50	21.57	
10	16QAM	25	0	20.76	20.79	20.69	22
10	16QAM	25	12	20.75	20.78	20.78	
10	16QAM	25	25	20.83	20.71	20.60	
10	16QAM	50	0	20.72	20.76	20.67	
10	64QAM	1	0	20.37	20.52	20.35	22
10	64QAM	1	25	20.48	20.46	20.48	
10	64QAM	1	49	20.45	20.25	20.18	
10	64QAM	25	0	19.82	19.83	19.77	21
10	64QAM	25	12	19.83	19.78	19.78	
10	64QAM	25	25	19.76	19.73	19.67	
10	64QAM	50	0	19.76	19.67	19.64	
10	256QAM	1	0	17.42	17.60	17.47	19
10	256QAM	1	25	17.55	17.50	17.59	
10	256QAM	1	49	17.49	17.34	17.32	
10	256QAM	25	0	17.87	17.88	17.74	19
10	256QAM	25	12	17.89	17.81	17.73	
10	256QAM	25	25	17.76	17.70	17.66	
10	256QAM	50	0	17.71	17.76	17.66	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	22.53	22.62	22.63	24
5	QPSK	1	12	22.26	22.16	22.22	

5	QPSK	1	24	22.15	22.12	22.18	
5	QPSK	12	0	21.15	21.26	21.23	23
5	QPSK	12	7	21.19	21.16	21.21	
5	QPSK	12	13	21.17	21.22	21.16	
5	QPSK	25	0	21.27	21.26	21.18	
5	16QAM	1	0	21.66	21.76	21.66	23
5	16QAM	1	12	21.75	21.78	21.73	
5	16QAM	1	24	21.71	21.55	21.55	
5	16QAM	12	0	20.78	20.81	20.74	22
5	16QAM	12	7	20.78	20.73	20.77	
5	16QAM	12	13	20.84	20.72	20.62	
5	16QAM	25	0	20.76	20.74	20.71	
5	64QAM	1	0	20.40	20.46	20.38	22
5	64QAM	1	12	20.44	20.48	20.44	
5	64QAM	1	24	20.36	20.27	20.20	
5	64QAM	12	0	19.82	19.79	19.80	21
5	64QAM	12	7	19.88	19.77	19.68	
5	64QAM	12	13	19.77	19.71	19.62	
5	64QAM	25	0	19.70	19.67	19.64	
5	256QAM	1	0	17.44	17.54	17.52	19
5	256QAM	1	12	17.63	17.51	17.53	
5	256QAM	1	24	17.52	17.36	17.38	
5	256QAM	12	0	17.82	17.82	17.79	19
5	256QAM	12	7	17.82	17.79	17.76	
5	256QAM	12	13	17.82	17.68	17.67	
5	256QAM	25	0	17.74	17.72	17.66	

<LTE Band 41_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	21.95	20.83	21.14	21.96	21.69	22
20	QPSK	1	49	21.82	20.80	21.05	21.66	21.43	
20	QPSK	1	99	21.28	20.60	21.12	21.89	21.03	
20	QPSK	50	0	20.95	19.84	20.24	20.96	20.55	21
20	QPSK	50	24	20.84	19.76	20.11	20.91	20.50	
20	QPSK	50	50	20.63	19.73	20.19	20.90	20.36	
20	QPSK	100	0	20.94	19.71	20.04	20.93	20.47	
20	16QAM	1	0	20.99	19.78	19.91	20.83	20.77	21
20	16QAM	1	49	20.89	19.81	20.10	20.80	20.47	
20	16QAM	1	99	20.36	19.68	20.22	20.75	20.05	
20	16QAM	50	0	19.96	18.79	19.02	19.87	19.57	20
20	16QAM	50	24	19.83	18.81	19.14	19.80	19.52	
20	16QAM	50	50	19.66	18.74	19.20	19.76	19.46	
20	16QAM	100	0	19.83	18.74	19.07	19.84	19.51	
20	64QAM	1	0	19.92	18.57	18.65	19.75	19.48	20
20	64QAM	1	49	19.60	18.55	18.84	19.96	19.26	
20	64QAM	1	99	19.09	18.35	19.00	19.71	18.97	
20	64QAM	50	0	18.96	17.82	17.99	18.65	18.54	19
20	64QAM	50	24	18.80	17.74	18.06	18.60	18.50	
20	64QAM	50	50	18.62	17.69	18.15	18.55	18.41	
20	64QAM	100	0	18.82	17.71	18.03	18.58	18.51	
20	256QAM	1	0	15.68	15.54	15.73	15.55	15.65	17

20	256QAM	1	49	15.59	15.48	15.78	15.63	15.76	
20	256QAM	1	99	15.63	15.50	15.65	15.52	15.54	
20	256QAM	50	0	15.86	15.72	15.93	15.88	15.89	17
20	256QAM	50	24	15.66	15.68	15.85	15.67	15.81	
20	256QAM	50	50	15.73	15.60	15.86	15.85	15.76	
20	256QAM	100	0	15.79	15.70	15.89	15.70	15.69	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	21.80	20.81	20.94	21.91	21.52	22.00
15	QPSK	1	37	21.78	20.71	21.05	21.61	21.24	
15	QPSK	1	74	21.09	20.52	21.01	21.73	20.92	
15	QPSK	36	0	20.81	19.83	20.22	20.78	20.37	21
15	QPSK	36	20	20.72	19.61	20.06	20.78	20.39	
15	QPSK	36	39	20.48	19.70	20.04	20.82	20.24	
15	QPSK	75	0	20.79	19.57	20.03	20.84	20.40	
15	16QAM	1	0	20.94	19.71	19.90	20.67	20.59	21
15	16QAM	1	37	20.88	19.79	20.05	20.64	20.38	
15	16QAM	1	74	20.28	19.65	20.13	20.59	19.89	
15	16QAM	36	0	19.94	18.77	18.95	19.86	19.37	20
15	16QAM	36	20	19.66	18.65	19.03	19.77	19.52	
15	16QAM	36	39	19.58	18.55	19.10	19.73	19.42	
15	16QAM	75	0	19.66	18.56	18.98	19.70	19.44	
15	64QAM	1	0	19.90	18.53	18.49	19.64	19.31	20
15	64QAM	1	37	19.56	18.38	18.71	19.76	19.12	
15	64QAM	1	74	18.90	18.20	18.89	19.59	18.94	
15	64QAM	36	0	18.94	17.72	17.80	18.63	18.38	19
15	64QAM	36	20	18.73	17.60	18.04	18.58	18.32	
15	64QAM	36	39	18.57	17.66	18.03	18.37	18.26	
15	64QAM	75	0	18.66	17.54	17.86	18.53	18.45	
15	256QAM	1	0	15.59	15.45	15.66	15.55	15.51	17
15	256QAM	1	37	15.49	15.40	15.65	15.61	15.59	
15	256QAM	1	74	15.51	15.44	15.55	15.40	15.36	
15	256QAM	36	0	15.81	15.62	15.90	15.88	15.86	17
15	256QAM	36	20	15.53	15.67	15.70	15.60	15.80	
15	256QAM	36	39	15.54	15.48	15.71	15.83	15.68	
15	256QAM	75	0	15.64	15.67	15.75	15.56	15.52	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	21.72	20.83	20.95	21.85	21.64	22.00
10	QPSK	1	25	21.69	20.67	20.86	21.48	21.24	
10	QPSK	1	49	21.24	20.55	21.09	21.89	20.98	
10	QPSK	25	0	20.88	19.76	20.19	20.92	20.42	21
10	QPSK	25	12	20.75	19.63	19.95	20.78	20.35	
10	QPSK	25	25	20.57	19.60	20.10	20.73	20.17	
10	QPSK	50	0	20.78	19.52	19.99	20.93	20.40	
10	16QAM	1	0	20.81	19.61	19.84	20.67	20.72	21
10	16QAM	1	25	20.89	19.81	19.98	20.63	20.38	
10	16QAM	1	49	20.35	19.58	20.03	20.68	20.05	
10	16QAM	25	0	19.76	18.62	19.01	19.79	19.53	20
10	16QAM	25	12	19.67	18.64	19.10	19.77	19.43	
10	16QAM	25	25	19.47	18.67	19.20	19.74	19.37	
10	16QAM	50	0	19.75	18.71	19.03	19.69	19.44	
10	64QAM	1	0	19.87	18.51	18.49	19.55	19.43	20
10	64QAM	1	25	19.49	18.47	18.79	19.95	19.09	
10	64QAM	1	49	19.01	18.19	18.95	19.51	18.96	
10	64QAM	25	0	18.95	17.77	17.89	18.64	18.37	19

10	64QAM	25	12	18.68	17.60	18.04	18.54	18.44	
10	64QAM	25	25	18.50	17.52	18.09	18.42	18.38	
10	64QAM	50	0	18.74	17.62	17.86	18.51	18.44	
10	256QAM	1	0	15.61	15.45	15.72	15.55	15.58	17
10	256QAM	1	25	15.56	15.33	15.65	15.59	15.65	
10	256QAM	1	49	15.50	15.31	15.60	15.41	15.50	
10	256QAM	25	0	15.68	15.58	15.91	15.74	15.80	17
10	256QAM	25	12	15.58	15.62	15.85	15.63	15.73	
10	256QAM	25	25	15.54	15.43	15.75	15.76	15.66	
10	256QAM	50	0	15.65	15.58	15.88	15.52	15.67	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	21.71	20.83	20.97	21.87	21.67	22.00
5	QPSK	1	12	21.72	20.60	20.85	21.60	21.27	
5	QPSK	1	24	21.17	20.40	21.01	21.82	20.88	
5	QPSK	12	0	20.69	19.72	20.10	20.89	20.48	21
5	QPSK	12	7	20.80	19.71	20.02	20.90	20.41	
5	QPSK	12	13	20.44	19.65	20.16	20.70	20.29	
5	QPSK	25	0	20.75	19.58	19.98	20.80	20.46	
5	16QAM	1	0	20.91	19.58	19.85	20.80	20.67	21
5	16QAM	1	12	20.88	19.62	20.03	20.75	20.44	
5	16QAM	1	24	20.22	19.56	20.18	20.64	20.02	
5	16QAM	12	0	19.88	18.77	18.91	19.78	19.52	20
5	16QAM	12	7	19.79	18.81	19.07	19.78	19.43	
5	16QAM	12	13	19.57	18.64	19.05	19.72	19.35	
5	16QAM	25	0	19.65	18.64	19.03	19.74	19.48	
5	64QAM	1	0	19.74	18.40	18.55	19.59	19.41	20
5	64QAM	1	12	19.42	18.39	18.65	19.82	19.26	
5	64QAM	1	24	18.90	18.23	18.97	19.55	18.89	
5	64QAM	12	0	18.93	17.72	17.84	18.45	18.44	19
5	64QAM	12	7	18.67	17.55	17.92	18.46	18.46	
5	64QAM	12	13	18.62	17.65	18.10	18.39	18.25	
5	64QAM	25	0	18.82	17.51	17.85	18.51	18.49	
5	256QAM	1	0	15.59	15.48	15.58	15.54	15.60	17
5	256QAM	1	12	15.47	15.32	15.69	15.45	15.60	
5	256QAM	1	24	15.46	15.34	15.48	15.36	15.40	
5	256QAM	12	0	15.69	15.68	15.75	15.69	15.83	17
5	256QAM	12	7	15.63	15.48	15.70	15.66	15.61	
5	256QAM	12	13	15.66	15.58	15.74	15.83	15.61	
5	256QAM	25	0	15.72	15.53	15.80	15.66	15.69	

<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)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	22.88	22.63	22.89	22.70	22.60	24
20	QPSK	1	49	22.36	22.26	22.26	22.22	22.07	
20	QPSK	1	99	22.17	22.22	22.08	22.08	22.02	
20	QPSK	50	0	21.46	21.34	21.47	21.27	21.01	23
20	QPSK	50	24	21.44	21.36	21.26	21.25	21.06	
20	QPSK	50	50	21.32	21.34	21.29	21.15	21.11	
20	QPSK	100	0	21.35	21.31	21.39	21.24	21.07	
20	16QAM	1	0	21.79	21.68	21.83	21.74	21.58	23

20	16QAM	1	49	21.86	21.80	21.81	21.76	21.53	
20	16QAM	1	99	21.71	21.74	21.59	21.61	21.53	
20	16QAM	50	0	20.92	20.86	20.83	20.79	20.53	22
20	16QAM	50	24	20.95	20.84	20.78	20.85	20.58	
20	16QAM	50	50	20.88	20.85	20.73	20.68	20.60	
20	16QAM	100	0	20.87	20.82	20.78	20.74	20.62	
20	64QAM	1	0	20.46	20.40	20.53	20.45	20.31	22
20	64QAM	1	49	20.56	20.50	20.51	20.48	20.27	
20	64QAM	1	99	20.39	20.45	20.32	20.28	20.23	
20	64QAM	50	0	19.87	19.88	19.85	19.81	19.59	21
20	64QAM	50	24	19.90	19.92	19.82	19.78	19.59	
20	64QAM	50	50	19.85	19.81	19.75	19.72	19.64	
20	64QAM	100	0	19.81	19.78	19.76	19.72	19.56	
20	256QAM	1	0	17.50	17.48	17.61	17.54	17.35	19
20	256QAM	1	49	17.71	17.63	17.56	17.61	17.40	
20	256QAM	1	99	17.54	17.55	17.37	17.38	17.35	
20	256QAM	50	0	17.89	17.88	17.89	17.83	17.60	19
20	256QAM	50	24	17.92	17.89	17.84	17.82	17.63	
20	256QAM	50	50	17.83	17.86	17.76	17.74	17.64	
20	256QAM	100	0	17.84	17.81	17.77	17.74	17.60	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	22.78	22.56	22.69	22.67	22.60	24.00
15	QPSK	1	37	22.33	22.21	22.26	22.22	22.02	
15	QPSK	1	74	22.07	22.14	22.07	22.05	22.03	
15	QPSK	36	0	21.25	21.30	21.24	21.21	21.09	23
15	QPSK	36	20	21.37	21.30	21.19	21.24	21.04	
15	QPSK	36	39	21.23	21.26	21.20	21.07	21.09	
15	QPSK	75	0	21.33	21.25	21.28	21.17	21.00	
15	16QAM	1	0	21.74	21.66	21.74	21.71	21.48	23
15	16QAM	1	37	21.76	21.70	21.78	21.69	21.49	
15	16QAM	1	74	21.64	21.73	21.57	21.52	21.50	
15	16QAM	36	0	20.88	20.77	20.78	20.78	20.50	22
15	16QAM	36	20	20.93	20.76	20.75	20.82	20.51	
15	16QAM	36	39	20.88	20.79	20.68	20.67	20.59	
15	16QAM	75	0	20.83	20.76	20.70	20.68	20.54	
15	64QAM	1	0	20.43	20.40	20.53	20.43	20.28	22
15	64QAM	1	37	20.51	20.43	20.42	20.38	20.18	
15	64QAM	1	74	20.32	20.43	20.23	20.21	20.17	
15	64QAM	36	0	19.80	19.88	19.80	19.72	19.50	21
15	64QAM	36	20	19.87	19.82	19.78	19.77	19.54	
15	64QAM	36	39	19.85	19.74	19.65	19.64	19.63	
15	64QAM	75	0	19.79	19.76	19.74	19.62	19.47	
15	256QAM	1	0	17.43	17.40	17.59	17.49	17.25	19
15	256QAM	1	37	17.61	17.61	17.51	17.51	17.30	
15	256QAM	1	74	17.46	17.52	17.31	17.37	17.28	
15	256QAM	36	0	17.80	17.80	17.80	17.83	17.56	19
15	256QAM	36	20	17.89	17.85	17.83	17.75	17.57	
15	256QAM	36	39	17.81	17.83	17.71	17.68	17.57	
15	256QAM	75	0	17.84	17.80	17.67	17.66	17.58	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	22.84	22.57	22.75	22.66	22.55	24.00
10	QPSK	1	25	22.35	22.26	22.22	22.17	22.04	
10	QPSK	1	49	22.15	22.15	22.07	22.03	22.07	
10	QPSK	25	0	21.28	21.27	21.30	21.27	21.07	23

10	QPSK	25	12	21.41	21.28	21.17	21.24	21.08	
10	QPSK	25	25	21.32	21.27	21.20	21.07	21.04	
10	QPSK	50	0	21.34	21.22	21.29	21.22	21.08	
10	16QAM	1	0	21.70	21.58	21.82	21.66	21.55	23
10	16QAM	1	25	21.76	21.78	21.75	21.66	21.52	
10	16QAM	1	49	21.69	21.64	21.59	21.53	21.43	
10	16QAM	25	0	20.85	20.85	20.82	20.77	20.43	22
10	16QAM	25	12	20.91	20.79	20.78	20.79	20.53	
10	16QAM	25	25	20.86	20.81	20.68	20.63	20.52	
10	16QAM	50	0	20.87	20.79	20.73	20.72	20.54	
10	64QAM	1	0	20.36	20.33	20.50	20.45	20.24	22
10	64QAM	1	25	20.56	20.50	20.41	20.41	20.19	
10	64QAM	1	49	20.31	20.37	20.30	20.27	20.15	
10	64QAM	25	0	19.86	19.82	19.83	19.73	19.59	21
10	64QAM	25	12	19.88	19.84	19.75	19.72	19.49	
10	64QAM	25	25	19.82	19.72	19.67	19.63	19.55	
10	64QAM	50	0	19.71	19.72	19.76	19.67	19.46	
10	256QAM	1	0	17.47	17.48	17.55	17.48	17.34	19
10	256QAM	1	25	17.70	17.53	17.49	17.58	17.39	
10	256QAM	1	49	17.47	17.50	17.29	17.36	17.34	
10	256QAM	25	0	17.81	17.80	17.82	17.78	17.54	19
10	256QAM	25	12	17.82	17.88	17.84	17.74	17.60	
10	256QAM	25	25	17.76	17.83	17.76	17.64	17.60	
10	256QAM	50	0	17.76	17.79	17.72	17.66	17.52	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	22.83	22.55	22.79	22.63	22.52	24.00
5	QPSK	1	12	22.34	22.17	22.20	22.13	22.07	
5	QPSK	1	24	22.11	22.14	22.03	22.07	22.08	
5	QPSK	12	0	21.31	21.32	21.30	21.23	21.04	23
5	QPSK	12	7	21.43	21.34	21.17	21.18	21.05	
5	QPSK	12	13	21.30	21.33	21.19	21.12	21.02	
5	QPSK	25	0	21.33	21.29	21.22	21.21	21.05	
5	16QAM	1	0	21.78	21.68	21.77	21.65	21.50	23
5	16QAM	1	12	21.85	21.70	21.71	21.73	21.52	
5	16QAM	1	24	21.65	21.70	21.51	21.54	21.43	
5	16QAM	12	0	20.90	20.77	20.79	20.74	20.51	22
5	16QAM	12	7	20.92	20.76	20.71	20.75	20.51	
5	16QAM	12	13	20.83	20.76	20.69	20.65	20.50	
5	16QAM	25	0	20.85	20.80	20.75	20.74	20.60	
5	64QAM	1	0	20.44	20.37	20.47	20.38	20.26	22
5	64QAM	1	12	20.48	20.44	20.51	20.44	20.19	
5	64QAM	1	24	20.39	20.45	20.29	20.22	20.13	
5	64QAM	12	0	19.86	19.88	19.75	19.72	19.57	21
5	64QAM	12	7	19.81	19.87	19.81	19.75	19.49	
5	64QAM	12	13	19.85	19.73	19.69	19.67	19.54	
5	64QAM	25	0	19.78	19.68	19.73	19.71	19.51	
5	256QAM	1	0	17.43	17.44	17.57	17.44	17.29	19
5	256QAM	1	12	17.61	17.56	17.56	17.57	17.39	
5	256QAM	1	24	17.49	17.47	17.28	17.29	17.25	
5	256QAM	12	0	17.82	17.85	17.84	17.79	17.50	19
5	256QAM	12	7	17.83	17.87	17.80	17.78	17.55	
5	256QAM	12	13	17.78	17.77	17.67	17.69	17.55	
5	256QAM	25	0	17.77	17.79	17.73	17.72	17.56	

<LTE Band 41 HPUE Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	24.85	24.20	24.31	24.53	24.61	25
20	QPSK	1	49	24.73	24.05	24.08	24.36	24.33	
20	QPSK	1	99	24.24	24.12	24.28	24.44	24.20	
20	QPSK	50	0	23.92	23.91	23.31	23.88	23.56	24
20	QPSK	50	24	23.85	23.84	23.20	23.78	23.51	
20	QPSK	50	50	23.65	23.79	23.29	23.61	23.11	
20	QPSK	100	0	23.82	23.80	23.18	23.75	23.43	
20	16QAM	1	0	24.30	23.88	23.07	23.89	23.86	24
20	16QAM	1	49	23.97	23.99	23.27	23.84	23.54	
20	16QAM	1	99	23.45	23.84	23.46	24.05	23.20	
20	16QAM	50	0	23.03	22.92	22.12	22.88	22.60	23
20	16QAM	50	24	22.89	22.87	22.23	22.97	22.58	
20	16QAM	50	50	22.69	22.85	22.33	23.07	22.44	
20	16QAM	100	0	22.86	22.82	22.17	22.95	22.49	
20	64QAM	1	0	23.22	22.84	22.21	23.01	22.79	23
20	64QAM	1	49	22.89	22.89	22.17	23.20	22.51	
20	64QAM	1	99	22.35	22.71	22.34	23.18	22.07	
20	64QAM	50	0	21.99	21.90	21.08	22.28	21.58	22
20	64QAM	50	24	21.88	21.86	21.16	22.29	21.55	
20	64QAM	50	50	21.68	21.77	21.26	22.36	21.47	
20	64QAM	100	0	21.87	21.80	21.12	22.27	21.49	
20	256QAM	1	0	19.22	19.14	19.20	19.06	19.22	20
20	256QAM	1	49	19.18	19.31	19.28	19.22	19.20	
20	256QAM	1	99	19.19	19.22	19.04	19.21	19.22	
20	256QAM	50	0	19.29	19.24	19.41	19.31	19.29	20
20	256QAM	50	24	19.26	19.30	19.39	19.45	19.40	
20	256QAM	50	50	19.28	19.22	19.24	19.33	19.21	
20	256QAM	100	0	19.27	19.11	19.21	19.27	19.26	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	24.70	24.11	24.30	24.15	24.42	25.00
15	QPSK	1	37	24.62	24.00	24.03	24.25	24.17	
15	QPSK	1	74	24.08	24.05	24.21	24.36	24.02	
15	QPSK	36	0	23.85	23.87	23.20	23.30	23.53	24
15	QPSK	36	20	23.85	23.68	23.08	23.81	23.47	
15	QPSK	36	39	23.61	23.59	23.12	23.43	23.09	
15	QPSK	75	0	23.68	23.70	23.15	23.55	23.36	
15	16QAM	1	0	24.23	23.80	23.21	23.73	23.68	24
15	16QAM	1	37	23.86	23.89	23.25	23.80	23.52	
15	16QAM	1	74	23.33	23.74	23.42	23.89	23.04	
15	16QAM	36	0	23.01	22.73	22.06	22.74	22.54	23
15	16QAM	36	20	22.84	22.76	22.09	22.79	22.50	
15	16QAM	36	39	22.56	22.81	22.18	23.01	22.34	
15	16QAM	75	0	22.68	22.67	22.12	22.79	22.35	
15	64QAM	1	0	23.12	22.72	22.02	22.93	22.73	23
15	64QAM	1	37	22.83	22.77	22.09	23.01	22.42	
15	64QAM	1	74	22.27	22.54	22.26	23.08	22.05	
15	64QAM	36	0	21.88	21.84	21.08	22.14	21.52	22
15	64QAM	36	20	21.77	21.75	21.03	22.25	21.45	
15	64QAM	36	39	21.57	21.67	21.12	22.26	21.35	
15	64QAM	75	0	21.69	21.72	21.20	22.23	21.41	

15	256QAM	1	0	19.11	19.08	19.05	19.12	19.04	20
15	256QAM	1	37	19.16	19.13	19.25	19.04	19.19	
15	256QAM	1	74	19.12	19.14	19.05	19.18	19.16	
15	256QAM	36	0	19.10	19.05	19.22	19.26	19.26	20
15	256QAM	36	20	19.23	19.21	19.21	19.44	19.23	
15	256QAM	36	39	19.11	19.05	19.21	19.22	19.17	
15	256QAM	75	0	19.17	19.20	19.01	19.18	19.09	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	24.78	24.30	24.29	24.38	24.42	25.00
10	QPSK	1	25	24.61	24.25	24.10	24.35	24.24	
10	QPSK	1	49	24.10	24.18	24.17	24.35	24.05	
10	QPSK	25	0	23.95	23.73	23.01	23.48	23.39	24
10	QPSK	25	12	23.72	23.65	23.10	23.81	23.35	
10	QPSK	25	25	23.51	23.75	23.21	23.42	23.07	
10	QPSK	50	0	23.81	23.65	23.02	23.57	23.30	
10	16QAM	1	0	24.13	23.68	23.00	23.81	23.69	24
10	16QAM	1	25	23.82	23.87	23.24	23.65	23.34	
10	16QAM	1	49	23.40	23.77	23.28	23.97	23.04	
10	16QAM	25	0	22.86	22.78	22.07	22.78	22.53	23
10	16QAM	25	12	22.76	22.87	22.23	22.82	22.43	
10	16QAM	25	25	22.63	22.80	22.29	23.05	22.40	
10	16QAM	50	0	22.85	22.64	22.17	22.90	22.46	
10	64QAM	1	0	23.02	22.78	22.16	22.90	22.72	23
10	64QAM	1	25	22.75	22.70	22.03	23.07	22.51	
10	64QAM	1	49	22.26	22.70	22.28	23.08	22.50	
10	64QAM	25	0	21.89	21.85	21.20	22.10	21.49	22
10	64QAM	25	12	21.68	21.79	21.07	22.14	21.41	
10	64QAM	25	25	21.64	21.66	21.18	22.16	21.27	
10	64QAM	50	0	21.80	21.67	21.15	22.19	21.46	
10	256QAM	1	0	19.15	19.14	19.10	19.20	19.05	20
10	256QAM	1	25	19.10	19.27	19.12	19.08	19.19	
10	256QAM	1	49	19.16	19.18	19.18	19.10	19.21	
10	256QAM	25	0	19.22	19.22	19.22	19.16	19.28	20
10	256QAM	25	12	19.14	19.28	19.34	19.45	19.22	
10	256QAM	25	25	19.17	19.07	19.21	19.20	19.17	
10	256QAM	50	0	19.09	19.20	19.16	19.21	19.18	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	24.77	24.01	24.07	24.15	24.51	25.00
5	QPSK	1	12	24.73	24.10	24.05	24.22	24.13	
5	QPSK	1	24	24.11	24.15	24.21	24.45	24.17	
5	QPSK	12	0	24.00	23.76	23.34	23.30	23.39	24
5	QPSK	12	7	23.69	23.82	23.11	23.98	23.43	
5	QPSK	12	13	23.62	23.72	23.17	23.55	23.08	
5	QPSK	25	0	23.69	23.78	23.13	23.68	23.41	
5	16QAM	1	0	24.21	23.82	23.41	23.71	23.71	24
5	16QAM	1	12	23.93	23.97	23.23	23.79	23.51	
5	16QAM	1	24	23.38	23.78	23.40	23.99	23.19	
5	16QAM	12	0	22.87	22.92	22.03	22.68	22.41	23
5	16QAM	12	7	22.85	22.81	22.05	22.96	22.50	
5	16QAM	12	13	22.67	22.70	22.23	22.94	22.28	
5	16QAM	25	0	22.83	22.76	22.08	22.88	22.34	
5	64QAM	1	0	23.02	22.81	22.01	23.00	22.66	23
5	64QAM	1	12	22.78	22.87	22.00	23.00	22.32	
5	64QAM	1	24	22.17	22.64	22.17	23.04	22.03	

5	64QAM	12	0	21.81	21.70	21.32	22.21	21.49	22
5	64QAM	12	7	21.77	21.74	21.02	22.22	21.49	
5	64QAM	12	13	21.51	21.64	21.10	22.17	21.41	
5	64QAM	25	0	21.77	21.60	21.00	22.23	21.45	
5	256QAM	1	0	19.17	19.02	19.10	19.20	19.17	20
5	256QAM	1	12	19.15	19.27	19.22	19.05	19.04	
5	256QAM	1	24	19.19	19.08	19.08	19.20	19.12	
5	256QAM	12	0	19.28	19.13	19.33	19.27	19.16	20
5	256QAM	12	7	19.08	19.13	19.34	19.33	19.36	
5	256QAM	12	13	19.10	19.05	19.13	19.31	19.12	
5	256QAM	25	0	19.13	19.11	19.10	19.15	19.10	

<LTE Band 41_HPUE_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)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	25.94	25.63	25.81	25.71	25.61	27
20	QPSK	1	49	25.09	25.04	25.29	25.27	25.12	
20	QPSK	1	99	25.01	25.00	25.04	25.12	25.00	
20	QPSK	50	0	24.45	24.41	24.33	24.38	24.05	26
20	QPSK	50	24	24.43	24.35	24.30	24.29	24.15	
20	QPSK	50	50	24.35	24.36	24.31	24.22	24.16	
20	QPSK	100	0	24.39	24.34	24.28	24.23	24.10	
20	16QAM	1	0	25.00	24.93	24.94	25.00	24.76	26
20	16QAM	1	49	25.12	25.05	24.93	24.97	24.78	
20	16QAM	1	99	24.96	25.01	24.68	24.82	24.69	
20	16QAM	50	0	23.92	23.92	23.92	23.82	23.55	25
20	16QAM	50	24	23.94	23.86	23.86	23.81	23.66	
20	16QAM	50	50	23.87	23.91	23.78	23.78	23.68	
20	16QAM	100	0	23.88	23.90	23.85	23.79	23.59	
20	64QAM	1	0	23.84	23.76	23.87	23.77	23.67	25
20	64QAM	1	49	23.93	23.85	23.82	23.81	23.61	
20	64QAM	1	99	23.72	23.81	23.63	23.61	23.56	
20	64QAM	50	0	22.91	22.89	22.88	22.85	22.56	24
20	64QAM	50	24	22.93	22.85	22.85	22.83	22.63	
20	64QAM	50	50	22.86	22.85	22.75	22.73	22.61	
20	64QAM	100	0	22.87	22.80	22.77	22.74	22.58	
20	256QAM	1	0	20.69	20.64	20.82	20.69	20.55	22
20	256QAM	1	49	20.78	20.73	20.76	20.70	20.55	
20	256QAM	1	99	20.62	20.69	20.59	20.54	20.51	
20	256QAM	50	0	20.91	20.85	20.89	20.85	20.63	22
20	256QAM	50	24	20.89	20.94	20.79	20.75	20.61	
20	256QAM	50	50	20.86	20.83	20.76	20.69	20.64	
20	256QAM	100	0	20.83	20.77	20.80	20.69	20.55	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	25.90	25.58	25.78	25.67	25.51	27.00
15	QPSK	1	37	25.05	25.08	25.29	25.24	25.09	
15	QPSK	1	74	25.08	25.03	25.07	25.07	25.02	
15	QPSK	36	0	24.41	24.35	24.31	24.38	24.06	26
15	QPSK	36	20	24.38	24.31	24.29	24.24	24.13	
15	QPSK	36	39	24.27	24.27	24.27	24.15	24.15	
15	QPSK	75	0	24.38	24.28	24.21	24.23	24.01	

15	16QAM	1	0	24.98	24.84	24.93	24.95	24.68	26
15	16QAM	1	37	25.10	24.95	24.87	24.95	24.74	
15	16QAM	1	74	24.95	24.98	24.62	24.82	24.64	
15	16QAM	36	0	23.91	23.84	23.83	23.72	23.48	25
15	16QAM	36	20	23.84	23.86	23.80	23.78	23.62	
15	16QAM	36	39	23.86	23.88	23.78	23.78	23.61	
15	16QAM	75	0	23.86	23.90	23.81	23.73	23.54	
15	64QAM	1	0	23.79	23.76	23.78	23.67	23.57	25
15	64QAM	1	37	23.84	23.81	23.77	23.76	23.51	
15	64QAM	1	74	23.64	23.71	23.53	23.55	23.47	
15	64QAM	36	0	22.86	22.83	22.86	22.79	22.54	24
15	64QAM	36	20	22.84	22.78	22.84	22.73	22.61	
15	64QAM	36	39	22.78	22.84	22.71	22.66	22.54	
15	64QAM	75	0	22.85	22.72	22.74	22.68	22.48	
15	256QAM	1	0	20.59	20.60	20.72	20.64	20.49	22
15	256QAM	1	37	20.72	20.68	20.72	20.62	20.49	
15	256QAM	1	74	20.56	20.65	20.53	20.52	20.47	
15	256QAM	36	0	20.84	20.76	20.81	20.77	20.62	22
15	256QAM	36	20	20.84	20.88	20.70	20.71	20.54	
15	256QAM	36	39	20.86	20.77	20.73	20.65	20.57	
15	256QAM	75	0	20.83	20.75	20.78	20.69	20.45	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	25.93	25.54	25.78	25.67	25.51	27.00
10	QPSK	1	25	25.00	25.04	25.21	25.27	25.09	
10	QPSK	1	49	25.09	25.03	25.00	25.08	25.00	
10	QPSK	25	0	24.41	24.33	24.32	24.33	24.03	26
10	QPSK	25	12	24.37	24.26	24.21	24.20	24.07	
10	QPSK	25	25	24.34	24.29	24.29	24.16	24.11	
10	QPSK	50	0	24.31	24.24	24.26	24.15	24.06	
10	16QAM	1	0	24.97	24.89	24.86	24.91	24.74	26
10	16QAM	1	25	25.11	25.02	24.93	24.95	24.69	
10	16QAM	1	49	24.90	24.94	24.67	24.77	24.59	
10	16QAM	25	0	23.87	23.88	23.82	23.79	23.49	25
10	16QAM	25	12	23.93	23.81	23.83	23.71	23.66	
10	16QAM	25	25	23.80	23.91	23.72	23.77	23.65	
10	16QAM	50	0	23.79	23.80	23.78	23.70	23.58	
10	64QAM	1	0	23.77	23.66	23.78	23.72	23.60	25
10	64QAM	1	25	23.88	23.75	23.79	23.79	23.56	
10	64QAM	1	49	23.69	23.81	23.60	23.60	23.55	
10	64QAM	25	0	22.85	22.82	22.84	22.78	22.46	24
10	64QAM	25	12	22.92	22.83	22.75	22.74	22.57	
10	64QAM	25	25	22.76	22.75	22.71	22.63	22.53	
10	64QAM	50	0	22.86	22.75	22.71	22.64	22.50	
10	256QAM	1	0	20.59	20.64	20.77	20.59	20.48	22
10	256QAM	1	25	20.73	20.63	20.71	20.60	20.48	
10	256QAM	1	49	20.53	20.66	20.51	20.44	20.49	
10	256QAM	25	0	20.81	20.85	20.79	20.75	20.57	22
10	256QAM	25	12	20.86	20.89	20.70	20.71	20.58	
10	256QAM	25	25	20.85	20.78	20.68	20.66	20.58	
10	256QAM	50	0	20.83	20.74	20.74	20.68	20.51	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	25.87	25.57	25.76	25.64	25.53	27.00
5	QPSK	1	12	25.00	25.06	25.22	25.17	25.12	
5	QPSK	1	24	25.06	25.08	25.07	25.10	25.04	

5	QPSK	12	0	24.37	24.36	24.26	24.37	24.07	26
5	QPSK	12	7	24.33	24.32	24.22	24.23	24.12	
5	QPSK	12	13	24.35	24.30	24.21	24.22	24.10	
5	QPSK	25	0	24.37	24.26	24.26	24.23	24.10	
5	16QAM	1	0	24.95	24.83	24.89	24.98	24.76	26
5	16QAM	1	12	25.07	24.99	24.86	24.94	24.72	
5	16QAM	1	24	24.89	24.92	24.63	24.78	24.60	
5	16QAM	12	0	23.90	23.91	23.83	23.75	23.49	25
5	16QAM	12	7	23.90	23.78	23.84	23.76	23.58	
5	16QAM	12	13	23.83	23.81	23.72	23.78	23.59	
5	16QAM	25	0	23.79	23.89	23.81	23.73	23.55	
5	64QAM	1	0	23.74	23.73	23.83	23.77	23.62	25
5	64QAM	1	12	23.87	23.77	23.75	23.75	23.52	
5	64QAM	1	24	23.66	23.75	23.56	23.55	23.52	
5	64QAM	12	0	22.85	22.89	22.86	22.76	22.52	24
5	64QAM	12	7	22.83	22.85	22.81	22.75	22.59	
5	64QAM	12	13	22.78	22.84	22.75	22.69	22.56	
5	64QAM	25	0	22.86	22.76	22.70	22.72	22.55	
5	256QAM	1	0	20.59	20.61	20.72	20.65	20.45	22
5	256QAM	1	12	20.71	20.71	20.68	20.63	20.48	
5	256QAM	1	24	20.56	20.69	20.59	20.54	20.49	
5	256QAM	12	0	20.83	20.75	20.83	20.82	20.56	22
5	256QAM	12	7	20.82	20.87	20.73	20.68	20.61	
5	256QAM	12	13	20.80	20.75	20.71	20.62	20.61	
5	256QAM	25	0	20.75	20.69	20.78	20.68	20.51	

<LTE Band 48_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	19.64	20.05	19.71	20.04	21
20	QPSK	1	49	19.64	19.61	19.66	19.98	
20	QPSK	1	99	19.50	19.46	19.57	19.76	
20	QPSK	50	0	18.73	18.93	18.75	18.91	20
20	QPSK	50	24	18.72	18.68	18.78	18.74	
20	QPSK	50	50	18.72	18.63	18.78	18.80	
20	QPSK	100	0	18.70	18.87	18.75	18.85	
20	16QAM	1	0	18.79	18.76	18.84	19.08	20
20	16QAM	1	49	18.77	18.73	18.75	19.06	
20	16QAM	1	99	18.65	18.57	18.65	18.89	
20	16QAM	50	0	17.74	17.76	17.72	18.11	19
20	16QAM	50	24	17.68	17.69	17.74	18.13	
20	16QAM	50	50	17.68	17.63	17.78	18.06	
20	16QAM	100	0	17.72	17.63	17.70	18.06	
20	64QAM	1	0	17.41	17.41	17.51	17.78	19
20	64QAM	1	49	17.42	17.40	17.44	17.78	
20	64QAM	1	99	17.32	17.24	17.39	17.64	
20	64QAM	50	0	16.74	16.70	16.75	17.11	18
20	64QAM	50	24	16.68	16.65	16.72	17.07	
20	64QAM	50	50	16.67	16.62	16.66	17.00	
20	64QAM	100	0	16.68	16.62	16.71	17.03	
20	256QAM	1	0	14.38	14.31	14.59	14.52	16
20	256QAM	1	49	14.58	14.22	14.70	14.60	

20	256QAM	1	99	14.62	14.25	14.57	14.50	
20	256QAM	50	0	14.70	14.65	14.43	14.61	16
20	256QAM	50	24	14.75	14.58	14.55	14.66	
20	256QAM	50	50	14.69	14.61	14.57	14.76	
20	256QAM	100	0	14.71	14.61	14.60	14.75	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	19.54	19.93	19.61	19.87	21
15	QPSK	1	37	19.51	19.48	19.48	19.82	
15	QPSK	1	74	19.48	19.33	19.45	19.75	
15	QPSK	36	0	18.70	18.93	18.64	18.85	20
15	QPSK	36	20	18.68	18.50	18.64	18.58	
15	QPSK	36	39	18.58	18.52	18.75	18.71	
15	QPSK	75	0	18.61	18.67	18.62	18.68	
15	16QAM	1	0	18.66	18.57	18.82	18.88	20
15	16QAM	1	37	18.62	18.62	18.61	19.01	
15	16QAM	1	74	18.59	18.43	18.57	18.87	
15	16QAM	36	0	17.63	17.60	17.61	17.97	19
15	16QAM	36	20	17.53	17.59	17.54	17.96	
15	16QAM	36	39	17.68	17.47	17.62	17.99	
15	16QAM	75	0	17.64	17.47	17.55	17.99	
15	64QAM	1	0	17.25	17.40	17.31	17.58	19
15	64QAM	1	37	17.41	17.39	17.43	17.74	
15	64QAM	1	74	17.29	17.06	17.27	17.53	
15	64QAM	36	0	16.59	16.62	16.66	16.92	18
15	64QAM	36	20	16.60	16.49	16.66	16.99	
15	64QAM	36	39	16.63	16.60	16.61	16.89	
15	64QAM	75	0	16.60	16.48	16.54	16.89	
15	256QAM	1	0	14.28	14.29	14.58	14.50	16
15	256QAM	1	37	14.57	14.05	14.58	14.54	
15	256QAM	1	74	14.55	14.22	14.37	14.32	
15	256QAM	36	0	14.53	14.50	14.32	14.54	16
15	256QAM	36	20	14.73	14.39	14.43	14.59	
15	256QAM	36	39	14.61	14.59	14.46	14.71	
15	256QAM	75	0	14.52	14.59	14.43	14.61	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	19.48	20.02	19.66	19.91	21
10	QPSK	1	25	19.49	19.57	19.64	19.95	
10	QPSK	1	49	19.40	19.34	19.37	19.58	
10	QPSK	25	0	18.65	18.86	18.69	18.91	20
10	QPSK	25	12	18.66	18.57	18.74	18.74	
10	QPSK	25	25	18.59	18.60	18.75	18.68	
10	QPSK	50	0	18.51	18.83	18.56	18.76	
10	16QAM	1	0	18.63	18.61	18.67	18.93	20
10	16QAM	1	25	18.60	18.55	18.69	18.88	
10	16QAM	1	49	18.52	18.42	18.61	18.83	
10	16QAM	25	0	17.60	17.76	17.60	18.06	19
10	16QAM	25	12	17.67	17.52	17.64	18.01	
10	16QAM	25	25	17.57	17.61	17.70	18.02	
10	16QAM	50	0	17.54	17.57	17.65	18.05	
10	64QAM	1	0	17.24	17.27	17.42	17.69	19
10	64QAM	1	25	17.40	17.23	17.42	17.68	
10	64QAM	1	49	17.25	17.20	17.35	17.53	
10	64QAM	25	0	16.59	16.64	16.74	17.05	18
10	64QAM	25	12	16.58	16.58	16.67	16.95	

10	64QAM	25	25	16.50	16.45	16.65	16.88	
10	64QAM	50	0	16.58	16.44	16.67	17.00	
10	256QAM	1	0	14.18	14.21	14.56	14.41	16
10	256QAM	1	25	14.51	14.10	14.70	14.48	
10	256QAM	1	49	14.48	14.08	14.38	14.32	
10	256QAM	25	0	14.52	14.55	14.41	14.47	16
10	256QAM	25	12	14.55	14.56	14.53	14.49	
10	256QAM	25	25	14.50	14.56	14.39	14.57	
10	256QAM	50	0	14.66	14.42	14.52	14.75	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	19.48	19.99	19.53	19.92	21
5	QPSK	1	12	19.57	19.61	19.59	19.91	
5	QPSK	1	24	19.35	19.46	19.54	19.70	
5	QPSK	12	0	18.61	18.86	18.69	18.85	20
5	QPSK	12	7	18.67	18.51	18.60	18.55	
5	QPSK	12	13	18.60	18.50	18.62	18.65	
5	QPSK	25	0	18.50	18.81	18.72	18.74	
5	16QAM	1	0	18.79	18.66	18.71	18.93	20
5	16QAM	1	12	18.69	18.62	18.69	19.05	
5	16QAM	1	24	18.50	18.52	18.52	18.76	
5	16QAM	12	0	17.65	17.76	17.67	18.08	19
5	16QAM	12	7	17.66	17.64	17.65	17.93	
5	16QAM	12	13	17.57	17.55	17.76	18.04	
5	16QAM	25	0	17.58	17.57	17.56	17.90	
5	64QAM	1	0	17.31	17.26	17.43	17.76	19
5	64QAM	1	12	17.27	17.33	17.32	17.59	
5	64QAM	1	24	17.32	17.20	17.22	17.57	
5	64QAM	12	0	16.57	16.68	16.62	16.91	18
5	64QAM	12	7	16.63	16.58	16.72	17.06	
5	64QAM	12	13	16.50	16.56	16.66	16.81	
5	64QAM	25	0	16.65	16.52	16.68	16.99	
5	256QAM	1	0	14.28	14.15	14.57	14.37	16
5	256QAM	1	12	14.41	14.11	14.66	14.43	
5	256QAM	1	24	14.47	14.18	14.50	14.35	
5	256QAM	12	0	14.57	14.57	14.33	14.43	16
5	256QAM	12	7	14.60	14.38	14.55	14.64	
5	256QAM	12	13	14.65	14.49	14.47	14.68	
5	256QAM	25	0	14.66	14.44	14.44	14.72	

<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)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	20.92	21.15	21.13	20.88	22
20	QPSK	1	49	20.10	20.30	20.08	20.02	
20	QPSK	1	99	20.02	20.17	20.17	20.15	
20	QPSK	50	0	19.14	19.29	19.10	19.06	21
20	QPSK	50	24	19.02	19.27	19.16	19.05	
20	QPSK	50	50	19.02	19.20	19.08	19.01	
20	QPSK	100	0	19.01	19.25	19.13	19.04	
20	16QAM	1	0	19.76	20.14	20.01	19.90	21
20	16QAM	1	49	19.98	20.29	20.07	20.03	

20	16QAM	1	99	20.01	20.14	19.98	19.88	
20	16QAM	50	0	18.90	19.25	19.10	19.08	20
20	16QAM	50	24	19.00	19.30	19.10	19.05	
20	16QAM	50	50	19.06	19.20	19.14	19.01	
20	16QAM	100	0	19.03	19.24	19.09	19.03	
20	64QAM	1	0	18.48	18.83	18.75	18.64	20
20	64QAM	1	49	18.73	19.00	18.79	18.70	
20	64QAM	1	99	18.74	18.85	18.68	18.58	
20	64QAM	50	0	17.89	18.26	18.05	18.04	19
20	64QAM	50	24	17.99	18.26	18.15	18.01	
20	64QAM	50	50	18.07	18.24	18.12	17.98	
20	64QAM	100	0	17.96	18.17	18.04	17.97	
20	256QAM	1	0	15.58	15.93	15.79	15.72	17
20	256QAM	1	49	15.78	16.08	15.90	15.80	
20	256QAM	1	99	15.82	15.92	15.77	15.70	
20	256QAM	50	0	15.90	16.23	16.06	16.02	17
20	256QAM	50	24	15.95	16.24	16.09	16.02	
20	256QAM	50	50	16.01	16.17	16.05	15.96	
20	256QAM	100	0	15.91	16.14	16.03	15.95	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	20.85	21.00	21.13	20.87	22
15	QPSK	1	37	20.04	20.22	20.04	20.05	
15	QPSK	1	74	20.07	20.15	20.13	20.05	
15	QPSK	36	0	19.06	19.14	19.03	19.07	21
15	QPSK	36	20	19.02	19.21	19.13	19.04	
15	QPSK	36	39	19.05	19.16	19.00	19.05	
15	QPSK	75	0	19.02	19.25	19.06	19.00	
15	16QAM	1	0	19.67	20.06	19.96	19.86	21
15	16QAM	1	37	19.92	20.29	20.04	20.02	
15	16QAM	1	74	19.93	20.10	19.97	19.83	
15	16QAM	36	0	18.86	19.24	19.01	19.07	20
15	16QAM	36	20	18.91	19.22	19.05	18.98	
15	16QAM	36	39	19.04	19.18	19.13	18.96	
15	16QAM	75	0	18.94	19.24	19.05	19.00	
15	64QAM	1	0	18.48	18.73	18.72	18.57	20
15	64QAM	1	37	18.66	18.94	18.72	18.61	
15	64QAM	1	74	18.70	18.85	18.63	18.57	
15	64QAM	36	0	17.80	18.18	17.95	18.02	19
15	64QAM	36	20	17.99	18.21	18.15	17.92	
15	64QAM	36	39	18.05	18.15	18.06	17.97	
15	64QAM	75	0	17.92	18.13	17.96	17.87	
15	256QAM	1	0	15.53	15.88	15.78	15.72	17
15	256QAM	1	37	15.73	15.98	15.84	15.71	
15	256QAM	1	74	15.81	15.86	15.74	15.69	
15	256QAM	36	0	15.84	16.18	16.05	16.01	17
15	256QAM	36	20	15.87	16.14	16.09	15.94	
15	256QAM	36	39	15.91	16.12	15.95	15.87	
15	256QAM	75	0	15.88	16.14	16.01	15.85	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	20.84	21.07	21.15	20.86	22
10	QPSK	1	25	20.06	20.27	20.02	20.07	
10	QPSK	1	49	20.05	20.16	20.16	20.15	
10	QPSK	25	0	19.06	19.18	19.07	19.02	21
10	QPSK	25	12	19.06	19.27	19.14	19.03	

10	QPSK	25	25	19.01	19.20	19.06	19.02	
10	QPSK	50	0	19.01	19.20	19.09	19.03	
10	16QAM	1	0	19.76	20.13	19.95	19.84	21
10	16QAM	1	25	19.93	20.19	19.99	20.00	
10	16QAM	1	49	19.98	20.06	19.94	19.80	
10	16QAM	25	0	18.80	19.15	19.04	19.04	20
10	16QAM	25	12	18.91	19.23	19.09	18.98	
10	16QAM	25	25	19.06	19.19	19.05	18.94	
10	16QAM	50	0	18.97	19.14	19.06	18.95	
10	64QAM	1	0	18.40	18.74	18.73	18.62	20
10	64QAM	1	25	18.63	18.93	18.71	18.70	
10	64QAM	1	49	18.66	18.75	18.58	18.51	
10	64QAM	25	0	17.87	18.24	18.02	17.96	19
10	64QAM	25	12	17.99	18.24	18.12	17.95	
10	64QAM	25	25	18.03	18.23	18.08	17.90	
10	64QAM	50	0	17.95	18.16	18.02	17.96	
10	256QAM	1	0	15.54	15.92	15.75	15.66	17
10	256QAM	1	25	15.76	16.02	15.82	15.70	
10	256QAM	1	49	15.77	15.91	15.73	15.62	
10	256QAM	25	0	15.83	16.13	16.06	15.96	17
10	256QAM	25	12	15.88	16.15	16.04	15.92	
10	256QAM	25	25	15.98	16.10	16.04	15.93	
10	256QAM	50	0	15.89	16.11	15.99	15.92	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	20.83	20.98	21.09	20.78	22
5	QPSK	1	12	20.05	20.25	20.03	20.02	
5	QPSK	1	24	20.09	20.16	20.09	20.05	
5	QPSK	12	0	19.11	19.15	19.10	19.04	21
5	QPSK	12	7	19.09	19.22	19.12	19.01	
5	QPSK	12	13	19.03	19.12	19.06	19.04	
5	QPSK	25	0	19.01	19.16	19.07	19.04	
5	16QAM	1	0	19.66	20.13	19.91	19.88	21
5	16QAM	1	12	19.89	20.25	20.02	19.95	
5	16QAM	1	24	20.00	20.04	19.97	19.85	
5	16QAM	12	0	18.89	19.20	19.10	19.05	20
5	16QAM	12	7	18.90	19.26	19.10	19.04	
5	16QAM	12	13	18.99	19.17	19.09	18.97	
5	16QAM	25	0	18.97	19.23	19.04	18.98	
5	64QAM	1	0	18.40	18.82	18.65	18.57	20
5	64QAM	1	12	18.63	18.90	18.77	18.66	
5	64QAM	1	24	18.70	18.75	18.68	18.57	
5	64QAM	12	0	17.85	18.25	17.97	18.03	19
5	64QAM	12	7	17.91	18.25	18.11	18.00	
5	64QAM	12	13	18.05	18.22	18.04	17.97	
5	64QAM	25	0	17.92	18.13	18.00	17.94	
5	256QAM	1	0	15.49	15.86	15.72	15.68	17
5	256QAM	1	12	15.78	16.08	15.86	15.77	
5	256QAM	1	24	15.80	15.88	15.76	15.65	
5	256QAM	12	0	15.90	16.15	15.96	15.98	17
5	256QAM	12	7	15.91	16.23	16.01	15.94	
5	256QAM	12	13	15.94	16.11	16.01	15.94	
5	256QAM	25	0	15.89	16.13	15.97	15.93	

Reduced Power Mode

<LTE Band 38_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	16.64	16.71	16.63	17
20	QPSK	1	49	16.54	16.50	16.54	
20	QPSK	1	99	16.53	16.52	16.38	
20	QPSK	50	0	16.35	16.59	16.23	17
20	QPSK	50	24	16.39	16.37	16.21	
20	QPSK	50	50	16.59	16.53	16.58	
20	QPSK	100	0	16.60	16.62	16.48	
20	16QAM	1	0	16.49	16.44	16.34	17
20	16QAM	1	49	16.49	16.59	16.37	
20	16QAM	1	99	16.48	16.44	16.51	
20	16QAM	50	0	16.51	16.63	16.44	17
20	16QAM	50	24	16.54	16.62	16.44	
20	16QAM	50	50	16.48	16.47	16.32	
20	16QAM	100	0	16.38	16.44	16.42	
20	64QAM	1	0	16.45	16.47	16.44	17
20	64QAM	1	49	16.51	16.45	16.39	
20	64QAM	1	99	16.58	16.57	16.41	
20	64QAM	50	0	16.46	16.46	16.50	17
20	64QAM	50	24	16.61	16.60	16.43	
20	64QAM	50	50	16.62	16.59	16.46	
20	64QAM	100	0	16.62	16.51	16.37	
20	256QAM	1	0	16.38	16.40	16.47	17
20	256QAM	1	49	16.52	16.47	16.43	
20	256QAM	1	99	16.63	16.55	16.49	
20	256QAM	50	0	16.52	16.49	16.42	17
20	256QAM	50	24	16.45	16.46	16.48	
20	256QAM	50	50	16.41	16.49	16.36	
20	256QAM	100	0	16.61	16.55	16.44	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	16.60	16.67	16.59	17
15	QPSK	1	37	16.50	16.46	16.50	
15	QPSK	1	74	16.49	16.48	16.34	
15	QPSK	36	0	16.31	16.21	16.19	17
15	QPSK	36	20	16.35	16.33	16.17	
15	QPSK	36	39	16.55	16.49	16.54	
15	QPSK	75	0	16.56	16.58	16.44	
15	16QAM	1	0	16.45	16.40	16.30	17
15	16QAM	1	37	16.45	16.55	16.33	
15	16QAM	1	74	16.44	16.40	16.47	
15	16QAM	36	0	16.47	16.59	16.40	17
15	16QAM	36	20	16.50	16.58	16.40	
15	16QAM	36	39	16.44	16.43	16.28	
15	16QAM	75	0	16.34	16.40	16.38	
15	64QAM	1	0	16.41	16.43	16.40	17
15	64QAM	1	37	16.47	16.41	16.35	
15	64QAM	1	74	16.54	16.53	16.37	
15	64QAM	36	0	16.42	16.42	16.46	17
15	64QAM	36	20	16.57	16.56	16.39	
15	64QAM	36	39	16.58	16.55	16.42	

15	64QAM	75	0	16.58	16.47	16.33	
15	256QAM	1	0	16.34	16.36	16.43	17
15	256QAM	1	37	16.48	16.43	16.39	
15	256QAM	1	74	16.59	16.51	16.45	
15	256QAM	36	0	16.48	16.45	16.38	17
15	256QAM	36	20	16.41	16.42	16.44	
15	256QAM	36	39	16.37	16.45	16.32	
15	256QAM	75	0	16.57	16.51	16.40	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	16.60	16.67	16.59	17
10	QPSK	1	25	16.50	16.46	16.50	
10	QPSK	1	49	16.49	16.48	16.34	
10	QPSK	25	0	16.31	16.21	16.19	17
10	QPSK	25	12	16.35	16.33	16.17	
10	QPSK	25	25	16.55	16.49	16.54	
10	QPSK	50	0	16.56	16.58	16.44	
10	16QAM	1	0	16.45	16.40	16.30	17
10	16QAM	1	25	16.45	16.55	16.33	
10	16QAM	1	49	16.44	16.40	16.47	
10	16QAM	25	0	16.47	16.59	16.40	17
10	16QAM	25	12	16.50	16.58	16.40	
10	16QAM	25	25	16.44	16.43	16.28	
10	16QAM	50	0	16.34	16.40	16.38	
10	64QAM	1	0	16.41	16.43	16.40	17
10	64QAM	1	25	16.47	16.41	16.35	
10	64QAM	1	49	16.54	16.53	16.37	
10	64QAM	25	0	16.42	16.42	16.46	17
10	64QAM	25	12	16.57	16.56	16.39	
10	64QAM	25	25	16.58	16.55	16.42	
10	64QAM	50	0	16.58	16.47	16.33	
10	256QAM	1	0	16.34	16.36	16.43	17
10	256QAM	1	25	16.48	16.43	16.39	
10	256QAM	1	49	16.59	16.51	16.45	
10	256QAM	25	0	16.48	16.45	16.38	17
10	256QAM	25	12	16.41	16.42	16.44	
10	256QAM	25	25	16.37	16.45	16.32	
10	256QAM	50	0	16.57	16.51	16.40	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	16.60	16.67	16.59	17
5	QPSK	1	12	16.50	16.46	16.50	
5	QPSK	1	24	16.49	16.48	16.34	
5	QPSK	12	0	16.31	16.21	16.19	17
5	QPSK	12	7	16.35	16.33	16.17	
5	QPSK	12	13	16.55	16.49	16.54	
5	QPSK	25	0	16.56	16.58	16.44	
5	16QAM	1	0	16.45	16.40	16.30	17
5	16QAM	1	12	16.45	16.55	16.33	
5	16QAM	1	24	16.44	16.40	16.47	
5	16QAM	12	0	16.47	16.59	16.40	17
5	16QAM	12	7	16.50	16.58	16.40	
5	16QAM	12	13	16.44	16.43	16.28	
5	16QAM	25	0	16.34	16.40	16.38	
5	64QAM	1	0	16.41	16.43	16.40	17
5	64QAM	1	12	16.47	16.41	16.35	

5	64QAM	1	24	16.54	16.53	16.37	
5	64QAM	12	0	16.42	16.42	16.46	17
5	64QAM	12	7	16.57	16.56	16.39	
5	64QAM	12	13	16.58	16.55	16.42	
5	64QAM	25	0	16.58	16.47	16.33	
5	256QAM	1	0	16.34	16.36	16.43	17
5	256QAM	1	12	16.48	16.43	16.39	
5	256QAM	1	24	16.59	16.51	16.45	
5	256QAM	12	0	16.48	16.45	16.38	17
5	256QAM	12	7	16.41	16.42	16.44	
5	256QAM	12	13	16.37	16.45	16.32	
5	256QAM	25	0	16.57	16.51	16.40	

<LTE Band 38_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)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	16.61	16.45	16.55	17
20	QPSK	1	49	16.48	16.29	16.17	
20	QPSK	1	99	16.47	16.41	16.38	
20	QPSK	50	0	16.31	16.40	16.17	17
20	QPSK	50	24	16.28	16.27	16.40	
20	QPSK	50	50	16.30	16.29	16.29	
20	QPSK	100	0	16.32	16.18	16.34	
20	16QAM	1	0	16.23	16.28	16.27	17
20	16QAM	1	49	16.50	16.17	16.21	
20	16QAM	1	99	16.29	15.47	16.23	
20	16QAM	50	0	16.50	15.72	16.58	17
20	16QAM	50	24	16.47	15.59	16.33	
20	16QAM	50	50	16.44	15.49	16.36	
20	16QAM	100	0	16.37	15.63	16.30	
20	64QAM	1	0	16.30	15.43	16.16	17
20	64QAM	1	49	16.29	15.38	16.24	
20	64QAM	1	99	16.30	16.15	16.27	
20	64QAM	50	0	16.43	16.49	16.33	17
20	64QAM	50	24	16.16	16.24	16.21	
20	64QAM	50	50	16.53	15.88	16.55	
20	64QAM	100	0	16.40	15.54	16.42	
20	256QAM	1	0	16.39	15.63	16.50	17
20	256QAM	1	49	16.38	15.53	16.24	
20	256QAM	1	99	16.19	15.50	16.21	
20	256QAM	50	0	16.26	15.27	16.20	17
20	256QAM	50	24	16.24	15.70	16.28	
20	256QAM	50	50	16.38	15.54	16.17	
20	256QAM	100	0	16.21	15.70	16.36	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	16.58	16.42	16.45	17
15	QPSK	1	37	16.48	16.21	16.12	
15	QPSK	1	74	16.45	16.41	16.33	
15	QPSK	36	0	16.31	16.38	16.14	17
15	QPSK	36	20	16.20	16.19	16.34	
15	QPSK	36	39	16.24	16.26	16.25	

15	QPSK	75	0	16.23	16.16	16.26	
15	16QAM	1	0	16.16	16.25	16.22	17
15	16QAM	1	37	16.40	16.13	16.20	
15	16QAM	1	74	16.21	15.44	16.20	
15	16QAM	36	0	16.42	15.63	16.48	17
15	16QAM	36	20	16.45	15.54	16.28	
15	16QAM	36	39	16.37	15.46	16.26	
15	16QAM	75	0	16.37	15.62	16.27	
15	64QAM	1	0	16.24	15.33	16.16	17
15	64QAM	1	37	16.26	15.32	16.19	
15	64QAM	1	74	16.20	16.05	16.23	
15	64QAM	36	0	16.35	16.44	16.27	17
15	64QAM	36	20	16.14	16.18	16.18	
15	64QAM	36	39	16.44	15.79	16.54	
15	64QAM	75	0	16.38	15.44	16.40	
15	256QAM	1	0	16.36	15.63	16.47	17
15	256QAM	1	37	16.32	15.52	16.17	
15	256QAM	1	74	16.09	15.41	16.11	
15	256QAM	36	0	16.19	15.26	16.18	17
15	256QAM	36	20	16.22	15.63	16.19	
15	256QAM	36	39	16.30	15.50	16.13	
15	256QAM	75	0	16.18	15.62	16.36	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	16.51	16.38	16.49	17
10	QPSK	1	25	16.38	16.21	16.13	
10	QPSK	1	49	16.40	16.37	16.33	
10	QPSK	25	0	16.25	16.31	16.16	17
10	QPSK	25	12	16.27	16.22	16.34	
10	QPSK	25	25	16.22	16.19	16.20	
10	QPSK	50	0	16.29	16.14	16.26	
10	16QAM	1	0	16.19	16.18	16.20	17
10	16QAM	1	25	16.47	16.11	16.19	
10	16QAM	1	49	16.25	15.46	16.15	
10	16QAM	25	0	16.47	15.67	16.57	17
10	16QAM	25	12	16.39	15.53	16.26	
10	16QAM	25	25	16.36	15.40	16.35	
10	16QAM	50	0	16.32	15.60	16.21	
10	64QAM	1	0	16.25	15.42	16.09	17
10	64QAM	1	25	16.25	15.32	16.19	
10	64QAM	1	49	16.30	16.06	16.26	
10	64QAM	25	0	16.33	16.46	16.27	17
10	64QAM	25	12	16.08	16.17	16.20	
10	64QAM	25	25	16.49	15.88	16.54	
10	64QAM	50	0	16.33	15.46	16.39	
10	256QAM	1	0	16.37	15.57	16.46	17
10	256QAM	1	25	16.32	15.44	16.14	
10	256QAM	1	49	16.11	15.41	16.18	
10	256QAM	25	0	16.22	15.19	16.20	17
10	256QAM	25	12	16.16	15.70	16.28	
10	256QAM	25	25	16.32	15.45	16.16	
10	256QAM	50	0	16.15	15.67	16.35	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	16.51	16.41	16.45	17
5	QPSK	1	12	16.46	16.19	16.11	

5	QPSK	1	24	16.37	16.38	16.32	
5	QPSK	12	0	16.25	16.31	16.14	17
5	QPSK	12	7	16.27	16.18	16.30	
5	QPSK	12	13	16.21	16.21	16.23	
5	QPSK	25	0	16.28	16.12	16.32	
5	16QAM	1	0	16.14	16.24	16.23	17
5	16QAM	1	12	16.50	16.16	16.16	
5	16QAM	1	24	16.22	15.46	16.17	
5	16QAM	12	0	16.43	15.72	16.53	17
5	16QAM	12	7	16.41	15.57	16.27	
5	16QAM	12	13	16.41	15.45	16.33	
5	16QAM	25	0	16.30	15.61	16.20	
5	64QAM	1	0	16.25	15.43	16.06	17
5	64QAM	1	12	16.26	15.36	16.23	
5	64QAM	1	24	16.28	16.07	16.22	
5	64QAM	12	0	16.35	16.43	16.28	17
5	64QAM	12	7	16.11	16.23	16.18	
5	64QAM	12	13	16.48	15.83	16.52	
5	64QAM	25	0	16.30	15.51	16.33	
5	256QAM	1	0	16.34	15.62	16.43	17
5	256QAM	1	12	16.32	15.43	16.19	
5	256QAM	1	24	16.19	15.43	16.21	
5	256QAM	12	0	16.17	15.22	16.12	17
5	256QAM	12	7	16.21	15.69	16.24	
5	256QAM	12	13	16.37	15.51	16.12	
5	256QAM	25	0	16.13	15.63	16.34	

<LTE Band 41_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	16.47	16.43	16.48	16.46	16.46	17
20	QPSK	1	49	16.37	16.32	16.27	16.28	16.36	
20	QPSK	1	99	16.40	16.37	16.40	16.32	16.33	
20	QPSK	50	0	16.41	16.39	16.42	16.37	16.41	17
20	QPSK	50	24	16.35	16.30	16.31	16.34	16.29	
20	QPSK	50	50	16.31	16.31	16.27	16.21	16.30	
20	QPSK	100	0	16.33	16.32	16.35	16.25	16.24	
20	16QAM	1	0	16.27	16.21	16.20	16.27	16.24	17
20	16QAM	1	49	16.46	16.36	16.36	16.42	16.45	
20	16QAM	1	99	16.24	16.22	16.15	16.17	16.15	
20	16QAM	50	0	16.40	16.33	16.38	16.37	16.40	17
20	16QAM	50	24	16.35	16.31	16.27	16.31	16.33	
20	16QAM	50	50	16.40	16.30	16.37	16.39	16.34	
20	16QAM	100	0	16.32	16.23	16.22	16.32	16.31	
20	64QAM	1	0	16.21	16.15	16.19	16.12	16.15	17
20	64QAM	1	49	16.29	16.22	16.29	16.29	16.29	
20	64QAM	1	99	16.32	16.32	16.29	16.24	16.25	
20	64QAM	50	0	16.40	16.37	16.35	16.37	16.39	17
20	64QAM	50	24	16.35	16.33	16.28	16.32	16.33	
20	64QAM	50	50	16.32	16.23	16.26	16.26	16.27	
20	64QAM	100	0	16.31	16.31	16.26	16.26	16.27	
20	256QAM	1	0	16.22	16.20	16.14	16.17	16.21	17

20	256QAM	1	49	16.23	16.22	16.19	16.16	16.14	
20	256QAM	1	99	16.24	16.24	16.15	16.19	16.19	
20	256QAM	50	0	16.39	16.31	16.30	16.38	16.31	17
20	256QAM	50	24	16.38	16.36	16.28	16.34	16.30	
20	256QAM	50	50	16.36	16.35	16.31	16.32	16.34	
20	256QAM	100	0	16.29	16.29	16.24	16.20	16.27	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	16.41	16.42	16.37	16.40	16.37	17
15	QPSK	1	37	16.30	16.27	16.25	16.23	16.33	
15	QPSK	1	74	16.30	16.37	16.39	16.22	16.26	
15	QPSK	36	0	16.26	16.16	16.22	16.25	16.30	17
15	QPSK	36	20	16.28	16.21	16.28	16.24	16.21	
15	QPSK	36	39	16.22	16.24	16.25	16.17	16.21	
15	QPSK	75	0	16.40	16.33	16.30	16.40	16.36	
15	16QAM	1	0	16.19	16.14	16.12	16.26	16.14	17
15	16QAM	1	37	16.27	16.27	16.35	16.42	16.36	
15	16QAM	1	74	16.19	16.22	16.09	16.08	16.05	
15	16QAM	36	0	16.35	16.25	16.34	16.29	16.39	17
15	16QAM	36	20	16.30	16.23	16.23	16.25	16.30	
15	16QAM	36	39	16.39	16.23	16.34	16.31	16.30	
15	16QAM	75	0	16.26	16.15	16.21	16.25	16.28	
15	64QAM	1	0	16.16	16.06	16.10	16.10	16.05	17
15	64QAM	1	37	16.24	16.13	16.28	16.21	16.23	
15	64QAM	1	74	16.26	16.26	16.29	16.21	16.23	
15	64QAM	36	0	16.32	16.32	16.35	16.28	16.33	17
15	64QAM	36	20	16.26	16.27	16.21	16.22	16.23	
15	64QAM	36	39	16.29	16.21	16.17	16.25	16.24	
15	64QAM	75	0	16.22	16.30	16.19	16.16	16.18	
15	256QAM	1	0	16.15	16.16	16.08	16.14	16.17	17
15	256QAM	1	37	16.16	16.22	16.18	16.07	16.04	
15	256QAM	1	74	16.19	16.16	16.15	16.15	16.09	
15	256QAM	36	0	16.36	16.24	16.23	16.36	16.21	17
15	256QAM	36	20	16.36	16.33	16.24	16.27	16.23	
15	256QAM	36	39	16.28	16.29	16.27	16.27	16.28	
15	256QAM	75	0	16.29	16.22	16.19	16.13	16.23	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	16.39	16.39	16.32	16.43	16.40	17
10	QPSK	1	25	16.35	16.26	16.18	16.23	16.31	
10	QPSK	1	49	16.30	16.32	16.35	16.28	16.27	
10	QPSK	25	0	16.28	16.25	16.26	16.21	16.27	17
10	QPSK	25	12	16.27	16.30	16.26	16.29	16.26	
10	QPSK	25	25	16.24	16.21	16.24	16.13	16.21	
10	QPSK	50	0	16.44	16.37	16.28	16.35	16.43	
10	16QAM	1	0	16.19	16.18	16.20	16.24	16.19	17
10	16QAM	1	25	16.28	16.27	16.30	16.42	16.41	
10	16QAM	1	49	16.15	16.13	16.07	16.16	16.14	
10	16QAM	25	0	16.36	16.33	16.31	16.33	16.37	17
10	16QAM	25	12	16.26	16.30	16.17	16.21	16.31	
10	16QAM	25	25	16.34	16.27	16.35	16.39	16.34	
10	16QAM	50	0	16.26	16.15	16.19	16.31	16.29	
10	64QAM	1	0	16.11	16.11	16.09	16.05	16.13	17
10	64QAM	1	25	16.20	16.18	16.27	16.28	16.28	
10	64QAM	1	49	16.29	16.28	16.20	16.19	16.22	
10	64QAM	25	0	16.34	16.28	16.35	16.31	16.39	17

10	64QAM	25	12	16.31	16.29	16.24	16.28	16.25	
10	64QAM	25	25	16.26	16.18	16.17	16.17	16.24	
10	64QAM	50	0	16.21	16.30	16.21	16.24	16.22	
10	256QAM	1	0	16.17	16.18	16.13	16.17	16.17	17
10	256QAM	1	25	16.15	16.15	16.13	16.10	16.05	
10	256QAM	1	49	16.18	16.21	16.05	16.16	16.11	
10	256QAM	25	0	16.38	16.23	16.23	16.36	16.27	17
10	256QAM	25	12	16.28	16.29	16.18	16.28	16.29	
10	256QAM	25	25	16.31	16.30	16.26	16.28	16.34	
10	256QAM	50	0	16.20	16.28	16.15	16.17	16.23	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	16.39	16.36	16.30	16.39	16.43	17
5	QPSK	1	12	16.29	16.24	16.25	16.22	16.36	
5	QPSK	1	24	16.38	16.32	16.35	16.29	16.31	
5	QPSK	12	0	16.31	16.24	16.27	16.22	16.23	17
5	QPSK	12	7	16.35	16.26	16.22	16.24	16.26	
5	QPSK	12	13	16.26	16.21	16.22	16.11	16.24	
5	QPSK	25	0	16.35	16.30	16.26	16.40	16.44	
5	16QAM	1	0	16.26	16.12	16.18	16.25	16.18	17
5	16QAM	1	12	16.29	16.28	16.31	16.42	16.36	
5	16QAM	1	24	16.21	16.14	16.14	16.15	16.15	
5	16QAM	12	0	16.36	16.25	16.29	16.33	16.32	17
5	16QAM	12	7	16.35	16.28	16.19	16.25	16.33	
5	16QAM	12	13	16.37	16.20	16.32	16.30	16.32	
5	16QAM	25	0	16.32	16.23	16.20	16.26	16.29	
5	64QAM	1	0	16.12	16.09	16.19	16.09	16.14	17
5	64QAM	1	12	16.25	16.15	16.24	16.29	16.21	
5	64QAM	1	24	16.26	16.30	16.20	16.15	16.19	
5	64QAM	12	0	16.36	16.31	16.31	16.27	16.32	17
5	64QAM	12	7	16.27	16.30	16.20	16.31	16.25	
5	64QAM	12	13	16.30	16.22	16.24	16.17	16.21	
5	64QAM	25	0	16.25	16.29	16.18	16.26	16.26	
5	256QAM	1	0	16.16	16.11	16.10	16.07	16.16	17
5	256QAM	1	12	16.20	16.21	16.09	16.16	16.08	
5	256QAM	1	24	16.20	16.15	16.09	16.11	16.14	
5	256QAM	12	0	16.32	16.28	16.20	16.33	16.31	17
5	256QAM	12	7	16.37	16.31	16.25	16.29	16.20	
5	256QAM	12	13	16.27	16.34	16.27	16.23	16.29	
5	256QAM	25	0	16.28	16.22	16.22	16.10	16.22	

<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)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	16.65	16.66	16.54	16.59	15.77	17
20	QPSK	1	49	16.31	16.56	16.38	16.26	15.55	
20	QPSK	1	99	16.61	16.56	16.46	16.48	15.70	
20	QPSK	50	0	16.53	16.55	16.40	16.22	15.68	17
20	QPSK	50	24	16.41	16.38	16.34	16.43	15.66	
20	QPSK	50	50	16.31	16.31	16.34	16.39	15.58	
20	QPSK	100	0	16.40	16.41	16.28	16.36	15.54	
20	16QAM	1	0	16.48	16.31	16.31	16.36	15.65	17

20	16QAM	1	49	16.54	16.53	16.23	16.30	15.49	
20	16QAM	1	99	16.46	16.31	15.52	16.29	15.48	
20	16QAM	50	0	16.34	16.60	15.77	16.59	15.64	17
20	16QAM	50	24	16.34	16.48	15.59	16.39	15.54	
20	16QAM	50	50	16.38	16.54	15.54	16.46	15.44	
20	16QAM	100	0	16.38	16.46	15.71	16.37	15.61	
20	64QAM	1	0	16.25	16.34	15.51	16.24	15.43	17
20	64QAM	1	49	16.30	16.34	15.46	16.29	15.36	
20	64QAM	1	99	16.46	16.31	16.23	16.28	15.51	
20	64QAM	50	0	16.54	16.48	16.53	16.38	15.51	17
20	64QAM	50	24	16.36	16.21	16.24	16.22	15.29	
20	64QAM	50	50	16.26	16.56	15.93	16.55	15.98	
20	64QAM	100	0	16.26	16.47	15.61	16.46	15.54	
20	256QAM	1	0	16.35	16.45	15.71	16.53	15.61	17
20	256QAM	1	49	16.30	16.44	15.58	16.32	15.57	
20	256QAM	1	99	16.22	16.26	15.56	16.29	15.51	
20	256QAM	50	0	16.26	16.26	15.35	16.30	15.26	17
20	256QAM	50	24	16.22	16.31	15.79	16.38	15.61	
20	256QAM	50	50	16.43	16.38	15.63	16.26	15.55	
20	256QAM	100	0	16.28	16.26	15.72	16.45	15.61	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	16.62	16.62	16.48	16.52	15.72	17
15	QPSK	1	37	16.27	16.46	16.35	16.24	15.50	
15	QPSK	1	74	16.58	16.47	16.37	16.47	15.66	
15	QPSK	36	0	16.53	16.31	16.31	16.16	15.62	17
15	QPSK	36	20	16.33	16.35	16.24	16.33	15.56	
15	QPSK	36	39	16.24	16.30	16.26	16.32	15.49	
15	QPSK	75	0	16.33	16.34	16.24	16.31	15.52	
15	16QAM	1	0	16.48	16.28	16.29	16.35	15.59	17
15	16QAM	1	37	16.48	16.48	16.19	16.21	15.40	
15	16QAM	1	74	16.41	16.28	15.50	16.19	15.43	
15	16QAM	36	0	16.33	16.47	15.74	16.49	15.62	17
15	16QAM	36	20	16.34	16.44	15.52	16.32	15.48	
15	16QAM	36	39	16.33	16.44	15.53	16.45	15.44	
15	16QAM	75	0	16.37	16.39	15.69	16.29	15.55	
15	64QAM	1	0	16.25	16.33	15.44	16.23	15.36	17
15	64QAM	1	37	16.30	16.28	15.43	16.26	15.28	
15	64QAM	1	74	16.36	16.24	16.17	16.26	15.42	
15	64QAM	36	0	16.46	16.38	16.43	16.36	15.44	17
15	64QAM	36	20	16.30	16.12	16.23	16.20	15.21	
15	64QAM	36	39	16.19	16.51	15.90	16.50	15.98	
15	64QAM	75	0	16.18	16.47	15.61	16.36	15.53	
15	256QAM	1	0	16.27	16.44	15.70	16.52	15.57	17
15	256QAM	1	37	16.26	16.38	15.55	16.22	15.50	
15	256QAM	1	74	16.22	16.22	15.51	16.23	15.45	
15	256QAM	36	0	16.24	16.26	15.26	16.21	15.23	17
15	256QAM	36	20	16.20	16.21	15.78	16.37	15.54	
15	256QAM	36	39	16.35	16.31	15.54	16.26	15.51	
15	256QAM	75	0	16.26	16.19	15.62	16.41	15.57	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	16.62	16.53	16.54	16.58	15.73	17
10	QPSK	1	25	16.29	16.46	16.35	16.23	15.51	
10	QPSK	1	49	16.56	16.52	16.38	16.42	15.67	
10	QPSK	25	0	16.47	16.29	16.35	16.19	15.65	17

10	QPSK	25	12	16.39	16.32	16.28	16.43	15.65	
10	QPSK	25	25	16.21	16.25	16.33	16.29	15.57	
10	QPSK	50	0	16.34	16.34	16.28	16.29	15.49	
10	16QAM	1	0	16.42	16.31	16.24	16.32	15.62	17
10	16QAM	1	25	16.50	16.50	16.20	16.21	15.43	
10	16QAM	1	49	16.41	16.24	15.47	16.24	15.46	
10	16QAM	25	0	16.32	16.49	15.72	16.57	15.54	17
10	16QAM	25	12	16.26	16.44	15.53	16.31	15.48	
10	16QAM	25	25	16.37	16.49	15.50	16.43	15.40	
10	16QAM	50	0	16.30	16.41	15.62	16.35	15.54	
10	64QAM	1	0	16.20	16.32	15.49	16.15	15.33	17
10	64QAM	1	25	16.21	16.28	15.43	16.28	15.27	
10	64QAM	1	49	16.46	16.30	16.15	16.18	15.46	
10	64QAM	25	0	16.53	16.45	16.53	16.35	15.45	17
10	64QAM	25	12	16.28	16.19	16.18	16.21	15.26	
10	64QAM	25	25	16.16	16.55	15.87	16.46	15.97	
10	64QAM	50	0	16.22	16.42	15.54	16.46	15.46	
10	256QAM	1	0	16.29	16.39	15.61	16.53	15.55	17
10	256QAM	1	25	16.26	16.34	15.56	16.24	15.51	
10	256QAM	1	49	16.19	16.20	15.56	16.29	15.46	
10	256QAM	25	0	16.16	16.17	15.30	16.26	15.20	17
10	256QAM	25	12	16.16	16.22	15.71	16.34	15.51	
10	256QAM	25	25	16.39	16.33	15.55	16.16	15.48	
10	256QAM	50	0	16.20	16.19	15.65	16.40	15.60	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	16.62	16.57	16.45	16.52	15.67	17
5	QPSK	1	12	16.29	16.51	16.29	16.19	15.55	
5	QPSK	1	24	16.52	16.49	16.39	16.48	15.69	
5	QPSK	12	0	16.51	16.28	16.30	16.22	15.62	17
5	QPSK	12	7	16.38	16.35	16.25	16.38	15.65	
5	QPSK	12	13	16.25	16.31	16.27	16.30	15.52	
5	QPSK	25	0	16.39	16.36	16.24	16.27	15.53	
5	16QAM	1	0	16.48	16.30	16.30	16.36	15.65	17
5	16QAM	1	12	16.51	16.47	16.17	16.26	15.42	
5	16QAM	1	24	16.37	16.29	15.51	16.26	15.45	
5	16QAM	12	0	16.24	16.42	15.75	16.59	15.61	17
5	16QAM	12	7	16.26	16.41	15.52	16.39	15.52	
5	16QAM	12	13	16.35	16.52	15.53	16.44	15.39	
5	16QAM	25	0	16.37	16.40	15.70	16.32	15.51	
5	64QAM	1	0	16.22	16.26	15.44	16.19	15.43	17
5	64QAM	1	12	16.25	16.34	15.40	16.21	15.30	
5	64QAM	1	24	16.42	16.31	16.14	16.23	15.42	
5	64QAM	12	0	16.54	16.45	16.49	16.32	15.48	17
5	64QAM	12	7	16.36	16.13	16.23	16.14	15.26	
5	64QAM	12	13	16.25	16.50	15.87	16.48	15.97	
5	64QAM	25	0	16.20	16.43	15.58	16.46	15.48	
5	256QAM	1	0	16.31	16.41	15.68	16.46	15.58	17
5	256QAM	1	12	16.23	16.43	15.49	16.28	15.49	
5	256QAM	1	24	16.12	16.21	15.51	16.23	15.49	
5	256QAM	12	0	16.21	16.19	15.32	16.22	15.16	17
5	256QAM	12	7	16.14	16.24	15.71	16.32	15.61	
5	256QAM	12	13	16.43	16.37	15.53	16.21	15.45	
5	256QAM	25	0	16.20	16.16	15.63	16.41	15.57	

<LTE Band 41 HPUE Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	16.41	16.30	16.45	16.44	16.33	17
20	QPSK	1	49	16.21	16.18	16.13	16.28	16.29	
20	QPSK	1	99	16.24	16.37	16.27	16.18	16.30	
20	QPSK	50	0	16.34	16.25	16.23	16.36	16.22	17
20	QPSK	50	24	16.35	16.11	16.12	16.21	16.15	
20	QPSK	50	50	16.21	16.18	16.17	16.17	16.21	
20	QPSK	100	0	16.15	16.12	16.16	16.20	16.17	
20	16QAM	1	0	16.12	16.10	16.07	16.09	16.08	17
20	16QAM	1	49	16.42	16.28	16.24	16.34	16.37	
20	16QAM	1	99	16.21	16.08	16.00	15.97	16.00	
20	16QAM	50	0	16.40	16.22	16.22	16.26	16.31	17
20	16QAM	50	24	16.23	16.19	16.09	16.18	16.14	
20	16QAM	50	50	16.30	16.17	16.37	16.32	16.32	
20	16QAM	100	0	16.24	16.12	16.22	16.29	16.21	
20	64QAM	1	0	16.15	16.04	15.99	16.08	16.08	17
20	64QAM	1	49	16.19	16.04	16.16	16.28	16.14	
20	64QAM	1	99	16.13	16.31	16.28	16.14	16.10	
20	64QAM	50	0	16.31	16.32	16.16	16.35	16.30	17
20	64QAM	50	24	16.26	16.29	16.16	16.30	16.20	
20	64QAM	50	50	16.13	16.04	16.23	16.21	16.18	
20	64QAM	100	0	16.22	16.17	16.23	16.24	16.07	
20	256QAM	1	0	16.11	16.14	15.97	16.10	16.11	17
20	256QAM	1	49	16.03	16.12	16.17	16.12	16.14	
20	256QAM	1	99	16.05	16.10	15.97	16.07	16.10	
20	256QAM	50	0	16.30	16.30	16.25	16.19	16.29	17
20	256QAM	50	24	16.35	16.34	16.18	16.21	16.10	
20	256QAM	50	50	16.21	16.35	16.28	16.21	16.16	
20	256QAM	100	0	16.20	16.17	16.12	16.03	16.07	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	16.30	16.32	16.34	16.31	16.31	17.00
15	QPSK	1	37	16.37	16.28	16.12	16.10	16.36	
15	QPSK	1	74	16.35	16.21	16.28	16.20	16.21	
15	QPSK	36	0	16.33	16.29	16.29	16.18	16.29	17
15	QPSK	36	20	16.27	16.10	16.20	16.28	16.11	
15	QPSK	36	39	16.25	16.25	16.12	16.13	16.23	
15	QPSK	75	0	16.25	16.15	16.16	16.22	16.04	
15	16QAM	1	0	16.16	16.12	16.06	16.19	16.16	17
15	16QAM	1	37	16.28	16.32	16.30	16.30	16.41	
15	16QAM	1	74	16.11	16.11	16.11	16.15	16.06	
15	16QAM	36	0	16.40	16.24	16.20	16.24	16.33	17
15	16QAM	36	20	16.35	16.22	16.19	16.26	16.13	
15	16QAM	36	39	16.40	16.13	16.17	16.32	16.31	
15	16QAM	75	0	16.27	16.05	16.17	16.29	16.14	
15	64QAM	1	0	16.05	16.03	16.04	15.92	16.00	17
15	64QAM	1	37	16.22	16.10	16.25	16.21	16.15	
15	64QAM	1	74	16.12	16.22	16.22	16.07	16.23	
15	64QAM	36	0	16.32	16.26	16.34	16.25	16.29	17
15	64QAM	36	20	16.34	16.17	16.18	16.32	16.33	
15	64QAM	36	39	16.19	16.06	16.06	16.09	16.20	
15	64QAM	75	0	16.19	16.22	16.20	16.08	16.20	

15	256QAM	1	0	16.06	16.07	15.99	16.03	16.03	17
15	256QAM	1	37	16.07	16.14	16.16	16.14	16.14	
15	256QAM	1	74	16.10	16.07	16.04	16.06	16.03	
15	256QAM	36	0	16.26	16.20	16.14	16.35	16.16	17
15	256QAM	36	20	16.36	16.16	16.23	16.30	16.20	
15	256QAM	36	39	16.28	16.24	16.15	16.15	16.34	
15	256QAM	75	0	16.11	16.11	16.14	16.06	16.23	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	16.49	16.42	16.44	16.44	16.30	17.00
10	QPSK	1	25	16.28	16.20	16.25	16.10	16.30	
10	QPSK	1	49	16.22	16.20	16.27	16.22	16.21	
10	QPSK	25	0	16.30	16.23	16.38	16.24	16.36	17
10	QPSK	25	12	16.32	16.18	16.21	16.33	16.22	
10	QPSK	25	25	16.12	16.30	16.09	16.19	16.22	
10	QPSK	50	0	16.31	16.22	16.33	16.12	16.04	
10	16QAM	1	0	16.23	16.13	16.17	16.27	16.13	17
10	16QAM	1	25	16.32	16.32	16.32	16.41	16.31	
10	16QAM	1	49	16.23	16.21	16.11	16.17	16.05	
10	16QAM	25	0	16.34	16.32	16.28	16.20	16.39	17
10	16QAM	25	12	16.15	16.30	16.14	16.22	16.29	
10	16QAM	25	25	16.32	16.18	16.34	16.34	16.24	
10	16QAM	50	0	16.26	16.21	16.07	16.22	16.20	
10	64QAM	1	0	16.04	16.07	16.09	16.07	16.12	17
10	64QAM	1	25	16.11	16.21	16.25	16.21	16.29	
10	64QAM	1	49	16.32	16.25	16.14	16.22	16.11	
10	64QAM	25	0	16.36	16.26	16.22	16.26	16.31	17
10	64QAM	25	12	16.28	16.28	16.23	16.26	16.17	
10	64QAM	25	25	16.22	16.06	16.16	16.09	16.10	
10	64QAM	50	0	16.16	16.13	16.11	16.25	16.23	
10	256QAM	1	0	16.12	16.10	16.09	16.17	16.15	17
10	256QAM	1	25	16.22	16.19	16.01	16.05	16.02	
10	256QAM	1	49	16.24	16.23	16.13	16.08	16.10	
10	256QAM	25	0	16.30	16.24	16.23	16.22	16.31	17
10	256QAM	25	12	16.33	16.34	16.28	16.18	16.11	
10	256QAM	25	25	16.31	16.35	16.28	16.23	16.21	
10	256QAM	50	0	16.28	16.13	16.11	16.01	16.22	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	16.34	16.28	16.35	16.39	16.43	17.00
5	QPSK	1	12	16.22	16.27	16.21	16.19	16.31	
5	QPSK	1	24	16.40	16.19	16.34	16.22	16.23	
5	QPSK	12	0	16.35	16.27	16.19	16.33	16.37	17
5	QPSK	12	7	16.32	16.29	16.15	16.20	16.15	
5	QPSK	12	13	16.11	16.31	16.14	16.12	16.25	
5	QPSK	25	0	16.26	16.31	16.17	16.18	16.15	
5	16QAM	1	0	16.15	16.21	16.04	16.21	16.17	17
5	16QAM	1	12	16.40	16.33	16.36	16.28	16.41	
5	16QAM	1	24	16.15	16.17	16.07	16.06	15.97	
5	16QAM	12	0	16.37	16.28	16.30	16.35	16.33	17
5	16QAM	12	7	16.35	16.30	16.17	16.30	16.31	
5	16QAM	12	13	16.20	16.10	16.29	16.20	16.14	
5	16QAM	25	0	16.19	16.19	16.16	16.27	16.20	
5	64QAM	1	0	16.01	15.95	16.06	15.93	15.97	17
5	64QAM	1	12	16.23	16.09	16.29	16.29	16.11	
5	64QAM	1	24	16.20	16.25	16.18	16.09	16.13	

5	64QAM	12	0	16.23	16.36	16.23	16.19	16.35	17
5	64QAM	12	7	16.35	16.32	16.14	16.32	16.30	
5	64QAM	12	13	16.28	16.13	16.21	16.10	16.14	
5	64QAM	25	0	16.19	16.17	16.15	16.07	16.26	
5	256QAM	1	0	16.08	16.11	15.97	16.06	16.06	17
5	256QAM	1	12	16.06	16.18	16.14	16.07	16.06	
5	256QAM	1	24	16.14	16.22	16.15	16.11	16.18	
5	256QAM	12	0	16.34	16.26	16.27	16.33	16.19	17
5	256QAM	12	7	16.37	16.27	16.25	16.21	16.26	
5	256QAM	12	13	16.23	16.23	16.14	16.26	16.32	
5	256QAM	25	0	16.12	16.29	16.09	16.03	16.25	

<LTE Band 41_HPUE_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)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	16.58	16.52	16.60	16.58	15.70	17
20	QPSK	1	49	16.26	16.55	16.32	16.21	15.48	
20	QPSK	1	99	16.53	16.56	16.36	16.42	15.60	
20	QPSK	50	0	16.49	16.34	16.50	16.12	15.38	17
20	QPSK	50	24	16.33	16.30	16.34	16.34	15.74	
20	QPSK	50	50	16.29	16.28	16.30	16.36	15.53	
20	QPSK	100	0	16.32	16.29	16.33	16.25	15.53	
20	16QAM	1	0	16.43	16.30	16.30	16.31	15.60	17
20	16QAM	1	49	16.52	16.45	16.14	16.26	15.46	
20	16QAM	1	99	16.42	16.26	15.52	16.26	15.38	
20	16QAM	50	0	16.27	16.12	15.70	16.50	15.70	17
20	16QAM	50	24	16.28	16.46	15.52	16.31	15.44	
20	16QAM	50	50	16.30	16.46	15.54	16.45	15.34	
20	16QAM	100	0	16.33	16.36	15.66	16.31	15.65	
20	64QAM	1	0	16.24	16.29	15.49	16.14	15.43	17
20	64QAM	1	49	16.29	16.28	15.40	16.29	15.29	
20	64QAM	1	99	16.42	16.28	16.23	16.20	15.48	
20	64QAM	50	0	16.53	16.38	16.50	16.32	15.50	17
20	64QAM	50	24	16.32	16.13	16.18	16.19	15.26	
20	64QAM	50	50	16.24	16.46	15.90	16.46	15.93	
20	64QAM	100	0	16.24	16.45	15.52	16.40	15.49	
20	256QAM	1	0	16.28	16.45	15.66	16.47	15.54	17
20	256QAM	1	49	16.20	16.35	15.55	16.24	15.57	
20	256QAM	1	99	16.18	16.20	15.55	16.22	15.51	
20	256QAM	50	0	16.24	16.23	15.28	16.29	15.25	17
20	256QAM	50	24	16.22	16.27	15.73	16.38	15.64	
20	256QAM	50	50	16.35	16.38	15.56	16.21	15.53	
20	256QAM	100	0	16.22	16.21	15.72	16.37	15.64	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	16.49	16.50	16.47	16.52	15.66	17.00
15	QPSK	1	37	16.26	16.45	16.24	16.16	15.40	
15	QPSK	1	74	16.50	16.49	16.34	16.37	15.51	
15	QPSK	36	0	16.45	16.27	16.30	16.05	15.31	17
15	QPSK	36	20	16.25	16.20	16.24	16.25	15.69	
15	QPSK	36	39	16.25	16.27	16.27	16.28	15.43	
15	QPSK	75	0	16.23	16.19	16.25	16.23	15.45	

15	16QAM	1	0	16.35	16.30	16.21	16.29	15.54	17
15	16QAM	1	37	16.48	16.39	16.06	16.21	15.44	
15	16QAM	1	74	16.33	16.23	15.45	16.25	15.31	
15	16QAM	36	0	16.25	16.08	15.61	16.47	15.64	17
15	16QAM	36	20	16.26	16.43	15.50	16.31	15.42	
15	16QAM	36	39	16.26	16.40	15.46	16.38	15.33	
15	16QAM	75	0	16.31	16.35	15.66	16.28	15.57	
15	64QAM	1	0	16.14	16.23	15.43	16.07	15.39	17
15	64QAM	1	37	16.28	16.23	15.30	16.27	15.27	
15	64QAM	1	74	16.36	16.25	16.15	16.13	15.43	
15	64QAM	36	0	16.48	16.37	16.44	16.27	15.44	17
15	64QAM	36	20	16.26	16.06	16.10	16.10	15.19	
15	64QAM	36	39	16.22	16.37	15.88	16.44	15.87	
15	64QAM	75	0	16.14	16.39	15.46	16.36	15.41	
15	256QAM	1	0	16.28	16.40	15.61	16.40	15.52	17
15	256QAM	1	37	16.13	16.32	15.50	16.18	15.49	
15	256QAM	1	74	16.14	16.17	15.51	16.22	15.47	
15	256QAM	36	0	16.16	16.23	15.21	16.26	15.21	17
15	256QAM	36	20	16.16	16.25	15.65	16.38	15.59	
15	256QAM	36	39	16.27	16.29	15.50	16.18	15.47	
15	256QAM	75	0	16.19	16.11	15.67	16.34	15.61	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	16.55	16.42	16.45	16.51	15.63	17.00
10	QPSK	1	25	16.22	16.53	16.30	16.11	15.39	
10	QPSK	1	49	16.53	16.50	16.26	16.41	15.55	
10	QPSK	25	0	16.44	16.34	16.35	16.05	15.38	17
10	QPSK	25	12	16.27	16.21	16.26	16.24	15.64	
10	QPSK	25	25	16.27	16.28	16.21	16.26	15.43	
10	QPSK	50	0	16.27	16.29	16.21	16.16	15.46	
10	16QAM	1	0	16.39	16.25	16.26	16.29	15.55	17
10	16QAM	1	25	16.50	16.36	16.10	16.25	15.36	
10	16QAM	1	49	16.32	16.25	15.48	16.18	15.28	
10	16QAM	25	0	16.17	16.10	15.63	16.40	15.61	17
10	16QAM	25	12	16.20	16.36	15.51	16.29	15.43	
10	16QAM	25	25	16.27	16.38	15.44	16.36	15.34	
10	16QAM	50	0	16.26	16.32	15.61	16.27	15.60	
10	64QAM	1	0	16.19	16.25	15.48	16.10	15.35	17
10	64QAM	1	25	16.28	16.23	15.36	16.22	15.19	
10	64QAM	1	49	16.38	16.21	16.16	16.18	15.43	
10	64QAM	25	0	16.49	16.36	16.47	16.32	15.48	17
10	64QAM	25	12	16.26	16.03	16.16	16.17	15.23	
10	64QAM	25	25	16.14	16.36	15.80	16.41	15.93	
10	64QAM	50	0	16.21	16.42	15.42	16.37	15.48	
10	256QAM	1	0	16.19	16.42	15.64	16.45	15.48	17
10	256QAM	1	25	16.17	16.27	15.47	16.24	15.54	
10	256QAM	1	49	16.09	16.12	15.49	16.15	15.47	
10	256QAM	25	0	16.24	16.16	15.22	16.24	15.19	17
10	256QAM	25	12	16.20	16.20	15.69	16.32	15.62	
10	256QAM	25	25	16.28	16.31	15.54	16.14	15.48	
10	256QAM	50	0	16.15	16.17	15.69	16.33	15.60	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	16.52	16.44	16.44	16.50	15.61	17.00
5	QPSK	1	12	16.24	16.51	16.30	16.11	15.40	
5	QPSK	1	24	16.45	16.52	16.28	16.36	15.52	

5	QPSK	12	0	16.49	16.25	16.31	16.11	15.33	17
5	QPSK	12	7	16.27	16.25	16.31	16.29	15.65	
5	QPSK	12	13	16.25	16.19	16.29	16.36	15.51	
5	QPSK	25	0	16.32	16.28	16.27	16.17	15.51	
5	16QAM	1	0	16.36	16.25	16.23	16.21	15.55	17
5	16QAM	1	12	16.44	16.45	16.05	16.24	15.36	
5	16QAM	1	24	16.34	16.24	15.52	16.24	15.34	
5	16QAM	12	0	16.17	16.05	15.64	16.43	15.62	17
5	16QAM	12	7	16.19	16.36	15.45	16.25	15.39	
5	16QAM	12	13	16.20	16.43	15.50	16.42	15.32	
5	16QAM	25	0	16.23	16.27	15.56	16.26	15.55	
5	64QAM	1	0	16.16	16.26	15.45	16.14	15.33	17
5	64QAM	1	12	16.20	16.22	15.34	16.20	15.22	
5	64QAM	1	24	16.33	16.23	16.23	16.17	15.47	
5	64QAM	12	0	16.53	16.35	16.44	16.27	15.42	17
5	64QAM	12	7	16.23	16.13	16.12	16.17	15.24	
5	64QAM	12	13	16.21	16.45	15.89	16.41	15.88	
5	64QAM	25	0	16.15	16.36	15.50	16.37	15.48	
5	256QAM	1	0	16.26	16.38	15.62	16.46	15.51	17
5	256QAM	1	12	16.11	16.34	15.47	16.16	15.50	
5	256QAM	1	24	16.09	16.20	15.46	16.21	15.47	
5	256QAM	12	0	16.14	16.19	15.28	16.19	15.20	17
5	256QAM	12	7	16.13	16.23	15.64	16.29	15.55	
5	256QAM	12	13	16.31	16.33	15.47	16.13	15.47	
5	256QAM	25	0	16.16	16.18	15.62	16.31	15.56	

<LTE Band 48_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	19.53	19.58	19.56	19.21	20
20	QPSK	1	49	19.32	19.30	19.38	18.87	
20	QPSK	1	99	19.43	19.51	19.44	19.31	
20	QPSK	50	0	18.90	19.03	18.97	18.72	20
20	QPSK	50	24	18.88	18.93	18.96	18.59	
20	QPSK	50	50	18.87	18.95	18.86	18.68	
20	QPSK	100	0	18.63	18.86	18.81	18.63	
20	16QAM	1	0	18.70	18.81	18.81	18.69	20
20	16QAM	1	49	18.60	18.50	18.60	18.57	
20	16QAM	1	99	18.79	18.95	18.91	18.81	
20	16QAM	50	0	19.37	19.48	19.41	19.15	20
20	16QAM	50	24	19.25	19.27	19.30	18.82	
20	16QAM	50	50	19.41	19.46	19.40	19.34	
20	16QAM	100	0	19.44	19.47	19.40	19.20	
20	64QAM	1	0	19.32	19.41	19.45	19.04	20
20	64QAM	1	49	19.39	19.45	19.54	19.19	
20	64QAM	1	99	19.37	19.41	19.39	19.42	
20	64QAM	50	0	17.92	18.00	18.09	17.79	19
20	64QAM	50	24	17.89	18.01	18.05	17.69	
20	64QAM	50	50	17.81	17.92	17.98	17.54	
20	64QAM	100	0	17.86	17.91	18.02	17.66	
20	256QAM	1	0	15.58	15.84	15.73	15.69	17
20	256QAM	1	49	15.78	16.07	15.84	15.78	

20	256QAM	1	99	15.80	15.90	15.74	15.64	
20	256QAM	50	0	15.88	16.18	15.99	15.93	17
20	256QAM	50	24	15.86	16.20	16.07	15.94	
20	256QAM	50	50	15.94	16.15	15.99	15.86	
20	256QAM	100	0	15.90	16.13	15.94	15.90	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	19.34	19.53	19.50	19.20	20
15	QPSK	1	37	19.27	19.25	19.35	18.81	
15	QPSK	1	74	19.37	19.48	19.44	19.22	
15	QPSK	36	0	18.89	18.97	18.96	18.68	20
15	QPSK	36	20	18.78	18.92	18.96	18.53	
15	QPSK	36	39	18.78	18.94	18.81	18.58	
15	QPSK	75	0	18.58	18.77	18.74	18.55	
15	16QAM	1	0	18.67	18.74	18.80	18.60	20
15	16QAM	1	37	18.60	18.51	18.51	18.57	
15	16QAM	1	74	18.70	18.85	18.83	18.79	
15	16QAM	36	0	19.29	19.42	19.34	19.05	20
15	16QAM	36	20	19.18	19.22	19.27	18.74	
15	16QAM	36	39	19.38	19.36	19.32	19.34	
15	16QAM	75	0	19.40	19.46	19.32	19.16	
15	64QAM	1	0	19.24	19.35	19.44	19.02	20
15	64QAM	1	37	19.32	19.37	19.54	19.10	
15	64QAM	1	74	19.34	19.40	19.32	19.35	
15	64QAM	36	0	17.90	17.93	18.07	17.78	19
15	64QAM	36	20	17.88	18.00	17.95	17.69	
15	64QAM	36	39	17.72	17.85	17.97	17.50	
15	64QAM	75	0	17.78	17.82	18.02	17.58	
15	256QAM	1	0	15.54	15.74	15.63	15.69	17
15	256QAM	1	37	15.69	16.03	15.75	15.75	
15	256QAM	1	74	15.79	15.84	15.70	15.59	
15	256QAM	36	0	15.82	16.16	15.95	15.89	17
15	256QAM	36	20	15.86	16.11	16.02	15.85	
15	256QAM	36	39	15.90	16.13	15.92	15.82	
15	256QAM	75	0	15.87	16.04	15.85	15.86	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	19.34	19.53	19.49	19.14	20
10	QPSK	1	25	19.27	19.25	19.33	18.79	
10	QPSK	1	49	19.37	19.48	19.36	19.25	
10	QPSK	25	0	18.89	18.97	18.92	18.63	20
10	QPSK	25	12	18.78	18.92	18.94	18.50	
10	QPSK	25	25	18.78	18.94	18.80	18.66	
10	QPSK	50	0	18.58	18.77	18.78	18.61	
10	16QAM	1	0	18.67	18.74	18.75	18.64	20
10	16QAM	1	25	18.60	18.51	18.54	18.58	
10	16QAM	1	49	18.70	18.85	18.84	18.77	
10	16QAM	25	0	19.29	19.42	19.31	19.10	20
10	16QAM	25	12	19.18	19.22	19.20	18.82	
10	16QAM	25	25	19.38	19.36	19.32	19.25	
10	16QAM	50	0	19.40	19.46	19.30	19.12	
10	64QAM	1	0	19.24	19.35	19.44	18.99	20
10	64QAM	1	25	19.32	19.37	19.50	19.17	
10	64QAM	1	49	19.34	19.40	19.37	19.37	
10	64QAM	25	0	17.90	17.93	18.06	17.75	19
10	64QAM	25	12	17.88	18.00	18.03	17.66	

10	64QAM	25	25	17.72	17.85	17.90	17.49	
10	64QAM	50	0	17.78	17.82	17.99	17.56	
10	256QAM	1	0	15.54	15.74	15.68	15.64	17
10	256QAM	1	25	15.69	16.03	15.80	15.70	
10	256QAM	1	49	15.79	15.84	15.70	15.56	
10	256QAM	25	0	15.82	16.16	15.89	15.85	17
10	256QAM	25	12	15.86	16.11	15.98	15.87	
10	256QAM	25	25	15.90	16.13	15.91	15.77	
10	256QAM	50	0	15.87	16.04	15.85	15.90	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	19.34	19.53	19.53	19.17	20
5	QPSK	1	12	19.27	19.25	19.38	18.83	
5	QPSK	1	24	19.37	19.48	19.34	19.27	
5	QPSK	12	0	18.89	18.97	18.93	18.71	20
5	QPSK	12	7	18.78	18.92	18.90	18.59	
5	QPSK	12	13	18.78	18.94	18.76	18.68	
5	QPSK	25	0	18.58	18.77	18.78	18.57	
5	16QAM	1	0	18.67	18.74	18.71	18.61	20
5	16QAM	1	12	18.60	18.51	18.59	18.60	
5	16QAM	1	24	18.70	18.85	18.87	18.75	
5	16QAM	12	0	19.29	19.42	19.32	19.12	20
5	16QAM	12	7	19.18	19.22	19.30	18.80	
5	16QAM	12	13	19.38	19.36	19.31	19.30	
5	16QAM	25	0	19.40	19.46	19.33	19.15	
5	64QAM	1	0	19.24	19.35	19.38	19.02	20
5	64QAM	1	12	19.32	19.37	19.45	19.16	
5	64QAM	1	24	19.34	19.40	19.39	19.34	
5	64QAM	12	0	17.90	17.93	18.02	17.73	19
5	64QAM	12	7	17.88	18.00	18.05	17.64	
5	64QAM	12	13	17.72	17.85	17.96	17.47	
5	64QAM	25	0	17.78	17.82	17.97	17.57	
5	256QAM	1	0	15.54	15.74	15.69	15.63	17
5	256QAM	1	12	15.69	16.03	15.80	15.73	
5	256QAM	1	24	15.79	15.84	15.73	15.58	
5	256QAM	12	0	15.82	16.16	15.94	15.86	17
5	256QAM	12	7	15.86	16.11	15.99	15.93	
5	256QAM	12	13	15.90	16.13	15.89	15.86	
5	256QAM	25	0	15.87	16.04	15.86	15.83	

<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)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	19.53	19.58	19.56	19.21	20
20	QPSK	1	49	19.32	19.30	19.38	18.87	
20	QPSK	1	99	19.43	19.51	19.44	19.31	
20	QPSK	50	0	18.90	19.03	18.97	18.72	20
20	QPSK	50	24	18.88	18.93	18.96	18.59	
20	QPSK	50	50	18.87	18.95	18.86	18.68	
20	QPSK	100	0	18.63	18.86	18.81	18.63	
20	16QAM	1	0	18.70	18.81	18.81	18.69	20
20	16QAM	1	49	18.60	18.50	18.60	18.57	

20	16QAM	1	99	18.79	18.95	18.91	18.81	
20	16QAM	50	0	19.37	19.48	19.41	19.15	20
20	16QAM	50	24	19.25	19.27	19.30	18.82	
20	16QAM	50	50	19.41	19.46	19.40	19.34	
20	16QAM	100	0	19.44	19.47	19.40	19.20	
20	64QAM	1	0	19.32	19.41	19.45	19.04	20
20	64QAM	1	49	19.39	19.45	19.54	19.19	
20	64QAM	1	99	19.37	19.41	19.39	19.42	
20	64QAM	50	0	17.92	18.00	18.09	17.79	19
20	64QAM	50	24	17.89	18.01	18.05	17.69	
20	64QAM	50	50	17.81	17.92	17.98	17.54	
20	64QAM	100	0	17.86	17.91	18.02	17.66	
20	256QAM	1	0	15.58	15.84	15.73	15.69	17
20	256QAM	1	49	15.78	16.07	15.84	15.78	
20	256QAM	1	99	15.80	15.90	15.74	15.64	
20	256QAM	50	0	15.88	16.18	15.99	15.93	17
20	256QAM	50	24	15.86	16.20	16.07	15.94	
20	256QAM	50	50	15.94	16.15	15.99	15.86	
20	256QAM	100	0	15.90	16.13	15.94	15.90	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	19.34	19.53	19.50	19.20	20
15	QPSK	1	37	19.27	19.25	19.35	18.81	
15	QPSK	1	74	19.37	19.48	19.44	19.22	
15	QPSK	36	0	18.89	18.97	18.96	18.68	20
15	QPSK	36	20	18.78	18.92	18.96	18.53	
15	QPSK	36	39	18.78	18.94	18.81	18.58	
15	QPSK	75	0	18.58	18.77	18.74	18.55	
15	16QAM	1	0	18.67	18.74	18.80	18.60	20
15	16QAM	1	37	18.60	18.51	18.51	18.57	
15	16QAM	1	74	18.70	18.85	18.83	18.79	
15	16QAM	36	0	19.29	19.42	19.34	19.05	20
15	16QAM	36	20	19.18	19.22	19.27	18.74	
15	16QAM	36	39	19.38	19.36	19.32	19.34	
15	16QAM	75	0	19.40	19.46	19.32	19.16	
15	64QAM	1	0	19.24	19.35	19.44	19.02	20
15	64QAM	1	37	19.32	19.37	19.54	19.10	
15	64QAM	1	74	19.34	19.40	19.32	19.35	
15	64QAM	36	0	17.90	17.93	18.07	17.78	19
15	64QAM	36	20	17.88	18.00	17.95	17.69	
15	64QAM	36	39	17.72	17.85	17.97	17.50	
15	64QAM	75	0	17.78	17.82	18.02	17.58	
15	256QAM	1	0	15.54	15.74	15.63	15.69	17
15	256QAM	1	37	15.69	16.03	15.75	15.75	
15	256QAM	1	74	15.79	15.84	15.70	15.59	
15	256QAM	36	0	15.82	16.16	15.95	15.89	17
15	256QAM	36	20	15.86	16.11	16.02	15.85	
15	256QAM	36	39	15.90	16.13	15.92	15.82	
15	256QAM	75	0	15.87	16.04	15.85	15.86	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	19.34	19.53	19.49	19.14	20
10	QPSK	1	25	19.27	19.25	19.33	18.79	
10	QPSK	1	49	19.37	19.48	19.36	19.25	
10	QPSK	25	0	18.89	18.97	18.92	18.63	20
10	QPSK	25	12	18.78	18.92	18.94	18.50	

10	QPSK	25	25	18.78	18.94	18.80	18.66	
10	QPSK	50	0	18.58	18.77	18.78	18.61	
10	16QAM	1	0	18.67	18.74	18.75	18.64	20
10	16QAM	1	25	18.60	18.51	18.54	18.58	
10	16QAM	1	49	18.70	18.85	18.84	18.77	
10	16QAM	25	0	19.29	19.42	19.31	19.10	20
10	16QAM	25	12	19.18	19.22	19.20	18.82	
10	16QAM	25	25	19.38	19.36	19.32	19.25	
10	16QAM	50	0	19.40	19.46	19.30	19.12	
10	64QAM	1	0	19.24	19.35	19.44	18.99	20
10	64QAM	1	25	19.32	19.37	19.50	19.17	
10	64QAM	1	49	19.34	19.40	19.37	19.37	
10	64QAM	25	0	17.90	17.93	18.06	17.75	19
10	64QAM	25	12	17.88	18.00	18.03	17.66	
10	64QAM	25	25	17.72	17.85	17.90	17.49	
10	64QAM	50	0	17.78	17.82	17.99	17.56	
10	256QAM	1	0	15.54	15.74	15.68	15.64	17
10	256QAM	1	25	15.69	16.03	15.80	15.70	
10	256QAM	1	49	15.79	15.84	15.70	15.56	
10	256QAM	25	0	15.82	16.16	15.89	15.85	17
10	256QAM	25	12	15.86	16.11	15.98	15.87	
10	256QAM	25	25	15.90	16.13	15.91	15.77	
10	256QAM	50	0	15.87	16.04	15.85	15.90	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	19.34	19.53	19.53	19.17	20
5	QPSK	1	12	19.27	19.25	19.38	18.83	
5	QPSK	1	24	19.37	19.48	19.34	19.27	
5	QPSK	12	0	18.89	18.97	18.93	18.71	20
5	QPSK	12	7	18.78	18.92	18.90	18.59	
5	QPSK	12	13	18.78	18.94	18.76	18.68	
5	QPSK	25	0	18.58	18.77	18.78	18.57	
5	16QAM	1	0	18.67	18.74	18.71	18.61	20
5	16QAM	1	12	18.60	18.51	18.59	18.60	
5	16QAM	1	24	18.70	18.85	18.87	18.75	
5	16QAM	12	0	19.29	19.42	19.32	19.12	20
5	16QAM	12	7	19.18	19.22	19.30	18.80	
5	16QAM	12	13	19.38	19.36	19.31	19.30	
5	16QAM	25	0	19.40	19.46	19.33	19.15	
5	64QAM	1	0	19.24	19.35	19.38	19.02	20
5	64QAM	1	12	19.32	19.37	19.45	19.16	
5	64QAM	1	24	19.34	19.40	19.39	19.34	
5	64QAM	12	0	17.90	17.93	18.02	17.73	19
5	64QAM	12	7	17.88	18.00	18.05	17.64	
5	64QAM	12	13	17.72	17.85	17.96	17.47	
5	64QAM	25	0	17.78	17.82	17.97	17.57	
5	256QAM	1	0	15.54	15.74	15.69	15.63	17
5	256QAM	1	12	15.69	16.03	15.80	15.73	
5	256QAM	1	24	15.79	15.84	15.73	15.58	
5	256QAM	12	0	15.82	16.16	15.94	15.86	17
5	256QAM	12	7	15.86	16.11	15.99	15.93	
5	256QAM	12	13	15.90	16.13	15.89	15.86	
5	256QAM	25	0	15.87	16.04	15.86	15.83	

<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		
NO.	Combination	Covered by measurement superset	NO.	Combination	Covered by measurement superset	NO.	Combination	Covered by measurement superset	NO.	Combination	Covered by measurement superset
	2A-2A			2A-2A-4A			2A-2A-4A-4A			2A-2A-5A-66A-66A	
	2A-4A			2A-2A-5A			2A-2A-4A-5A			2A-2A-5A-66B	
	2A-5A			2A-2A-12A			2A-2A-4A-12A			2A-2A-5A-66C	
	2A-7A			2A-2A-13A			2A-2A-4A-71A			2A-2A-12A-30A-66A	
	2A-12A			2A-2A-14A			2A-2A-5A-66A			2A-2A-12A-66A-66A	
	2A-13A			2A-2A-30A			2A-2A-12A-30A			2A-2A-13A-66A-66A	
	2A-14A			2A-2A-66A			2A-2A-12A-66A			2A-2A-13A-66B	
	2A-30A			2A-2A-71A			2A-2A-13A-66A			2A-2A-14A-30A-66A	
	2A-48A			2A-4A-4A			2A-2A-14A-30A			2A-2A-14A-66A-66A	
	2A-66A			2A-4A-5A			2A-2A-14A-66A			2A-5A-48A-48A-66A	
	2A-71A			2A-4A-7A			2A-2A-30A-66A			2A-5A-48A-48C	
	4A-4A			2A-4A-12A			2A-2A-66A-66A			2A-5A-48C-66A	
	4A-5A			2A-4A-13A			2A-2A-66A-71A			2A-5A-48D	
	4A-7A			2A-4A-30A			2A-2A-66B			2A-5B-30A-66A	
	4A-12A			2A-4A-71A			2A-2A-66C			2A-5B-66A-66A	
	4A-13A			2A-5A-30A			2A-4A-4A-5A			2A-5B-66B	
	4A-30A			2A-5A-48A			2A-4A-4A-12A			2A-5B-66C	
	4A-71A			2A-5A-66A			2A-4A-5A-30A			2A-12A-30A-66A-66A	
	5A-5A			2A-5B			2A-4A-5B			2A-13A-48A-48A-66A	
	5A-7A			2A-12A-30A			2A-4A-12A-30A			2A-13A-48A-48C	
	5A-30A			2A-12A-66A			2A-5A-30A-66A			2A-13A-48C-66A	
	5A-48A			2A-13A-48A			2A-5A-48A-48A			2A-13A-48D	
	5A-66A			2A-13A-66A			2A-5A-48A-66A			2A-14A-30A-66A-66A	
	7A-7A			2A-14A-30A			2A-5A-48C			2A-14A-66A-66A-66A	
	12A-30A			2A-14A-66A			2A-5A-66A-66A			2A-48A-48C-66A	
	12A-66A			2A-30A-66A			2A-5A-66B			2A-48A-48D	
	13A-48A			2A-48A-48A			2A-5A-66C			2A-48C-48C	
	13A-66A			2A-48A-66A			2A-5B-30A			2A-48D-66A	
	14A-30A			2A-48C			2A-5B-66A			2A-48E	
	14A-66A			2A-66A-66A			2A-12A-30A-66A			5A-48A-48C-66A	
	25A-25A			2A-66A-71A			2A-12A-66A-66A			5A-48A-48D	
	25A-26A			2A-66B			2A-12A-66C			5A-48C-48C	
	26A-41A			2A-66C			2A-13A-48A-48A			5A-48D-66A	
	30A-66A			2C-66A			2A-13A-48A-66A			5A-48E	
	38C			4A-4A-5A			2A-13A-48C			13A-48A-48C-66A	
	41A-41A			4A-4A-12A			2A-13A-66A-66A			13A-48C-48C	
	41C			4A-4A-13A			2A-13A-66B			13A-48C-66B	
	48A-48A			4A-4A-30A			2A-13A-66C			13A-48C-66C	
	48A-66A			4A-4A-71A			2A-14A-30A-66A			13A-48D-66A	
	48C			4A-5A-30A			2A-14A-66A-66A			13A-48E	
	66A-66A			4A-5B			2A-30A-66A-66A			41F	
	66A-71A			4A-12A-30A			2A-48A-48A-66A			48A-48A-48D	
	66B			5A-5A-66A			2A-48A-48C			48A-48C-48C	
	66C			5A-7A-7A			2A-48C-66A			48A-48C-66B	
	25A-41A			5A-30A-66A			2A-48D			48A-48C-66C	
	4A-17A			5A-48A-48A			2A-66A-66A-66A			48A-48D-66A	

				5A-48A-66A			2A-66A-66A-71A			48C-48C-66A	
				5A-48C			2A-66C-71A			48C-66A-66A-66A	
				5A-66A-66A			2C-66A-66A			48E-66A	
				5A-66B			4A-4A-5B			48F	
				5A-66C			4A-4A-12A-30A			2A-5A-5A-66A-66A	
				5B-30A			5A-5A-66A-66A			2A-2A-5B-66A	
				5B-66A			5A-5A-66B				
				12A-30A-66A			5A-5A-66C				
				12A-66A-66A			5A-48A-48A-66A				
				13A-48A-48A			5A-48A-48C				
				13A-48A-66A			5A-48C-66A				
				13A-48C			5A-48D				
				13A-66A-66A			5B-30A-66A				
				13A-66B			5B-66A-66A				
				13A-66C			5B-66B				
				14A-30A-66A			5B-66C				
				14A-66A-66A			12A-30A-66A-66A				
				26A-41C			12A-66C				
				30A-66A-66A			13A-48A-48A-66A				
				41A-41C			13A-48A-48C				
				41D			13A-48A-66B				
				48A-48A-48A			13A-48A-66C				
				48A-48A-66A			13A-48C-66A				
				48A-48C			13A-48D				
				48A-66A-66A			14A-30A-66A-66A				
				48A-66B			14A-66A-66A-66A				
				48A-66C			30A-66A-66A-66A				
				48C-66A			41A-41D				
				48D			41C-41C				
				66A-66A-66A			41E				
				66A-66A-71A			48A-48A-48C				
				66A-66C			48A-48A-66A-66A				
				66C-71A			48A-48A-66B				
				2A-5A-5A			48A-48A-66C				
				25A-41C			48A-48C-66A				
							48A-48D				
							48A-66A-66A-66A				
							48C-48C				
							48C-66A-66A				
							48C-66B				
							48C-66C				
							48D-66A				
							48E				
							2A-2A-5A-30A				
							2A-5A-5A-66A				
							5A-30A-66A-66A				
							13A-66A-66A-66A				
							25A-41D				
							2A-2A-5B				

<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		25	20	1905	26590	QPSK	1	0	26	15	876.5	8865	22.72	22.96
		4	10	1750	20350	QPSK	1	0	17	10	740	5790	22.66	22.84
Intra-Band	Contiguous	38	20	2580	37850	QPSK	1	1	38	20	2599.80	38048	22.91	23.12

<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	Band 2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	22.65	22.70
	Band 2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	13	10	751	5230	22.62	22.70
	Band 5	10	836.5	20525	QPSK	1	0	7	20	2655	3100	7	5	2687.5	3425	24.05	24.10
	Band 26	15	831.5	26865	QPSK	1	0	41	20	2593	40620	41	20	2612.8	40818	24.13	24.34

<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	Band 2	20	1860	18700	QPSK	1	0	2	5	1980	1100	4	20	2132.5	2175	71	20	634.5	68761	22.55	22.70
	Band 2	20	1860	18700	QPSK	1	0	2	5	1980	1100	66	20	2155	66886	71	20	634.5	68761	22.61	22.70
	Band 2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	30	10	2355	9820	22.65	22.70
	Band 2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	12	10	737.5	5095	30	10	2355	9820	22.59	22.70
	Band 2	20	1860	18700	QPSK	1	0	66	20	2155	66886	66	20	2139.8	66734	71	20	634.5	68761	22.66	22.70
	Band 48	20	3609	55830	QPSK	1	0	48	20	3628.8	56028	66	20	2155	66886	66	20	2164.8	67084	20.99	21.15
	Band 48	20	3609	55830	QPSK	1	0	48	20	3628.8	56028	48	20	3648.6	56226	66	20	2155	66886	21.13	21.15
	Band 25	20	1905	26590	QPSK	1	0	41	20	2593	40620	41	20	2612.8	2175	41	20	2636.2	41052	22.79	22.96

<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	Band 2	20	1860	18700	QPSK	1	0	2	5	1980	1100	12	10	737.5	5095	30	10	2355	9820	66	20	2155	66886	22.62	22.70
	Band 2	20	1860	18700	QPSK	1	0	2	5	1980	1100	14	10	763	5330	30	10	2355	9820	66	20	2155	66886	22.55	22.70
	Band 2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	48	20	3625	55990	48	20	3644.8	56188	66	20	2155	66886	22.68	22.70
	Band 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	22.59	22.70
	Band 2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	30	10	2355	9820	66	20	2139.8	66734	66	5	2197.5	67311	22.66	22.70
	Band 2	20	1860	18700	QPSK	1	0	13	10	751	5230	48	20	3625	55990	48	20	3648.6	56226	66	20	2139.8	66734	22.65	22.70
	Band 2	20	1860	18700	QPSK	1	0	14	10	763	5330	30	10	2355	9820	66	20	2155	66886	66	20	2164.8	67084	22.56	22.70

<LTE Uplink carrier aggregation>

2CC Uplink Carrier Aggregation		
Number	Combination	
	Main_ Ant	MIMO2_ Ant
1	5B	
2	7C	7C
3	66B	66B
4	66C	66C
5	38C	38C
6	41C	38C
7	48C	38C

<Intra-band>

General Note:

i. The device supports intra-band uplink carrier aggregation for LTE B5/B7/B66/B38/B41/B48 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>

<Main>

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	23.63	25
20575	20476	QPSK	1	0	1	49	2	0	23.71	25
20600	20501	QPSK	1	0	1	49	2	0	23.69	25

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	22.03	24
21100	20902	QPSK	1	0	1	99	2	0	22.26	24
21350	21152	QPSK	1	0	1	99	2	0	22.46	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	22.15	24
132322	132229	QPSK	1	0	1	24	2	0	22.3	24
132597	132504	QPSK	1	0	1	24	2	0	22.14	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	22.18	24
132322	132124	QPSK	1	0	1	99	2	0	22.36	24
132572	132374	QPSK	1	0	1	99	2	0	22.2	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	22.17	24
37901	38099	QPSK	1	0	0	0	1	0	22.12	24
38150	37952	QPSK	1	0	1	99	2	0	22.39	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	21.82	22
40185	39987	QPSK	1	0	0	0	2	0	21.78	22
40620	40422	QPSK	1	0	0	0	2	0	21.06	22
41055	40857	QPSK	1	0	0	0	2	0	21.32	22
41490	41292	QPSK	1	0	0	0	2	0	21.05	22

CA_48C										
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	19.1	21
55830	55632	QPSK	1	0	1	99	2	0	19.32	21
56150	55952	QPSK	1	0	1	99	2	0	19.4	21
56640	56442	QPSK	1	0	1	99	2	0	19.65	21

<MIMO 2>

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	22.1	24
21100	20902	QPSK	1	0	1	99	2	0	22.1	24
21350	21152	QPSK	1	0	1	99	2	0	22.15	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	23.54	24
132322	132229	QPSK	1	0	1	24	2	0	23.69	24
132597	132504	QPSK	1	0	1	24	2	0	23.75	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	22.01	24
132322	132124	QPSK	1	0	1	99	2	0	22.32	24
132572	132374	QPSK	1	0	1	99	2	0	22.31	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	23.14	24
37901	38099	QPSK	1	0	0	0	1	0	22.79	24
38150	37952	QPSK	1	0	1	99	2	0	23.34	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	22.1	24
40185	39987	QPSK	1	0	0	0	1	0	22.06	24
40620	40422	QPSK	1	0	0	0	1	0	22.15	24
41055	40857	QPSK	1	0	0	0	1	0	22.04	24
41490	41292	QPSK	1	0	0	0	1	0	22.08	24

CA_48C										
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	21.85	22
55830	55632	QPSK	1	0	1	99	2	0	21.74	22
56150	55952	QPSK	1	0	1	99	2	0	21.66	22
56640	56442	QPSK	1	0	1	99	2	0	21.8	22

<Reduced Power Mode>

<Main>

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	21.21	22.5
20575	20476	QPSK	1	0	1	49	2	0	21.43	22.5
20600	20501	QPSK	1	0	1	49	2	0	21.3	22.5

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	15.63	16
21100	20902	QPSK	1	0	1	99	2	0	15.56	16
21350	21152	QPSK	1	0	1	99	2	0	15.85	16

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	17.11	18
132322	132229	QPSK	1	0	1	24	2	0	17.23	18
132597	132504	QPSK	1	0	1	24	2	0	17.24	18

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	17.11	18
132322	132124	QPSK	1	0	1	99	2	0	17.03	18
132572	132374	QPSK	1	0	1	99	2	0	17.2	18

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	16.17	17
37901	38099	QPSK	1	0	0	0	1	0	16.02	17
38150	37952	QPSK	1	0	1	99	2	0	15.98	17

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	15.12	17
40185	39987	QPSK	1	0	0	0	1	0	15.23	17
40620	40422	QPSK	1	0	0	0	1	0	15.06	17
41055	40857	QPSK	1	0	0	0	1	0	15.27	17
41490	41292	QPSK	1	0	0	0	1	0	15.32	17

CA_48C										
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	18.25	20
55830	55632	QPSK	1	0	1	99	2	0	18.16	20
56150	55952	QPSK	1	0	1	99	2	0	18.24	20
56640	56442	QPSK	1	0	1	99	2	0	18.1	20

<MIMO 2>

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	15.51	17.5
21100	20902	QPSK	1	0	1	99	2	0	15.73	17.5
21350	21152	QPSK	1	0	1	99	2	0	15.72	17.5

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	17.46	17.5
132322	132229	QPSK	1	0	1	24	2	0	17.5	17.5
132597	132504	QPSK	1	0	1	24	2	0	17.49	17.5

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	15.54	17.5
132322	132124	QPSK	1	0	1	99	2	0	16.09	17.5
132572	132374	QPSK	1	0	1	99	2	0	16	17.5

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	16.59	17
37901	38099	QPSK	1	0	0	0	1	0	16.6	17
38150	37952	QPSK	1	0	1	99	2	0	16.68	17

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	15.2	17
40185	39987	QPSK	1	0	0	0	1	0	15.45	17
40620	40422	QPSK	1	0	0	0	1	0	15.3	17
41055	40857	QPSK	1	0	0	0	1	0	15.23	17
41490	41292	QPSK	1	0	0	0	1	0	15.6	17

CA_48C										
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	19.08	20
55830	55632	QPSK	1	0	1	99	2	0	19.03	20
56150	55952	QPSK	1	0	1	99	2	0	18.89	20
56640	56442	QPSK	1	0	1	99	2	0	18.9	20

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

General Note:

1. The device support SCS 15KHz and 30KHz for NR FDD and TDD and have the same maximum power, in this report only select SCS 15KHz for NR FDD and SCS 30KHz for NR TDD power measurement, due to SCS 15KHz for FDD and SCS 30KHz for TDD have highest support bandwidth, and the NR SAR is < 1g SAR 1.45W/kg. Output power and SAR measurement for SCS30KHz for FDD and SCS15KHz for TDD shall be not necessary.
2. Referencing the procedure in KDB 941225, the test procedures are outlined as below
   a. For DFT-OFDM output power measurement, full measurement was done for Pi/2 BPSK and QPSK and for the largest supported bandwidth, repeat test for 16QAM/64QAM/256QAM under 1RB 1Offset configuration. For smaller bandwidth, measure conducted power for Pi/2 BPSK and 1RB 1Offset configuration.
   b. According to the tune-up, CP-OFDM output power is not ½ dB higher than DFT-OFDM mode, and the reported SAR of DFT-OFDM mode reported SAR is ≤ 1.45 W/kg, SAR test and thus conducted power for CP-OFDM mode is not required.
   c. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
   d. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
   e. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not ½ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
   f. Smaller bandwidth output power for each RB allocation configuration for this device is not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
   g. The NR n5/41/66/71/77 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.
   h. The NR n2/38 SAR test was covered by NR n25/41; due to SAR test for overlapping NR bands can be reduced if the maximum power including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion and the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
3. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission

<3GPP 38.101 MPR for EN-DC>

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

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 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		

Default Power Mode

<n2_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	24.00	23.78	23.95	24.0
20	PI/2 BPSK	1	53	23.85	23.91	23.86	
20	PI/2 BPSK	1	104	23.83	23.82	23.89	
20	PI/2 BPSK	50	0	23.22	23.12	23.06	23.5
20	PI/2 BPSK	50	28	23.93	23.89	23.91	24.0
20	PI/2 BPSK	50	56	23.46	23.48	23.54	23.5
20	PI/2 BPSK	100	0	23.56	23.46	23.46	
20	QPSK	1	1	23.65	23.64	23.65	24.0
20	QPSK	1	53	23.89	23.83	23.76	
20	QPSK	1	104	23.77	23.77	23.72	
20	QPSK	50	0	22.59	22.62	22.57	23.0
20	QPSK	50	28	23.84	23.85	23.93	24.0
20	QPSK	50	56	23.01	22.96	23.06	23.0
20	QPSK	100	0	22.89	22.81	22.85	
20	16QAM	1	1	22.55	22.62	22.66	23.0
20	64QAM	1	1	20.94	20.92	20.86	21.5
20	256QAM	1	1	19.18	19.28	19.20	19.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	23.72	23.75	23.73	24.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	23.62	23.82	23.73	24.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	23.82	23.77	23.65	24.0

<n2_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)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	23.99	23.91	23.95	24.0
20	PI/2 BPSK	1	53	23.85	23.90	23.86	
20	PI/2 BPSK	1	104	23.83	23.82	23.89	
20	PI/2 BPSK	50	0	23.22	23.12	23.06	23.5
20	PI/2 BPSK	50	28	23.90	23.89	23.81	24.0
20	PI/2 BPSK	50	56	23.46	23.48	23.54	23.5
20	PI/2 BPSK	100	0	23.56	23.46	23.46	
20	QPSK	1	1	23.65	23.64	23.65	24.0
20	QPSK	1	53	23.89	23.83	23.76	
20	QPSK	1	104	23.77	23.77	23.72	
20	QPSK	50	0	22.59	22.62	22.57	23.0
20	QPSK	50	28	23.84	23.85	23.93	24.0
20	QPSK	50	56	23.01	22.96	23.06	23.0
20	QPSK	100	0	22.89	22.81	22.85	
20	16QAM	1	1	22.55	22.62	22.66	23.0
20	64QAM	1	1	20.94	20.92	20.86	21.5
20	256QAM	1	1	19.18	19.28	19.20	19.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	23.72	23.75	23.73	24.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	23.62	23.82	23.73	24.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	23.82	23.77	23.65	24.0

<n5_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	24.44	24.56	24.64	25.0
20	PI/2 BPSK	1	53	24.57	24.55	24.55	
20	PI/2 BPSK	1	104	24.39	24.48	24.42	
20	PI/2 BPSK	50	0	24.53	24.52	24.59	25.0
20	PI/2 BPSK	50	28	24.52	24.51	24.54	25.0
20	PI/2 BPSK	50	56	24.42	24.45	24.52	25.0
20	PI/2 BPSK	100	0	24.47	24.48	24.56	
20	QPSK	1	1	24.32	24.42	24.33	25.0
20	QPSK	1	53	24.55	24.53	24.57	
20	QPSK	1	104	24.41	24.47	24.49	
20	QPSK	50	0	24.49	24.58	24.60	25.0
20	QPSK	50	28	24.59	24.52	24.54	25.0
20	QPSK	50	56	24.45	24.49	24.54	25.0
20	QPSK	100	0	24.55	24.51	24.54	
20	16QAM	1	1	24.41	24.32	24.28	25.0
20	64QAM	1	1	24.29	24.19	24.14	25.0
20	256QAM	1	1	24.45	24.39	24.33	25.0
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	24.39	24.43	24.35	25.0
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	24.39	24.52	24.29	25.0
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	24.27	24.55	24.38	25.0

<n7_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	23.94	23.93	23.85	24.0
20	PI/2 BPSK	1	53	23.76	23.84	23.79	
20	PI/2 BPSK	1	104	23.90	23.82	23.74	
20	PI/2 BPSK	50	0	23.37	23.42	23.43	23.5
20	PI/2 BPSK	50	28	23.91	23.90	23.90	24.0
20	PI/2 BPSK	50	56	23.50	23.45	23.44	23.5
20	PI/2 BPSK	100	0	23.48	23.41	23.47	
20	QPSK	1	1	23.78	23.86	23.91	24.0
20	QPSK	1	53	23.82	23.82	23.89	
20	QPSK	1	104	23.76	23.80	23.85	
20	QPSK	50	0	22.95	22.94	22.96	23.0
20	QPSK	50	28	23.88	23.91	23.92	24.0
20	QPSK	50	56	22.93	22.95	22.96	23.0
20	QPSK	100	0	22.96	23.00	23.04	
20	16QAM	1	1	22.92	22.93	22.96	23.0
20	64QAM	1	1	21.05	21.10	21.03	21.5
20	256QAM	1	1	19.46	19.47	19.38	19.5
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	23.73	23.77	23.65	24.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	23.82	23.88	23.75	24.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	23.68	23.75	23.69	24.0

<n7_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)
Channel				502000	507000	512000	
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	23.95	23.94	23.85	24.0
20	PI/2 BPSK	1	53	23.76	23.84	23.79	
20	PI/2 BPSK	1	104	23.90	23.82	23.74	
20	PI/2 BPSK	50	0	23.37	23.42	23.43	23.5
20	PI/2 BPSK	50	28	23.93	23.92	23.90	24.0
20	PI/2 BPSK	50	56	23.50	23.45	23.44	23.5
20	PI/2 BPSK	100	0	23.48	23.41	23.47	
20	QPSK	1	1	23.78	23.86	23.91	24.0
20	QPSK	1	53	23.82	23.82	23.89	
20	QPSK	1	104	23.76	23.80	23.85	
20	QPSK	50	0	22.95	22.94	22.96	23.0
20	QPSK	50	28	23.88	23.91	23.92	24.0
20	QPSK	50	56	22.93	22.95	22.96	23.0
20	QPSK	100	0	22.96	23.00	23.04	
20	16QAM	1	1	22.92	22.93	22.96	23.0
20	64QAM	1	1	21.05	21.10	21.03	21.5
20	256QAM	1	1	19.46	19.47	19.38	19.5
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	23.73	23.77	23.65	24.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	23.82	23.88	23.75	24.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	23.68	23.75	23.69	24.0

<n25_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	23.76	23.92	23.85	24.0
20	PI/2 BPSK	1	53	23.80	23.82	23.74	
20	PI/2 BPSK	1	104	23.87	23.79	23.78	
20	PI/2 BPSK	50	0	23.21	23.24	23.17	23.5
20	PI/2 BPSK	50	28	23.82	23.91	23.83	24.0
20	PI/2 BPSK	50	56	23.44	23.38	23.38	23.5
20	PI/2 BPSK	100	0	23.51	23.58	23.52	
20	QPSK	1	1	23.63	23.71	23.61	24.0
20	QPSK	1	53	23.90	23.88	23.82	
20	QPSK	1	104	23.69	23.79	23.72	
20	QPSK	50	0	22.72	22.73	22.74	23.0
20	QPSK	50	28	23.83	23.85	23.76	24.0
20	QPSK	50	56	22.98	22.93	22.90	23.0
20	QPSK	100	0	22.75	22.81	22.75	
20	16QAM	1	1	22.80	22.78	22.87	23.0
20	64QAM	1	1	20.88	20.97	21.07	21.5
20	256QAM	1	1	19.38	19.30	19.39	19.5
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	23.66	23.85	23.72	24.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	23.62	23.59	23.68	24.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	23.75	23.79	23.65	24.0

<n25_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)
Channel				372000	376500	381000	
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	23.72	23.72	23.86	24.0
20	PI/2 BPSK	1	53	23.71	23.79	23.73	
20	PI/2 BPSK	1	104	23.84	23.71	23.70	
20	PI/2 BPSK	50	0	23.20	23.24	23.17	23.5
20	PI/2 BPSK	50	28	23.72	23.72	23.78	24.0
20	PI/2 BPSK	50	56	23.40	23.28	23.30	23.5
20	PI/2 BPSK	100	0	23.50	23.50	23.46	
20	QPSK	1	1	23.59	23.69	23.51	24.0
20	QPSK	1	53	23.85	23.81	23.81	
20	QPSK	1	104	23.60	23.72	23.69	
20	QPSK	50	0	22.69	22.70	22.69	23.0
20	QPSK	50	28	23.73	23.75	23.69	24.0
20	QPSK	50	56	22.98	22.93	22.84	23.0
20	QPSK	100	0	22.70	22.73	22.71	
20	16QAM	1	1	22.72	22.78	22.87	23.0
20	64QAM	1	1	20.80	20.95	21.01	21.5
20	256QAM	1	1	19.28	19.23	19.33	19.5
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	23.66	23.85	23.72	24.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	23.62	23.59	23.68	24.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	23.75	23.79	23.65	24.0

<n30_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					462000		
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		22.91		23.0
10	PI/2 BPSK	1	26		22.81		
10	PI/2 BPSK	1	50		22.90		
10	PI/2 BPSK	25	0		22.25		22.5
10	PI/2 BPSK	25	14		22.87		23.0
10	PI/2 BPSK	25	27		22.28		22.5
10	PI/2 BPSK	50	0		22.35		
10	QPSK	1	1		22.63		23.0
10	QPSK	1	26		22.88		
10	QPSK	1	50		22.85		
10	QPSK	25	0		21.72		22.0
10	QPSK	25	14		22.85		23.0
10	QPSK	25	27		21.84		22.0
10	QPSK	50	0		21.85		
10	16QAM	1	1		21.69		22.0
10	64QAM	1	1		19.94		20.5
10	256QAM	1	1		18.40		18.5
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	22.65	22.75	22.73	23.0

<n30_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)
Channel					462000		
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		23.61		24.0
10	PI/2 BPSK	1	26		23.51		
10	PI/2 BPSK	1	50		23.60		
10	PI/2 BPSK	25	0		22.95		23.5
10	PI/2 BPSK	25	14		23.57		24.0
10	PI/2 BPSK	25	27		22.98		23.5
10	PI/2 BPSK	50	0		23.05		
10	QPSK	1	1		23.33		24.0
10	QPSK	1	26		23.58		
10	QPSK	1	50		23.55		
10	QPSK	25	0		22.42		23.0
10	QPSK	25	14		23.55		24.0
10	QPSK	25	27		22.54		23.0
10	QPSK	50	0		22.55		
10	16QAM	1	1		22.39		23.0
10	64QAM	1	1		20.64		21.5
10	256QAM	1	1		19.10		19.5
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	23.35	23.45	23.43	24.0

<n38_Main>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				516000	519000	522000	
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	23.72	23.73	23.72	24.0
20	PI/2 BPSK	1	26	23.54	23.52	23.44	
20	PI/2 BPSK	1	49	23.40	23.41	23.33	
20	PI/2 BPSK	25	0	23.07	23.16	23.08	23.5
20	PI/2 BPSK	25	13	23.62	23.70	23.67	24.0
20	PI/2 BPSK	25	26	23.16	23.09	23.12	23.5
20	PI/2 BPSK	50	0	23.19	23.11	23.17	
20	QPSK	1	1	23.40	23.37	23.32	24.0
20	QPSK	1	26	23.54	23.51	23.61	
20	QPSK	1	49	23.40	23.42	23.47	
20	QPSK	25	0	22.59	22.67	22.65	23.0
20	QPSK	25	13	23.61	23.62	23.57	24.0
20	QPSK	25	26	22.53	22.56	22.55	23.0
20	QPSK	50	0	22.51	22.60	22.67	
20	16QAM	1	1	22.39	22.37	22.34	23.0
20	64QAM	1	1	20.57	20.57	20.62	21.5
20	256QAM	1	1	19.11	19.11	19.16	19.5
Channel				515502	519000	522498	Tune-up limit (dBm)
Frequency (MHz)				2577.51	2595	2612.49	
15	PI/2 BPSK	1	1	23.75	23.61	23.66	24.0
Channel				515004	519000	522996	Tune-up limit (dBm)
Frequency (MHz)				2575.02	2595	2614.98	
10	PI/2 BPSK	1	1	23.68	23.47	23.52	24.0