

# FCC SAR TEST REPORT

**FCC ID** : XMR2023RM520NGLT  
**Equipment** : 5G Sub-6 GHz M.2 Module  
**Brand Name** : Quectel  
**Model Name** : RM520N-GL  
**Applicant** : Quectel Wireless Solutions Co., Ltd.  
Building 5, Shanghai Business Park Phase III (Area B), No.1016  
Tianlin Road, Minhang District, Shanghai, China, 200233  
**Manufacturer** : 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: Quectel RM520N-GL, Intel AX211D2W and Intel BE200D2W tested inside of Lenovo Notebook Computer.

The product was received on Sep. 19, 2023 and testing was started from Oct. 15, 2023 and completed on Nov. 08, 2023. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

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



Approved by: Cona Huang / Deputy Manager



**Sporton International Inc. EMC & Wireless Communications Laboratory**



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### History of this test report

Report No.	Version	Description	Issued Date
FA391816	01	Initial issue of report	Dec. 06, 2023



### 1. Statement of Compliance

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

Equipment Class	Frequency Band	Highest SAR Summary		Highest Simultaneous Transmission 1g SAR (W/kg)		
		Body	1g SAR (W/kg)			
Licensed	WCDMA	WCDMA II	1.13	1.199		
		WCDMA IV	1.07			
		WCDMA V	0.64			
	LTE	LTE Band 7	1.13			
		LTE Band 12 / 17	0.66			
		LTE Band 13	1.07			
		LTE Band 14	1.02			
		LTE Band 25 / 2	1.12			
		LTE Band 26 / 5	0.75			
		LTE Band 30	1.20			
		LTE Band 41 / 38	0.86			
		LTE Band 42	0.90			
		LTE Band 43	1.18			
		LTE Band 48	1.19			
		LTE Band 66 / 4	1.07			
		LTE Band 71	0.65			
		FR1	FR1 n7		1.18	
			FR1 n12		0.68	
			FR1 n13		1.12	
			FR1 n14		1.00	
	FR1 n25 / 2		1.17			
	FR1 n26 / 5		0.67			
	FR1 n30		1.04			
	FR1 n38 / n41		0.72			
	FR1 n48		0.72			
	FR1 n66		1.12			
	FR1 n71	0.61				
	FR1 n77/78	0.98				
	Date of Testing:		2023/10/15 ~ 2023/11/08			

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation 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	5G Sub-6 GHz M.2 Module
Brand Name	Quectel
Model Name	RM520N-GL
FCC ID	XMR2023RM520NGLT
Wireless Technology and Frequency Range	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 43: 3700 MHz ~ 3800 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n13: 777 MHz ~ 787 MHz 5G NR n14 : 788 MHz ~ 798 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n26 : 814 MHz ~ 849 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77 : 3700 MHz ~ 3980 MHz, 3450 MHz ~ 3550 MHz 5G NR n78 : 3700 MHz ~ 3800 MHz, 3450 MHz ~ 3550 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM
EUT Stage	Production Unit
Remark:	1. This device has two antenna vendors; RF exposure evaluation selects AWAN as the main test, AMP will spot check worst case found in AWAN.



WWAN Antenna Information				
Main Antenna	Manufacturer	Amphenol	Peak gain(dBi)	1.97
	Part number	TKF436-16-000-R	Type	PIFA
	Manufacturer	AWAN	Peak gain(dBi)	1.86
	Part number	AYL6Y-200006	Type	PIFA
MIMO2 Antenna	Manufacturer	Amphenol	Peak gain(dBi)	1.99
	Part number	TKF437-16-000-R	Type	PIFA
	Manufacturer	AWAN	Peak gain(dBi)	2.00
	Part number	AYL6Y-200007	Type	PIFA

Host Information	
Equipment Name	Notebook Computer
Brand Name	Lenovo
Model Name	TP00150A
Integrated WLAN Module 1	Brand Name: Intel Model Name: AX211D2W
Integrated WLAN Module 2	Brand Name: Intel Model Name: BE200D2W
Integrated NFC Module	Brand Name: Foxconn Model Name: T77H747
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 5.9 GHz Band: 5850 MHz ~ 5895 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 NFC: 13.56 MHz
Mode	WLAN: 802.11a/b/g/n/ac/ax/be HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160/EHT20/EHT40/EHT80/EHT160 Bluetooth BR/EDR/LE NFC: ASK
EUT Stage	Production Unit
<b>Remark:</b>	
<ol style="list-style-type: none"> <li>The Intel AX211D2W WLAN/BT module is integrated into this host. The WLAN 2.4GHz/5GHz and Bluetooth SAR results are referenced from Intel SAR report, report number: 201120-03.TR10 (FCC ID: PD9AX211D2), the WLAN 5.9GHz SAR referred to report No.: 220915-01.TR04 (FCC ID: PD9AX211D2), and the WLAN 6GHz SAR referred to report No.:201120-03.TR50 (FCC ID: PD9AX211D2).</li> <li>The Intel BE200D2W WLAN/BT module is also integrated into this host. The WLAN 2.4GHz/5GHz and Bluetooth SAR results are referenced from Intel SAR report, report number: 230526-09.TR76 (FCC ID: PD9BE200D2), the WLAN 5.9GHz SAR referred to report No.: 230526-09.TR71 (FCC ID: PD9BE200D2), and the WLAN 6GHz SAR referred to report No.: 230526-09.TR68 (FCC ID: PD9BE200D2) and these SAR results are also used to perform simultaneous transmission analysis.</li> </ol>	



3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	XMR2023RM520NGLT																																																														
Equipment Name	5G Sub-6 GHz M.2 Module																																																														
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz LTE Band 43: 3700 MHz ~ 3800 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz																																																														
Channel Bandwidth	LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 43: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																														
uplink modulations used	QPSK / 16QAM / 64QAM / 256QAM																																																														
LTE Voice / Data requirements	Data only																																																														
LTE MPR permanently built-in by design	<p><b>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</b></p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N<sub>RB</sub>)</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <tr> <td>QPSK</td> <td>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 1</td> </tr> <tr> <td>16 QAM</td> <td>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>≤ 5</td> <td>≤ 4</td> <td>≤ 8</td> <td>≤ 12</td> <td>≤ 16</td> <td>≤ 18</td> <td>≤ 2</td> </tr> <tr> <td>64 QAM</td> <td>&gt; 5</td> <td>&gt; 4</td> <td>&gt; 8</td> <td>&gt; 12</td> <td>&gt; 16</td> <td>&gt; 18</td> <td>≤ 3</td> </tr> <tr> <td>256 QAM</td> <td colspan="6">≥ 1</td> <td>≤ 5</td> </tr> </tbody> </table>	Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						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
Modulation	Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> )						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 and G-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	This device supports maximum of 5 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.																																																														



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





LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5		
LTE Band 30												
	Bandwidth 5 MHz					Bandwidth 10 MHz						
	Channel #		Freq.(MHz)			Channel #		Freq.(MHz)				
L	27685		2307.5			27710		2310				
M	27710		2310									
H	27735		2312.5									
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595	38000	2595		
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
L	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
H	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 42												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460				
M	42590	3500	42590	3500	42590	3500	42590	3500				
H	43065	3457.5	43040	3545	43015	3542.5	42990	3540				



LTE Band 43												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	44615	3702.5	44640	3705	44665	3707.5	44690	3710				
M	45090	3750	45090	3750	45090	3750	45090	3750				
H	45565	3797.5	45540	3795	45515	3792.5	45490	3790				
LTE Band 48												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560				
L M	55810	3607	55815	3607.5	55820	3608	55830	3609				
M H	56170	3643	56165	3642.5	56160	3642	56150	3641				
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690				
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)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673				
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5				
H	133447	695.5	133422	693	133397	690.5	133372	688				



**3.3 General 5G NR SAR Test and Reporting Considerations**

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



NR Band 2														
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz								
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)							
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860						
M	376000	1880	376000	1880	376000	1880	376000	1880						
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900						
NR Band 5														
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz								
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)							
L	165300	826.5	165800	829	166300	831.5	166800	834						
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5						
H	169300	846.5	168800	844	168300	841.5	167800	839						
NR Band 7														
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510	502500	2512.5	503000	2515	504000	2520
M	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560	511500	2557.5	511000	2555	510000	2550
NR Band 12														
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz										
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)									
L	140300	701.5	140800	704	141300	706.5								
M	141500	707.5	141500	707.5	141500	707.5								
H	142700	713.5	142200	711	141700	708.5								
NR Band 13														
Bandwidth 5MHz				Bandwidth 10MHz										
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)									
L	155900	779.5	156400	782										
M	156400	782												
H	156900	784.5												
NR Band 14														
Bandwidth 5MHz				Bandwidth 10MHz										
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)									
L	158100	790.5	158600	793										
M	158600	793												
H	159100	795.5												
NR Band 25														
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz		
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860	372500	1862.5	373000	1865	374000	1870
M	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5	376500	1882.5
H	382500	1912.5	382000	1910	381500	1907.5	381000	1905	380500	1902.5	380000	1900	379000	1895
NR Band 26														
Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz								
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)							
L	163300	816.5	163800	819	164300	821.5	164800	824						
M	166300	831.5	166300	831.5	166300	831.5	166300	831.5						
H	169300	846.5	168800	844	168300	841.5	167800	839						
NR Band 30														
Bandwidth 5MHz				Bandwidth 10MHz										
Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)									
L	461500	2307.5	462000	2310										
M	462000	2310												
H	462500	2312.5												



NR Band 38																						
	Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz													
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)												
L	515004	2575.02	515502	2577.51	516000	2580	517002	2585.01	518004	2590.02												
M	519000	2595	519000	2595	519000	2595	519000	2595	519000	2595												
H	522996	2614.98	522498	2612.49	522000	2610	520998	2604.99	519996	2599.98												
NR Band 41																						
	Bandwidth20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	506202	2531.01	507204	2536.02	508200	2541	509202	2546.01				
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99				
H	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	531000	2655	529998	2649.99	528996	2644.98	528000	2640				
NR Band 48																						
	Bandwidth10MHz		Bandwidth20MHz		Bandwidth30MHz		Bandwidth 40MHz															
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)														
L	637000	3555	637334	3560.01	637668	3565.02	638000	3570														
M	641666	3624.99	641666	3624.99	641666	3624.99	641666	3624.99														
H	646332	3694.98	646000	3690	645666	3684.99	645332	3679.98														
NR Band 66																						
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 25MHz		Bandwidth 30MHz		Bandwidth 40MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)								
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	344500	1722.5	345000	1725	346000	1730								
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745								
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353500	1767.5	353000	1765	352000	1760								
NR Band 71																						
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz															
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)														
L	133100	665.5	133600	668	13410	670.5	134600	673														
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5														
H	139100	695.5	138600	693	13810	690.5	137600	688														
NR Band 77																						
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840	656000	3840
H	665000	3975	664832	3972.48	664666	3969.99	664332	3964.98	664000	3960	663666	3954.99	663332	3949.98	663000	3945	662666	3939.99	662332	3934.98	662000	3930
NR Band 78																						
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	647000	3705	647168	3707.52	647334	3710.01	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750
H	653000	3795	652832	3792.48	652666	3789.99	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98	650000	3750
NR Band 77/78(3450MHz ~ 3550MHz)																						
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth 20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	630334	3455.01	630500	3457.5	630668	3460.02	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495	633332	3499.98
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98
H	636332	3544.98	636166	3542.49	636000	3540	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99	633332	3499.98

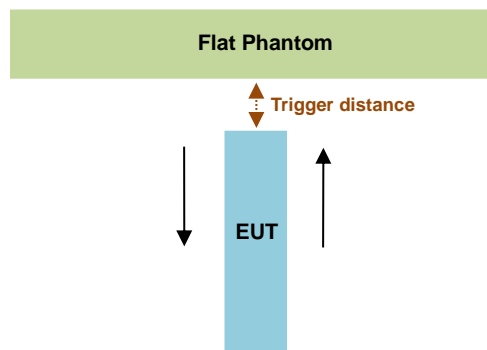
### 4. Proximity Sensor Triggering Test

**<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.



Main Antenna		
Proximity Sensor Trigger Distance (mm)		
Position	Bottom of Laptop	
	moving toward	moving away
Minimum	21	21

MIMO2 Antenna		
Proximity Sensor Trigger Distance (mm)		
Position	Bottom of Laptop	
	moving toward	moving away
Minimum	11	11

Aux Antenna		
Proximity Sensor Trigger Distance (mm)		
Position	Bottom of Laptop	
	moving toward	moving away
Minimum	38	38

**<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 section 6.3, 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 <sup>(1)</sup>
WCDMA II	Main	6.5 dB
WCDMA IV	Main	6.5 dB
WCDMA V	Main	5.0 dB
LTE Band 2	Main	7.0 dB
LTE Band 4	Main	6.5 dB
LTE Band 5	Main	4.0 dB
LTE Band 7	Main	10.0 dB
LTE Band 12	Main	3.5 dB
LTE Band 13	Main	3.5 dB
LTE Band 14	Main	3.5 dB
LTE Band 17	Main	3.5 dB
LTE Band 25	Main	7.0 dB
LTE Band 26	Main	4.0 dB
LTE Band 30	Main	7.0 dB
LTE Band 38	Main	7.5 dB
LTE Band 41	Main	7.5 dB
LTE Band 41_HPUE	Main	7.5 dB
LTE Band 42	Main	5.0 dB
LTE Band 48	Main	4.0 dB
LTE Band 66	Main	6.5 dB
LTE Band 71	Main	3.0 dB
FR1 n2	Main	6.5 dB
FR1 n5	Main	4.5 dB
FR1 n7	Main	10.0 dB
FR1 n12	Main	3.0 dB
FR1 n13	Main	3.0 dB
FR1 n14	Main	3.0 dB
FR1 n25	Main	6.5 dB
FR1 n26	Main	4.5 dB
FR1 n30	Main	7.0 dB
FR1 n38	Main	10.5 dB
FR1 n41	Main	10.5 dB
FR1 n41_HPUE	Main	10.0 dB
FR1 n48	Main	7.0 dB
FR1 n66	Main	6.5 dB
FR1 n71	Main	3.0 dB
FR1 n77	Main	9.5 dB
FR1 n77_HPUE	Main	9.0 dB
FR1 n78	Main	9.5 dB
FR1 n78_HPUE	Main	9.0 dB

Exposure Position / wireless mode		Bottom of Laptop <sup>(1)</sup>
LTE Band 2	MIMO2	6.0 dB
LTE Band 4	MIMO2	7.5 dB
LTE Band 7	MIMO2	6.5 dB
LTE Band 25	MIMO2	6.0 dB
LTE Band 30	MIMO2	4.5 dB
LTE Band 38	MIMO2	6.5 dB
LTE Band 41	MIMO2	6.5 dB
LTE Band 42	MIMO2	3.0 dB
LTE Band 43	MIMO2	2.0 dB
LTE Band 48	MIMO2	2.0 dB
LTE Band 66	MIMO2	7.5 dB
FR1 n2	MIMO2	6.0 dB
FR1 n7	MIMO2	6.5 dB
FR1 n25	MIMO2	6.0 dB
FR1 n30	MIMO2	5.5 dB
FR1 n38	MIMO2	9.5 dB
FR1 n41	MIMO2	9.5 dB
FR1 n41_HPUE	MIMO2	10.0 dB
FR1 n48	MIMO2	7.0 dB
FR1 n66	MIMO2	7.0 dB
FR1 n77	MIMO2	9.5 dB
FR1 n77_HPUE	MIMO2	9.0 dB
FR1 n78	MIMO2	9.5 dB
FR1 n78_HPUE	MIMO2	9.0 dB
FR1 n38	AUX	10.5 dB
FR1 n41	AUX	10.5 dB
FR1 n41_HPUE	AUX	10.0 dB
FR1 n48	AUX	7.0 dB
FR1 n77	AUX	9.5 dB
FR1 n77_HPUE	AUX	9.0 dB
FR1 n78	AUX	9.5 dB
FR1 n78_HPUE	AUX	9.0 dB

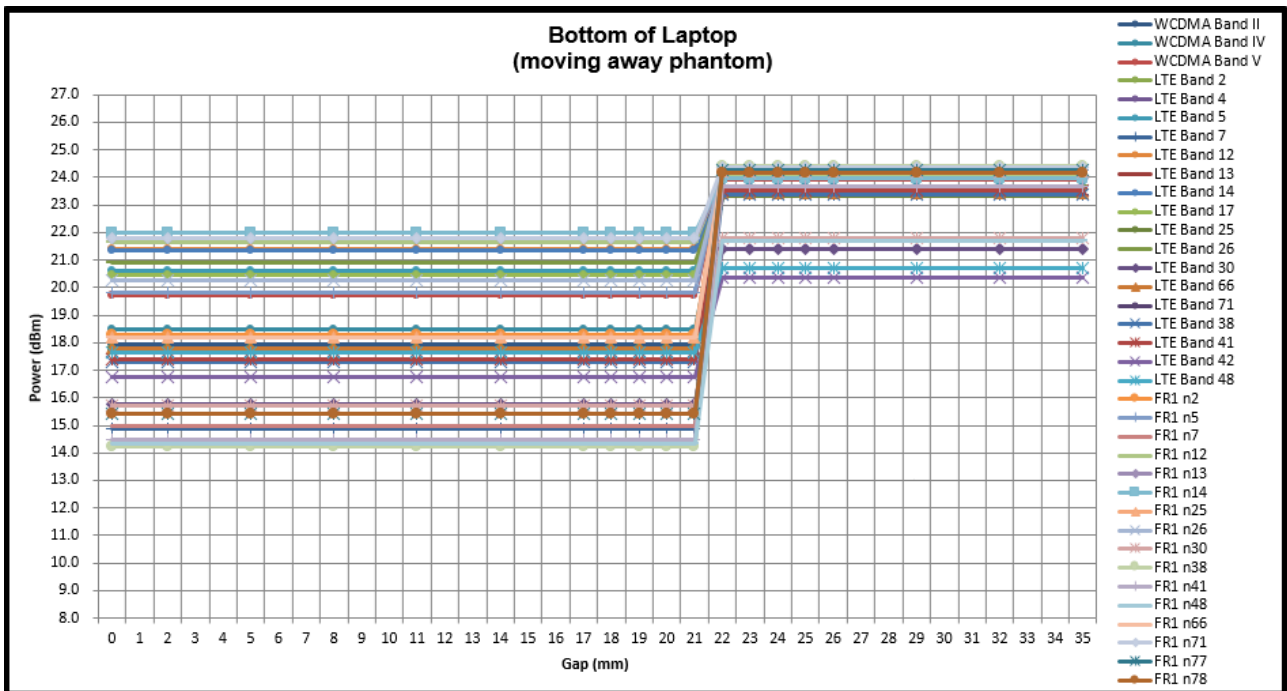
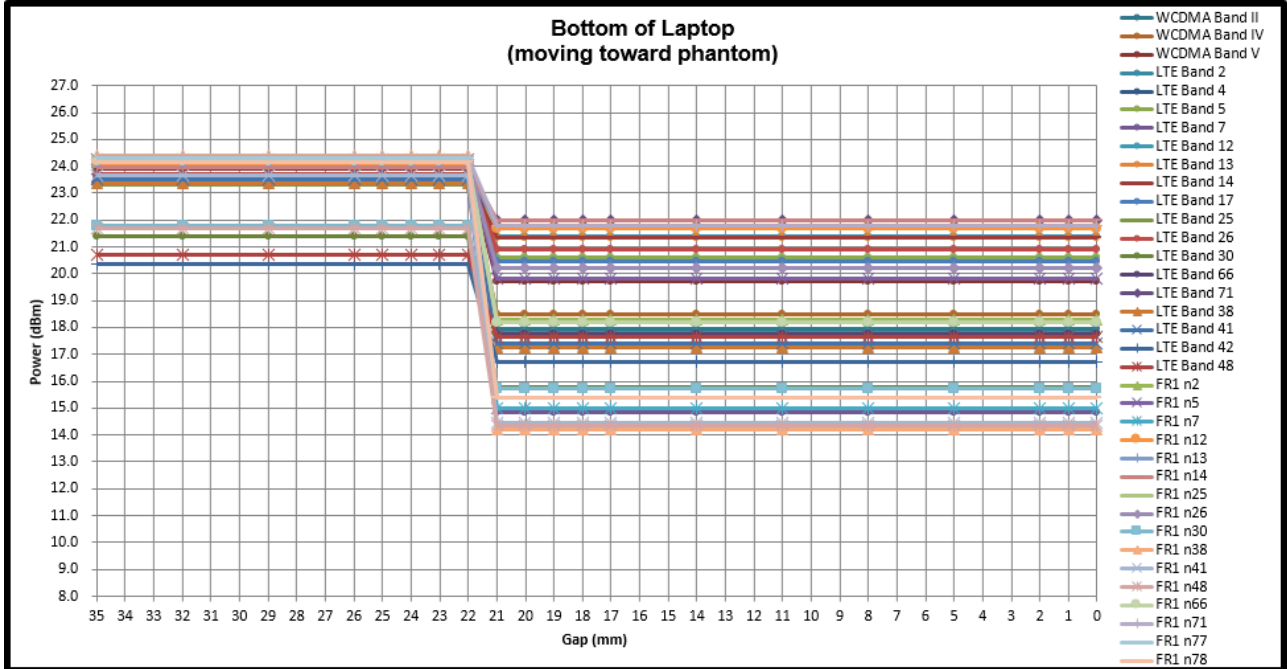
**Remark:**

1. <sup>(1)</sup>: Reduced maximum limit applied by activation of proximity sensor.
2. Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown 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:
  - (a) **Main**
    - Bottom of Laptop: [20 mm](#)
  - (b) **MIMO 2**
    - Bottom of Laptop: [10 mm](#)
  - (c) **Aux**
    - Bottom of Laptop: [25 mm](#)

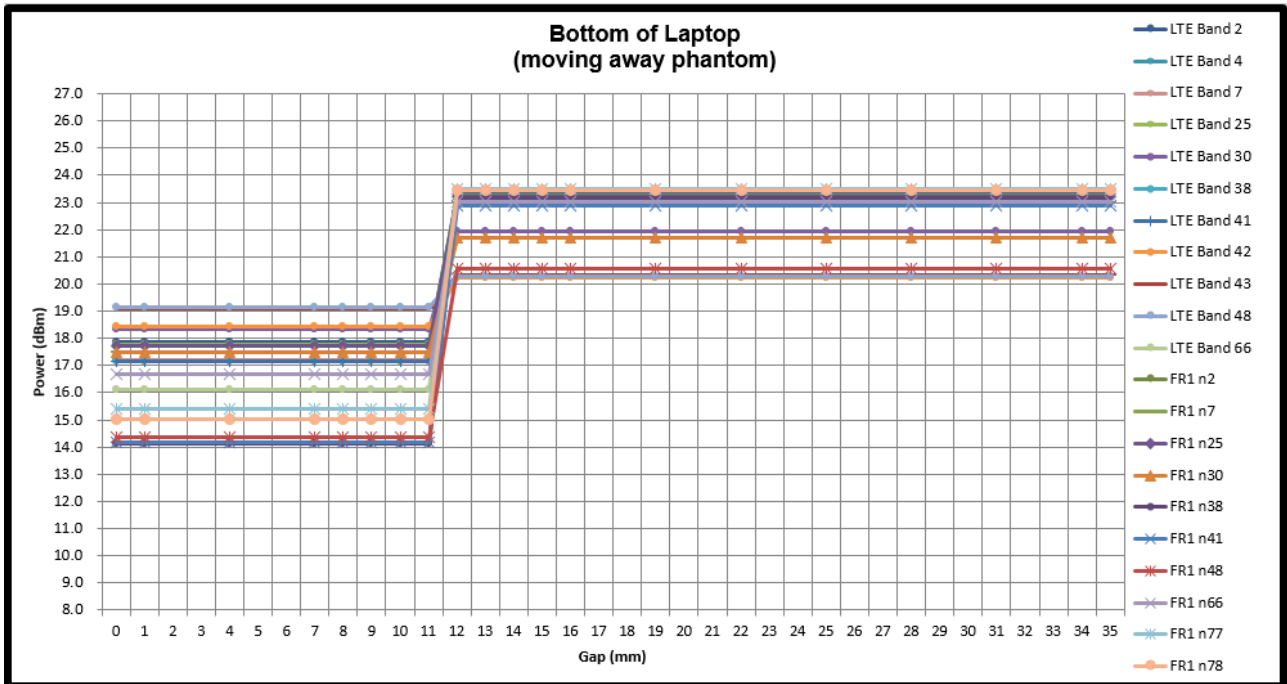
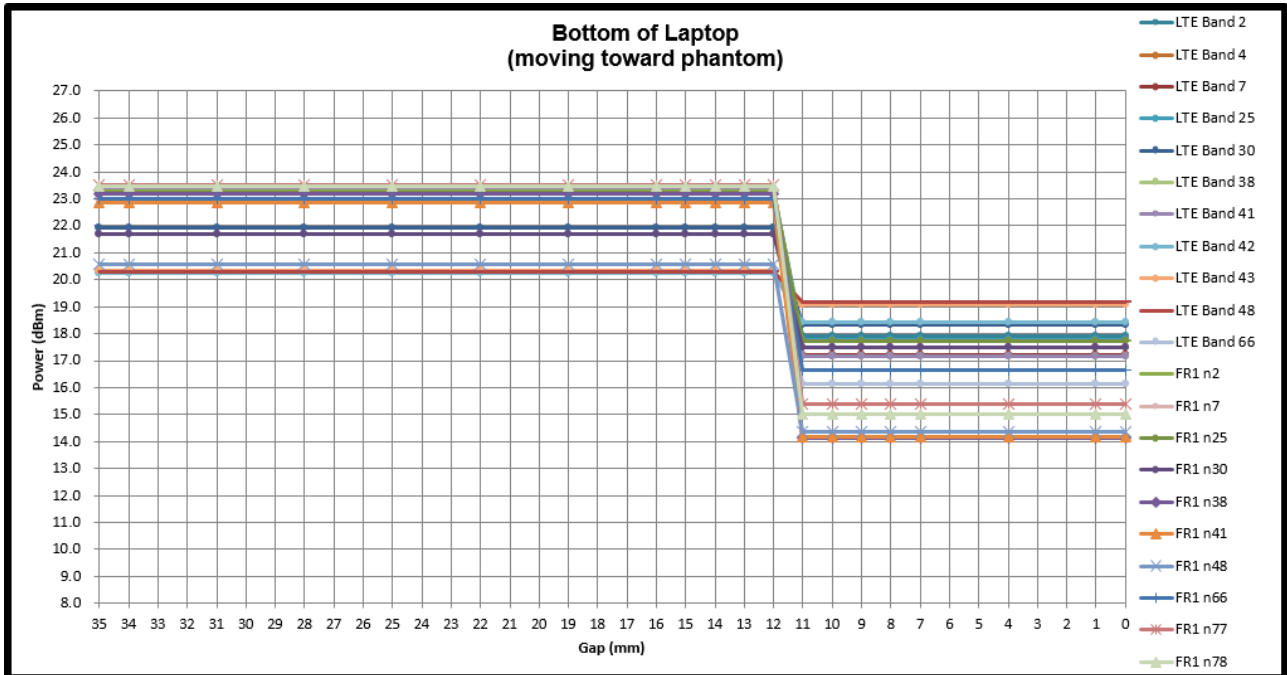


**Power Measurement during Sensor Trigger distance testing**

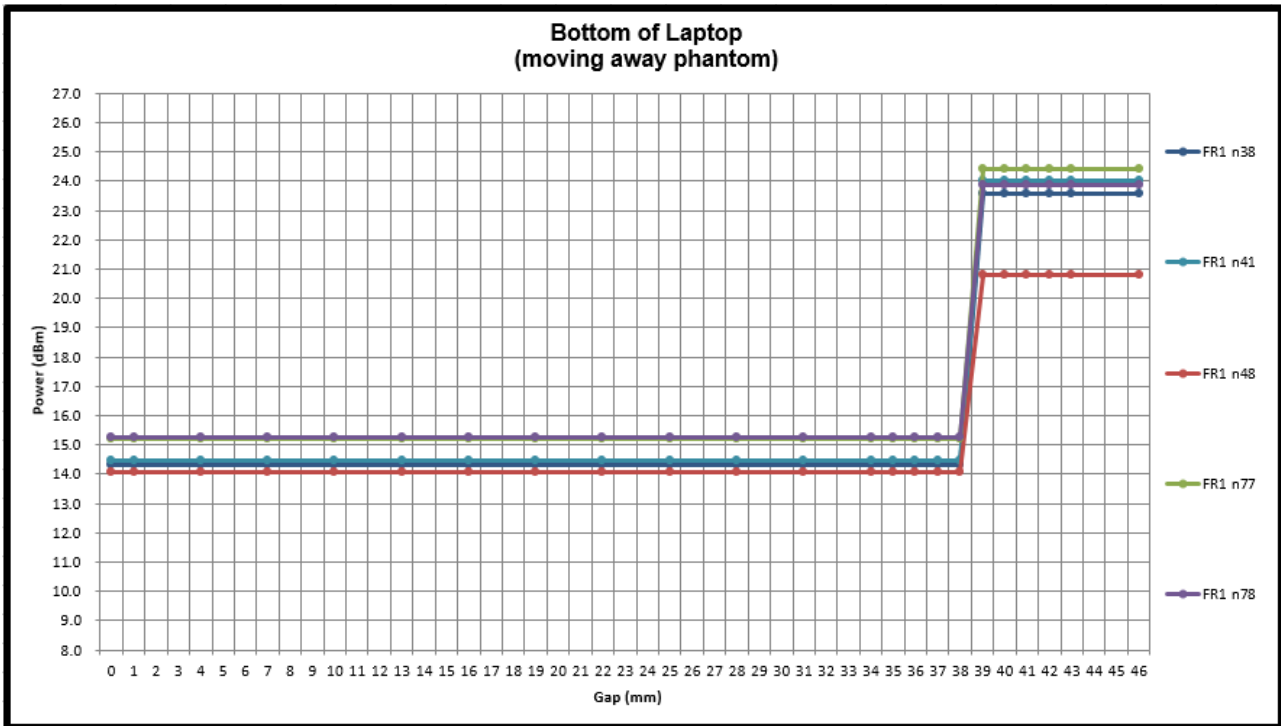
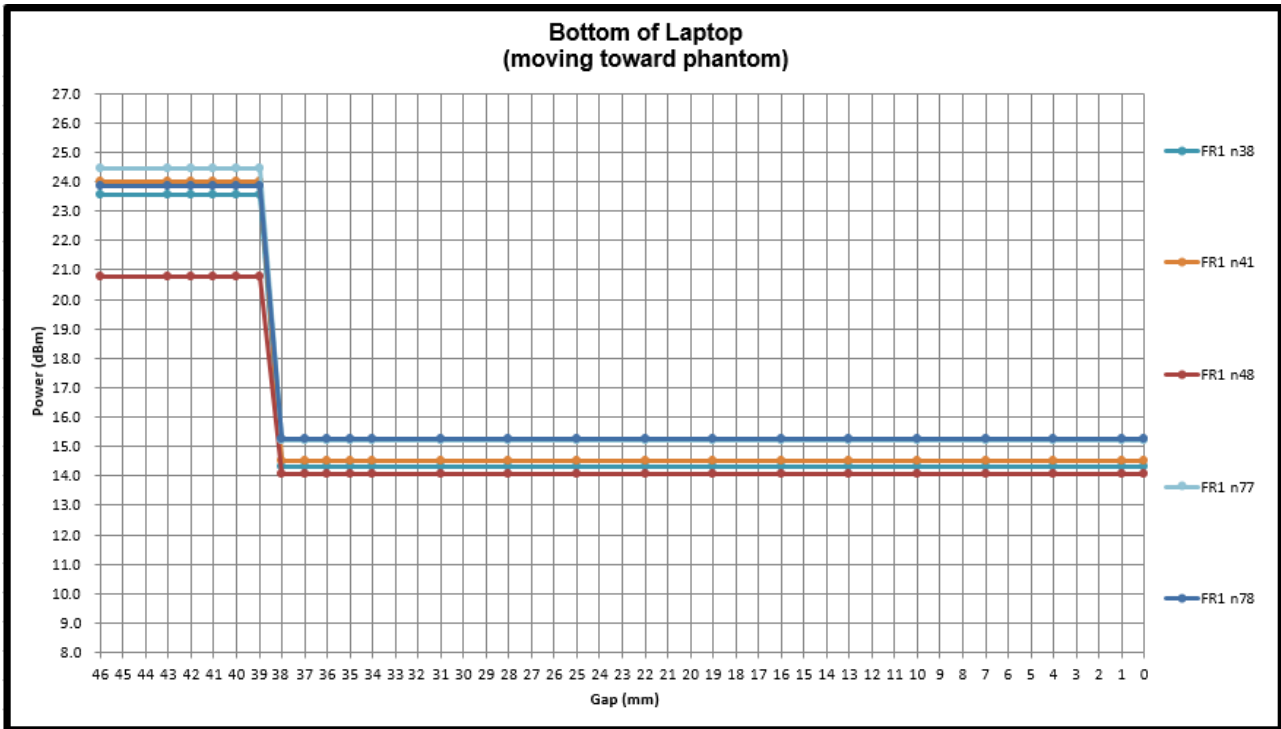
**<Main Antenna>**



<MIMO 2 Antenna>



<Aux 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 ( $\rho$ ). The equation description is as below:

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

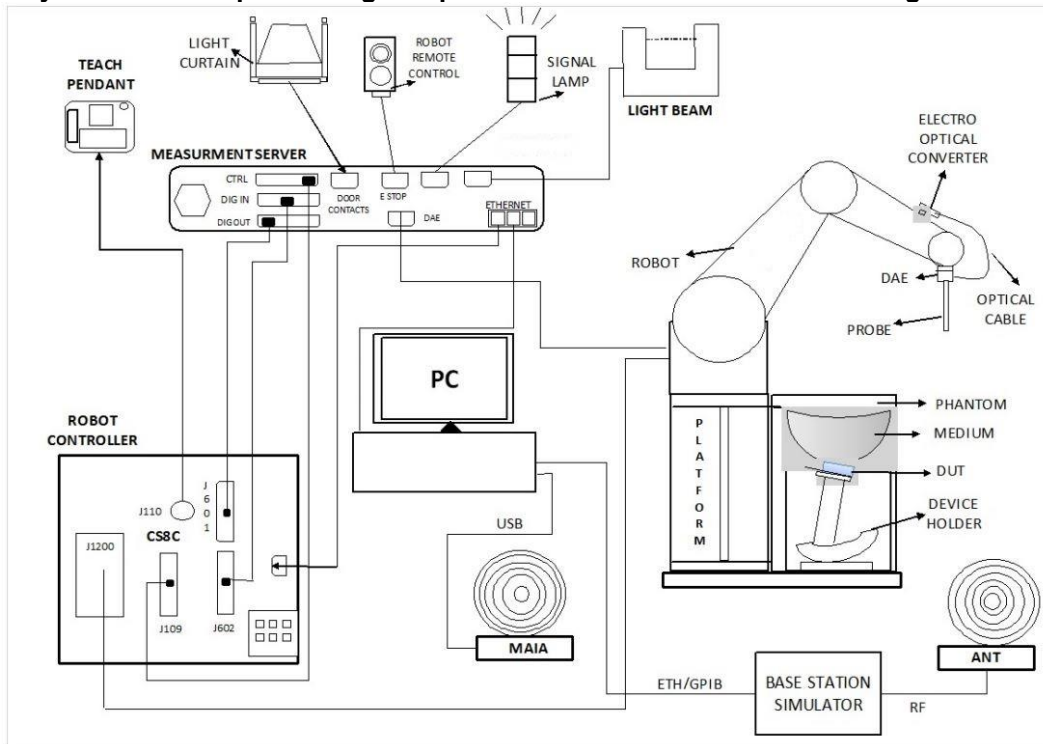
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

### 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. In system validation list test site number, if the test site number is include in the Wensan Laboratory, that's mean the test data are subcontracted to Sporton International Inc. Wensan Laboratory.

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


**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>**

<b>Construction</b>	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	4 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)	
<b>Directivity</b>	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)	
<b>Dynamic Range</b>	5 µW/g – >100 mW/g; Linearity: ±0.2 dB	
<b>Dimensions</b>	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	

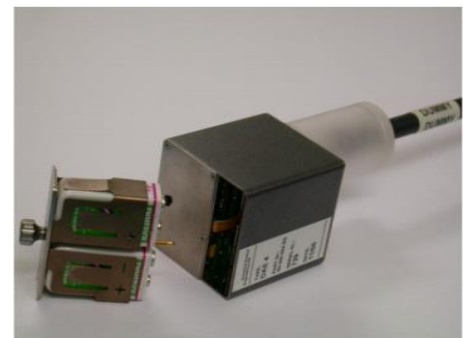
**<EX3DV4 Probe>**

<b>Construction</b>	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
<b>Frequency</b>	4 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
<b>Directivity</b>	±0.3 dB in TSL (rotation around probe axis) ±0.5 dB in TSL (rotation normal to probe axis)	
<b>Dynamic Range</b>	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)	
<b>Dimensions</b>	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>**

<b>Shell Thickness</b>	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	
<b>Filling Volume</b>	Approx. 25 liters	
<b>Dimensions</b>	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
<b>Measurement Areas</b>	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>**

<b>Shell Thickness</b>	2 ± 0.2 mm (sagging: <1%)	
<b>Filling Volume</b>	Approx. 30 liters	
<b>Dimensions</b>	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:

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

**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 dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

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

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$	≤ 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: $\Delta x_{Zoom}, \Delta y_{Zoom}$		$\leq 2$ GHz: $\leq 8$ mm 2 – 3 GHz: $\leq 5$ mm*	3 – 4 GHz: $\leq 5$ mm* 4 – 6 GHz: $\leq 4$ mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	$\leq 5$ mm	3 – 4 GHz: $\leq 4$ mm 4 – 5 GHz: $\leq 3$ mm 5 – 6 GHz: $\leq 2$ mm	
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	$\leq 4$ mm	3 – 4 GHz: $\leq 3$ mm 4 – 5 GHz: $\leq 2.5$ mm 5 – 6 GHz: $\leq 2$ 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	$\geq 30$ mm	3 – 4 GHz: $\geq 28$ mm 4 – 5 GHz: $\geq 25$ mm 5 – 6 GHz: $\geq 22$ mm	
Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ 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 <sup>(2)</sup>	D750V3	1107	Jun. 22, 2022	Jun. 20, 2024
SPEAG	835MHz System Validation Kit <sup>(2)</sup>	D835V2	499	Aug. 18, 2021	Aug. 15, 2024
SPEAG	835MHz System Validation Kit <sup>(2)</sup>	D835V2	4d060	Mar. 24, 2022	Mar. 22, 2024
SPEAG	835MHz System Validation Kit	D835V2	4d167	Nov. 24, 2022	Nov. 23, 2023
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 21, 2022	Nov. 20, 2023
SPEAG	1900MHz System Validation Kit <sup>(2)</sup>	D1900V2	5d041	Aug. 19, 2021	Aug. 16, 2024
SPEAG	1900MHz System Validation Kit <sup>(2)</sup>	D1900V2	5d093	Mar. 25, 2022	Mar. 23, 2024
SPEAG	2300MHz System Validation Kit <sup>(2)</sup>	D2300V2	1006	Jan. 18, 2022	Jan. 16, 2024
SPEAG	2600MHz System Validation Kit <sup>(2)</sup>	D2600V2	1008	Aug. 17, 2021	Aug. 14, 2024
SPEAG	2600MHz System Validation Kit <sup>(2)</sup>	D2600V2	1078	Jun. 23, 2022	Jun. 21, 2024
SPEAG	2600MHz System Validation Kit <sup>(2)</sup>	D2600V2	1089	Mar. 24, 2022	Mar. 22, 2024
SPEAG	3500MHz System Validation Kit <sup>(2)</sup>	D3500V2	1014	Jan. 17, 2022	Jan. 15, 2024
SPEAG	3500MHz System Validation Kit <sup>(2)</sup>	D3500V2	1036	Mar. 23, 2022	Mar. 21, 2024
SPEAG	3700MHz System Validation Kit <sup>(2)</sup>	D3700V2	1022	Jul. 14, 2021	Jul. 11, 2024
SPEAG	3900MHz System Validation Kit <sup>(2)</sup>	D3900V2	1017	Apr. 22, 2022	Apr. 20, 2024
SPEAG	Data Acquisition Electronics	DAE3	577	Sep. 14, 2023	Sep. 13, 2024
SPEAG	Data Acquisition Electronics	DAE4	316	Jan. 23, 2023	Jan. 22, 2024
SPEAG	Data Acquisition Electronics	DAE4	376	Sep. 14, 2023	Sep. 13, 2024
SPEAG	Data Acquisition Electronics	DAE4	699	Feb. 22, 2023	Feb. 21, 2024
SPEAG	Data Acquisition Electronics	DAE4	1424	Jan. 19, 2023	Jan. 18, 2024
SPEAG	Dosimetric E-Field Probe	ES3DV3	3184	Sep. 18, 2023	Sep. 17, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	Apr. 25, 2023	Apr. 24, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	3976	Feb. 21, 2023	Feb. 20, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7625	Jan. 26, 2023	Jan. 25, 2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7695	May. 22, 2023	May. 21, 2024
RCPTWN	Thermometer	HTC-1	TM685-1	Mar. 21, 2023	Mar. 20, 2024
RCPTWN	Thermometer	HTC-1	TM560-2	Mar. 21, 2023	Mar. 20, 2024
Anritsu	Radio Communication Analyzer	MT8821C	6201074414	Aug. 23, 2023	Aug. 22, 2024
Keysight	5G Wireless Test Platform	E7515B	MY59321826	Apr. 26, 2023	Apr. 25, 2024
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 27, 2023	Sep. 26, 2024
Keysight	ENA Network Analyzer	E5071C	MY46316648	Sep. 07, 2023	Sep. 06, 2024
SPEAG	Dielectric Probe Kit	DAK-3.5	1146	Jul. 11, 2023	Jul. 10, 2024
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 09, 2023	Aug. 08, 2024
Anritsu	Power Meter	ML2495A	1419002	Aug. 17, 2023	Aug. 16, 2024
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2023	Aug. 17, 2024
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 10, 2023	Jul. 09, 2024
Mini-Circuits	Power Amplifier	ZVE-8G+	479102029	Sep. 14, 2023	Sep. 13, 2024
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

**General Note:**

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.



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°C to 25°C, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18°C to 25°C and within ± 2°C of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.

The liquid tissue depth was at least 15cm in the phantom for all SAR testing

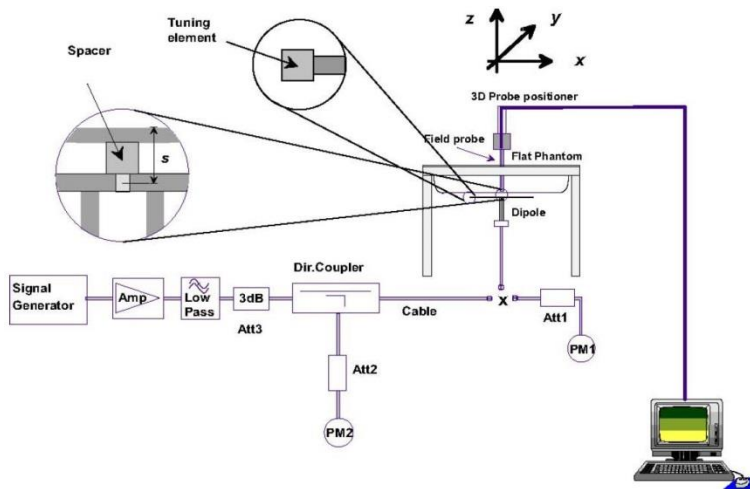
<Tissue Dielectric Parameter Check Results>

Table with 10 columns: Frequency (MHz), Liquid Temp. (°C), Conductivity (σ), Permittivity (εr), Conductivity Target (σ), Permittivity Target (εr), Delta (σ) (%), Delta (εr) (%), Limit (%), Date. It contains 48 rows of test data.

**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 (%)
SAR-08	2023/10/18	750	250	D750V3-1107	EX3DV4 - SN3976	DAE4 Sn376	2.030	8.540	8.12	-4.92
SAR-08	2023/10/21	750	250	D750V3-1107	EX3DV4 - SN3976	DAE4 Sn376	2.130	8.540	8.52	-0.23
SAR-08	2023/10/26	750	250	D750V3-1107	EX3DV4 - SN3976	DAE4 Sn376	2.160	8.540	8.64	1.17
SAR-08	2023/10/16	835	50	D835V2-499	EX3DV4 - SN3976	DAE4 Sn376	0.450	9.680	9	-7.02
SAR-11	2023/10/19	835	50	D835V2-4d167	EX3DV4 - SN7695	DAE4 Sn316	0.530	9.800	10.6	8.16
SAR-12	2023/10/23	835	50	D835V2-4d060	ES3DV3 - SN3184	DAE4 Sn316	0.450	9.730	9	-7.50
SAR-08	2023/10/26	835	50	D835V2-499	EX3DV4 - SN3976	DAE4 Sn376	0.441	9.680	8.82	-8.88
SAR-08	2023/10/17	1750	50	D1750V2-1068	EX3DV4 - SN3976	DAE4 Sn376	1.930	36.700	38.6	5.18
SAR-08	2023/10/21	1750	50	D1750V2-1068	EX3DV4 - SN3976	DAE4 Sn376	1.680	36.700	33.6	-8.45
SAR-12	2023/10/23	1750	50	D1750V2-1068	ES3DV3 - SN3184	DAE4 Sn316	1.700	36.700	34	-7.36
SAR-08	2023/10/17	1900	50	D1900V2-5d041	EX3DV4 - SN3976	DAE4 Sn376	2.030	40.600	40.6	0.00
SAR-12	2023/10/23	1900	50	D1900V2-5d093	ES3DV3 - SN3184	DAE4 Sn316	1.890	39.900	37.8	-5.26
SAR-08	2023/10/27	1900	50	D1900V2-5d041	EX3DV4 - SN3976	DAE4 Sn376	1.960	40.600	39.2	-3.45
SAR-08	2023/10/16	2300	50	D2300V2-1006	EX3DV4 - SN3976	DAE4 Sn376	2.270	48.300	45.4	-6.00
SAR-08	2023/10/25	2300	50	D2300V2-1006	EX3DV4 - SN3976	DAE4 Sn376	2.210	48.300	44.2	-8.49
SAR-11	2023/10/19	2600	250	D2600V2-1078	EX3DV4 - SN7695	DAE4 Sn316	13.800	55.400	55.2	-0.36
SAR-08	2023/10/20	2600	50	D2600V2-1008	EX3DV4 - SN3976	DAE4 Sn376	2.780	58.000	55.6	-4.14
SAR-08	2023/10/22	2600	50	D2600V2-1089	EX3DV4 - SN3976	DAE4 Sn376	2.750	55.400	55	-0.72
SAR-12	2023/10/24	2600	50	D2600V2-1008	ES3DV3 - SN3184	DAE4 Sn316	2.900	58.000	58	0.00
SAR-08	2023/10/24	2600	50	D2600V2-1089	EX3DV4 - SN3976	DAE4 Sn376	2.720	55.400	54.4	-1.81
SAR-12	2023/11/2	2600	50	D2600V2-1008	ES3DV3 - SN3184	DAE3 Sn577	2.880	58.000	57.6	-0.69
SAR-08	2023/10/15	3500	50	D3500V2-1036	EX3DV4 - SN3976	DAE4 Sn376	3.360	67.400	67.2	-0.30
SAR-08	2023/10/19	3500	50	D3500V2-1036	EX3DV4 - SN3925	DAE4 Sn1424	3.120	67.400	62.4	-7.42
SAR-08	2023/10/23	3500	50	D3500V2-1036	EX3DV4 - SN3976	DAE4 Sn376	3.370	67.400	67.4	0.00
SAR-08	2023/10/28	3500	50	D3500V2-1014	EX3DV4 - SN3976	DAE4 Sn376	3.270	67.200	65.4	-2.68
SAR-08	2023/10/29	3500	50	D3500V2-1036	EX3DV4 - SN3976	DAE4 Sn376	3.380	67.400	67.6	0.30
SAR-08	2023/10/30	3500	50	D3500V2-1014	EX3DV4 - SN3976	DAE4 Sn376	3.280	67.200	65.6	-2.38
SAR-08	2023/10/31	3500	50	D3500V2-1014	EX3DV4 - SN3976	DAE4 Sn376	3.310	67.200	66.2	-1.49
SAR-08	2023/10/23	3700	50	D3700V2-1022	EX3DV4 - SN3976	DAE4 Sn376	3.390	68.200	67.8	-0.59
SAR-08	2023/10/29	3700	50	D3700V2-1022	EX3DV4 - SN3976	DAE4 Sn376	3.370	68.200	67.4	-1.17
SAR-08	2023/10/30	3700	50	D3700V2-1022	EX3DV4 - SN3976	DAE4 Sn376	3.410	68.200	68.2	0.00
SAR-08	2023/10/31	3900	50	D3900V2-1017	EX3DV4 - SN3976	DAE4 Sn376	3.190	68.700	63.8	-7.13
SAR-09	2023/11/8	3900	100	D3900V2-1017	EX3DV4 - SN7625	DAE4 Sn699	7.070	68.700	70.7	2.91
SAR-08	2023/10/15	3700	50	D3700V2-1022	EX3DV4 - SN3976	DAE4 Sn376	3.380	68.200	67.6	-0.88
SAR-08	2023/10/15	3900	50	D3900V2-1017	EX3DV4 - SN3976	DAE4 Sn376	3.220	68.700	64.4	-6.26
SAR-08	2023/10/19	3700	50	D3700V2-1022	EX3DV4 - SN3925	DAE4 Sn1424	3.670	68.200	73.4	7.62
SAR-08	2023/10/19	3900	50	D3900V2-1017	EX3DV4 - SN3925	DAE4 Sn1424	3.280	68.700	65.6	-4.51



**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 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 ( $\beta_c$  and  $\beta_d$ ) 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:  $\beta$  values for transmitter characteristics tests with HS-DPCCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note 1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

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

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

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

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

### **Setup Configuration**



**HSUPA Setup Configuration:**

- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting \* :
  - i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
  - ii. Set the Gain Factors ( $\beta_c$  and  $\beta_d$ ) 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-TFCl
  - viii. Confirm that E-TFCl is equal to the target E-TFCl of 75 for sub-test 1, and other subtest's E-TFCl
- d. The transmitted maximum output power was recorded.

**Table C.11.1.3:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH**

Sub-test	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c/\beta_d$	$\beta_{HS}$ (Note1)	$\beta_{ec}$	$\beta_{ed}$ (Note 4) (Note 5)	$\beta_{ed}$ (SF)	$\beta_{ed}$ (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCl
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	4 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,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 30/15$  with  $\beta_{hs} = 30/15 * \beta_c$ . For sub-test 5,  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 5/15$  with  $\beta_{hs} = 5/15 * \beta_c$ .

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

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

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

Note 5:  $\beta_{ed}$  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:**

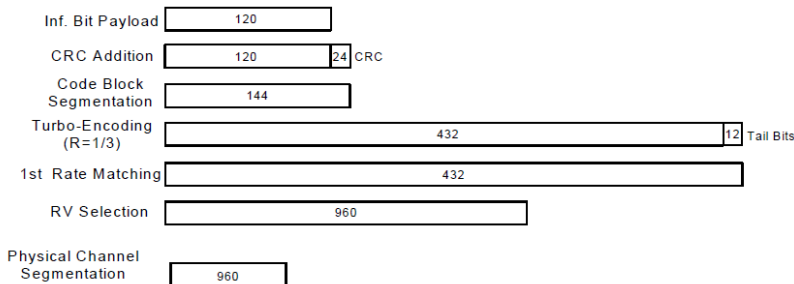
- a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
- b. The RF path losses were compensated into the measurements.
- c. A call was established between EUT and Base Station with following setting:
  - i. Set RMC 12.2Kbps + HSDPA mode.
  - ii. Set Cell Power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

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

**C.8.1.12 Fixed Reference Channel Definition H-Set 12**

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

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



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

**Setup Configuration**



<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.

<WCDMA>

Band		WCDMA II_Main Ant_Default Power				Tune-up Limit (dBm)	WCDMA IV_Main Ant_Default Power			Tune-up Limit (dBm)	WCDMA V_Main Ant_Default Power			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	23.30	23.48	23.47	25.00	23.34	23.40	23.37	25.00	23.83	23.92	23.82	25.00	
3GPP Rel 6	HSDPA Subtest-1	22.34	22.41	22.44	24.00	22.41	22.43	22.32	24.00	22.72	22.81	22.84	24.00	
3GPP Rel 6	HSDPA Subtest-2	22.35	22.42	22.47	24.00	22.38	22.45	22.28	24.00	22.74	22.82	22.78	24.00	
3GPP Rel 6	HSDPA Subtest-3	21.82	21.88	21.95	23.50	21.88	21.94	21.78	23.50	22.23	22.31	22.29	23.50	
3GPP Rel 6	HSDPA Subtest-4	21.81	21.89	21.96	23.50	21.88	21.98	21.84	23.50	22.29	22.34	22.29	23.50	
3GPP Rel 8	DC-HSDPA Subtest-1	22.15	22.37	22.36	24.00	22.36	22.23	22.32	24.00	22.72	22.80	22.67	24.00	
3GPP Rel 8	DC-HSDPA Subtest-2	22.18	22.29	22.44	24.00	22.28	22.45	22.11	24.00	22.74	22.72	22.73	24.00	
3GPP Rel 8	DC-HSDPA Subtest-3	21.71	21.72	21.88	23.50	21.77	21.94	21.62	23.50	22.23	22.24	22.11	23.50	
3GPP Rel 8	DC-HSDPA Subtest-4	21.63	21.82	21.78	23.50	21.74	21.94	21.67	23.50	22.28	22.27	22.11	23.50	
3GPP Rel 6	HSUPA Subtest-1	22.32	22.44	22.49	24.00	22.43	22.45	22.45	24.00	22.84	22.90	22.90	24.00	
3GPP Rel 6	HSUPA Subtest-2	20.36	20.41	20.54	22.00	20.44	20.48	20.44	22.00	20.86	20.92	20.88	22.00	
3GPP Rel 6	HSUPA Subtest-3	21.36	21.44	21.48	23.00	21.42	21.44	21.38	23.00	21.81	21.91	21.87	23.00	
3GPP Rel 6	HSUPA Subtest-4	20.36	20.42	20.49	22.00	20.38	20.46	20.45	22.00	20.80	20.86	20.87	22.00	
3GPP Rel 6	HSUPA Subtest-5	22.40	22.50	22.50	24.00	22.30	22.50	22.40	24.00	22.80	22.90	22.90	24.00	

Band		WCDMA II_Main Ant_Reduced Power				Tune-up Limit (dBm)	WCDMA IV_Main Ant_Reduced Power			Tune-up Limit (dBm)	WCDMA V_Main Ant_Reduced Power			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	17.94	17.96	17.95	18.50	18.47	18.49	18.48	18.50	19.67	19.70	19.66	20.00	
3GPP Rel 6	HSDPA Subtest-1	16.98	17.05	16.96	17.50	17.38	17.44	17.46	17.50	18.71	18.75	18.69	19.00	
3GPP Rel 6	HSDPA Subtest-2	17.00	17.09	17.06	17.50	17.37	17.44	17.48	17.50	18.76	18.72	18.63	19.00	
3GPP Rel 6	HSDPA Subtest-3	16.49	16.59	16.54	17.00	16.84	16.95	16.94	17.00	18.23	18.23	18.14	18.50	
3GPP Rel 6	HSDPA Subtest-4	16.46	16.52	16.48	17.00	16.90	16.94	16.96	17.00	18.24	18.19	18.18	18.50	
3GPP Rel 8	DC-HSDPA Subtest-1	16.95	17.02	16.92	17.50	17.35	17.39	17.43	17.50	18.64	18.70	18.61	19.00	
3GPP Rel 8	DC-HSDPA Subtest-2	16.97	17.06	17.03	17.50	17.32	17.40	17.44	17.50	18.69	18.67	18.55	19.00	
3GPP Rel 8	DC-HSDPA Subtest-3	16.46	16.54	16.50	17.00	16.81	16.92	16.91	17.00	18.18	18.15	18.09	18.50	
3GPP Rel 8	DC-HSDPA Subtest-4	16.41	16.48	16.43	17.00	16.86	16.89	16.91	17.00	18.19	18.13	18.12	18.50	
3GPP Rel 6	HSUPA Subtest-1	17.02	17.09	17.08	17.50	17.37	17.46	17.50	17.50	18.76	18.76	18.65	19.00	
3GPP Rel 6	HSUPA Subtest-2	15.04	15.14	15.08	15.50	15.41	15.43	15.49	15.50	16.78	16.70	16.64	17.00	
3GPP Rel 6	HSUPA Subtest-3	15.99	16.13	16.06	16.50	16.38	16.43	16.48	16.50	17.74	17.64	17.65	18.00	
3GPP Rel 6	HSUPA Subtest-4	15.01	15.11	15.07	15.50	15.39	15.46	15.49	15.50	16.72	16.74	16.63	17.00	
3GPP Rel 6	HSUPA Subtest-5	17.10	17.10	17.10	17.50	17.37	17.47	17.47	17.50	18.80	18.70	18.70	19.00	

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

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



<LTE Band 2\_Main Ant\_Default Power>

Channel	Frequency (MHz)	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	23.32	23.29	23.30	25		
20	QPSK	1	49	23.27	23.27	23.30			
20	QPSK	1	99	23.17	23.15	23.19			
20	QPSK	50	0	22.43	22.33	22.34	24		
20	QPSK	50	24	22.36	22.34	22.33			
20	QPSK	50	50	22.37	22.38	22.38			
20	QPSK	100	0	22.40	22.34	22.32	24		
20	16QAM	1	0	22.68	22.61	22.53			
20	16QAM	1	49	22.72	22.68	22.63			
20	16QAM	1	99	22.44	22.49	22.47	23		
20	16QAM	50	0	21.35	21.36	21.35			
20	16QAM	50	24	21.45	21.37	21.35			
20	16QAM	50	50	21.40	21.39	21.39	23		
20	16QAM	100	0	21.43	21.36	21.32			
20	64QAM	1	0	21.55	21.53	21.51			
20	64QAM	1	49	21.53	21.56	21.50	23		
20	64QAM	1	99	21.34	21.46	21.41			
20	64QAM	50	0	20.35	20.37	20.35			
20	64QAM	50	24	20.44	20.35	20.32	22		
20	64QAM	50	50	20.39	20.40	20.37			
20	64QAM	100	0	20.41	20.33	20.32			
20	256QAM	1	0	18.26	18.27	18.30	20		
20	256QAM	1	49	18.26	18.29	18.34			
20	256QAM	1	99	18.29	18.43	18.36			
20	256QAM	50	0	18.27	18.16	18.25	20		
20	256QAM	50	24	18.23	18.17	18.22			
20	256QAM	50	50	18.16	18.23	18.31			
20	256QAM	100	0	18.20	18.14	18.27			
Channel						18675		18900	19125
Frequency (MHz)						1857.5	1880	1902.5	Tune-up limit (dBm)
15	QPSK	1	0	23.26	23.21	23.22	25		
15	QPSK	1	37	23.18	23.19	23.24			
15	QPSK	1	74	23.07	23.07	23.14			
15	QPSK	36	0	22.33	22.25	22.29	24		
15	QPSK	36	20	22.30	22.27	22.23			
15	QPSK	36	39	22.27	22.28	22.31			
15	QPSK	75	0	22.30	22.24	22.27	24		
15	16QAM	1	0	22.62	22.55	22.48			
15	16QAM	1	37	22.66	22.59	22.56			
15	16QAM	1	74	22.37	22.40	22.38	23		
15	16QAM	36	0	21.26	21.31	21.29			
15	16QAM	36	20	21.36	21.32	21.27			
15	16QAM	36	39	21.32	21.29	21.30	23		
15	16QAM	75	0	21.36	21.29	21.25			
15	64QAM	1	0	21.48	21.46	21.44			
15	64QAM	1	37	21.47	21.47	21.44	23		
15	64QAM	1	74	21.24	21.36	21.31			
15	64QAM	36	0	20.30	20.32	20.28			
15	64QAM	36	20	20.36	20.27	20.23	22		
15	64QAM	36	39	20.30	20.32	20.28			
15	64QAM	75	0	20.31	20.26	20.23			
15	256QAM	1	0	18.17	18.19	18.20	20		
15	256QAM	1	37	18.18	18.20	18.27			
15	256QAM	1	74	18.21	18.34	18.29			
15	256QAM	36	0	18.22	18.07	18.15	20		
15	256QAM	36	20	18.18	18.07	18.12			



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15	256QAM	36	39	18.09	18.18	18.24	
15	256QAM	75	0	18.14	18.04	18.22	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	23.26	23.23	23.20	25
10	QPSK	1	25	23.20	23.21	23.20	
10	QPSK	1	49	23.07	23.09	23.09	
10	QPSK	25	0	22.37	22.25	22.24	24
10	QPSK	25	12	22.26	22.28	22.26	
10	QPSK	25	25	22.31	22.33	22.33	
10	QPSK	50	0	22.34	22.24	22.26	
10	16QAM	1	0	22.58	22.56	22.46	24
10	16QAM	1	25	22.65	22.58	22.55	
10	16QAM	1	49	22.38	22.43	22.38	
10	16QAM	25	0	21.26	21.28	21.29	23
10	16QAM	25	12	21.38	21.29	21.29	
10	16QAM	25	25	21.32	21.32	21.34	
10	16QAM	50	0	21.33	21.27	21.27	
10	64QAM	1	0	21.48	21.48	21.42	23
10	64QAM	1	25	21.46	21.46	21.43	
10	64QAM	1	49	21.24	21.40	21.34	
10	64QAM	25	0	20.30	20.31	20.25	22
10	64QAM	25	12	20.39	20.27	20.24	
10	64QAM	25	25	20.31	20.31	20.28	
10	64QAM	50	0	20.32	20.23	20.26	
10	256QAM	1	0	18.18	18.17	18.21	20
10	256QAM	1	25	18.18	18.20	18.26	
10	256QAM	1	49	18.21	18.34	18.26	
10	256QAM	25	0	18.18	18.10	18.16	20
10	256QAM	25	12	18.13	18.08	18.15	
10	256QAM	25	25	18.07	18.15	18.26	
10	256QAM	50	0	18.11	18.05	18.20	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	23.25	23.21	23.20	25
5	QPSK	1	12	23.21	23.22	23.24	
5	QPSK	1	24	23.10	23.08	23.10	
5	QPSK	12	0	22.38	22.26	22.29	24
5	QPSK	12	7	22.26	22.28	22.25	
5	QPSK	12	13	22.30	22.29	22.28	
5	QPSK	25	0	22.35	22.28	22.24	
5	16QAM	1	0	22.60	22.56	22.46	24
5	16QAM	1	12	22.63	22.63	22.54	
5	16QAM	1	24	22.36	22.40	22.37	
5	16QAM	12	0	21.28	21.30	21.29	23
5	16QAM	12	7	21.38	21.30	21.28	
5	16QAM	12	13	21.31	21.33	21.33	
5	16QAM	25	0	21.38	21.29	21.22	
5	64QAM	1	0	21.45	21.46	21.41	23
5	64QAM	1	12	21.47	21.48	21.43	
5	64QAM	1	24	21.27	21.38	21.31	
5	64QAM	12	0	20.28	20.28	20.29	22
5	64QAM	12	7	20.38	20.27	20.25	
5	64QAM	12	13	20.32	20.32	20.28	
5	64QAM	25	0	20.33	20.27	20.24	
5	256QAM	1	0	18.19	18.19	18.24	20
5	256QAM	1	12	18.16	18.24	18.27	
5	256QAM	1	24	18.19	18.34	18.28	
5	256QAM	12	0	18.18	18.09	18.20	20
5	256QAM	12	7	18.18	18.09	18.15	
5	256QAM	12	13	18.07	18.18	18.21	
5	256QAM	25	0	18.14	18.07	18.19	
Channel				18615	18900	19185	Tune-up limit



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Frequency (MHz)				1851.5	1880	1908.5	(dBm)	
3	QPSK	1	0	23.24	23.24	23.21	25	
3	QPSK	1	8	23.20	23.21	23.23		
3	QPSK	1	14	23.09	23.10	23.14		
3	QPSK	8	0	22.37	22.28	22.24	24	
3	QPSK	8	4	22.28	22.29	22.28		
3	QPSK	8	7	22.32	22.33	22.32		
3	QPSK	15	0	22.32	22.28	22.24	24	
3	16QAM	1	0	22.60	22.53	22.43		
3	16QAM	1	8	22.67	22.58	22.54		
3	16QAM	1	14	22.37	22.39	22.40	23	
3	16QAM	8	0	21.25	21.28	21.28		
3	16QAM	8	4	21.36	21.31	21.29		
3	16QAM	8	7	21.30	21.32	21.34	23	
3	16QAM	15	0	21.35	21.30	21.27		
3	64QAM	1	0	21.49	21.43	21.44		
3	64QAM	1	8	21.43	21.46	21.42	23	
3	64QAM	1	14	21.25	21.38	21.35		
3	64QAM	8	0	20.29	20.27	20.25		
3	64QAM	8	4	20.36	20.27	20.23	22	
3	64QAM	8	7	20.34	20.35	20.31		
3	64QAM	15	0	20.36	20.26	20.23		
3	256QAM	1	0	18.16	18.20	18.22	20	
3	256QAM	1	8	18.19	18.21	18.28		
3	256QAM	1	14	18.22	18.37	18.29		
3	256QAM	8	0	18.17	18.08	18.17	20	
3	256QAM	8	4	18.13	18.12	18.14		
3	256QAM	8	7	18.08	18.15	18.23		
3	256QAM	15	0	18.15	18.06	18.18	20	
Channel				18607	18900	19193		Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.04	23.02	23.02	25	
1.4	QPSK	1	3	23.00	23.06	23.09		
1.4	QPSK	1	5	23.05	23.02	23.05		
1.4	QPSK	3	0	23.06	23.10	23.05	24	
1.4	QPSK	3	1	23.06	23.06	23.07		
1.4	QPSK	3	3	23.04	23.11	23.05		
1.4	QPSK	6	0	22.01	22.03	22.02	24	
1.4	16QAM	1	0	22.45	22.34	22.39		
1.4	16QAM	1	3	22.57	22.45	22.56		
1.4	16QAM	1	5	22.38	22.34	22.25	24	
1.4	16QAM	3	0	22.26	22.21	22.18		
1.4	16QAM	3	1	22.17	22.19	22.14		
1.4	16QAM	3	3	22.14	22.26	22.25	23	
1.4	16QAM	6	0	21.08	21.11	21.12		
1.4	64QAM	1	0	21.23	21.32	21.31		
1.4	64QAM	1	3	21.33	21.26	21.19	23	
1.4	64QAM	1	5	21.24	21.30	21.16		
1.4	64QAM	3	0	21.13	21.18	21.16		
1.4	64QAM	3	1	21.16	21.18	21.17	22	
1.4	64QAM	3	3	21.15	21.15	21.15		
1.4	64QAM	6	0	20.04	20.06	20.08		
1.4	256QAM	1	0	18.11	18.13	18.14	20	
1.4	256QAM	1	3	18.06	18.18	18.20		
1.4	256QAM	1	5	18.12	18.30	18.16		
1.4	256QAM	3	0	18.10	18.06	18.09	20	
1.4	256QAM	3	1	18.05	18.02	18.02		
1.4	256QAM	3	3	18.01	18.05	18.12		
1.4	256QAM	6	0	18.10	18.03	18.14	20	



<LTE Band 2\_MIMO2 Ant\_Default Power>

Channel	Frequency (MHz)	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	23.26	23.22	23.24	24		
20	QPSK	1	49	23.24	23.06	23.05			
20	QPSK	1	99	23.15	23.14	23.15			
20	QPSK	50	0	22.39	22.32	22.22	23		
20	QPSK	50	24	22.37	22.30	22.27			
20	QPSK	50	50	22.35	22.29	22.29			
20	QPSK	100	0	22.32	22.15	22.30	23		
20	16QAM	1	0	22.38	22.32	22.32			
20	16QAM	1	49	22.37	22.17	22.28			
20050	16QAM	1	99	22.35	22.21	22.29	22		
20	16QAM	50	0	21.35	21.35	21.23			
20	16QAM	50	24	21.34	21.25	21.20			
20	16QAM	50	50	21.33	21.29	21.14	22		
20	16QAM	100	0	21.32	21.25	21.15			
20	64QAM	1	0	21.38	21.27	21.21			
20	64QAM	1	49	21.35	21.35	21.35	22		
20	64QAM	1	99	21.32	21.26	21.13			
20	64QAM	50	0	20.37	20.35	20.29			
20	64QAM	50	24	20.35	20.34	20.33	21		
20	64QAM	50	50	20.33	20.20	20.22			
20	64QAM	100	0	20.32	20.23	20.31			
20	256QAM	1	0	18.38	18.28	18.29	19		
20	256QAM	1	49	18.37	18.18	18.32			
20	256QAM	1	99	18.35	18.32	18.18			
20	256QAM	50	0	18.35	18.28	18.29	19		
20	256QAM	50	24	18.34	18.26	18.14			
20	256QAM	50	50	18.33	18.31	18.19			
20	256QAM	100	0	18.32	18.18	18.31			
Channel						18675		18900	19125
Frequency (MHz)						1857.5	1880	1902.5	
15	QPSK	1	0	23.19	23.15	23.17	24		
15	QPSK	1	37	23.18	23.01	23.00			
15	QPSK	1	74	23.09	23.07	23.09			
15	QPSK	36	0	22.33	22.27	22.17	23		
15	QPSK	36	20	22.32	22.24	22.20			
15	QPSK	36	39	22.29	22.24	22.23			
15	QPSK	75	0	22.25	22.10	22.23	23		
15	16QAM	1	0	22.33	22.26	22.26			
15	16QAM	1	37	22.30	22.11	22.22			
15	16QAM	1	74	22.29	22.16	22.22	22		
15	16QAM	36	0	21.29	21.29	21.16			
15	16QAM	36	20	21.28	21.18	21.14			
15	16QAM	36	39	21.27	21.22	21.07	22		
15	16QAM	75	0	21.25	21.20	21.08			
15	64QAM	1	0	21.31	21.20	21.14			
15	64QAM	1	37	21.30	21.30	21.28	22		
15	64QAM	1	74	21.27	21.20	21.08			
15	64QAM	36	0	20.30	20.29	20.24			
15	64QAM	36	20	20.29	20.27	20.26	21		
15	64QAM	36	39	20.26	20.13	20.15			
15	64QAM	75	0	20.27	20.18	20.24			
15	256QAM	1	0	18.32	18.23	18.23	19		
15	256QAM	1	37	18.32	18.13	18.26			
15	256QAM	1	74	18.29	18.27	18.13			
15	256QAM	36	0	18.29	18.21	18.22	19		
15	256QAM	36	20	18.28	18.19	18.09			





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15	256QAM	36	39	18.28	18.25	18.13	
15	256QAM	75	0	18.25	18.13	18.25	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	23.20	23.17	23.19	24
10	QPSK	1	25	23.19	23.01	23.00	
10	QPSK	1	49	23.08	23.08	23.09	
10	QPSK	25	0	22.32	22.25	22.17	23
10	QPSK	25	12	22.31	22.25	22.21	
10	QPSK	25	25	22.30	22.23	22.22	
10	QPSK	50	0	22.25	22.09	22.23	
10	16QAM	1	0	22.33	22.26	22.25	
10	16QAM	1	25	22.30	22.12	22.23	23
10	16QAM	1	49	22.28	22.14	22.22	
10	16QAM	25	0	21.30	21.30	21.16	22
10	16QAM	25	12	21.29	21.19	21.15	
10	16QAM	25	25	21.27	21.22	21.08	
10	16QAM	50	0	21.25	21.20	21.08	
10	64QAM	1	0	21.31	21.20	21.15	
10	64QAM	1	25	21.28	21.29	21.29	22
10	64QAM	1	49	21.26	21.21	21.07	
10	64QAM	25	0	20.30	20.28	20.22	
10	64QAM	25	12	20.30	20.27	20.26	21
10	64QAM	25	25	20.26	20.13	20.15	
10	64QAM	50	0	20.27	20.18	20.26	
10	256QAM	1	0	18.32	18.21	18.23	
10	256QAM	1	25	18.32	18.12	18.25	
10	256QAM	1	49	18.29	18.25	18.12	19
10	256QAM	25	0	18.28	18.23	18.23	
10	256QAM	25	12	18.27	18.19	18.08	
10	256QAM	25	25	18.26	18.26	18.13	19
10	256QAM	50	0	18.26	18.12	18.25	
Channel				18625	18900	19175	
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	23.20	23.16	23.18	24
5	QPSK	1	12	23.17	23.01	23.05	
5	QPSK	1	24	23.10	23.07	23.08	
5	QPSK	12	0	22.33	22.27	22.15	23
5	QPSK	12	7	22.32	22.23	22.20	
5	QPSK	12	13	22.30	22.22	22.24	
5	QPSK	25	0	22.27	22.09	22.25	
5	16QAM	1	0	22.33	22.27	22.27	
5	16QAM	1	12	22.31	22.10	22.22	23
5	16QAM	1	24	22.28	22.16	22.23	
5	16QAM	12	0	21.28	21.28	21.17	
5	16QAM	12	7	21.29	21.20	21.15	22
5	16QAM	12	13	21.27	21.24	21.07	
5	16QAM	25	0	21.26	21.18	21.10	
5	64QAM	1	0	21.32	21.22	21.16	
5	64QAM	1	12	21.30	21.29	21.30	
5	64QAM	1	24	21.27	21.21	21.06	22
5	64QAM	12	0	20.30	20.30	20.24	
5	64QAM	12	7	20.28	20.27	20.26	
5	64QAM	12	13	20.28	20.14	20.17	
5	64QAM	25	0	20.26	20.17	20.24	
5	256QAM	1	0	18.32	18.23	18.23	19
5	256QAM	1	12	18.30	18.13	18.26	
5	256QAM	1	24	18.28	18.27	18.11	
5	256QAM	12	0	18.29	18.21	18.23	19
5	256QAM	12	7	18.29	18.19	18.09	
5	256QAM	12	13	18.26	18.26	18.14	
5	256QAM	25	0	18.25	18.11	18.26	
Channel				18615	18900	19185	



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Frequency (MHz)				1851.5	1880	1908.5	(dBm)
3	QPSK	1	0	23.21	23.17	23.17	24
3	QPSK	1	8	23.17	23.00	23.08	
3	QPSK	1	14	23.10	23.08	23.09	
3	QPSK	8	0	22.33	22.25	22.16	23
3	QPSK	8	4	22.32	22.25	22.22	
3	QPSK	8	7	22.29	22.24	22.24	
3	QPSK	15	0	22.25	22.09	22.24	
3	16QAM	1	0	22.31	22.26	22.27	23
3	16QAM	1	8	22.31	22.11	22.22	
3	16QAM	1	14	22.30	22.15	22.22	
3	16QAM	8	0	21.30	21.28	21.17	22
3	16QAM	8	4	21.27	21.18	21.13	
3	16QAM	8	7	21.26	21.22	21.09	
3	16QAM	15	0	21.27	21.19	21.10	
3	64QAM	1	0	21.32	21.21	21.14	
3	64QAM	1	8	21.29	21.29	21.28	22
3	64QAM	1	14	21.26	21.21	21.08	
3	64QAM	8	0	20.30	20.28	20.23	
3	64QAM	8	4	20.29	20.29	20.27	21
3	64QAM	8	7	20.27	20.13	20.17	
3	64QAM	15	0	20.26	20.16	20.25	
3	256QAM	1	0	18.31	18.21	18.22	
3	256QAM	1	8	18.30	18.13	18.26	19
3	256QAM	1	14	18.30	18.25	18.12	
3	256QAM	8	0	18.30	18.23	18.22	
3	256QAM	8	4	18.29	18.21	18.07	19
3	256QAM	8	7	18.27	18.26	18.12	
3	256QAM	15	0	18.25	18.12	18.26	
Channel				18607	18900	19193	
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	23.21	23.16	23.17	24
1.4	QPSK	1	3	23.19	23.12	23.06	
1.4	QPSK	1	5	23.09	23.05	23.04	
1.4	QPSK	3	0	23.17	23.01	23.05	
1.4	QPSK	3	1	23.16	23.12	23.13	
1.4	QPSK	3	3	23.14	23.07	23.01	
1.4	QPSK	6	0	22.27	22.11	22.18	23
1.4	16QAM	1	0	22.32	22.19	22.16	23
1.4	16QAM	1	3	22.32	22.15	22.21	
1.4	16QAM	1	5	22.28	22.21	22.23	
1.4	16QAM	3	0	22.22	22.17	22.17	
1.4	16QAM	3	1	22.20	22.03	22.11	
1.4	16QAM	3	3	22.18	22.17	22.11	
1.4	16QAM	6	0	21.25	21.21	21.25	22
1.4	64QAM	1	0	21.33	21.14	21.31	22
1.4	64QAM	1	3	21.29	21.29	21.14	
1.4	64QAM	1	5	21.25	21.24	21.18	
1.4	64QAM	3	0	21.24	21.06	21.24	
1.4	64QAM	3	1	21.17	21.04	21.15	
1.4	64QAM	3	3	21.15	21.14	21.08	
1.4	64QAM	6	0	20.25	20.17	20.13	
1.4	256QAM	1	0	18.31	18.30	18.20	19
1.4	256QAM	1	3	18.32	18.20	18.24	
1.4	256QAM	1	5	18.30	18.12	18.22	
1.4	256QAM	3	0	18.28	18.12	18.09	
1.4	256QAM	3	1	18.27	18.25	18.17	
1.4	256QAM	3	3	18.28	18.14	18.10	
1.4	256QAM	6	0	18.25	18.14	18.21	19



**<LTE Band 2\_Main Ant\_Reduced Power>**

Channel	Frequency (MHz)	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	17.78	16.70	17.70	18		
20	QPSK	1	49	17.65	16.62	17.64			
20	QPSK	1	99	17.68	17.64	17.60			
20	QPSK	50	0	16.82	16.80	16.81	17		
20	QPSK	50	24	16.75	16.74	16.77			
20	QPSK	50	50	16.80	16.70	16.75			
20	QPSK	100	0	16.82	16.74	16.80			
20	16QAM	1	0	16.96	16.92	16.93	17		
20	16QAM	1	49	16.90	16.96	16.90			
20	16QAM	1	99	16.86	16.87	16.96			
20	16QAM	50	0	15.72	15.76	15.77	16		
20	16QAM	50	24	15.80	15.77	15.77			
20	16QAM	50	50	15.85	15.80	15.89			
20	16QAM	100	0	15.87	15.76	15.76			
20	64QAM	1	0	15.83	15.88	15.97	16		
20	64QAM	1	49	15.92	15.92	15.87			
20	64QAM	1	99	15.77	15.90	15.90			
20	64QAM	50	0	14.69	14.71	14.73	15		
20	64QAM	50	24	14.83	14.78	14.78			
20	64QAM	50	50	14.84	14.84	14.80			
20	64QAM	100	0	14.78	14.80	14.76			
20	256QAM	1	0	12.86	12.92	12.97	13		
20	256QAM	1	49	12.84	12.93	12.81			
20	256QAM	1	99	12.98	12.97	12.80			
20	256QAM	50	0	12.72	12.74	12.76	13		
20	256QAM	50	24	12.81	12.74	12.78			
20	256QAM	50	50	12.82	12.82	12.83			
20	256QAM	100	0	12.78	12.70	12.80			
Channel						18675	18900	19125	
Frequency (MHz)						1857.5	1880	1902.5	
15	QPSK	1	0	17.74	16.60	17.64	18		
15	QPSK	1	37	17.59	16.61	17.57			
15	QPSK	1	74	17.62	17.55	17.58			
15	QPSK	36	0	16.77	16.71	16.75	17		
15	QPSK	36	20	16.70	16.67	16.74			
15	QPSK	36	39	16.76	16.66	16.73			
15	QPSK	75	0	16.80	16.72	16.76			
15	16QAM	1	0	16.94	16.90	16.87	17		
15	16QAM	1	37	16.86	16.91	16.84			
15	16QAM	1	74	16.85	16.83	16.94			
15	16QAM	36	0	15.65	15.68	15.72			
15	16QAM	36	20	15.75	15.71	15.73	16		
15	16QAM	36	39	15.84	15.74	15.84			
15	16QAM	75	0	15.85	15.75	15.73			
15	64QAM	1	0	15.78	15.81	15.88			
15	64QAM	1	37	15.91	15.88	15.82	16		
15	64QAM	1	74	15.74	15.85	15.82			
15	64QAM	36	0	14.67	14.64	14.63			
15	64QAM	36	20	14.81	14.75	14.75	15		
15	64QAM	36	39	14.83	14.74	14.76			
15	64QAM	75	0	14.70	14.72	14.68			
15	256QAM	1	0	12.82	12.83	12.92			
15	256QAM	1	37	12.79	12.90	12.78	13		
15	256QAM	1	74	12.96	12.95	12.72			
15	256QAM	36	0	12.67	12.64	12.68	13		
15	256QAM	36	20	12.74	12.65	12.73			



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15	256QAM	36	39	12.73	12.78	12.79	
15	256QAM	75	0	12.75	12.61	12.74	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	17.73	16.61	17.62	18
10	QPSK	1	25	17.64	16.52	17.59	
10	QPSK	1	49	17.62	17.60	17.56	
10	QPSK	25	0	16.81	16.72	16.79	17
10	QPSK	25	12	16.67	16.69	16.75	
10	QPSK	25	25	16.76	16.61	16.66	
10	QPSK	50	0	16.74	16.66	16.78	
10	16QAM	1	0	16.93	16.88	16.88	17
10	16QAM	1	25	16.89	16.93	16.87	
10	16QAM	1	49	16.76	16.86	16.93	
10	16QAM	25	0	15.69	15.70	15.67	
10	16QAM	25	12	15.74	15.75	15.71	16
10	16QAM	25	25	15.76	15.71	15.87	
10	16QAM	50	0	15.84	15.68	15.69	
10	64QAM	1	0	15.79	15.83	15.87	
10	64QAM	1	25	15.86	15.83	15.80	16
10	64QAM	1	49	15.74	15.83	15.85	
10	64QAM	25	0	14.60	14.67	14.66	
10	64QAM	25	12	14.75	14.70	14.73	15
10	64QAM	25	25	14.83	14.77	14.79	
10	64QAM	50	0	14.70	14.76	14.74	
10	256QAM	1	0	12.81	12.87	12.88	
10	256QAM	1	25	12.76	12.90	12.75	13
10	256QAM	1	49	12.95	12.93	12.71	
10	256QAM	25	0	12.66	12.67	12.75	
10	256QAM	25	12	12.79	12.69	12.68	13
10	256QAM	25	25	12.78	12.73	12.76	
10	256QAM	25	0	12.69	12.65	12.74	
Channel				18625	18900	19175	
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	17.70	16.60	17.61	18
5	QPSK	1	12	17.59	16.56	17.58	
5	QPSK	1	24	17.65	17.60	17.54	
5	QPSK	12	0	16.72	16.72	16.75	17
5	QPSK	12	7	16.69	16.69	16.68	
5	QPSK	12	13	16.72	16.65	16.72	
5	QPSK	25	0	16.76	16.71	16.74	
5	16QAM	1	0	16.90	16.82	16.87	17
5	16QAM	1	12	16.82	16.91	16.85	
5	16QAM	1	24	16.77	16.86	16.95	
5	16QAM	12	0	15.71	15.71	15.76	
5	16QAM	12	7	15.72	15.68	15.75	16
5	16QAM	12	13	15.84	15.71	15.86	
5	16QAM	25	0	15.78	15.75	15.73	
5	64QAM	1	0	15.76	15.81	15.90	
5	64QAM	1	12	15.83	15.84	15.77	16
5	64QAM	1	24	15.67	15.89	15.81	
5	64QAM	12	0	14.65	14.61	14.67	
5	64QAM	12	7	14.74	14.72	14.76	15
5	64QAM	12	13	14.76	14.76	14.78	
5	64QAM	25	0	14.76	14.78	14.68	
5	256QAM	1	0	12.76	12.84	12.89	
5	256QAM	1	12	12.79	12.87	12.76	13
5	256QAM	1	24	12.93	12.88	12.78	
5	256QAM	12	0	12.71	12.65	12.73	
5	256QAM	12	7	12.75	12.69	12.69	13
5	256QAM	12	13	12.73	12.77	12.75	
5	256QAM	25	0	12.76	12.63	12.74	
Channel				18615	18900	19185	



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Frequency (MHz)				1851.5	1880	1908.5	(dBm)
3	QPSK	1	0	17.68	16.69	17.68	18
3	QPSK	1	8	17.60	16.61	17.60	
3	QPSK	1	14	17.59	17.61	17.51	
3	QPSK	8	0	16.76	16.71	16.71	17
3	QPSK	8	4	16.71	16.65	16.70	
3	QPSK	8	7	16.79	16.61	16.74	
3	QPSK	15	0	16.77	16.69	16.76	
3	16QAM	1	0	16.93	16.88	16.90	17
3	16QAM	1	8	16.80	16.87	16.85	
3	16QAM	1	14	16.81	16.78	16.93	
3	16QAM	8	0	15.66	15.75	15.75	16
3	16QAM	8	4	15.72	15.76	15.69	
3	16QAM	8	7	15.77	15.72	15.80	
3	16QAM	15	0	15.78	15.73	15.74	
3	64QAM	1	0	15.75	15.79	15.90	16
3	64QAM	1	8	15.87	15.90	15.83	
3	64QAM	1	14	15.74	15.85	15.84	
3	64QAM	8	0	14.59	14.65	14.70	15
3	64QAM	8	4	14.81	14.69	14.74	
3	64QAM	8	7	14.74	14.79	14.77	
3	64QAM	15	0	14.74	14.76	14.73	
3	256QAM	1	0	12.82	12.82	12.89	13
3	256QAM	1	8	12.79	12.89	12.76	
3	256QAM	1	14	12.95	12.96	12.79	
3	256QAM	8	0	12.66	12.68	12.72	13
3	256QAM	8	4	12.76	12.64	12.71	
3	256QAM	8	7	12.74	12.76	12.77	
3	256QAM	15	0	12.72	12.67	12.76	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	17.50	17.62	17.54	18
1.4	QPSK	1	3	17.56	17.68	17.58	
1.4	QPSK	1	5	17.52	17.60	17.55	
1.4	QPSK	3	0	17.50	17.69	17.60	
1.4	QPSK	3	1	17.57	17.63	17.60	
1.4	QPSK	3	3	17.57	17.62	17.57	17
1.4	QPSK	6	0	16.60	16.63	16.61	
1.4	16QAM	1	0	16.85	17.00	16.91	17
1.4	16QAM	1	3	16.96	16.83	16.88	
1.4	16QAM	1	5	16.79	16.93	16.81	
1.4	16QAM	3	0	16.91	16.98	17.00	
1.4	16QAM	3	1	16.93	16.95	16.96	
1.4	16QAM	3	3	16.90	16.95	16.95	16
1.4	16QAM	6	0	15.83	15.99	15.97	
1.4	64QAM	1	0	15.97	15.93	15.96	16
1.4	64QAM	1	3	15.98	15.95	15.91	
1.4	64QAM	1	5	15.89	16.00	15.99	
1.4	64QAM	3	0	15.85	15.91	15.92	
1.4	64QAM	3	1	15.91	15.90	15.93	
1.4	64QAM	3	3	15.96	15.88	15.81	15
1.4	64QAM	6	0	14.89	14.89	14.71	
1.4	256QAM	1	0	12.96	12.82	12.88	13
1.4	256QAM	1	3	12.97	12.92	12.94	
1.4	256QAM	1	5	12.85	12.91	13.00	
1.4	256QAM	3	0	12.92	12.90	12.87	
1.4	256QAM	3	1	12.79	12.98	12.93	
1.4	256QAM	3	3	12.87	12.98	12.92	13
1.4	256QAM	6	0	12.86	12.90	12.88	



<LTE Band 2\_MIMO2 Ant\_Reduced Power>

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	17.89	17.85	17.79	18
20	QPSK	1	49	17.88	17.84	17.78	
20	QPSK	1	99	17.86	17.82	17.76	
20	QPSK	50	0	17.85	17.81	17.75	18
20	QPSK	50	24	17.84	17.80	17.74	
20	QPSK	50	50	17.83	17.79	17.73	
20	QPSK	100	0	17.82	17.78	17.72	
20	16QAM	1	0	17.61	17.57	17.51	18
20	16QAM	1	49	17.59	17.55	17.49	
20050	16QAM	1	99	17.58	17.54	17.48	
20	16QAM	50	0	17.72	17.68	17.62	18
20	16QAM	50	24	17.85	17.81	17.75	
20	16QAM	50	50	17.83	17.79	17.73	
20	16QAM	100	0	17.79	17.75	17.69	
20	64QAM	1	0	17.59	17.55	17.49	18
20	64QAM	1	49	17.61	17.57	17.51	
20	64QAM	1	99	17.54	17.50	17.44	
20	64QAM	50	0	17.74	17.70	17.64	18
20	64QAM	50	24	17.81	17.77	17.71	
20	64QAM	50	50	17.78	17.74	17.68	
20	64QAM	100	0	17.84	17.80	17.74	
20	256QAM	1	0	17.88	17.84	17.78	18
20	256QAM	1	49	17.87	17.83	17.77	
20	256QAM	1	99	17.86	17.82	17.76	
20	256QAM	50	0	17.81	17.77	17.71	18
20	256QAM	50	24	17.88	17.84	17.78	
20	256QAM	50	50	17.88	17.84	17.78	
20	256QAM	100	0	17.87	17.83	17.77	
Channel				18675	18900	19125	
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	17.82	17.78	17.72	18
15	QPSK	1	37	17.82	17.78	17.70	
15	QPSK	1	74	17.81	17.77	17.70	
15	QPSK	36	0	17.78	17.73	17.67	18
15	QPSK	36	20	17.77	17.74	17.66	
15	QPSK	36	39	17.75	17.73	17.67	
15	QPSK	75	0	17.77	17.72	17.65	
15	16QAM	1	0	17.56	17.52	17.45	18
15	16QAM	1	37	17.52	17.50	17.43	
15	16QAM	1	74	17.51	17.47	17.43	
15	16QAM	36	0	17.67	17.62	17.55	18
15	16QAM	36	20	17.78	17.74	17.70	
15	16QAM	36	39	17.75	17.74	17.67	
15	16QAM	75	0	17.71	17.69	17.61	
15	64QAM	1	0	17.53	17.48	17.44	18
15	64QAM	1	37	17.53	17.50	17.46	
15	64QAM	1	74	17.47	17.43	17.36	
15	64QAM	36	0	17.66	17.65	17.59	18
15	64QAM	36	20	17.75	17.72	17.64	
15	64QAM	36	39	17.71	17.66	17.60	
15	64QAM	75	0	17.78	17.72	17.66	
15	256QAM	1	0	17.80	17.76	17.71	18
15	256QAM	1	37	17.79	17.75	17.69	
15	256QAM	1	74	17.78	17.77	17.71	
15	256QAM	36	0	17.73	17.71	17.65	18
15	256QAM	36	20	17.83	17.76	17.73	



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Channel	Frequency (MHz)	18650	18900	19150	Tune-up limit (dBm)		
15	256QAM	36	39	17.83	17.79	17.71	
15	256QAM	75	0	17.81	17.78	17.72	
10	QPSK	1	0	17.81	17.77	17.71	18
10	QPSK	1	25	17.80	17.78	17.71	
10	QPSK	1	49	17.80	17.76	17.70	
10	QPSK	25	0	17.79	17.74	17.70	18
10	QPSK	25	12	17.78	17.73	17.68	
10	QPSK	25	25	17.76	17.73	17.65	
10	QPSK	50	0	17.75	17.70	17.64	18
10	16QAM	1	0	17.56	17.49	17.44	
10	16QAM	1	25	17.52	17.47	17.44	
10	16QAM	1	49	17.53	17.46	17.41	18
10	16QAM	25	0	17.66	17.62	17.56	
10	16QAM	25	12	17.77	17.74	17.69	
10	16QAM	25	25	17.75	17.74	17.68	18
10	16QAM	50	0	17.71	17.68	17.63	
10	64QAM	1	0	17.51	17.48	17.42	
10	64QAM	1	25	17.54	17.49	17.44	18
10	64QAM	1	49	17.46	17.45	17.37	
10	64QAM	25	0	17.66	17.62	17.58	
10	64QAM	25	12	17.73	17.71	17.64	18
10	64QAM	25	25	17.71	17.69	17.61	
10	64QAM	50	0	17.76	17.73	17.66	
10	256QAM	1	0	17.80	17.79	17.71	18
10	256QAM	1	25	17.80	17.77	17.72	
10	256QAM	1	49	17.81	17.77	17.69	
10	256QAM	25	0	17.76	17.72	17.66	18
10	256QAM	25	12	17.81	17.77	17.72	
10	256QAM	25	25	17.82	17.77	17.70	
10	256QAM	50	0	17.79	17.77	17.70	
Channel	Frequency (MHz)	18625	18900	19175	Tune-up limit (dBm)		
5	QPSK	1	0	17.81	17.80	17.74	18
5	QPSK	1	12	17.80	17.78	17.73	
5	QPSK	1	24	17.81	17.74	17.71	
5	QPSK	12	0	17.79	17.76	17.69	18
5	QPSK	12	7	17.79	17.75	17.66	
5	QPSK	12	13	17.77	17.71	17.67	
5	QPSK	25	0	17.77	17.71	17.64	18
5	16QAM	1	0	17.53	17.51	17.45	
5	16QAM	1	12	17.51	17.48	17.43	
5	16QAM	1	24	17.50	17.49	17.40	18
5	16QAM	12	0	17.64	17.60	17.57	
5	16QAM	12	7	17.80	17.76	17.68	
5	16QAM	12	13	17.75	17.72	17.65	18
5	16QAM	25	0	17.73	17.69	17.63	
5	64QAM	1	0	17.53	17.49	17.42	
5	64QAM	1	12	17.53	17.50	17.45	18
5	64QAM	1	24	17.46	17.44	17.38	
5	64QAM	12	0	17.68	17.63	17.59	
5	64QAM	12	7	17.73	17.69	17.63	18
5	64QAM	12	13	17.73	17.69	17.60	
5	64QAM	25	0	17.79	17.74	17.68	
5	256QAM	1	0	17.80	17.77	17.71	18
5	256QAM	1	12	17.82	17.75	17.71	
5	256QAM	1	24	17.78	17.75	17.71	
5	256QAM	12	0	17.74	17.72	17.64	18
5	256QAM	12	7	17.81	17.76	17.73	
5	256QAM	12	13	17.81	17.78	17.71	
5	256QAM	25	0	17.80	17.77	17.71	
Channel	Frequency (MHz)	18615	18900	19185	Tune-up limit		



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Frequency (MHz)				1851.5	1880	1908.5	(dBm)
3	QPSK	1	0	17.81	17.79	17.74	18
3	QPSK	1	8	17.80	17.77	17.70	
3	QPSK	1	14	17.81	17.77	17.70	
3	QPSK	8	0	17.78	17.73	17.67	18
3	QPSK	8	4	17.79	17.75	17.66	
3	QPSK	8	7	17.77	17.72	17.65	
3	QPSK	15	0	17.74	17.71	17.67	18
3	16QAM	1	0	17.54	17.51	17.44	
3	16QAM	1	8	17.52	17.48	17.44	
3	16QAM	1	14	17.53	17.47	17.40	18
3	16QAM	8	0	17.66	17.63	17.56	
3	16QAM	8	4	17.77	17.73	17.68	
3	16QAM	8	7	17.77	17.71	17.68	18
3	16QAM	15	0	17.74	17.67	17.62	
3	64QAM	1	0	17.52	17.48	17.43	
3	64QAM	1	8	17.53	17.52	17.46	18
3	64QAM	1	14	17.48	17.44	17.36	
3	64QAM	8	0	17.69	17.62	17.57	
3	64QAM	8	4	17.76	17.69	17.64	18
3	64QAM	8	7	17.71	17.66	17.60	
3	64QAM	15	0	17.79	17.73	17.69	
3	256QAM	1	0	17.82	17.78	17.70	18
3	256QAM	1	8	17.82	17.77	17.70	
3	256QAM	1	14	17.80	17.75	17.68	
3	256QAM	8	0	17.73	17.72	17.64	18
3	256QAM	8	4	17.81	17.79	17.73	
3	256QAM	8	7	17.82	17.79	17.71	
3	256QAM	15	0	17.79	17.76	17.71	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	17.81	17.77	17.73	18
1.4	QPSK	1	3	17.81	17.77	17.71	
1.4	QPSK	1	5	17.81	17.75	17.69	
1.4	QPSK	3	0	17.79	17.76	17.70	18
1.4	QPSK	3	1	17.76	17.73	17.67	
1.4	QPSK	3	3	17.75	17.71	17.68	
1.4	QPSK	6	0	17.75	17.72	17.67	18
1.4	16QAM	1	0	17.53	17.51	17.43	
1.4	16QAM	1	3	17.51	17.50	17.44	
1.4	16QAM	1	5	17.50	17.46	17.40	18
1.4	16QAM	3	0	17.65	17.63	17.56	
1.4	16QAM	3	1	17.79	17.76	17.70	
1.4	16QAM	3	3	17.76	17.73	17.68	18
1.4	16QAM	6	0	17.71	17.69	17.64	
1.4	64QAM	1	0	17.54	17.49	17.42	
1.4	64QAM	1	3	17.56	17.52	17.43	18
1.4	64QAM	1	5	17.48	17.45	17.38	
1.4	64QAM	3	0	17.67	17.63	17.58	
1.4	64QAM	3	1	17.73	17.72	17.63	18
1.4	64QAM	3	3	17.70	17.67	17.61	
1.4	64QAM	6	0	17.77	17.75	17.67	
1.4	256QAM	1	0	17.82	17.76	17.70	18
1.4	256QAM	1	3	17.81	17.76	17.70	
1.4	256QAM	1	5	17.81	17.76	17.69	
1.4	256QAM	3	0	17.75	17.69	17.66	18
1.4	256QAM	3	1	17.83	17.77	17.70	
1.4	256QAM	3	3	17.82	17.76	17.71	
1.4	256QAM	6	0	17.79	17.78	17.72	18





<LTE Band 4\_Main Ant\_Default Power>

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	23.31	23.33	23.34	25
20	QPSK	1	49	23.24	23.27	23.29	
20	QPSK	1	99	23.27	23.15	23.25	
20	QPSK	50	0	22.30	22.31	22.38	24
20	QPSK	50	24	22.28	22.28	22.31	
20	QPSK	50	50	22.34	22.33	22.34	
20	QPSK	100	0	22.30	22.26	22.36	
20	16QAM	1	0	22.74	22.61	22.76	24
20	16QAM	1	49	22.55	22.65	22.65	
20	16QAM	1	99	22.54	22.62	22.67	
20	16QAM	50	0	21.31	21.33	21.32	23
20	16QAM	50	24	21.38	21.29	21.32	
20	16QAM	50	50	21.38	21.35	21.37	
20	16QAM	100	0	21.35	21.27	21.30	
20	64QAM	1	0	21.53	21.52	21.60	23
20	64QAM	1	49	21.50	21.43	21.62	
20	64QAM	1	99	21.50	21.47	21.42	
20	64QAM	50	0	20.32	20.32	20.33	22
20	64QAM	50	24	20.39	20.30	20.31	
20	64QAM	50	50	20.37	20.33	20.36	
20	64QAM	100	0	20.39	20.28	20.31	
20	256QAM	1	0	18.05	18.00	18.17	20
20	256QAM	1	49	18.08	18.23	18.23	
20	256QAM	1	99	18.40	18.25	18.27	
20	256QAM	50	0	18.06	18.07	18.03	20
20	256QAM	50	24	18.17	18.11	18.03	
20	256QAM	50	50	18.22	18.17	18.13	
20	256QAM	100	0	18.19	18.09	18.08	
Channel				20025	20175	20325	
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	23.26	23.26	23.24	25
15	QPSK	1	37	23.19	23.22	23.23	
15	QPSK	1	74	23.21	23.08	23.15	
15	QPSK	36	0	22.24	22.23	22.32	24
15	QPSK	36	20	22.21	22.20	22.22	
15	QPSK	36	39	22.29	22.25	22.28	
15	QPSK	75	0	22.20	22.18	22.31	
15	16QAM	1	0	22.67	22.52	22.68	24
15	16QAM	1	37	22.46	22.58	22.55	
15	16QAM	1	74	22.48	22.52	22.62	
15	16QAM	36	0	21.23	21.24	21.22	
15	16QAM	36	20	21.32	21.21	21.24	23
15	16QAM	36	39	21.33	21.29	21.32	
15	16QAM	75	0	21.26	21.20	21.23	
15	64QAM	1	0	21.45	21.46	21.54	
15	64QAM	1	37	21.43	21.37	21.56	23
15	64QAM	1	74	21.43	21.37	21.36	
15	64QAM	36	0	20.27	20.24	20.25	
15	64QAM	36	20	20.29	20.22	20.26	22
15	64QAM	36	39	20.27	20.27	20.26	
15	64QAM	75	0	20.31	20.18	20.26	
15	256QAM	1	0	18.05	18.05	18.07	
15	256QAM	1	37	18.08	18.13	18.13	20
15	256QAM	1	74	18.35	18.20	18.20	
15	256QAM	36	0	18.08	18.07	18.06	
15	256QAM	36	20	18.12	18.06	18.04	20



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15	256QAM	36	39	18.13	18.12	18.03	
15	256QAM	75	0	18.11	18.04	18.08	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	23.21	23.28	23.24	25
10	QPSK	1	25	23.15	23.17	23.19	
10	QPSK	1	49	23.20	23.10	23.16	
10	QPSK	25	0	22.20	22.22	22.28	24
10	QPSK	25	12	22.19	22.20	22.24	
10	QPSK	25	25	22.25	22.23	22.24	
10	QPSK	50	0	22.24	22.20	22.28	
10	16QAM	1	0	22.67	22.55	22.67	24
10	16QAM	1	25	22.45	22.56	22.58	
10	16QAM	1	49	22.49	22.57	22.59	
10	16QAM	25	0	21.23	21.25	21.23	23
10	16QAM	25	12	21.30	21.21	21.27	
10	16QAM	25	25	21.32	21.26	21.29	
10	16QAM	50	0	21.25	21.21	21.25	
10	64QAM	1	0	21.48	21.42	21.55	23
10	64QAM	1	25	21.44	21.33	21.56	
10	64QAM	1	49	21.40	21.39	21.32	
10	64QAM	25	0	20.22	20.25	20.24	22
10	64QAM	25	12	20.31	20.20	20.21	
10	64QAM	25	25	20.31	20.23	20.30	
10	64QAM	50	0	20.29	20.22	20.21	
10	256QAM	1	0	18.05	18.02	18.09	20
10	256QAM	1	25	18.08	18.17	18.13	
10	256QAM	1	49	18.30	18.16	18.22	
10	256QAM	25	0	18.06	18.07	18.04	
10	256QAM	25	12	18.07	18.01	18.07	20
10	256QAM	25	25	18.15	18.07	18.03	
10	256QAM	50	0	18.11	18.01	18.03	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	23.26	23.28	23.26	25
5	QPSK	1	12	23.15	23.22	23.23	
5	QPSK	1	24	23.17	23.10	23.16	
5	QPSK	12	0	22.24	22.26	22.29	24
5	QPSK	12	7	22.20	22.22	22.26	
5	QPSK	12	13	22.28	22.24	22.27	
5	QPSK	25	0	22.21	22.18	22.29	
5	16QAM	1	0	22.68	22.55	22.71	24
5	16QAM	1	12	22.47	22.55	22.58	
5	16QAM	1	24	22.46	22.52	22.59	
5	16QAM	12	0	21.25	21.23	21.27	23
5	16QAM	12	7	21.31	21.23	21.26	
5	16QAM	12	13	21.28	21.28	21.30	
5	16QAM	25	0	21.27	21.22	21.24	
5	64QAM	1	0	21.44	21.44	21.55	23
5	64QAM	1	12	21.41	21.37	21.56	
5	64QAM	1	24	21.45	21.40	21.36	
5	64QAM	12	0	20.26	20.24	20.28	22
5	64QAM	12	7	20.34	20.22	20.21	
5	64QAM	12	13	20.27	20.27	20.28	
5	64QAM	25	0	20.33	20.21	20.26	
5	256QAM	1	0	18.07	18.02	18.08	20
5	256QAM	1	12	18.02	18.13	18.15	
5	256QAM	1	24	18.30	18.17	18.20	
5	256QAM	12	0	18.00	18.08	18.08	20
5	256QAM	12	7	18.11	18.06	18.06	
5	256QAM	12	13	18.12	18.12	18.06	
5	256QAM	25	0	18.09	18.00	18.01	
Channel				19965	20175	20385	Tune-up limit



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Frequency (MHz)				1711.5	1732.5	1753.5	(dBm)
3	QPSK	1	0	23.26	23.24	23.27	25
3	QPSK	1	8	23.14	23.17	23.19	
3	QPSK	1	14	23.21	23.10	23.20	
3	QPSK	8	0	22.22	22.25	22.31	24
3	QPSK	8	4	22.21	22.21	22.23	
3	QPSK	8	7	22.24	22.24	22.24	
3	QPSK	15	0	22.20	22.19	22.31	24
3	16QAM	1	0	22.68	22.55	22.66	
3	16QAM	1	8	22.47	22.59	22.55	
3	16QAM	1	14	22.45	22.57	22.57	23
3	16QAM	8	0	21.25	21.25	21.24	
3	16QAM	8	4	21.31	21.19	21.24	
3	16QAM	8	7	21.31	21.28	21.29	23
3	16QAM	15	0	21.28	21.18	21.21	
3	64QAM	1	0	21.47	21.44	21.54	
3	64QAM	1	8	21.40	21.36	21.56	23
3	64QAM	1	14	21.41	21.42	21.34	
3	64QAM	8	0	20.27	20.25	20.24	
3	64QAM	8	4	20.33	20.24	20.22	22
3	64QAM	8	7	20.27	20.28	20.28	
3	64QAM	15	0	20.31	20.20	20.22	
3	256QAM	1	0	18.06	18.04	18.09	20
3	256QAM	1	8	18.01	18.16	18.14	
3	256QAM	1	14	18.33	18.18	18.19	
3	256QAM	8	0	18.08	18.09	18.06	20
3	256QAM	8	4	18.07	18.04	18.08	
3	256QAM	8	7	18.13	18.12	18.03	
3	256QAM	15	0	18.11	18.04	18.03	Tune-up limit (dBm)
Channel				19957	20175	20393	
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	23.13	23.10	23.09	25
1.4	QPSK	1	3	23.19	23.18	23.18	
1.4	QPSK	1	5	23.15	23.05	23.09	
1.4	QPSK	3	0	23.20	23.15	23.15	24
1.4	QPSK	3	1	23.19	23.16	23.13	
1.4	QPSK	3	3	23.23	23.19	23.13	
1.4	QPSK	6	0	22.19	22.16	22.12	24
1.4	16QAM	1	0	22.50	22.40	22.56	
1.4	16QAM	1	3	22.63	22.60	22.56	
1.4	16QAM	1	5	22.60	22.50	22.46	24
1.4	16QAM	3	0	22.37	22.34	22.36	
1.4	16QAM	3	1	22.40	22.30	22.29	
1.4	16QAM	3	3	22.38	22.31	22.30	23
1.4	16QAM	6	0	21.26	21.22	21.22	
1.4	64QAM	1	0	21.45	21.47	21.39	
1.4	64QAM	1	3	21.46	21.39	21.34	23
1.4	64QAM	1	5	21.33	21.28	21.39	
1.4	64QAM	3	0	21.31	21.29	21.28	
1.4	64QAM	3	1	21.33	21.33	21.26	22
1.4	64QAM	3	3	21.32	21.29	21.27	
1.4	64QAM	6	0	20.21	20.23	20.17	
1.4	256QAM	1	0	18.13	18.05	18.26	20
1.4	256QAM	1	3	18.14	18.30	18.27	
1.4	256QAM	1	5	18.49	18.26	18.31	
1.4	256QAM	3	0	18.06	18.10	18.13	20
1.4	256QAM	3	1	18.23	18.16	18.03	
1.4	256QAM	3	3	18.30	18.25	18.15	
1.4	256QAM	6	0	18.19	18.09	18.18	20



<LTE Band 4\_MIMO2 Ant\_Default Power>

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	23.18	23.20	23.22	24
20	QPSK	1	49	23.13	23.08	23.18	
20	QPSK	1	99	23.05	23.01	23.15	
20	QPSK	50	0	22.17	22.11	22.27	23
20	QPSK	50	24	22.10	22.05	22.25	
20	QPSK	50	50	22.21	22.06	22.24	
20	QPSK	100	0	22.10	22.15	22.19	23
20	16QAM	1	0	22.30	22.34	22.42	
20	16QAM	1	49	22.22	22.34	22.37	
20	16QAM	1	99	22.25	22.28	22.28	22
20	16QAM	50	0	21.01	21.11	21.21	
20	16QAM	50	24	21.14	21.05	21.20	
20	16QAM	50	50	21.11	21.14	21.19	22
20	16QAM	100	0	21.09	21.02	21.16	
20	64QAM	1	0	21.02	21.05	21.05	
20	64QAM	1	49	21.05	21.03	21.01	22
20	64QAM	1	99	21.04	21.02	21.00	
20	64QAM	50	0	20.17	20.07	20.19	
20	64QAM	50	24	20.11	20.11	20.16	21
20	64QAM	50	50	20.22	20.24	20.26	
20	64QAM	100	0	20.11	20.08	20.17	
20	256QAM	1	0	18.09	18.06	18.23	19
20	256QAM	1	49	18.06	18.08	18.22	
20	256QAM	1	99	18.12	18.13	18.21	
20	256QAM	50	0	18.06	18.13	18.19	19
20	256QAM	50	24	18.04	18.05	18.16	
20	256QAM	50	50	18.20	18.07	18.23	
20	256QAM	100	0	18.17	18.01	18.20	
Channel				20025	20175	20325	
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	23.13	23.15	23.16	24
15	QPSK	1	37	23.08	23.02	23.12	
15	QPSK	1	74	23.04	23.07	23.09	
15	QPSK	36	0	22.21	22.16	22.30	23
15	QPSK	36	20	22.15	22.08	22.29	
15	QPSK	36	39	22.26	22.11	22.27	
15	QPSK	75	0	22.14	22.18	22.22	23
15	16QAM	1	0	22.33	22.37	22.45	
15	16QAM	1	37	22.26	22.39	22.41	
15	16QAM	1	74	22.30	22.33	22.33	22
15	16QAM	36	0	21.04	21.16	21.26	
15	16QAM	36	20	21.18	21.09	21.25	
15	16QAM	36	39	21.15	21.19	21.24	22
15	16QAM	75	0	21.14	21.06	21.20	
15	64QAM	1	0	21.07	21.08	21.10	
15	64QAM	1	37	21.08	21.06	21.06	22
15	64QAM	1	74	21.07	21.07	21.04	
15	64QAM	36	0	20.20	20.11	20.23	
15	64QAM	36	20	20.15	20.16	20.19	21
15	64QAM	36	39	20.25	20.27	20.30	
15	64QAM	75	0	20.14	20.13	20.21	
15	256QAM	1	0	18.12	18.10	18.27	19
15	256QAM	1	37	18.11	18.12	18.27	
15	256QAM	1	74	18.16	18.16	18.26	
15	256QAM	36	0	18.10	18.16	18.23	19
15	256QAM	36	20	18.07	18.09	18.21	



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15	256QAM	36	39	18.24	18.10	18.27	
15	256QAM	75	0	18.20	18.06	18.24	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	23.11	23.14	23.16	24
10	QPSK	1	25	23.08	23.01	23.12	
10	QPSK	1	49	23.02	23.03	23.10	
10	QPSK	25	0	22.20	22.16	22.30	23
10	QPSK	25	12	22.14	22.08	22.30	
10	QPSK	25	25	22.26	22.10	22.28	
10	QPSK	50	0	22.15	22.20	22.23	
10	16QAM	1	0	22.35	22.38	22.45	23
10	16QAM	1	25	22.27	22.37	22.41	
10	16QAM	1	49	22.28	22.31	22.33	
10	16QAM	25	0	21.06	21.15	21.26	22
10	16QAM	25	12	21.17	21.10	21.24	
10	16QAM	25	25	21.16	21.18	21.23	
10	16QAM	50	0	21.12	21.05	21.19	
10	64QAM	1	0	21.07	21.08	21.08	
10	64QAM	1	25	21.09	21.08	21.04	22
10	64QAM	1	49	21.08	21.07	21.04	
10	64QAM	25	0	20.22	20.12	20.22	
10	64QAM	25	12	20.14	20.16	20.20	21
10	64QAM	25	25	20.27	20.28	20.31	
10	64QAM	50	0	20.14	20.13	20.21	
10	256QAM	1	0	18.13	18.10	18.27	
10	256QAM	1	25	18.10	18.13	18.27	19
10	256QAM	1	49	18.15	18.17	18.26	
10	256QAM	25	0	18.11	18.17	18.23	
10	256QAM	25	12	18.08	18.09	18.21	19
10	256QAM	25	25	18.25	18.12	18.28	
10	256QAM	25	0	18.21	18.04	18.24	
Channel				19975	20175	20375	
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	23.13	23.15	23.15	24
5	QPSK	1	12	23.07	23.01	23.12	
5	QPSK	1	24	23.04	23.05	23.09	
5	QPSK	12	0	22.21	22.14	22.30	23
5	QPSK	12	7	22.14	22.10	22.28	
5	QPSK	12	13	22.25	22.11	22.27	
5	QPSK	25	0	22.15	22.19	22.22	
5	16QAM	1	0	22.35	22.37	22.47	23
5	16QAM	1	12	22.27	22.38	22.42	
5	16QAM	1	24	22.28	22.33	22.31	
5	16QAM	12	0	21.06	21.15	21.24	22
5	16QAM	12	7	21.18	21.08	21.23	
5	16QAM	12	13	21.16	21.19	21.24	
5	16QAM	25	0	21.12	21.05	21.19	
5	64QAM	1	0	21.05	21.10	21.08	
5	64QAM	1	12	21.10	21.08	21.04	22
5	64QAM	1	24	21.09	21.07	21.05	
5	64QAM	12	0	20.22	20.10	20.24	
5	64QAM	12	7	20.15	20.14	20.21	21
5	64QAM	12	13	20.27	20.27	20.31	
5	64QAM	25	0	20.16	20.13	20.20	
5	256QAM	1	0	18.13	18.11	18.28	
5	256QAM	1	12	18.10	18.13	18.25	19
5	256QAM	1	24	18.15	18.17	18.24	
5	256QAM	12	0	18.11	18.18	18.24	
5	256QAM	12	7	18.08	18.10	18.21	19
5	256QAM	12	13	18.25	18.10	18.26	
5	256QAM	25	0	18.20	18.04	18.23	
Channel				19965	20175	20385	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

Frequency (MHz)				1711.5	1732.5	1753.5	(dBm)
3	QPSK	1	0	23.12	23.13	23.16	24
3	QPSK	1	8	23.06	23.02	23.12	
3	QPSK	1	14	23.05	23.07	23.09	
3	QPSK	8	0	22.21	22.14	22.31	23
3	QPSK	8	4	22.15	22.10	22.29	
3	QPSK	8	7	22.25	22.10	22.28	
3	QPSK	15	0	22.13	22.19	22.22	
3	16QAM	1	0	22.34	22.39	22.45	23
3	16QAM	1	8	22.26	22.37	22.40	
3	16QAM	1	14	22.30	22.32	22.31	
3	16QAM	8	0	21.06	21.16	21.24	22
3	16QAM	8	4	21.17	21.08	21.23	
3	16QAM	8	7	21.15	21.19	21.23	
3	16QAM	15	0	21.14	21.05	21.21	
3	64QAM	1	0	21.06	21.10	21.10	
3	64QAM	1	8	21.09	21.08	21.04	22
3	64QAM	1	14	21.07	21.06	21.03	
3	64QAM	8	0	20.20	20.11	20.22	
3	64QAM	8	4	20.15	20.14	20.19	21
3	64QAM	8	7	20.26	20.29	20.30	
3	64QAM	15	0	20.16	20.12	20.22	
3	256QAM	1	0	18.14	18.11	18.26	
3	256QAM	1	8	18.11	18.12	18.25	19
3	256QAM	1	14	18.15	18.16	18.25	
3	256QAM	8	0	18.10	18.16	18.24	
3	256QAM	8	4	18.08	18.09	18.20	19
3	256QAM	8	7	18.25	18.11	18.26	
3	256QAM	15	0	18.21	18.05	18.25	
Channel				19957	20175	20393	
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	23.12	23.15	23.15	24
1.4	QPSK	1	3	23.14	23.10	23.12	
1.4	QPSK	1	5	23.06	23.12	23.08	
1.4	QPSK	3	0	23.01	23.10	23.05	
1.4	QPSK	3	1	23.03	23.07	23.04	
1.4	QPSK	3	3	23.01	23.02	23.01	23
1.4	QPSK	6	0	22.17	22.22	22.22	
1.4	16QAM	1	0	22.43	22.50	22.45	
1.4	16QAM	1	3	22.36	22.38	22.41	
1.4	16QAM	1	5	22.37	22.30	22.33	23
1.4	16QAM	3	0	22.05	22.10	22.05	
1.4	16QAM	3	1	22.05	22.08	22.03	
1.4	16QAM	3	3	22.01	22.03	22.01	
1.4	16QAM	6	0	21.16	21.15	21.19	
1.4	64QAM	1	0	21.08	21.05	21.10	22
1.4	64QAM	1	3	21.01	21.07	21.05	
1.4	64QAM	1	5	21.02	21.05	21.03	
1.4	64QAM	3	0	21.07	21.02	21.04	
1.4	64QAM	3	1	21.00	21.05	21.02	
1.4	64QAM	3	3	21.02	21.00	21.01	
1.4	64QAM	6	0	20.18	20.25	20.22	
1.4	256QAM	1	0	18.27	18.26	18.26	19
1.4	256QAM	1	3	18.26	18.21	18.26	
1.4	256QAM	1	5	18.21	18.23	18.25	
1.4	256QAM	3	0	18.21	18.21	18.23	
1.4	256QAM	3	1	18.14	18.18	18.19	
1.4	256QAM	3	3	18.24	18.31	18.26	
1.4	256QAM	6	0	18.23	18.30	18.25	19



**<LTE Band 4\_Main Ant\_Reduced Power>**

Channel	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
20050	20175	20300		
1720	1732.5	1745		
20	17.67	17.70	17.76	18.5
20	17.60	17.66	17.69	
20	17.55	17.66	17.70	
20	16.73	16.75	16.77	17.5
20	16.64	16.68	16.71	
20	16.60	16.60	16.65	
20	16.70	16.65	16.72	
20	16.94	16.97	16.83	17.5
20	17.00	16.99	16.97	
20	16.95	16.95	16.90	
20	15.68	15.67	15.58	16.5
20	15.75	15.65	15.67	
20	15.80	15.77	15.73	
20	15.73	15.74	15.63	
20	15.90	15.87	15.87	16.5
20	15.88	15.86	15.81	
20	15.94	15.96	15.88	
20	14.64	14.68	14.64	15.5
20	14.78	14.62	14.66	
20	14.76	14.82	14.75	
20	14.76	14.72	14.65	
20	12.72	12.71	12.81	13.5
20	12.79	12.82	12.79	
20	12.84	12.74	12.82	
20	12.60	12.65	12.60	13.5
20	12.73	12.66	12.63	
20	12.74	12.76	12.74	
20	12.77	12.59	12.62	
20025	20175	20325		
1717.5	1732.5	1747.5		
15	17.66	17.61	17.69	18.5
15	17.59	17.56	17.65	
15	17.45	17.61	17.61	
15	16.63	16.65	16.67	17.5
15	16.54	16.62	16.64	
15	16.52	16.50	16.59	
15	16.63	16.55	16.68	
15	16.85	16.88	16.80	17.5
15	16.98	16.91	16.88	
15	16.93	16.89	16.89	
15	15.59	15.63	15.48	16.5
15	15.73	15.59	15.66	
15	15.71	15.67	15.71	
15	15.63	15.68	15.56	
15	15.85	15.82	15.77	16.5
15	15.79	15.76	15.75	
15	15.87	15.88	15.81	
15	14.59	14.62	14.60	15.5
15	14.70	14.59	14.64	
15	14.75	14.74	14.66	
15	14.75	14.66	14.62	
15	12.62	12.65	12.79	13.5
15	12.73	12.81	12.71	
15	12.78	12.71	12.75	
15	12.56	12.55	12.55	13.5
15	12.68	12.56	12.58	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	12.69	12.70	12.71	
15	256QAM	75	0	12.76	12.58	12.57	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	17.65	17.68	17.70	18.5
10	QPSK	1	25	17.50	17.58	17.59	
10	QPSK	1	49	17.48	17.56	17.65	
10	QPSK	25	0	16.68	16.71	16.68	17.5
10	QPSK	25	12	16.63	16.63	16.64	
10	QPSK	25	25	16.52	16.56	16.57	
10	QPSK	50	0	16.62	16.64	16.66	
10	16QAM	1	0	16.89	16.87	16.79	
10	16QAM	1	25	16.99	16.91	16.90	17.5
10	16QAM	1	49	16.94	16.90	16.81	
10	16QAM	25	0	15.65	15.59	15.53	16.5
10	16QAM	25	12	15.71	15.58	15.59	
10	16QAM	25	25	15.74	15.72	15.68	
10	16QAM	50	0	15.68	15.70	15.59	
10	64QAM	1	0	15.80	15.86	15.81	
10	64QAM	1	25	15.80	15.77	15.74	16.5
10	64QAM	1	49	15.91	15.87	15.79	
10	64QAM	25	0	14.55	14.60	14.58	
10	64QAM	25	12	14.77	14.60	14.59	15.5
10	64QAM	25	25	14.71	14.77	14.73	
10	64QAM	50	0	14.71	14.62	14.58	
10	256QAM	1	0	12.62	12.61	12.71	
10	256QAM	1	25	12.77	12.74	12.69	13.5
10	256QAM	1	49	12.82	12.68	12.81	
10	256QAM	25	0	12.54	12.56	12.57	
10	256QAM	25	12	12.66	12.62	12.53	13.5
10	256QAM	25	25	12.73	12.69	12.72	
10	256QAM	50	0	12.68	12.50	12.60	
Channel				19975	20175	20375	
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	17.61	17.67	17.69	18.5
5	QPSK	1	12	17.56	17.64	17.63	
5	QPSK	1	24	17.50	17.65	17.64	
5	QPSK	12	0	16.65	16.71	16.73	17.5
5	QPSK	12	7	16.57	16.66	16.67	
5	QPSK	12	13	16.58	16.59	16.64	
5	QPSK	25	0	16.63	16.64	16.64	
5	16QAM	1	0	16.86	16.92	16.75	
5	16QAM	1	12	16.97	16.91	16.95	17.5
5	16QAM	1	24	16.89	16.85	16.87	
5	16QAM	12	0	15.60	15.63	15.49	
5	16QAM	12	7	15.72	15.62	15.59	16.5
5	16QAM	12	13	15.75	15.73	15.70	
5	16QAM	25	0	15.64	15.64	15.58	
5	64QAM	1	0	15.89	15.79	15.79	
5	64QAM	1	12	15.79	15.81	15.78	16.5
5	64QAM	1	24	15.90	15.90	15.86	
5	64QAM	12	0	14.58	14.64	14.61	
5	64QAM	12	7	14.74	14.60	14.56	15.5
5	64QAM	12	13	14.66	14.73	14.72	
5	64QAM	25	0	14.75	14.70	14.63	
5	256QAM	1	0	12.71	12.66	12.71	
5	256QAM	1	12	12.70	12.72	12.71	13.5
5	256QAM	1	24	12.76	12.64	12.74	
5	256QAM	12	0	12.53	12.59	12.55	
5	256QAM	12	7	12.67	12.62	12.60	13.5
5	256QAM	12	13	12.66	12.71	12.68	
5	256QAM	25	0	12.68	12.54	12.52	
Channel				19965	20175	20385	





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Frequency (MHz)				1711.5	1732.5	1753.5	(dBm)
3	QPSK	1	0	17.66	17.68	17.67	18.5
3	QPSK	1	8	17.57	17.59	17.64	
3	QPSK	1	14	17.50	17.63	17.65	
3	QPSK	8	0	16.65	16.66	16.68	17.5
3	QPSK	8	4	16.62	16.60	16.66	
3	QPSK	8	7	16.55	16.52	16.59	
3	QPSK	15	0	16.61	16.64	16.62	17.5
3	16QAM	1	0	16.84	16.88	16.81	
3	16QAM	1	8	16.97	16.89	16.93	
3	16QAM	1	14	16.91	16.93	16.80	16.5
3	16QAM	8	0	15.61	15.65	15.50	
3	16QAM	8	4	15.65	15.57	15.59	
3	16QAM	8	7	15.74	15.68	15.72	16.5
3	16QAM	15	0	15.69	15.70	15.59	
3	64QAM	1	0	15.81	15.84	15.79	
3	64QAM	1	8	15.78	15.83	15.79	16.5
3	64QAM	1	14	15.86	15.90	15.78	
3	64QAM	8	0	14.56	14.67	14.56	
3	64QAM	8	4	14.71	14.53	14.60	15.5
3	64QAM	8	7	14.73	14.72	14.71	
3	64QAM	15	0	14.69	14.71	14.56	
3	256QAM	1	0	12.71	12.67	12.78	13.5
3	256QAM	1	8	12.69	12.81	12.73	
3	256QAM	1	14	12.81	12.66	12.74	
3	256QAM	8	0	12.51	12.59	12.52	13.5
3	256QAM	8	4	12.67	12.65	12.58	
3	256QAM	8	7	12.65	12.66	12.67	
3	256QAM	15	0	12.74	12.54	12.54	Tune-up limit (dBm)
Channel				19957	20175	20393	
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	17.58	17.57	17.57	18.5
1.4	QPSK	1	3	17.63	17.65	17.61	
1.4	QPSK	1	5	17.63	17.62	17.56	
1.4	QPSK	3	0	17.65	17.64	17.65	17.5
1.4	QPSK	3	1	17.63	17.68	17.64	
1.4	QPSK	3	3	17.66	17.67	17.60	
1.4	QPSK	6	0	16.77	16.83	16.78	17.5
1.4	16QAM	1	0	16.98	16.84	16.84	
1.4	16QAM	1	3	16.75	16.85	16.87	
1.4	16QAM	1	5	16.79	16.91	16.81	17.5
1.4	16QAM	3	0	16.90	16.90	16.85	
1.4	16QAM	3	1	16.90	16.90	16.87	
1.4	16QAM	3	3	16.92	16.99	16.84	16.5
1.4	16QAM	6	0	15.92	15.87	15.85	
1.4	64QAM	1	0	15.90	15.93	15.99	
1.4	64QAM	1	3	15.98	15.99	15.91	16.5
1.4	64QAM	1	5	15.96	15.98	15.90	
1.4	64QAM	3	0	15.88	15.90	15.90	
1.4	64QAM	3	1	15.91	15.79	15.90	15.5
1.4	64QAM	3	3	15.97	15.93	15.94	
1.4	64QAM	6	0	14.87	14.84	14.75	
1.4	256QAM	1	0	12.93	12.86	12.81	13.5
1.4	256QAM	1	3	12.90	12.95	12.86	
1.4	256QAM	1	5	12.94	12.97	12.85	
1.4	256QAM	3	0	12.84	12.83	12.87	13.5
1.4	256QAM	3	1	12.85	12.88	12.93	
1.4	256QAM	3	3	12.91	12.81	12.86	
1.4	256QAM	6	0	12.79	12.84	12.79	13.5



<LTE Band 4\_MIMO2 Ant\_Reduced Power>

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	16.16	16.13	16.21	16.5
20	QPSK	1	49	16.13	16.10	16.18	
20	QPSK	1	99	16.07	16.04	16.12	
20	QPSK	50	0	16.10	16.07	16.15	16.5
20	QPSK	50	24	16.09	16.06	16.14	
20	QPSK	50	50	16.08	16.05	16.13	
20	QPSK	100	0	16.09	16.06	16.14	
20	16QAM	1	0	15.91	15.88	15.96	16.5
20	16QAM	1	49	15.87	15.84	15.92	
20	16QAM	1	99	15.89	15.86	15.94	
20	16QAM	50	0	16.09	16.06	16.14	16.5
20	16QAM	50	24	16.08	16.05	16.13	
20	16QAM	50	50	16.10	16.07	16.15	
20	16QAM	100	0	16.08	16.05	16.13	
20	64QAM	1	0	15.88	15.85	15.93	16.5
20	64QAM	1	49	15.86	15.83	15.91	
20	64QAM	1	99	15.80	15.77	15.85	
20	64QAM	50	0	15.93	15.90	15.98	16.5
20	64QAM	50	24	15.91	15.88	15.96	
20	64QAM	50	50	15.94	15.91	15.99	
20	64QAM	100	0	16.03	16.00	16.08	
20	256QAM	1	0	16.13	16.10	16.18	16.5
20	256QAM	1	49	16.12	16.09	16.17	
20	256QAM	1	99	16.11	16.08	16.16	
20	256QAM	50	0	16.06	16.03	16.11	16.5
20	256QAM	50	24	16.06	16.03	16.11	
20	256QAM	50	50	16.07	16.04	16.12	
20	256QAM	100	0	15.99	15.96	16.04	
Channel				20025	20175	20325	
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	16.09	16.05	16.14	16.5
15	QPSK	1	37	16.07	16.04	16.11	
15	QPSK	1	74	16.01	15.97	16.05	
15	QPSK	36	0	16.02	16.02	16.09	16.5
15	QPSK	36	20	16.04	15.99	16.07	
15	QPSK	36	39	16.02	15.99	16.05	
15	QPSK	75	0	16.03	16.01	16.07	
15	16QAM	1	0	15.83	15.80	15.89	16.5
15	16QAM	1	37	15.81	15.79	15.86	
15	16QAM	1	74	15.83	15.80	15.87	
15	16QAM	36	0	16.04	15.99	16.08	16.5
15	16QAM	36	20	16.02	15.97	16.07	
15	16QAM	36	39	16.03	16.01	16.09	
15	16QAM	75	0	16.01	15.98	16.08	
15	64QAM	1	0	15.81	15.78	15.85	16.5
15	64QAM	1	37	15.80	15.76	15.85	
15	64QAM	1	74	15.72	15.71	15.78	
15	64QAM	36	0	15.87	15.82	15.92	16.5
15	64QAM	36	20	15.84	15.81	15.89	
15	64QAM	36	39	15.89	15.86	15.91	
15	64QAM	75	0	15.98	15.94	16.01	
15	256QAM	1	0	16.08	16.05	16.12	16.5
15	256QAM	1	37	16.06	16.02	16.09	
15	256QAM	1	74	16.04	16.00	16.11	
15	256QAM	36	0	15.98	15.96	16.06	16.5
15	256QAM	36	20	15.98	15.95	16.06	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	16.00	15.98	16.04	
15	256QAM	75	0	15.91	15.89	15.99	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	16.11	16.07	16.16	16.5
10	QPSK	1	25	16.06	16.03	16.12	
10	QPSK	1	49	15.99	15.99	16.04	
10	QPSK	25	0	16.05	16.00	16.08	16.5
10	QPSK	25	12	16.04	16.01	16.06	
10	QPSK	25	25	16.00	15.99	16.06	
10	QPSK	50	0	16.02	15.98	16.06	
10	16QAM	1	0	15.83	15.83	15.89	16.5
10	16QAM	1	25	15.82	15.79	15.84	
10	16QAM	1	49	15.83	15.80	15.87	
10	16QAM	25	0	16.02	15.98	16.07	16.5
10	16QAM	25	12	16.02	15.99	16.08	
10	16QAM	25	25	16.02	16.02	16.10	
10	16QAM	50	0	16.02	15.98	16.07	
10	64QAM	1	0	15.80	15.80	15.85	16.5
10	64QAM	1	25	15.78	15.75	15.83	
10	64QAM	1	49	15.74	15.72	15.78	
10	64QAM	25	0	15.87	15.83	15.90	16.5
10	64QAM	25	12	15.85	15.83	15.91	
10	64QAM	25	25	15.87	15.84	15.94	
10	64QAM	50	0	15.97	15.95	16.02	
10	256QAM	1	0	16.05	16.05	16.12	16.5
10	256QAM	1	25	16.04	16.04	16.12	
10	256QAM	1	49	16.05	16.00	16.10	
10	256QAM	25	0	15.99	15.97	16.03	16.5
10	256QAM	25	12	16.01	15.97	16.06	
10	256QAM	25	25	16.02	15.98	16.07	
10	256QAM	50	0	15.94	15.89	15.97	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	16.10	16.07	16.13	16.5
5	QPSK	1	12	16.06	16.04	16.10	
5	QPSK	1	24	16.02	15.96	16.05	
5	QPSK	12	0	16.04	16.02	16.08	16.5
5	QPSK	12	7	16.01	15.99	16.09	
5	QPSK	12	13	16.03	15.99	16.05	
5	QPSK	25	0	16.02	15.99	16.06	
5	16QAM	1	0	15.85	15.80	15.88	16.5
5	16QAM	1	12	15.81	15.79	15.87	
5	16QAM	1	24	15.84	15.78	15.89	
5	16QAM	12	0	16.04	16.01	16.09	16.5
5	16QAM	12	7	16.02	15.99	16.07	
5	16QAM	12	13	16.04	16.00	16.08	
5	16QAM	25	0	16.02	15.98	16.08	
5	64QAM	1	0	15.82	15.79	15.86	16.5
5	64QAM	1	12	15.81	15.77	15.85	
5	64QAM	1	24	15.74	15.72	15.77	
5	64QAM	12	0	15.86	15.85	15.92	16.5
5	64QAM	12	7	15.84	15.83	15.90	
5	64QAM	12	13	15.89	15.84	15.91	
5	64QAM	25	0	15.95	15.93	16.02	
5	256QAM	1	0	16.06	16.03	16.13	16.5
5	256QAM	1	12	16.05	16.02	16.09	
5	256QAM	1	24	16.04	16.00	16.08	
5	256QAM	12	0	16.00	15.97	16.03	16.5
5	256QAM	12	7	15.98	15.96	16.04	
5	256QAM	12	13	16.02	15.97	16.07	
5	256QAM	25	0	15.91	15.90	15.98	
Channel				19965	20175	20385	Tune-up limit



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Frequency (MHz)				1711.5	1732.5	1753.5	(dBm)
3	QPSK	1	0	16.09	16.06	16.13	16.5
3	QPSK	1	8	16.06	16.05	16.13	
3	QPSK	1	14	16.00	15.99	16.07	
3	QPSK	8	0	16.03	15.99	16.07	16.5
3	QPSK	8	4	16.04	16.00	16.07	
3	QPSK	8	7	16.03	15.97	16.08	
3	QPSK	15	0	16.02	16.01	16.08	
3	16QAM	1	0	15.85	15.80	15.88	16.5
3	16QAM	1	8	15.80	15.79	15.84	
3	16QAM	1	14	15.84	15.80	15.89	
3	16QAM	8	0	16.02	16.01	16.09	16.5
3	16QAM	8	4	16.00	15.98	16.07	
3	16QAM	8	7	16.04	16.02	16.08	
3	16QAM	15	0	16.01	16.00	16.05	
3	64QAM	1	0	15.82	15.79	15.87	16.5
3	64QAM	1	8	15.81	15.76	15.86	
3	64QAM	1	14	15.74	15.72	15.80	
3	64QAM	8	0	15.87	15.83	15.92	16.5
3	64QAM	8	4	15.85	15.80	15.88	
3	64QAM	8	7	15.87	15.85	15.93	
3	64QAM	15	0	15.95	15.95	16.00	
3	256QAM	1	0	16.06	16.05	16.13	16.5
3	256QAM	1	8	16.04	16.04	16.09	
3	256QAM	1	14	16.06	16.01	16.08	
3	256QAM	8	0	15.99	15.97	16.03	16.5
3	256QAM	8	4	16.01	15.95	16.03	
3	256QAM	8	7	15.99	15.97	16.07	
3	256QAM	15	0	15.92	15.88	15.96	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	16.11	16.08	16.15	16.5
1.4	QPSK	1	3	16.05	16.05	16.13	
1.4	QPSK	1	5	16.00	15.97	16.05	
1.4	QPSK	3	0	16.02	16.02	16.10	
1.4	QPSK	3	1	16.04	16.00	16.07	
1.4	QPSK	3	3	16.01	15.99	16.08	
1.4	QPSK	6	0	16.04	15.99	16.09	16.5
1.4	16QAM	1	0	15.84	15.83	15.88	16.5
1.4	16QAM	1	3	15.81	15.78	15.87	
1.4	16QAM	1	5	15.84	15.80	15.88	
1.4	16QAM	3	0	16.01	15.99	16.06	
1.4	16QAM	3	1	16.00	15.98	16.07	
1.4	16QAM	3	3	16.03	16.01	16.08	
1.4	16QAM	6	0	16.02	15.98	16.06	16.5
1.4	64QAM	1	0	15.83	15.78	15.86	16.5
1.4	64QAM	1	3	15.80	15.78	15.83	
1.4	64QAM	1	5	15.75	15.69	15.79	
1.4	64QAM	3	0	15.86	15.82	15.93	
1.4	64QAM	3	1	15.85	15.81	15.88	
1.4	64QAM	3	3	15.88	15.85	15.92	
1.4	64QAM	6	0	15.97	15.93	16.01	16.5
1.4	256QAM	1	0	16.08	16.05	16.11	16.5
1.4	256QAM	1	3	16.04	16.01	16.10	
1.4	256QAM	1	5	16.04	16.00	16.10	
1.4	256QAM	3	0	16.01	15.96	16.04	
1.4	256QAM	3	1	15.98	15.98	16.06	
1.4	256QAM	3	3	16.01	15.97	16.04	
1.4	256QAM	6	0	15.94	15.88	15.97	16.5



<LTE Band 5\_Main Ant\_Default Power>

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	23.55	23.46	23.65	25
10	QPSK	1	25	23.51	23.62	23.58	
10	QPSK	1	49	23.50	23.53	23.47	
10	QPSK	25	0	22.51	22.60	22.71	24
10	QPSK	25	12	22.58	22.64	22.59	
10	QPSK	25	25	22.51	22.60	22.57	
10	QPSK	50	0	22.55	22.58	22.60	24
10	16QAM	1	0	22.96	22.84	23.06	
10	16QAM	1	25	22.80	22.96	22.93	
10	16QAM	1	49	22.88	22.92	22.86	23
10	16QAM	25	0	21.53	21.61	21.63	
10	16QAM	25	12	21.58	21.66	21.60	
10	16QAM	25	25	21.56	21.71	21.59	23
10	16QAM	50	0	21.55	21.62	21.55	
10	64QAM	1	0	21.89	21.70	21.98	
10	64QAM	1	25	21.71	21.86	21.85	23
10	64QAM	1	49	21.76	21.78	21.66	
10	64QAM	25	0	20.53	20.60	20.63	
10	64QAM	25	12	20.57	20.65	20.61	22
10	64QAM	25	25	20.49	20.73	20.59	
10	64QAM	50	0	20.55	20.61	20.59	
10	256QAM	1	0	18.48	18.49	18.46	20
10	256QAM	1	25	18.56	18.62	18.57	
10	256QAM	1	49	18.56	18.64	18.55	
10	256QAM	25	0	18.47	18.47	18.38	20
10	256QAM	25	12	18.50	18.52	18.47	
10	256QAM	25	25	18.58	18.61	18.54	
10	256QAM	50	0	18.43	18.48	18.39	
Channel				20425	20525	20625	
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	23.46	23.41	23.58	25
5	QPSK	1	12	23.44	23.53	23.49	
5	QPSK	1	24	23.42	23.47	23.37	
5	QPSK	12	0	22.42	22.50	22.61	24
5	QPSK	12	7	22.49	22.58	22.52	
5	QPSK	12	13	22.44	22.53	22.50	
5	QPSK	25	0	22.47	22.48	22.54	24
5	16QAM	1	0	22.89	22.76	23.01	
5	16QAM	1	12	22.73	22.89	22.83	
5	16QAM	1	24	22.80	22.83	22.80	23
5	16QAM	12	0	21.45	21.56	21.55	
5	16QAM	12	7	21.49	21.56	21.54	
5	16QAM	12	13	21.50	21.61	21.52	23
5	16QAM	25	0	21.46	21.55	21.46	
5	64QAM	1	0	21.84	21.65	21.88	
5	64QAM	1	12	21.62	21.78	21.75	23
5	64QAM	1	24	21.70	21.72	21.57	
5	64QAM	12	0	20.47	20.54	20.56	
5	64QAM	12	7	20.47	20.56	20.56	22
5	64QAM	12	13	20.44	20.63	20.51	
5	64QAM	25	0	20.50	20.55	20.51	
5	256QAM	1	0	18.40	18.41	18.39	20
5	256QAM	1	12	18.46	18.55	18.47	
5	256QAM	1	24	18.51	18.58	18.50	
5	256QAM	12	0	18.42	18.42	18.30	20
5	256QAM	12	7	18.44	18.43	18.39	



**FCC SAR TEST REPORT**

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5	256QAM	12	13	18.51	18.51	18.44	
5	256QAM	25	0	18.36	18.42	18.30	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	23.48	23.37	23.60	25
3	QPSK	1	8	23.41	23.53	23.49	
3	QPSK	1	14	23.40	23.44	23.39	
3	QPSK	8	0	22.44	22.54	22.65	24
3	QPSK	8	4	22.51	22.57	22.51	
3	QPSK	8	7	22.41	22.55	22.47	
3	QPSK	15	0	22.47	22.49	22.54	
3	16QAM	1	0	22.87	22.75	22.98	24
3	16QAM	1	8	22.74	22.87	22.84	
3	16QAM	1	14	22.80	22.86	22.79	
3	16QAM	8	0	21.48	21.56	21.55	23
3	16QAM	8	4	21.49	21.56	21.51	
3	16QAM	8	7	21.47	21.64	21.54	
3	16QAM	15	0	21.46	21.52	21.45	
3	64QAM	1	0	21.80	21.61	21.90	23
3	64QAM	1	8	21.61	21.80	21.77	
3	64QAM	1	14	21.70	21.69	21.60	
3	64QAM	8	0	20.43	20.52	20.53	22
3	64QAM	8	4	20.51	20.58	20.51	
3	64QAM	8	7	20.42	20.67	20.50	
3	64QAM	15	0	20.48	20.53	20.49	
3	256QAM	1	0	18.40	18.41	18.37	20
3	256QAM	1	8	18.50	18.54	18.49	
3	256QAM	1	14	18.47	18.57	18.48	
3	256QAM	8	0	18.37	18.37	18.31	20
3	256QAM	8	4	18.44	18.43	18.39	
3	256QAM	8	7	18.53	18.51	18.48	
3	256QAM	15	0	18.35	18.38	18.32	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	23.14	23.19	23.16	25
1.4	QPSK	1	3	23.24	23.30	23.24	
1.4	QPSK	1	5	23.17	23.25	23.26	
1.4	QPSK	3	0	23.24	23.25	23.22	
1.4	QPSK	3	1	23.25	23.28	23.32	
1.4	QPSK	3	3	23.25	23.33	23.28	24
1.4	QPSK	6	0	22.25	22.24	22.27	
1.4	16QAM	1	0	22.71	22.60	22.61	24
1.4	16QAM	1	3	22.56	22.67	22.59	
1.4	16QAM	1	5	22.56	22.74	22.49	
1.4	16QAM	3	0	22.42	22.42	22.35	
1.4	16QAM	3	1	22.42	22.47	22.41	
1.4	16QAM	3	3	22.36	22.36	22.35	
1.4	16QAM	6	0	21.39	21.32	21.37	23
1.4	64QAM	1	0	21.51	21.53	21.42	23
1.4	64QAM	1	3	21.55	21.52	21.55	
1.4	64QAM	1	5	21.43	21.46	21.44	
1.4	64QAM	3	0	21.42	21.38	21.38	
1.4	64QAM	3	1	21.40	21.42	21.36	
1.4	64QAM	3	3	21.40	21.45	21.39	22
1.4	64QAM	6	0	20.32	20.30	20.29	
1.4	256QAM	1	0	18.35	18.38	18.29	20
1.4	256QAM	1	3	18.40	18.47	18.37	
1.4	256QAM	1	5	18.42	18.51	18.40	
1.4	256QAM	3	0	18.32	18.35	18.25	
1.4	256QAM	3	1	18.39	18.39	18.37	
1.4	256QAM	3	3	18.41	18.41	18.44	
1.4	256QAM	6	0	18.28	18.38	18.22	20



**<LTE Band 5\_Main Ant\_Reduced Power>**

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	20.58	20.56	20.62	21
10	QPSK	1	25	20.54	20.52	20.51	
10	QPSK	1	49	20.41	20.51	20.40	
10	QPSK	25	0	19.52	19.55	19.61	20
10	QPSK	25	12	19.59	19.52	19.49	
10	QPSK	25	25	19.46	19.50	19.47	
10	QPSK	50	0	19.45	19.46	19.55	
10	16QAM	1	0	19.93	19.93	19.91	20
10	16QAM	1	25	19.84	19.86	19.87	
10	16QAM	1	49	19.76	19.90	19.77	
10	16QAM	25	0	18.55	18.50	18.64	19
10	16QAM	25	12	18.63	18.59	18.55	
10	16QAM	25	25	18.53	18.64	18.49	
10	16QAM	50	0	18.52	18.53	18.52	
10	64QAM	1	0	18.93	18.78	18.80	19
10	64QAM	1	25	18.72	18.71	18.72	
10	64QAM	1	49	18.62	18.78	18.63	
10	64QAM	25	0	17.63	17.54	17.64	18
10	64QAM	25	12	17.64	17.59	17.57	
10	64QAM	25	25	17.58	17.67	17.51	
10	64QAM	50	0	17.59	17.55	17.55	
10	256QAM	1	0	15.69	15.47	15.72	16
10	256QAM	1	25	15.68	15.79	15.72	
10	256QAM	1	49	15.53	15.72	15.55	
10	256QAM	25	0	15.56	15.47	15.59	
10	256QAM	25	12	15.61	15.50	15.52	16
10	256QAM	25	25	15.51	15.62	15.51	
10	256QAM	50	0	15.58	15.51	15.53	
Channel				20425	20525	20625	
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	20.48	20.50	20.55	21
5	QPSK	1	12	20.53	20.46	20.41	
5	QPSK	1	24	20.37	20.41	20.31	
5	QPSK	12	0	19.51	19.50	19.53	20
5	QPSK	12	7	19.56	19.47	19.46	
5	QPSK	12	13	19.41	19.48	19.37	
5	QPSK	25	0	19.37	19.43	19.46	
5	16QAM	1	0	19.86	19.85	19.81	20
5	16QAM	1	12	19.81	19.85	19.86	
5	16QAM	1	24	19.66	19.85	19.72	
5	16QAM	12	0	18.50	18.43	18.59	19
5	16QAM	12	7	18.60	18.52	18.46	
5	16QAM	12	13	18.43	18.57	18.41	
5	16QAM	25	0	18.43	18.46	18.46	
5	64QAM	1	0	18.92	18.71	18.76	19
5	64QAM	1	12	18.64	18.69	18.71	
5	64QAM	1	24	18.58	18.72	18.61	
5	64QAM	12	0	17.58	17.44	17.60	18
5	64QAM	12	7	17.54	17.57	17.53	
5	64QAM	12	13	17.53	17.66	17.50	
5	64QAM	25	0	17.58	17.50	17.45	
5	256QAM	1	0	15.65	15.39	15.64	16
5	256QAM	1	12	15.58	15.73	15.69	
5	256QAM	1	24	15.45	15.67	15.49	
5	256QAM	12	0	15.49	15.46	15.55	16
5	256QAM	12	7	15.56	15.43	15.47	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

5	256QAM	12	13	15.49	15.53	15.49	
5	256QAM	25	0	15.50	15.46	15.49	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	20.53	20.53	20.55	21
3	QPSK	1	8	20.49	20.46	20.48	
3	QPSK	1	14	20.34	20.42	20.37	
3	QPSK	8	0	19.43	19.52	19.53	20
3	QPSK	8	4	19.53	19.42	19.40	
3	QPSK	8	7	19.37	19.42	19.37	
3	QPSK	15	0	19.42	19.41	19.54	
3	16QAM	1	0	19.91	19.86	19.85	20
3	16QAM	1	8	19.76	19.79	19.77	
3	16QAM	1	14	19.71	19.87	19.71	
3	16QAM	8	0	18.52	18.42	18.57	19
3	16QAM	8	4	18.53	18.54	18.50	
3	16QAM	8	7	18.47	18.59	18.46	
3	16QAM	15	0	18.44	18.43	18.42	
3	64QAM	1	0	18.85	18.70	18.76	19
3	64QAM	1	8	18.64	18.62	18.71	
3	64QAM	1	14	18.60	18.71	18.59	
3	64QAM	8	0	17.58	17.44	17.56	18
3	64QAM	8	4	17.60	17.53	17.56	
3	64QAM	8	7	17.49	17.66	17.50	
3	64QAM	15	0	17.50	17.48	17.51	
3	256QAM	1	0	15.64	15.44	15.66	16
3	256QAM	1	8	15.61	15.73	15.66	
3	256QAM	1	14	15.45	15.62	15.51	
3	256QAM	8	0	15.53	15.40	15.58	16
3	256QAM	8	4	15.52	15.40	15.43	
3	256QAM	8	7	15.42	15.56	15.48	
3	256QAM	15	0	15.50	15.42	15.46	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	20.53	20.43	20.35	21
1.4	QPSK	1	3	20.57	20.53	20.43	
1.4	QPSK	1	5	20.54	20.50	20.35	
1.4	QPSK	3	0	20.61	20.52	20.42	
1.4	QPSK	3	1	20.59	20.51	20.43	
1.4	QPSK	3	3	20.60	20.53	20.40	20
1.4	QPSK	6	0	19.57	19.44	19.44	
1.4	16QAM	1	0	19.89	19.83	19.70	20
1.4	16QAM	1	3	19.97	19.91	19.83	
1.4	16QAM	1	5	19.86	19.76	19.76	
1.4	16QAM	3	0	19.71	19.60	19.58	
1.4	16QAM	3	1	19.74	19.62	19.47	
1.4	16QAM	3	3	19.75	19.64	19.50	
1.4	16QAM	6	0	18.71	18.55	18.46	19
1.4	64QAM	1	0	18.80	18.76	18.51	19
1.4	64QAM	1	3	18.89	18.78	18.67	
1.4	64QAM	1	5	18.78	18.62	18.70	
1.4	64QAM	3	0	18.73	18.62	18.57	
1.4	64QAM	3	1	18.74	18.67	18.52	
1.4	64QAM	3	3	18.73	18.69	18.47	
1.4	64QAM	6	0	17.65	17.53	17.43	18
1.4	256QAM	1	0	15.81	15.45	15.55	16
1.4	256QAM	1	3	15.74	15.69	15.47	
1.4	256QAM	1	5	15.70	15.60	15.48	
1.4	256QAM	3	0	15.72	15.48	15.44	
1.4	256QAM	3	1	15.68	15.64	15.51	
1.4	256QAM	3	3	15.68	15.62	15.48	
1.4	256QAM	6	0	15.63	15.47	15.46	16





<LTE Band 7\_Main Ant\_Default Power>

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	23.32	23.38	23.34	25
20	QPSK	1	49	23.31	23.32	23.30	
20	QPSK	1	99	23.31	23.34	23.29	
20	QPSK	50	0	22.40	22.46	22.38	24
20	QPSK	50	24	22.35	22.36	22.36	
20	QPSK	50	50	22.38	22.43	22.32	
20	QPSK	100	0	22.42	22.44	22.38	
20	16QAM	1	0	22.58	22.53	22.50	24
20	16QAM	1	49	22.82	22.64	22.80	
20	16QAM	1	99	22.62	22.64	22.72	
20	16QAM	50	0	21.35	21.33	21.36	23
20	16QAM	50	24	21.45	21.38	21.39	
20	16QAM	50	50	21.47	21.46	21.47	
20	16QAM	100	0	21.46	21.42	21.39	
20	64QAM	1	0	21.42	21.50	21.44	23
20	64QAM	1	49	21.58	21.52	21.62	
20	64QAM	1	99	21.54	21.58	21.52	
20	64QAM	50	0	20.34	20.33	20.35	22
20	64QAM	50	24	20.46	20.38	20.41	
20	64QAM	50	50	20.45	20.44	20.49	
20	64QAM	100	0	20.45	20.44	20.40	
20	256QAM	1	0	18.21	18.20	18.38	20
20	256QAM	1	49	18.29	18.19	18.33	
20	256QAM	1	99	18.14	18.37	18.41	
20	256QAM	50	0	18.08	18.10	18.30	20
20	256QAM	50	24	18.14	18.16	18.23	
20	256QAM	50	50	18.12	18.31	18.30	
20	256QAM	100	0	18.17	18.24	18.26	
Channel				20825	21100	21375	
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	23.18	23.28	23.13	25
15	QPSK	1	37	23.24	23.23	23.24	
15	QPSK	1	74	23.24	23.28	23.23	
15	QPSK	36	0	22.28	22.41	22.26	24
15	QPSK	36	20	22.38	22.27	22.33	
15	QPSK	36	39	22.37	22.35	22.27	
15	QPSK	75	0	22.35	22.37	22.31	
15	16QAM	1	0	22.48	22.43	22.40	24
15	16QAM	1	37	22.74	22.55	22.73	
15	16QAM	1	74	22.52	22.56	22.66	
15	16QAM	36	0	21.26	21.27	21.26	23
15	16QAM	36	20	21.37	21.31	21.30	
15	16QAM	36	39	21.40	21.36	21.37	
15	16QAM	75	0	21.36	21.37	21.34	
15	64QAM	1	0	21.36	21.41	21.36	23
15	64QAM	1	37	21.50	21.43	21.54	
15	64QAM	1	74	21.47	21.48	21.47	
15	64QAM	36	0	20.29	20.27	20.27	22
15	64QAM	36	20	20.41	20.28	20.31	
15	64QAM	36	39	20.40	20.39	20.41	
15	64QAM	75	0	20.39	20.37	20.35	
15	256QAM	1	0	18.16	18.14	18.32	20
15	256QAM	1	37	18.20	18.09	18.24	
15	256QAM	1	74	18.08	18.28	18.35	
15	256QAM	36	0	18.03	18.05	18.22	20
15	256QAM	36	20	18.04	18.09	18.18	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	18.04	18.24	18.25	
15	256QAM	75	0	18.11	18.18	18.17	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	23.21	23.28	23.15	25
10	QPSK	1	25	23.24	23.26	23.28	
10	QPSK	1	49	23.21	23.26	23.24	
10	QPSK	25	0	22.27	22.37	22.28	24
10	QPSK	25	12	22.33	22.27	22.29	
10	QPSK	25	25	22.34	22.38	22.27	
10	QPSK	50	0	22.36	22.38	22.30	
10	16QAM	1	0	22.51	22.48	22.41	24
10	16QAM	1	25	22.72	22.57	22.70	
10	16QAM	1	49	22.53	22.54	22.66	
10	16QAM	25	0	21.29	21.28	21.26	23
10	16QAM	25	12	21.35	21.31	21.32	
10	16QAM	25	25	21.38	21.37	21.41	
10	16QAM	50	0	21.36	21.37	21.31	
10	64QAM	1	0	21.33	21.42	21.35	
10	64QAM	1	25	21.48	21.44	21.57	23
10	64QAM	1	49	21.44	21.49	21.42	
10	64QAM	25	0	20.24	20.23	20.28	
10	64QAM	25	12	20.37	20.30	20.35	22
10	64QAM	25	25	20.40	20.34	20.41	
10	64QAM	50	0	20.37	20.37	20.32	
10	256QAM	1	0	18.14	18.13	18.28	
10	256QAM	1	25	18.20	18.13	18.27	20
10	256QAM	1	49	18.06	18.31	18.34	
10	256QAM	25	0	18.09	18.03	18.20	
10	256QAM	25	12	18.04	18.08	18.13	20
10	256QAM	25	25	18.04	18.24	18.23	
10	256QAM	50	0	18.07	18.16	18.19	
Channel				20775	21100	21425	
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	23.18	23.30	23.17	25
5	QPSK	1	12	23.21	23.24	23.28	
5	QPSK	1	24	23.21	23.27	23.20	
5	QPSK	12	0	22.25	22.36	22.25	24
5	QPSK	12	7	22.37	22.31	22.33	
5	QPSK	12	13	22.36	22.36	22.22	
5	QPSK	25	0	22.32	22.34	22.29	
5	16QAM	1	0	22.52	22.47	22.40	24
5	16QAM	1	12	22.72	22.56	22.74	
5	16QAM	1	24	22.56	22.55	22.64	
5	16QAM	12	0	21.29	21.27	21.31	
5	16QAM	12	7	21.37	21.31	21.34	23
5	16QAM	12	13	21.42	21.36	21.37	
5	16QAM	25	0	21.37	21.36	21.29	
5	64QAM	1	0	21.35	21.43	21.34	
5	64QAM	1	12	21.50	21.46	21.53	23
5	64QAM	1	24	21.45	21.52	21.46	
5	64QAM	12	0	20.27	20.27	20.25	
5	64QAM	12	7	20.37	20.29	20.36	22
5	64QAM	12	13	20.37	20.36	20.41	
5	64QAM	25	0	20.40	20.35	20.34	
5	256QAM	1	0	18.13	18.14	18.33	
5	256QAM	1	12	18.22	18.12	18.24	20
5	256QAM	1	24	18.07	18.28	18.31	
5	256QAM	12	0	18.01	18.01	18.22	
5	256QAM	12	7	18.09	18.11	18.16	20
5	256QAM	12	13	18.03	18.22	18.22	
5	256QAM	25	0	18.07	18.16	18.20	



<LTE Band 7\_MIMO2 Ant\_Default Power>

Channel	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
20850	21100	21350		
2510	2535	2560		
20	23.16	23.23	23.22	24
20	23.20	23.22	23.18	
20	23.09	23.19	23.11	
20	22.11	22.31	22.16	23
20	22.16	22.27	22.08	
20	22.07	22.26	22.17	
20	22.19	22.25	22.14	23
20	22.26	22.44	22.35	
20	22.26	22.43	22.29	
20	22.33	22.36	22.33	22
20	21.09	21.27	21.18	
20	21.18	21.26	21.22	
20	21.25	21.25	21.16	22
20	21.04	21.23	21.15	
20	21.05	21.08	21.05	
20	21.04	21.05	21.04	22
20	21.02	21.04	21.03	
20	20.03	20.22	20.16	
20	20.17	20.20	20.03	21
20	20.16	20.35	20.32	
20	20.19	20.29	20.25	
20	18.08	18.25	18.19	19
20	18.27	18.32	18.21	
20	18.22	18.35	18.30	
20	18.08	18.24	18.12	19
20	18.06	18.26	18.07	
20	18.28	18.30	18.21	
20	18.10	18.25	18.17	
20825	21100	21375		
2507.5	2535	2562.5		
15	23.08	23.18	23.16	24
15	23.14	23.14	23.12	
15	23.02	23.12	23.06	
15	22.03	22.24	22.09	23
15	22.09	22.22	22.00	
15	22.02	22.18	22.11	
15	22.11	22.18	22.08	23
15	22.20	22.38	22.29	
15	22.21	22.36	22.22	
15	22.26	22.29	22.27	22
15	21.04	21.21	21.13	
15	21.12	21.20	21.17	
15	21.17	21.20	21.09	22
15	21.04	21.17	21.09	
15	21.08	21.10	21.07	
15	21.06	21.07	21.08	22
15	21.04	21.06	21.07	
15	20.06	20.14	20.08	
15	20.10	20.15	20.05	21
15	20.10	20.28	20.24	
15	20.12	20.21	20.19	
15	18.03	18.17	18.14	19
15	18.21	18.27	18.16	
15	18.16	18.30	18.25	
15	18.00	18.19	18.04	19
15	18.00	18.18	18.01	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	18.20	18.23	18.13	
15	256QAM	75	0	18.03	18.18	18.11	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	23.08	23.17	23.14	24
10	QPSK	1	25	23.12	23.16	23.13	
10	QPSK	1	49	23.01	23.14	23.05	
10	QPSK	25	0	22.04	22.23	22.09	23
10	QPSK	25	12	22.08	22.22	22.00	
10	QPSK	25	25	22.01	22.21	22.09	
10	QPSK	50	0	22.14	22.18	22.06	
10	16QAM	1	0	22.19	22.39	22.27	23
10	16QAM	1	25	22.19	22.36	22.23	
10	16QAM	1	49	22.27	22.28	22.28	
10	16QAM	25	0	21.01	21.20	21.12	22
10	16QAM	25	12	21.11	21.20	21.14	
10	16QAM	25	25	21.17	21.18	21.10	
10	16QAM	50	0	21.02	21.18	21.10	
10	64QAM	1	0	21.09	21.13	21.07	
10	64QAM	1	25	21.06	21.09	21.09	22
10	64QAM	1	49	21.07	21.06	21.05	
10	64QAM	25	0	20.05	20.17	20.10	
10	64QAM	25	12	20.10	20.15	20.07	21
10	64QAM	25	25	20.10	20.30	20.26	
10	64QAM	50	0	20.11	20.21	20.20	
10	256QAM	1	0	18.03	18.18	18.14	
10	256QAM	1	25	18.21	18.24	18.13	19
10	256QAM	1	49	18.14	18.28	18.23	
10	256QAM	25	0	18.01	18.19	18.05	
10	256QAM	25	12	18.01	18.18	18.02	19
10	256QAM	25	25	18.21	18.23	18.15	
10	256QAM	50	0	18.03	18.20	18.11	
Channel				20775	21100	21425	
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	23.09	23.18	23.17	24
5	QPSK	1	12	23.14	23.17	23.10	
5	QPSK	1	24	23.04	23.11	23.05	
5	QPSK	12	0	22.06	22.24	22.09	23
5	QPSK	12	7	22.09	22.22	22.02	
5	QPSK	12	13	22.00	22.21	22.11	
5	QPSK	25	0	22.14	22.17	22.08	
5	16QAM	1	0	22.20	22.38	22.29	23
5	16QAM	1	12	22.20	22.37	22.23	
5	16QAM	1	24	22.27	22.28	22.26	
5	16QAM	12	0	21.01	21.19	21.10	
5	16QAM	12	7	21.13	21.20	21.16	22
5	16QAM	12	13	21.20	21.17	21.11	
5	16QAM	25	0	21.07	21.16	21.10	
5	64QAM	1	0	21.07	21.13	21.10	
5	64QAM	1	12	21.07	21.07	21.06	22
5	64QAM	1	24	21.07	21.08	21.07	
5	64QAM	12	0	20.05	20.14	20.09	
5	64QAM	12	7	20.09	20.12	20.05	21
5	64QAM	12	13	20.10	20.28	20.27	
5	64QAM	25	0	20.13	20.21	20.19	
5	256QAM	1	0	18.03	18.20	18.11	
5	256QAM	1	12	18.19	18.26	18.13	19
5	256QAM	1	24	18.14	18.27	18.25	
5	256QAM	12	0	18.01	18.16	18.04	
5	256QAM	12	7	18.01	18.19	18.04	19
5	256QAM	12	13	18.20	18.22	18.16	
5	256QAM	25	0	18.03	18.17	18.10	



**<LTE Band 7\_Main Ant\_Reduced Power>**

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	14.75	14.86	14.80	15
20	QPSK	1	49	14.65	14.78	14.74	
20	QPSK	1	99	14.64	14.70	14.57	
20	QPSK	50	0	13.82	13.90	13.84	14
20	QPSK	50	24	13.77	13.83	13.82	
20	QPSK	50	50	13.69	13.88	13.73	
20	QPSK	100	0	13.77	13.87	13.81	14
20	16QAM	1	0	13.71	13.94	13.96	
20	16QAM	1	49	13.91	13.92	13.81	
20	16QAM	1	99	13.87	13.84	13.67	13
20	16QAM	50	0	12.68	12.84	12.81	
20	16QAM	50	24	12.77	12.87	12.81	
20	16QAM	50	50	12.81	12.85	12.73	13
20	16QAM	100	0	12.77	12.79	12.81	
20	64QAM	1	0	12.81	12.98	12.93	
20	64QAM	1	49	12.96	12.98	12.83	13
20	64QAM	1	99	12.86	12.96	12.82	
20	64QAM	50	0	11.71	11.86	11.83	
20	64QAM	50	24	11.79	11.85	11.84	12
20	64QAM	50	50	11.79	11.92	11.78	
20	64QAM	100	0	11.82	11.84	11.81	
20	256QAM	1	0	9.81	9.92	9.98	10
20	256QAM	1	49	9.78	9.90	9.76	
20	256QAM	1	99	9.79	9.96	9.79	
20	256QAM	50	0	9.61	9.78	9.79	10
20	256QAM	50	24	9.69	9.80	9.74	
20	256QAM	50	50	9.78	9.87	9.80	
20	256QAM	100	0	9.70	9.78	9.79	
Channel				20825	21100	21375	
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	14.51	14.80	14.74	15
15	QPSK	1	37	14.57	14.68	14.73	
15	QPSK	1	74	14.55	14.68	14.54	
15	QPSK	36	0	13.75	13.85	13.76	14
15	QPSK	36	20	13.72	13.82	13.78	
15	QPSK	36	39	13.66	13.78	13.72	
15	QPSK	75	0	13.70	13.86	13.79	14
15	16QAM	1	0	13.63	13.84	13.95	
15	16QAM	1	37	13.85	13.88	13.79	
15	16QAM	1	74	13.77	13.74	13.57	13
15	16QAM	36	0	12.61	12.82	12.73	
15	16QAM	36	20	12.72	12.81	12.78	
15	16QAM	36	39	12.79	12.80	12.66	13
15	16QAM	75	0	12.67	12.75	12.74	
15	64QAM	1	0	12.73	12.88	12.89	
15	64QAM	1	37	12.88	12.95	12.74	13
15	64QAM	1	74	12.80	12.93	12.80	
15	64QAM	36	0	11.65	11.82	11.80	
15	64QAM	36	20	11.73	11.79	11.82	12
15	64QAM	36	39	11.73	11.85	11.69	
15	64QAM	75	0	11.79	11.83	11.75	
15	256QAM	1	0	9.78	9.84	9.89	10
15	256QAM	1	37	9.77	9.83	9.70	
15	256QAM	1	74	9.76	9.89	9.75	
15	256QAM	36	0	9.58	9.74	9.75	10
15	256QAM	36	20	9.68	9.75	9.70	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	9.76	9.82	9.76	
15	256QAM	75	0	9.68	9.75	9.74	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	14.47	14.77	14.79	15
10	QPSK	1	25	14.59	14.68	14.66	
10	QPSK	1	49	14.60	14.60	14.50	
10	QPSK	25	0	13.78	13.86	13.78	14
10	QPSK	25	12	13.67	13.74	13.73	
10	QPSK	25	25	13.60	13.78	13.69	
10	QPSK	50	0	13.76	13.82	13.71	
10	16QAM	1	0	13.68	13.89	13.88	14
10	16QAM	1	25	13.86	13.83	13.71	
10	16QAM	1	49	13.84	13.78	13.63	
10	16QAM	25	0	12.62	12.78	12.76	13
10	16QAM	25	12	12.74	12.81	12.79	
10	16QAM	25	25	12.77	12.79	12.63	
10	16QAM	50	0	12.68	12.75	12.75	
10	64QAM	1	0	12.79	12.97	12.85	13
10	64QAM	1	25	12.89	12.91	12.73	
10	64QAM	1	49	12.85	12.95	12.76	
10	64QAM	25	0	11.62	11.76	11.81	12
10	64QAM	25	12	11.74	11.82	11.76	
10	64QAM	25	25	11.78	11.84	11.77	
10	64QAM	50	0	11.79	11.80	11.78	
10	256QAM	1	0	9.71	9.90	9.96	10
10	256QAM	1	25	9.68	9.87	9.66	
10	256QAM	1	49	9.78	9.94	9.71	
10	256QAM	25	0	9.59	9.71	9.71	10
10	256QAM	25	12	9.63	9.78	9.69	
10	256QAM	25	25	9.74	9.83	9.71	
10	256QAM	50	0	9.68	9.74	9.78	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	14.49	14.81	14.78	15
5	QPSK	1	12	14.61	14.74	14.68	
5	QPSK	1	24	14.59	14.67	14.47	
5	QPSK	12	0	13.72	13.84	13.76	14
5	QPSK	12	7	13.68	13.75	13.78	
5	QPSK	12	13	13.63	13.86	13.67	
5	QPSK	25	0	13.73	13.77	13.73	
5	16QAM	1	0	13.67	13.89	13.87	14
5	16QAM	1	12	13.84	13.83	13.77	
5	16QAM	1	24	13.85	13.82	13.58	
5	16QAM	12	0	12.66	12.74	12.71	13
5	16QAM	12	7	12.76	12.84	12.73	
5	16QAM	12	13	12.76	12.76	12.68	
5	16QAM	25	0	12.70	12.72	12.76	
5	64QAM	1	0	12.78	12.96	12.86	13
5	64QAM	1	12	12.90	12.97	12.74	
5	64QAM	1	24	12.76	12.94	12.77	
5	64QAM	12	0	11.70	11.76	11.73	12
5	64QAM	12	7	11.70	11.83	11.79	
5	64QAM	12	13	11.70	11.88	11.73	
5	64QAM	25	0	11.73	11.76	11.80	
5	256QAM	1	0	9.72	9.83	9.88	10
5	256QAM	1	12	9.76	9.85	9.74	
5	256QAM	1	24	9.69	9.90	9.75	
5	256QAM	12	0	9.53	9.71	9.75	10
5	256QAM	12	7	9.63	9.78	9.70	
5	256QAM	12	13	9.77	9.80	9.70	
5	256QAM	25	0	9.65	9.74	9.77	



<LTE Band 7\_MIMO2 Ant\_Reduced Power>

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	17.16	17.20	17.18	17.5
20	QPSK	1	49	17.14	17.18	17.16	
20	QPSK	1	99	17.04	17.08	17.06	
20	QPSK	50	0	17.02	17.06	17.04	17.5
20	QPSK	50	24	17.00	17.04	17.02	
20	QPSK	50	50	16.98	17.02	17.00	
20	QPSK	100	0	17.01	17.05	17.03	
20	16QAM	1	0	16.78	16.82	16.80	17.5
20	16QAM	1	49	16.77	16.81	16.79	
20	16QAM	1	99	16.80	16.84	16.82	
20	16QAM	50	0	16.94	16.98	16.96	17.5
20	16QAM	50	24	16.98	17.02	17.00	
20	16QAM	50	50	17.05	17.09	17.07	
20	16QAM	100	0	17.01	17.05	17.03	
20	64QAM	1	0	16.84	16.88	16.86	17.5
20	64QAM	1	49	16.83	16.87	16.85	
20	64QAM	1	99	16.82	16.86	16.84	
20	64QAM	50	0	16.87	16.91	16.89	17.5
20	64QAM	50	24	16.88	16.92	16.90	
20	64QAM	50	50	16.97	17.01	16.99	
20	64QAM	100	0	16.99	17.03	17.01	
20	256QAM	1	0	17.12	17.16	17.14	17.5
20	256QAM	1	49	17.12	17.16	17.14	
20	256QAM	1	99	17.15	17.19	17.17	
20	256QAM	50	0	16.98	17.02	17.00	17.5
20	256QAM	50	24	16.99	17.03	17.01	
20	256QAM	50	50	17.11	17.15	17.13	
20	256QAM	100	0	17.01	17.05	17.03	
Channel				20825	21100	21375	
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	17.09	17.12	17.10	17.5
15	QPSK	1	37	17.07	17.11	17.11	
15	QPSK	1	74	16.97	17.01	16.99	
15	QPSK	36	0	16.94	17.00	16.98	17.5
15	QPSK	36	20	16.92	16.96	16.97	
15	QPSK	36	39	16.90	16.96	16.93	
15	QPSK	75	0	16.94	16.98	16.96	
15	16QAM	1	0	16.73	16.75	16.75	17.5
15	16QAM	1	37	16.71	16.74	16.72	
15	16QAM	1	74	16.72	16.78	16.75	
15	16QAM	36	0	16.86	16.90	16.90	17.5
15	16QAM	36	20	16.93	16.95	16.92	
15	16QAM	36	39	16.98	17.04	17.02	
15	16QAM	75	0	16.96	17.00	16.95	
15	64QAM	1	0	16.77	16.80	16.80	17.5
15	64QAM	1	37	16.77	16.80	16.79	
15	64QAM	1	74	16.74	16.81	16.78	
15	64QAM	36	0	16.79	16.85	16.82	17.5
15	64QAM	36	20	16.81	16.87	16.84	
15	64QAM	36	39	16.92	16.96	16.93	
15	64QAM	75	0	16.93	16.95	16.94	
15	256QAM	1	0	17.07	17.11	17.06	17.5
15	256QAM	1	37	17.06	17.08	17.07	
15	256QAM	1	74	17.08	17.14	17.09	
15	256QAM	36	0	16.90	16.95	16.95	17.5
15	256QAM	36	20	16.92	16.96	16.95	



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15	256QAM	36	39	17.05	17.08	17.08	
15	256QAM	75	0	16.96	16.99	16.97	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	17.10	17.13	17.12	17.5
10	QPSK	1	25	17.08	17.12	17.10	
10	QPSK	1	49	16.97	17.00	16.99	
10	QPSK	25	0	16.96	16.99	16.96	17.5
10	QPSK	25	12	16.95	16.96	16.95	
10	QPSK	25	25	16.91	16.96	16.93	
10	QPSK	50	0	16.94	16.99	16.98	
10	16QAM	1	0	16.72	16.74	16.72	
10	16QAM	1	25	16.71	16.75	16.71	17.5
10	16QAM	1	49	16.75	16.77	16.77	
10	16QAM	25	0	16.86	16.91	16.89	17.5
10	16QAM	25	12	16.91	16.94	16.93	
10	16QAM	25	25	16.98	17.03	17.01	
10	16QAM	50	0	16.93	16.97	16.95	
10	64QAM	1	0	16.77	16.81	16.79	
10	64QAM	1	25	16.76	16.82	16.79	17.5
10	64QAM	1	49	16.75	16.79	16.78	
10	64QAM	25	0	16.81	16.83	16.82	
10	64QAM	25	12	16.82	16.86	16.85	17.5
10	64QAM	25	25	16.90	16.96	16.93	
10	64QAM	50	0	16.92	16.97	16.93	
10	256QAM	1	0	17.04	17.08	17.09	
10	256QAM	1	25	17.05	17.09	17.08	
10	256QAM	1	49	17.08	17.12	17.10	17.5
10	256QAM	25	0	16.90	16.96	16.94	
10	256QAM	25	12	16.92	16.95	16.93	
10	256QAM	25	25	17.06	17.07	17.06	
10	256QAM	50	0	16.94	16.97	16.98	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	17.10	17.14	17.10	17.5
5	QPSK	1	12	17.06	17.10	17.11	
5	QPSK	1	24	16.99	17.02	16.98	
5	QPSK	12	0	16.97	16.99	16.98	17.5
5	QPSK	12	7	16.95	16.98	16.96	
5	QPSK	12	13	16.90	16.94	16.94	
5	QPSK	25	0	16.93	16.97	16.96	
5	16QAM	1	0	16.73	16.75	16.73	
5	16QAM	1	12	16.71	16.76	16.72	17.5
5	16QAM	1	24	16.72	16.77	16.74	
5	16QAM	12	0	16.86	16.92	16.90	
5	16QAM	12	7	16.91	16.97	16.92	17.5
5	16QAM	12	13	16.97	17.03	17.00	
5	16QAM	25	0	16.94	16.98	16.97	
5	64QAM	1	0	16.78	16.82	16.81	
5	64QAM	1	12	16.77	16.81	16.78	
5	64QAM	1	24	16.74	16.80	16.77	17.5
5	64QAM	12	0	16.79	16.85	16.82	
5	64QAM	12	7	16.83	16.84	16.85	
5	64QAM	12	13	16.92	16.93	16.94	
5	64QAM	25	0	16.91	16.96	16.93	
5	256QAM	1	0	17.07	17.11	17.09	17.5
5	256QAM	1	12	17.04	17.10	17.09	
5	256QAM	1	24	17.09	17.13	17.09	
5	256QAM	12	0	16.90	16.97	16.95	17.5
5	256QAM	12	7	16.93	16.96	16.96	
5	256QAM	12	13	17.05	17.07	17.07	
5	256QAM	25	0	16.95	16.97	16.95	





<LTE Band 12\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	23.49	23.55	23.44	25
10	QPSK	1	25	23.50	23.54	23.51	
10	QPSK	1	49	23.50	23.52	23.41	
10	QPSK	25	0	22.50	22.64	22.46	24
10	QPSK	25	12	22.55	22.55	22.50	
10	QPSK	25	25	22.61	22.63	22.55	
10	QPSK	50	0	22.51	22.61	22.47	24
10	16QAM	1	0	22.89	22.93	22.86	
10	16QAM	1	25	22.85	22.91	22.94	
10	16QAM	1	49	22.87	22.88	22.82	23
10	16QAM	25	0	21.50	21.52	21.48	
10	16QAM	25	12	21.64	21.57	21.51	
10	16QAM	25	25	21.62	21.63	21.57	23
10	16QAM	50	0	21.60	21.52	21.50	
10	64QAM	1	0	21.69	21.67	21.68	
10	64QAM	1	25	21.81	21.65	21.77	23
10	64QAM	1	49	21.75	21.72	21.66	
10	64QAM	25	0	20.51	20.50	20.47	
10	64QAM	25	12	20.61	20.57	20.50	22
10	64QAM	25	25	20.61	20.61	20.57	
10	64QAM	50	0	20.59	20.53	20.50	
10	256QAM	1	0	18.35	18.40	18.32	20
10	256QAM	1	25	18.54	18.59	18.51	
10	256QAM	1	49	18.36	18.41	18.33	
10	256QAM	25	0	18.30	18.35	18.27	20
10	256QAM	25	12	18.37	18.42	18.34	
10	256QAM	25	25	18.42	18.47	18.39	
10	256QAM	50	0	18.32	18.37	18.29	
Channel				23035	23095	23155	
Frequency (MHz)				701.5	707.5	713.5	Tune-up limit (dBm)
5	QPSK	1	0	23.38	23.39	23.33	25
5	QPSK	1	12	23.40	23.37	23.41	
5	QPSK	1	24	23.37	23.33	23.22	
5	QPSK	12	0	22.31	22.49	22.28	24
5	QPSK	12	7	22.36	22.44	22.32	
5	QPSK	12	13	22.46	22.51	22.36	
5	QPSK	25	0	22.38	22.41	22.28	24
5	16QAM	1	0	22.74	22.82	22.73	
5	16QAM	1	12	22.66	22.81	22.78	
5	16QAM	1	24	22.67	22.77	22.65	23
5	16QAM	12	0	21.38	21.34	21.38	
5	16QAM	12	7	21.45	21.39	21.32	
5	16QAM	12	13	21.50	21.51	21.44	23
5	16QAM	25	0	21.45	21.38	21.40	
5	64QAM	1	0	21.52	21.49	21.48	
5	64QAM	1	12	21.71	21.52	21.59	23
5	64QAM	1	24	21.65	21.56	21.54	
5	64QAM	12	0	20.41	20.36	20.34	
5	64QAM	12	7	20.45	20.47	20.37	22
5	64QAM	12	13	20.51	20.47	20.40	
5	64QAM	25	0	20.40	20.42	20.31	
5	256QAM	1	0	18.22	18.23	18.17	20
5	256QAM	1	12	18.36	18.39	18.35	
5	256QAM	1	24	18.17	18.22	18.21	
5	256QAM	12	0	18.20	18.22	18.08	20
5	256QAM	12	7	18.20	18.27	18.21	



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5	256QAM	12	13	18.23	18.36	18.28	
5	256QAM	25	0	18.17	18.20	18.13	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	23.29	23.35	23.27	25
3	QPSK	1	8	23.34	23.40	23.36	
3	QPSK	1	14	23.35	23.35	23.26	
3	QPSK	8	0	22.36	22.52	22.30	24
3	QPSK	8	4	22.44	22.38	22.35	
3	QPSK	8	7	22.45	22.51	22.36	
3	QPSK	15	0	22.40	22.45	22.36	
3	16QAM	1	0	22.75	22.82	22.75	24
3	16QAM	1	8	22.72	22.77	22.81	
3	16QAM	1	14	22.77	22.69	22.71	
3	16QAM	8	0	21.35	21.38	21.28	23
3	16QAM	8	4	21.44	21.40	21.36	
3	16QAM	8	7	21.50	21.46	21.40	
3	16QAM	15	0	21.49	21.37	21.31	
3	64QAM	1	0	21.59	21.54	21.51	23
3	64QAM	1	8	21.71	21.45	21.57	
3	64QAM	1	14	21.56	21.60	21.50	
3	64QAM	8	0	20.32	20.35	20.35	22
3	64QAM	8	4	20.48	20.42	20.39	
3	64QAM	8	7	20.46	20.46	20.39	
3	64QAM	15	0	20.48	20.41	20.38	
3	256QAM	1	0	18.16	18.29	18.21	20
3	256QAM	1	8	18.37	18.43	18.33	
3	256QAM	1	14	18.22	18.29	18.21	
3	256QAM	8	0	18.18	18.23	18.07	20
3	256QAM	8	4	18.21	18.23	18.23	
3	256QAM	8	7	18.25	18.32	18.19	
3	256QAM	15	0	18.13	18.27	18.11	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	23.30	23.29	23.21	25
1.4	QPSK	1	3	23.30	23.41	23.29	
1.4	QPSK	1	5	23.33	23.34	23.24	
1.4	QPSK	3	0	23.36	23.32	23.27	
1.4	QPSK	3	1	23.35	23.31	23.27	
1.4	QPSK	3	3	23.34	23.35	23.26	24
1.4	QPSK	6	0	22.37	22.30	22.27	
1.4	16QAM	1	0	22.68	22.71	22.66	24
1.4	16QAM	1	3	22.70	22.61	22.77	
1.4	16QAM	1	5	22.66	22.62	22.66	
1.4	16QAM	3	0	22.46	22.53	22.40	
1.4	16QAM	3	1	22.61	22.48	22.48	
1.4	16QAM	3	3	22.43	22.50	22.50	
1.4	16QAM	6	0	21.41	21.39	21.36	23
1.4	64QAM	1	0	21.56	21.48	21.52	23
1.4	64QAM	1	3	21.49	21.60	21.55	
1.4	64QAM	1	5	21.50	21.52	21.51	
1.4	64QAM	3	0	21.52	21.49	21.42	
1.4	64QAM	3	1	21.46	21.41	21.45	
1.4	64QAM	3	3	21.49	21.47	21.40	22
1.4	64QAM	6	0	20.45	20.37	20.39	
1.4	256QAM	1	0	18.29	18.33	18.24	20
1.4	256QAM	1	3	18.44	18.48	18.43	
1.4	256QAM	1	5	18.24	18.33	18.21	
1.4	256QAM	3	0	18.18	18.27	18.21	
1.4	256QAM	3	1	18.26	18.31	18.27	
1.4	256QAM	3	3	18.34	18.39	18.28	
1.4	256QAM	6	0	18.21	18.28	18.23	20



<LTE Band 12\_Main Ant\_Reduced Power>

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	21.32	21.38	21.32	21.5
10	QPSK	1	25	21.30	21.35	21.30	
10	QPSK	1	49	21.31	21.23	21.15	
10	QPSK	25	0	20.38	20.39	20.30	20.5
10	QPSK	25	12	20.35	20.33	20.26	
10	QPSK	25	25	20.30	20.30	20.26	
10	QPSK	50	0	20.32	20.38	20.26	20.5
10	16QAM	1	0	20.49	20.45	20.45	
10	16QAM	1	25	20.50	20.40	20.26	
10	16QAM	1	49	20.31	20.31	20.28	19.5
10	16QAM	25	0	19.34	19.36	19.29	
10	16QAM	25	12	19.41	19.37	19.25	
10	16QAM	25	25	19.38	19.32	19.25	19.5
10	16QAM	50	0	19.40	19.34	19.20	
10	64QAM	1	0	19.21	19.36	19.29	
10	64QAM	1	25	19.36	19.35	19.30	19.5
10	64QAM	1	49	19.24	19.23	19.20	
10	64QAM	25	0	18.35	18.34	18.36	
10	64QAM	25	12	18.41	18.33	18.35	18.5
10	64QAM	25	25	18.40	18.38	18.35	
10	64QAM	50	0	18.43	18.33	18.28	
10	256QAM	1	0	16.45	16.42	16.46	16.5
10	256QAM	1	25	16.40	16.38	16.41	
10	256QAM	1	49	16.35	16.31	16.45	
10	256QAM	25	0	16.31	16.27	16.33	16.5
10	256QAM	25	12	16.41	16.36	16.35	
10	256QAM	25	25	16.37	16.34	16.32	
10	256QAM	50	0	16.36	16.31	16.30	
Channel				23035	23095	23155	
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	21.30	21.29	21.26	21.5
5	QPSK	1	12	21.21	21.29	21.23	
5	QPSK	1	24	21.24	21.21	21.13	
5	QPSK	12	0	20.30	20.32	20.25	20.5
5	QPSK	12	7	20.25	20.24	20.16	
5	QPSK	12	13	20.24	20.20	20.18	
5	QPSK	25	0	20.25	20.29	20.20	20.5
5	16QAM	1	0	20.41	20.37	20.40	
5	16QAM	1	12	20.42	20.35	20.18	
5	16QAM	1	24	20.22	20.28	20.26	19.5
5	16QAM	12	0	19.28	19.27	19.21	
5	16QAM	12	7	19.31	19.27	19.19	
5	16QAM	12	13	19.37	19.30	19.22	19.5
5	16QAM	25	0	19.36	19.28	19.10	
5	64QAM	1	0	19.20	19.34	19.27	
5	64QAM	1	12	19.34	19.28	19.22	19.5
5	64QAM	1	24	19.18	19.16	19.12	
5	64QAM	12	0	18.26	18.30	18.29	
5	64QAM	12	7	18.36	18.32	18.25	18.5
5	64QAM	12	13	18.31	18.28	18.30	
5	64QAM	25	0	18.37	18.27	18.25	
5	256QAM	1	0	16.35	16.34	16.39	16.5
5	256QAM	1	12	16.38	16.32	16.32	
5	256QAM	1	24	16.30	16.27	16.43	
5	256QAM	12	0	16.30	16.20	16.27	16.5
5	256QAM	12	7	16.32	16.26	16.26	



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5	256QAM	12	13	16.34	16.32	16.27	
5	256QAM	25	0	16.31	16.30	16.29	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	21.24	21.33	21.24	21.5
3	QPSK	1	8	21.28	21.30	21.28	
3	QPSK	1	14	21.29	21.21	21.08	
3	QPSK	8	0	20.34	20.33	20.25	20.5
3	QPSK	8	4	20.28	20.27	20.23	
3	QPSK	8	7	20.27	20.26	20.17	
3	QPSK	15	0	20.25	20.34	20.24	
3	16QAM	1	0	20.45	20.36	20.41	20.5
3	16QAM	1	8	20.45	20.39	20.24	
3	16QAM	1	14	20.28	20.25	20.27	
3	16QAM	8	0	19.24	19.32	19.22	19.5
3	16QAM	8	4	19.37	19.32	19.24	
3	16QAM	8	7	19.36	19.30	19.23	
3	16QAM	15	0	19.37	19.31	19.14	
3	64QAM	1	0	19.15	19.29	19.23	19.5
3	64QAM	1	8	19.31	19.25	19.28	
3	64QAM	1	14	19.23	19.21	19.16	
3	64QAM	8	0	18.29	18.29	18.30	18.5
3	64QAM	8	4	18.33	18.24	18.28	
3	64QAM	8	7	18.30	18.34	18.30	
3	64QAM	15	0	18.33	18.26	18.25	
3	256QAM	1	0	16.44	16.37	16.38	16.5
3	256QAM	1	8	16.32	16.34	16.34	
3	256QAM	1	14	16.31	16.25	16.36	
3	256QAM	8	0	16.30	16.24	16.25	16.5
3	256QAM	8	4	16.40	16.32	16.32	
3	256QAM	8	7	16.34	16.32	16.22	
3	256QAM	15	0	16.35	16.25	16.21	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	21.29	21.28	21.22	21.5
1.4	QPSK	1	3	21.27	21.36	21.25	
1.4	QPSK	1	5	21.24	21.26	21.21	
1.4	QPSK	3	0	21.31	21.29	21.28	
1.4	QPSK	3	1	21.32	21.34	21.27	
1.4	QPSK	3	3	21.33	21.30	21.28	20.5
1.4	QPSK	6	0	20.31	20.26	20.23	
1.4	16QAM	1	0	20.36	20.47	20.43	20.5
1.4	16QAM	1	3	20.39	20.48	20.35	
1.4	16QAM	1	5	20.40	20.38	20.23	
1.4	16QAM	3	0	20.48	20.38	20.40	
1.4	16QAM	3	1	20.41	20.50	20.40	
1.4	16QAM	3	3	20.38	20.44	20.45	
1.4	16QAM	6	0	19.37	19.30	19.27	19.5
1.4	64QAM	1	0	19.39	19.47	19.50	19.5
1.4	64QAM	1	3	19.49	19.40	19.49	
1.4	64QAM	1	5	19.42	19.47	19.41	
1.4	64QAM	3	0	19.40	19.39	19.29	
1.4	64QAM	3	1	19.43	19.49	19.30	
1.4	64QAM	3	3	19.44	19.45	19.45	18.5
1.4	64QAM	6	0	18.38	18.37	18.32	
1.4	256QAM	1	0	16.37	16.36	16.35	16.5
1.4	256QAM	1	3	16.43	16.45	16.35	
1.4	256QAM	1	5	16.35	16.40	16.30	
1.4	256QAM	3	0	16.45	16.33	16.38	
1.4	256QAM	3	1	16.47	16.47	16.30	
1.4	256QAM	3	3	16.40	16.39	16.32	
1.4	256QAM	6	0	16.36	16.24	16.27	16.5



<LTE Band 13\_Main Ant\_Default Power>

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		23.56		25
10	QPSK	1	25		23.52		
10	QPSK	1	49		23.49		
10	QPSK	25	0		22.60		24
10	QPSK	25	12		22.56		
10	QPSK	25	25		22.56		
10	QPSK	50	0		22.58		24
10	16QAM	1	0		22.90		
10	16QAM	1	25		22.92		
10	16QAM	1	49		22.95		24
10	16QAM	25	0		21.62		
10	16QAM	25	12		21.58		
10	16QAM	25	25		21.62		23
10	16QAM	50	0		21.59		
10	64QAM	1	0		21.73		
10	64QAM	1	25		21.83		23
10	64QAM	1	49		21.75		
10	64QAM	25	0		20.60		
10	64QAM	25	12		20.56		22
10	64QAM	25	25		20.57		
10	64QAM	50	0		20.59		
10	256QAM	1	0		18.52		20
10	256QAM	1	25		18.63		
10	256QAM	1	49		18.52		
10	256QAM	25	0		18.53		20
10	256QAM	25	12		18.46		
10	256QAM	25	25		18.41		
10	256QAM	50	0		18.55		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	23.32	23.46	23.23	25
5	QPSK	1	12	23.34	23.43	23.32	
5	QPSK	1	24	23.31	23.40	23.16	
5	QPSK	12	0	22.22	22.53	22.23	24
5	QPSK	12	7	22.26	22.46	22.24	
5	QPSK	12	13	22.36	22.49	22.29	
5	QPSK	25	0	22.28	22.49	22.18	24
5	16QAM	1	0	22.69	22.85	22.63	
5	16QAM	1	12	22.61	22.84	22.72	
5	16QAM	1	24	22.60	22.89	22.57	24
5	16QAM	12	0	21.32	21.54	21.29	
5	16QAM	12	7	21.35	21.51	21.27	
5	16QAM	12	13	21.43	21.52	21.39	23
5	16QAM	25	0	21.36	21.52	21.32	
5	64QAM	1	0	21.42	21.67	21.43	
5	64QAM	1	12	21.66	21.73	21.50	23
5	64QAM	1	24	21.60	21.68	21.45	
5	64QAM	12	0	20.32	20.50	20.28	
5	64QAM	12	7	20.36	20.51	20.27	22
5	64QAM	12	13	20.44	20.48	20.31	
5	64QAM	25	0	20.30	20.53	20.23	
5	256QAM	1	0	18.12	18.43	18.09	20
5	256QAM	1	12	18.26	18.56	18.30	
5	256QAM	1	24	18.08	18.43	18.15	
5	256QAM	12	0	18.13	18.43	18.00	20
5	256QAM	12	7	18.15	18.38	18.11	



5	256QAM	12	13	18.14	18.34	18.22	
5	256QAM	25	0	18.09	18.50	18.03	

<LTE Band 13\_Main Ant\_Reduced Power>

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		21.35		21.5
10	QPSK	1	25		21.32		
10	QPSK	1	49		21.27		
10	QPSK	25	0		20.43		20.5
10	QPSK	25	12		20.39		
10	QPSK	25	25		20.30		
10	QPSK	50	0		20.49		20.5
10	16QAM	1	0		20.49		
10	16QAM	1	25		20.44		
10	16QAM	1	49		20.38		19.5
10	16QAM	25	0		19.40		
10	16QAM	25	12		19.44		
10	16QAM	25	25		19.32		19.5
10	16QAM	50	0		19.39		
10	64QAM	1	0		19.42		
10	64QAM	1	25		19.45		19.5
10	64QAM	1	49		19.44		
10	64QAM	25	0		18.46		
10	64QAM	25	12		18.43		18.5
10	64QAM	25	25		18.37		
10	64QAM	50	0		18.40		
10	256QAM	1	0		16.31		16.5
10	256QAM	1	25		16.50		
10	256QAM	1	49		16.41		
10	256QAM	25	0		16.38		16.5
10	256QAM	25	12		16.44		
10	256QAM	25	25		16.29		
10	256QAM	50	0		16.30		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	21.29	21.31	21.25	21.5
5	QPSK	1	12	21.23	21.26	21.31	
5	QPSK	1	24	21.25	21.25	21.17	
5	QPSK	12	0	20.38	20.37	20.33	20.5
5	QPSK	12	7	20.30	20.33	20.33	
5	QPSK	12	13	20.23	20.21	20.20	
5	QPSK	25	0	20.42	20.45	20.43	20.5
5	16QAM	1	0	20.47	20.44	20.48	
5	16QAM	1	12	20.34	20.36	20.36	
5	16QAM	1	24	20.33	20.32	20.32	19.5
5	16QAM	12	0	19.33	19.38	19.33	
5	16QAM	12	7	19.34	19.41	19.37	
5	16QAM	12	13	19.23	19.23	19.26	19.5
5	16QAM	25	0	19.34	19.38	19.29	
5	64QAM	1	0	19.40	19.37	19.39	
5	64QAM	1	12	19.40	19.40	19.37	19.5
5	64QAM	1	24	19.42	19.40	19.36	
5	64QAM	12	0	18.44	18.45	18.45	
5	64QAM	12	7	18.41	18.36	18.42	18.5
5	64QAM	12	13	18.28	18.28	18.33	
5	64QAM	25	0	18.33	18.38	18.32	
5	256QAM	1	0	16.26	16.26	16.27	16.5



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5	256QAM	1	12	16.45	16.49	16.49	16.5
5	256QAM	1	24	16.33	16.32	16.39	
5	256QAM	12	0	16.37	16.36	16.33	
5	256QAM	12	7	16.36	16.37	16.36	
5	256QAM	12	13	16.27	16.24	16.28	
5	256QAM	25	0	16.26	16.26	16.25	

**<LTE Band 14\_Main Ant\_Default Power>**

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		23.59		25
10	QPSK	1	25		23.56		
10	QPSK	1	49		23.45		
10	QPSK	25	0		22.61		24
10	QPSK	25	12		22.58		
10	QPSK	25	25		22.59		
10	QPSK	50	0		22.55		24
10	16QAM	1	0		23.08		
10	16QAM	1	25		22.93		
10	16QAM	1	49		22.85		23
10	16QAM	25	0		21.64		
10	16QAM	25	12		21.59		
10	16QAM	25	25		21.60		23
10	16QAM	50	0		21.58		
10	64QAM	1	0		21.95		
10	64QAM	1	25		21.79		23
10	64QAM	1	49		21.74		
10	64QAM	25	0		20.65		
10	64QAM	25	12		20.61		22
10	64QAM	25	25		20.60		
10	64QAM	50	0		20.58		
10	256QAM	1	0		18.57		20
10	256QAM	1	25		18.53		
10	256QAM	1	49		18.48		
10	256QAM	25	0		18.49		20
10	256QAM	25	12		18.38		
10	256QAM	25	25		18.39		
10	256QAM	50	0		18.41		
Channel				23305	23330	23355	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	QPSK	1	0	23.30	23.52	23.30	25
5	QPSK	1	12	23.35	23.46	23.32	
5	QPSK	1	24	23.31	23.37	23.31	
5	QPSK	12	0	22.22	22.51	22.22	24
5	QPSK	12	7	22.30	22.49	22.28	
5	QPSK	12	13	22.37	22.52	22.37	
5	QPSK	25	0	22.33	22.49	22.31	24
5	16QAM	1	0	22.66	23.03	22.64	
5	16QAM	1	12	22.61	22.85	22.61	
5	16QAM	1	24	22.60	22.80	22.61	23
5	16QAM	12	0	21.33	21.57	21.33	
5	16QAM	12	7	21.39	21.50	21.38	
5	16QAM	12	13	21.44	21.54	21.44	23
5	16QAM	25	0	21.36	21.48	21.39	
5	64QAM	1	0	21.43	21.90	21.45	
5	64QAM	1	12	21.62	21.73	21.61	23
5	64QAM	1	24	21.59	21.67	21.56	
5	64QAM	12	0	20.33	20.55	20.33	



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5	64QAM	12	7	20.38	20.54	20.39	
5	64QAM	12	13	20.46	20.51	20.43	
5	64QAM	25	0	20.34	20.52	20.32	
5	256QAM	1	0	18.14	18.52	18.15	20
5	256QAM	1	12	18.30	18.45	18.29	
5	256QAM	1	24	18.08	18.40	18.12	
5	256QAM	12	0	18.13	18.42	18.15	20
5	256QAM	12	7	18.14	18.29	18.13	
5	256QAM	12	13	18.14	18.34	18.18	
5	256QAM	25	0	18.07	18.35	18.09	

**<LTE Band 14\_Main Ant\_Reduced Power>**

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		21.36		21.5
10	QPSK	1	25		21.32		
10	QPSK	1	49		21.21		
10	QPSK	25	0		20.38		20.5
10	QPSK	25	12		20.35		
10	QPSK	25	25		20.33		
10	QPSK	50	0		20.32		20.5
10	16QAM	1	0		20.49		
10	16QAM	1	25		20.46		
10	16QAM	1	49		20.47		19.5
10	16QAM	25	0		19.45		
10	16QAM	25	12		19.32		
10	16QAM	25	25		19.32		19.5
10	16QAM	50	0		19.33		
10	64QAM	1	0		19.48		
10	64QAM	1	25		19.43		19.5
10	64QAM	1	49		19.38		
10	64QAM	25	0		18.42		
10	64QAM	25	12		18.31		18.5
10	64QAM	25	25		18.36		
10	64QAM	50	0		18.33		
10	256QAM	1	0		16.50		16.5
10	256QAM	1	25		16.45		
10	256QAM	1	49		16.37		
10	256QAM	25	0		16.43		16.5
10	256QAM	25	12		16.38		
10	256QAM	25	25		16.30		
10	256QAM	50	0		16.31		
Channel				23305	16.31	23355	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	QPSK	1	0	21.34	21.35	21.29	21.5
5	QPSK	1	12	21.31	21.28	21.22	
5	QPSK	1	24	21.16	21.12	21.15	
5	QPSK	12	0	20.35	20.35	20.32	20.5
5	QPSK	12	7	20.28	20.31	20.33	
5	QPSK	12	13	20.26	20.25	20.32	
5	QPSK	25	0	20.25	20.22	20.22	20.5
5	16QAM	1	0	20.42	20.46	20.47	
5	16QAM	1	12	20.38	20.41	20.41	
5	16QAM	1	24	20.41	20.37	20.38	19.5
5	16QAM	12	0	19.38	19.40	19.36	
5	16QAM	12	7	19.27	19.28	19.29	
5	16QAM	12	13	19.27	19.28	19.25	19.5
5	16QAM	25	0	19.31	19.31	19.24	





5	64QAM	1	0	19.39	19.47	19.42	19.5
5	64QAM	1	12	19.39	19.39	19.41	
5	64QAM	1	24	19.33	19.36	19.36	
5	64QAM	12	0	18.36	18.34	18.41	18.5
5	64QAM	12	7	18.27	18.26	18.25	
5	64QAM	12	13	18.32	18.32	18.34	
5	64QAM	25	0	18.32	18.32	18.23	16.5
5	256QAM	1	0	16.41	16.42	16.46	
5	256QAM	1	12	16.40	16.38	16.35	
5	256QAM	1	24	16.32	16.28	16.32	16.5
5	256QAM	12	0	16.42	16.38	16.37	
5	256QAM	12	7	16.37	16.29	16.37	
5	256QAM	12	13	16.27	16.24	16.26	16.5
5	256QAM	25	0	16.29	16.21	16.24	

<LTE Band 17\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	Tune-up limit (dBm)
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.36	23.46	23.34	25
10	QPSK	1	25	23.40	23.44	23.44	
10	QPSK	1	49	23.40	23.39	23.37	
10	QPSK	25	0	22.39	22.50	22.37	24
10	QPSK	25	12	22.37	22.42	22.41	
10	QPSK	25	25	22.45	22.46	22.46	
10	QPSK	50	0	22.45	22.47	22.41	24
10	16QAM	1	0	22.75	22.68	22.71	
10	16QAM	1	25	22.76	22.81	22.82	
10	16QAM	1	49	22.81	22.78	22.82	23
10	16QAM	25	0	21.39	21.38	21.39	
10	16QAM	25	12	21.51	21.44	21.42	
10	16QAM	25	25	21.49	21.51	21.49	23
10	16QAM	50	0	21.47	21.47	21.41	
10	64QAM	1	0	21.62	21.51	21.60	
10	64QAM	1	25	21.62	21.63	21.66	22
10	64QAM	1	49	21.56	21.62	21.63	
10	64QAM	25	0	20.38	20.36	20.40	
10	64QAM	25	12	20.47	20.41	20.43	20
10	64QAM	25	25	20.47	20.49	20.50	
10	64QAM	50	0	20.47	20.46	20.39	
10	256QAM	1	0	18.43	18.33	18.32	20
10	256QAM	1	25	18.51	18.48	18.36	
10	256QAM	1	49	18.26	18.30	18.30	
10	256QAM	25	0	18.24	18.26	18.24	20
10	256QAM	25	12	18.33	18.27	18.29	
10	256QAM	25	25	18.24	18.26	18.29	
10	256QAM	50	0	18.28	18.31	18.23	Tune-up limit (dBm)
Channel				23755	23790	23825	
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	23.27	23.40	23.24	25
5	QPSK	1	12	23.32	23.34	23.39	
5	QPSK	1	24	23.30	23.32	23.32	
5	QPSK	12	0	22.34	22.44	22.28	24
5	QPSK	12	7	22.31	22.34	22.36	
5	QPSK	12	13	22.36	22.39	22.38	
5	QPSK	25	0	22.36	22.41	22.32	24
5	16QAM	1	0	22.65	22.62	22.62	
5	16QAM	1	12	22.71	22.71	22.74	
5	16QAM	1	24	22.76	22.71	22.75	



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5	16QAM	12	0	21.29	21.31	21.29	23
5	16QAM	12	7	21.46	21.35	21.34	
5	16QAM	12	13	21.44	21.43	21.40	
5	16QAM	25	0	21.42	21.41	21.35	
5	64QAM	1	0	21.56	21.45	21.52	23
5	64QAM	1	12	21.56	21.54	21.59	
5	64QAM	1	24	21.46	21.52	21.56	
5	64QAM	12	0	20.29	20.30	20.32	22
5	64QAM	12	7	20.37	20.32	20.36	
5	64QAM	12	13	20.38	20.44	20.42	
5	64QAM	25	0	20.37	20.36	20.30	
5	256QAM	1	0	18.37	18.27	18.23	20
5	256QAM	1	12	18.42	18.42	18.28	
5	256QAM	1	24	18.20	18.21	18.24	
5	256QAM	12	0	18.16	18.20	18.17	20
5	256QAM	12	7	18.27	18.18	18.24	
5	256QAM	12	13	18.14	18.16	18.21	
5	256QAM	25	0	18.19	18.22	18.13	

**<LTE Band 17\_Main Ant\_Reduced Power>**

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	21.5
Frequency (MHz)				709	710	711	
10	QPSK	1	0	20.45	20.46	20.39	
10	QPSK	1	25	20.44	20.43	20.42	20.5
10	QPSK	1	49	20.34	20.26	20.23	
10	QPSK	25	0	19.46	19.48	19.46	20.5
10	QPSK	25	12	19.40	19.40	19.39	
10	QPSK	25	25	19.38	19.35	19.35	
10	QPSK	50	0	19.39	19.42	19.34	
10	16QAM	1	0	19.47	19.49	19.44	20.5
10	16QAM	1	25	19.43	19.45	19.50	
10	16QAM	1	49	19.42	19.28	19.39	
10	16QAM	25	0	18.45	18.39	18.43	19.5
10	16QAM	25	12	18.43	18.43	18.41	
10	16QAM	25	25	18.48	18.37	18.34	
10	16QAM	50	0	18.40	18.40	18.42	
10	64QAM	1	0	18.45	18.41	18.46	19.5
10	64QAM	1	25	18.41	18.50	18.50	
10	64QAM	1	49	18.35	18.23	18.29	
10	64QAM	25	0	17.47	17.46	17.44	18.5
10	64QAM	25	12	17.44	17.45	17.45	
10	64QAM	25	25	17.47	17.38	17.38	
10	64QAM	50	0	17.43	17.42	17.42	
10	256QAM	1	0	15.28	15.28	15.24	16.5
10	256QAM	1	25	15.29	15.32	15.29	
10	256QAM	1	49	15.36	15.28	15.32	
10	256QAM	25	0	15.41	15.42	15.44	16.5
10	256QAM	25	12	15.42	15.41	15.40	
10	256QAM	25	25	15.37	15.34	15.33	
10	256QAM	50	0	15.37	15.39	15.36	
Channel				23755	23790	23825	21.5
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	20.40	20.37	20.35	
5	QPSK	1	12	20.37	20.42	20.40	20.5
5	QPSK	1	24	20.29	20.18	20.15	
5	QPSK	12	0	19.39	19.46	19.44	20.5
5	QPSK	12	7	19.33	19.37	19.35	
5	QPSK	12	13	19.30	19.30	19.33	



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5	QPSK	25	0	19.34	19.33	19.33	20.5
5	16QAM	1	0	19.38	19.40	19.34	
5	16QAM	1	12	19.34	19.39	19.41	
5	16QAM	1	24	19.39	19.22	19.33	
5	16QAM	12	0	18.37	18.34	18.40	19.5
5	16QAM	12	7	18.36	18.41	18.31	
5	16QAM	12	13	18.43	18.29	18.31	
5	16QAM	25	0	18.31	18.39	18.38	
5	64QAM	1	0	18.43	18.36	18.37	19.5
5	64QAM	1	12	18.37	18.47	18.43	
5	64QAM	1	24	18.28	18.20	18.20	
5	64QAM	12	0	17.42	17.44	17.36	
5	64QAM	12	7	17.35	17.42	17.41	18.5
5	64QAM	12	13	17.45	17.29	17.33	
5	64QAM	25	0	17.35	17.34	17.38	
5	256QAM	1	0	15.25	15.25	15.16	
5	256QAM	1	12	15.20	15.29	15.26	16.5
5	256QAM	1	24	15.34	15.24	15.26	
5	256QAM	12	0	15.33	15.32	15.41	
5	256QAM	12	7	15.40	15.38	15.39	
5	256QAM	12	13	15.33	15.24	15.31	16.5
5	256QAM	25	0	15.28	15.33	15.31	

**<LTE Band 25\_Main Ant\_Default Power>**

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	23.33	23.23	23.27	25
20	QPSK	1	49	23.23	23.18	23.25	
20	QPSK	1	99	23.16	23.13	23.16	
20	QPSK	50	0	22.39	22.34	22.33	24
20	QPSK	50	24	22.35	22.30	22.27	
20	QPSK	50	50	22.30	22.29	22.31	
20	QPSK	100	0	22.36	22.33	22.35	
20	16QAM	1	0	22.56	22.48	22.53	24
20	16QAM	1	49	22.59	22.53	22.56	
20	16QAM	1	99	22.44	22.39	22.42	
20	16QAM	50	0	21.31	21.31	21.29	
20	16QAM	50	24	21.38	21.37	21.36	23
20	16QAM	50	50	21.31	21.30	21.33	
20	16QAM	100	0	21.37	21.35	21.37	
20	64QAM	1	0	21.43	21.52	21.44	
20	64QAM	1	49	21.47	21.45	21.52	23
20	64QAM	1	99	21.37	21.37	21.32	
20	64QAM	50	0	20.28	20.27	20.29	
20	64QAM	50	24	20.37	20.34	20.35	22
20	64QAM	50	50	20.31	20.32	20.33	
20	64QAM	100	0	20.36	20.35	20.36	
20	256QAM	1	0	18.18	18.18	18.22	
20	256QAM	1	49	18.22	18.18	18.32	20
20	256QAM	1	99	18.18	18.17	18.30	
20	256QAM	50	0	18.10	18.14	18.18	
20	256QAM	50	24	18.13	18.12	18.22	20
20	256QAM	50	50	18.15	18.10	18.27	
20	256QAM	100	0	18.10	18.17	18.31	
Channel				26115	26340	26615	
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	23.23	23.16	23.15	25
15	QPSK	1	37	23.17	23.11	23.18	



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15	QPSK	1	74	23.06	23.04	23.06	24	
15	QPSK	36	0	22.31	22.22	22.21		
15	QPSK	36	20	22.29	22.24	22.24		
15	QPSK	36	39	22.20	22.22	22.26		
15	QPSK	75	0	22.29	22.26	22.29	24	
15	16QAM	1	0	22.51	22.38	22.46		
15	16QAM	1	37	22.54	22.44	22.51		
15	16QAM	1	74	22.39	22.29	22.37		
15	16QAM	36	0	21.26	21.21	21.20	23	
15	16QAM	36	20	21.30	21.29	21.27		
15	16QAM	36	39	21.25	21.20	21.27		
15	16QAM	75	0	21.31	21.30	21.30		
15	64QAM	1	0	21.37	21.47	21.36	23	
15	64QAM	1	37	21.40	21.39	21.46		
15	64QAM	1	74	21.27	21.29	21.22		
15	64QAM	36	0	20.20	20.22	20.24		
15	64QAM	36	20	20.30	20.24	20.30	22	
15	64QAM	36	39	20.21	20.26	20.28		
15	64QAM	75	0	20.27	20.28	20.27		
15	256QAM	1	0	18.10	18.11	18.16		
15	256QAM	1	37	18.16	18.11	18.26	20	
15	256QAM	1	74	18.11	18.07	18.24		
15	256QAM	36	0	18.04	18.07	18.11		
15	256QAM	36	20	18.07	18.02	18.12		
15	256QAM	36	39	18.10	18.05	18.18	20	
15	256QAM	75	0	18.02	18.08	18.23		
Channel				26090	26340	26640		Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.27	23.17	23.17	25	
10	QPSK	1	25	23.17	23.09	23.20		
10	QPSK	1	49	23.08	23.08	23.06		
10	QPSK	25	0	22.33	22.18	22.19		
10	QPSK	25	12	22.28	22.25	22.26	24	
10	QPSK	25	25	22.21	22.19	22.26		
10	QPSK	50	0	22.30	22.26	22.28		
10	16QAM	1	0	22.47	22.40	22.43		
10	16QAM	1	25	22.50	22.44	22.48	24	
10	16QAM	1	49	22.36	22.30	22.32		
10	16QAM	25	0	21.26	21.21	21.20		
10	16QAM	25	12	21.33	21.27	21.26		
10	16QAM	25	25	21.25	21.20	21.24	23	
10	16QAM	50	0	21.29	21.30	21.30		
10	64QAM	1	0	21.33	21.42	21.38		
10	64QAM	1	25	21.39	21.40	21.44		
10	64QAM	1	49	21.30	21.31	21.26	23	
10	64QAM	25	0	20.20	20.20	20.23		
10	64QAM	25	12	20.32	20.26	20.26		
10	64QAM	25	25	20.22	20.25	20.25		
10	64QAM	50	0	20.28	20.29	20.26	22	
10	256QAM	1	0	18.10	18.13	18.16		
10	256QAM	1	25	18.12	18.10	18.27		
10	256QAM	1	49	18.12	18.11	18.24		
10	256QAM	25	0	18.03	18.05	18.12	20	
10	256QAM	25	12	18.06	18.04	18.14		
10	256QAM	25	25	18.09	18.03	18.20		
10	256QAM	50	0	18.02	18.12	18.25		
Channel				26065	26340	26665	Tune-up limit (dBm)	
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	23.24	23.18	23.15	25	
5	QPSK	1	12	23.18	23.10	23.22		
5	QPSK	1	24	23.11	23.04	23.06		
5	QPSK	12	0	22.30	22.21	22.21		
5	QPSK	12	7	22.27	22.28	22.25	24	



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5	QPSK	12	13	22.20	22.19	22.22	24
5	QPSK	25	0	22.29	22.28	22.27	
5	16QAM	1	0	22.51	22.42	22.43	
5	16QAM	1	12	22.53	22.46	22.46	
5	16QAM	1	24	22.37	22.34	22.36	23
5	16QAM	12	0	21.23	21.25	21.19	
5	16QAM	12	7	21.31	21.30	21.29	
5	16QAM	12	13	21.24	21.25	21.28	
5	16QAM	25	0	21.30	21.25	21.28	23
5	64QAM	1	0	21.36	21.47	21.34	
5	64QAM	1	12	21.41	21.36	21.45	
5	64QAM	1	24	21.27	21.27	21.27	
5	64QAM	12	0	20.20	20.19	20.19	22
5	64QAM	12	7	20.28	20.27	20.28	
5	64QAM	12	13	20.22	20.25	20.24	
5	64QAM	25	0	20.29	20.25	20.31	
5	256QAM	1	0	18.12	18.11	18.15	20
5	256QAM	1	12	18.13	18.12	18.27	
5	256QAM	1	24	18.12	18.12	18.25	
5	256QAM	12	0	18.04	18.05	18.12	
5	256QAM	12	7	18.08	18.04	18.15	20
5	256QAM	12	13	18.05	18.01	18.20	
5	256QAM	25	0	18.00	18.07	18.23	
Channel				26055	26340	26675	
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	23.28	23.15	23.17	25
3	QPSK	1	8	23.13	23.09	23.21	
3	QPSK	1	14	23.06	23.05	23.06	
3	QPSK	8	0	22.30	22.17	22.21	
3	QPSK	8	4	22.25	22.26	22.23	24
3	QPSK	8	7	22.23	22.19	22.21	
3	QPSK	15	0	22.31	22.27	22.28	
3	16QAM	1	0	22.51	22.40	22.46	
3	16QAM	1	8	22.51	22.45	22.46	24
3	16QAM	1	14	22.38	22.30	22.36	
3	16QAM	8	0	21.23	21.22	21.23	
3	16QAM	8	4	21.29	21.31	21.26	
3	16QAM	8	7	21.21	21.21	21.28	23
3	16QAM	15	0	21.27	21.30	21.32	
3	64QAM	1	0	21.38	21.45	21.38	
3	64QAM	1	8	21.38	21.36	21.44	
3	64QAM	1	14	21.27	21.28	21.24	23
3	64QAM	8	0	20.22	20.19	20.22	
3	64QAM	8	4	20.27	20.24	20.30	
3	64QAM	8	7	20.25	20.26	20.28	
3	64QAM	15	0	20.29	20.25	20.29	22
3	256QAM	1	0	18.10	18.12	18.15	
3	256QAM	1	8	18.14	18.13	18.24	
3	256QAM	1	14	18.10	18.09	18.23	
3	256QAM	8	0	18.05	18.08	18.11	20
3	256QAM	8	4	18.04	18.04	18.12	
3	256QAM	8	7	18.08	18.02	18.22	
3	256QAM	15	0	18.02	18.12	18.24	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	23.05	23.04	23.02	25
1.4	QPSK	1	3	23.05	23.07	23.01	
1.4	QPSK	1	5	23.02	23.00	23.00	
1.4	QPSK	3	0	23.09	23.03	23.12	
1.4	QPSK	3	1	23.08	23.05	23.09	
1.4	QPSK	3	3	23.01	23.10	23.06	
1.4	QPSK	6	0	22.10	22.08	22.11	24
1.4	16QAM	1	0	22.40	22.35	22.44	24



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1.4	16QAM	1	3	22.40	22.31	22.42	
1.4	16QAM	1	5	22.33	22.32	22.33	
1.4	16QAM	3	0	22.20	22.12	22.13	
1.4	16QAM	3	1	22.20	22.09	22.14	
1.4	16QAM	3	3	22.10	22.11	22.10	
1.4	16QAM	6	0	21.12	21.13	21.09	23
1.4	64QAM	1	0	21.22	21.17	21.14	23
1.4	64QAM	1	3	21.15	21.19	21.19	
1.4	64QAM	1	5	21.25	21.18	21.11	
1.4	64QAM	3	0	21.15	21.19	21.16	
1.4	64QAM	3	1	21.13	21.03	21.15	
1.4	64QAM	3	3	21.13	21.10	21.14	22
1.4	64QAM	6	0	20.08	20.04	20.06	
1.4	256QAM	1	0	18.11	18.10	18.17	20
1.4	256QAM	1	3	18.17	18.13	18.26	
1.4	256QAM	1	5	18.10	18.11	18.24	
1.4	256QAM	3	0	18.02	18.09	18.13	
1.4	256QAM	3	1	18.07	18.06	18.16	
1.4	256QAM	3	3	18.09	18.03	18.22	
1.4	256QAM	6	0	18.05	18.12	18.23	20

**<LTE Band 25\_MIMO2 Ant\_Default Power>**

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	23.30	23.25	23.28	24
20	QPSK	1	49	23.29	23.24	23.22	
20	QPSK	1	99	23.28	23.23	23.20	
20	QPSK	50	0	22.34	22.32	22.28	23
20	QPSK	50	24	22.32	22.26	22.25	
20	QPSK	50	50	22.31	22.22	22.26	
20	QPSK	100	0	22.30	22.21	22.25	23
20	16QAM	1	0	22.15	22.14	22.05	
20	16QAM	1	49	22.18	22.11	22.16	
20	16QAM	1	99	22.18	22.12	22.13	22
20	16QAM	50	0	21.32	21.24	21.31	
20	16QAM	50	24	21.43	21.38	21.39	
20	16QAM	50	50	21.38	21.30	21.33	22
20	16QAM	100	0	21.36	21.31	21.34	
20	64QAM	1	0	21.12	21.03	21.09	
20	64QAM	1	49	21.13	21.07	21.09	22
20	64QAM	1	99	21.11	21.05	21.07	
20	64QAM	50	0	20.31	20.31	20.30	
20	64QAM	50	24	20.36	20.36	20.31	21
20	64QAM	50	50	20.32	20.30	20.23	
20	64QAM	100	0	20.37	20.31	20.35	
20	256QAM	1	0	18.11	18.09	18.06	19
20	256QAM	1	49	18.14	18.05	18.10	
20	256QAM	1	99	18.27	18.24	18.26	
20	256QAM	50	0	18.29	18.20	18.20	19
20	256QAM	50	24	18.41	18.38	18.41	
20	256QAM	50	50	18.37	18.37	18.34	
20	256QAM	100	0	18.29	18.27	18.28	
Channel				26115	26340	26615	
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	23.24	23.21	23.22	24
15	QPSK	1	37	23.25	23.19	23.16	
15	QPSK	1	74	23.24	23.18	23.14	
15	QPSK	36	0	22.29	22.26	22.22	23



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15	QPSK	36	20	22.27	22.20	22.20	
15	QPSK	36	39	22.27	22.16	22.20	
15	QPSK	75	0	22.24	22.17	22.21	
15	16QAM	1	0	22.09	22.09	22.00	23
15	16QAM	1	37	22.13	22.07	22.12	
15	16QAM	1	74	22.14	22.07	22.09	
15	16QAM	36	0	21.28	21.18	21.26	22
15	16QAM	36	20	21.39	21.33	21.34	
15	16QAM	36	39	21.34	21.25	21.29	
15	16QAM	75	0	21.31	21.27	21.29	22
15	64QAM	1	0	21.06	21.05	21.05	
15	64QAM	1	37	21.08	21.02	21.04	
15	64QAM	1	74	21.06	21.04	21.02	21
15	64QAM	36	0	20.25	20.25	20.26	
15	64QAM	36	20	20.32	20.31	20.25	
15	64QAM	36	39	20.27	20.26	20.19	19
15	64QAM	75	0	20.32	20.27	20.31	
15	256QAM	1	0	18.07	18.05	18.02	
15	256QAM	1	37	18.09	18.01	18.05	19
15	256QAM	1	74	18.21	18.19	18.20	
15	256QAM	36	0	18.24	18.14	18.16	
15	256QAM	36	20	18.36	18.33	18.36	19
15	256QAM	36	39	18.31	18.33	18.29	
15	256QAM	75	0	18.25	18.21	18.23	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	23.25	23.20	23.22	24
10	QPSK	1	25	23.24	23.19	23.17	
10	QPSK	1	49	23.22	23.18	23.14	
10	QPSK	25	0	22.28	22.27	22.24	23
10	QPSK	25	12	22.28	22.22	22.20	
10	QPSK	25	25	22.26	22.18	22.21	
10	QPSK	50	0	22.26	22.17	22.20	23
10	16QAM	1	0	22.11	22.10	22.01	
10	16QAM	1	25	22.14	22.05	22.10	
10	16QAM	1	49	22.14	22.08	22.07	22
10	16QAM	25	0	21.28	21.18	21.26	
10	16QAM	25	12	21.38	21.32	21.33	
10	16QAM	25	25	21.34	21.25	21.29	22
10	16QAM	50	0	21.32	21.25	21.28	
10	64QAM	1	0	21.07	21.04	21.03	
10	64QAM	1	25	21.09	21.03	21.05	22
10	64QAM	1	49	21.07	21.00	21.01	
10	64QAM	25	0	20.25	20.25	20.24	
10	64QAM	25	12	20.30	20.30	20.25	21
10	64QAM	25	25	20.28	20.24	20.18	
10	64QAM	50	0	20.33	20.26	20.29	
10	256QAM	1	0	18.05	18.05	18.00	19
10	256QAM	1	25	18.09	18.05	18.06	
10	256QAM	1	49	18.22	18.19	18.22	
10	256QAM	25	0	18.23	18.15	18.14	19
10	256QAM	25	12	18.35	18.34	18.36	
10	256QAM	25	25	18.31	18.32	18.29	
10	256QAM	50	0	18.23	18.23	18.22	Tune-up limit (dBm)
Channel				26065	26340	26665	
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	23.26	23.21	23.23	24
5	QPSK	1	12	23.23	23.19	23.17	
5	QPSK	1	24	23.22	23.18	23.15	
5	QPSK	12	0	22.30	22.27	22.23	23
5	QPSK	12	7	22.26	22.22	22.20	
5	QPSK	12	13	22.25	22.18	22.22	
5	QPSK	25	0	22.26	22.15	22.19	



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5	16QAM	1	0	22.11	22.09	22.04	23
5	16QAM	1	12	22.12	22.06	22.10	
5	16QAM	1	24	22.13	22.08	22.09	
5	16QAM	12	0	21.26	21.19	21.27	22
5	16QAM	12	7	21.39	21.34	21.35	
5	16QAM	12	13	21.33	21.26	21.28	
5	16QAM	25	0	21.32	21.25	21.30	22
5	64QAM	1	0	21.06	21.02	21.03	
5	64QAM	1	12	21.09	21.03	21.03	
5	64QAM	1	24	21.06	21.01	21.03	21
5	64QAM	12	0	20.27	20.27	20.26	
5	64QAM	12	7	20.30	20.32	20.25	
5	64QAM	12	13	20.27	20.26	20.17	19
5	64QAM	25	0	20.32	20.26	20.29	
5	256QAM	1	0	18.06	18.04	18.00	
5	256QAM	1	12	18.10	18.01	18.06	19
5	256QAM	1	24	18.22	18.19	18.21	
5	256QAM	12	0	18.25	18.15	18.15	
5	256QAM	12	7	18.36	18.32	18.36	19
5	256QAM	12	13	18.32	18.31	18.29	
5	256QAM	25	0	18.24	18.21	18.24	
Channel				26055	26340	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	23.24	23.19	23.23	24
3	QPSK	1	8	23.25	23.20	23.16	
3	QPSK	1	14	23.22	23.19	23.14	
3	QPSK	8	0	22.28	22.27	22.22	23
3	QPSK	8	4	22.28	22.22	22.19	
3	QPSK	8	7	22.26	22.18	22.21	
3	QPSK	15	0	22.25	22.16	22.20	23
3	16QAM	1	0	22.11	22.10	22.03	
3	16QAM	1	8	22.12	22.05	22.12	
3	16QAM	1	14	22.12	22.07	22.07	22
3	16QAM	8	0	21.26	21.20	21.26	
3	16QAM	8	4	21.38	21.32	21.33	
3	16QAM	8	7	21.33	21.24	21.29	22
3	16QAM	15	0	21.31	21.27	21.29	
3	64QAM	1	0	21.07	21.04	21.04	
3	64QAM	1	8	21.09	21.03	21.04	21
3	64QAM	1	14	21.06	21.01	21.03	
3	64QAM	8	0	20.26	20.25	20.26	
3	64QAM	8	4	20.30	20.31	20.27	19
3	64QAM	8	7	20.28	20.26	20.17	
3	64QAM	15	0	20.33	20.26	20.29	
3	256QAM	1	0	18.05	18.05	18.00	19
3	256QAM	1	8	18.08	18.04	18.04	
3	256QAM	1	14	18.22	18.19	18.20	
3	256QAM	8	0	18.24	18.15	18.15	19
3	256QAM	8	4	18.36	18.32	18.35	
3	256QAM	8	7	18.32	18.32	18.30	
3	256QAM	15	0	18.24	18.23	18.24	24
Channel				26047	26340	26683	
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	23.26	23.21	23.23	24
1.4	QPSK	1	3	23.24	23.24	23.23	
1.4	QPSK	1	5	23.22	23.22	23.17	
1.4	QPSK	3	0	23.14	23.04	23.13	23
1.4	QPSK	3	1	23.12	23.02	23.05	
1.4	QPSK	3	3	23.11	23.05	23.10	
1.4	QPSK	6	0	22.24	22.24	22.21	23
1.4	16QAM	1	0	22.11	22.05	22.11	
1.4	16QAM	1	3	22.13	22.09	22.13	
1.4	16QAM	1	5	22.12	22.06	22.10	23





1.4	16QAM	3	0	22.26	22.26	22.24	
1.4	16QAM	3	1	22.21	22.17	22.13	
1.4	16QAM	3	3	22.18	22.09	22.11	
1.4	16QAM	6	0	21.32	21.29	21.28	22
1.4	64QAM	1	0	21.11	21.06	21.11	22
1.4	64QAM	1	3	21.07	21.05	21.07	
1.4	64QAM	1	5	21.06	21.01	21.00	
1.4	64QAM	3	0	21.11	21.11	21.08	
1.4	64QAM	3	1	21.08	21.06	21.07	
1.4	64QAM	3	3	21.07	21.07	21.02	
1.4	64QAM	6	0	20.33	20.33	20.32	21
1.4	256QAM	1	0	18.06	18.02	18.03	19
1.4	256QAM	1	3	18.08	18.07	18.05	
1.4	256QAM	1	5	18.23	18.23	18.15	
1.4	256QAM	3	0	18.24	18.20	18.21	
1.4	256QAM	3	1	18.37	18.33	18.27	
1.4	256QAM	3	3	18.31	18.30	18.27	
1.4	256QAM	6	0	18.24	18.21	18.16	19

<LTE Band 25\_Main Ant\_Reduced Power>

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	17.74	17.70	17.72	
20	QPSK	1	49	17.72	17.65	17.71	
20	QPSK	1	99	17.64	17.62	17.70	
20	QPSK	50	0	16.86	16.80	16.79	17
20	QPSK	50	24	16.83	16.75	16.76	
20	QPSK	50	50	16.81	16.77	16.70	
20	QPSK	100	0	16.79	16.76	16.90	17
20	16QAM	1	0	16.68	16.81	16.95	
20	16QAM	1	49	16.85	16.70	16.90	
20	16QAM	1	99	16.81	16.76	16.89	16
20	16QAM	50	0	15.72	15.78	15.80	
20	16QAM	50	24	15.80	15.82	15.85	
20	16QAM	50	50	15.80	15.82	15.82	16
20	16QAM	100	0	15.79	15.82	15.90	
20	64QAM	1	0	15.89	15.85	15.95	
20	64QAM	1	49	15.91	15.85	15.96	15
20	64QAM	1	99	15.79	15.80	15.93	
20	64QAM	50	0	14.73	14.69	14.79	
20	64QAM	50	24	14.81	14.85	14.82	13
20	64QAM	50	50	14.76	14.80	14.85	
20	64QAM	100	0	14.86	14.84	14.85	
20	256QAM	1	0	12.84	12.84	12.88	13
20	256QAM	1	49	12.90	12.75	12.72	
20	256QAM	1	99	12.82	12.91	12.85	
20	256QAM	50	0	12.70	12.70	12.73	13
20	256QAM	50	24	12.79	12.81	12.83	
20	256QAM	50	50	12.78	12.77	12.82	
20	256QAM	100	0	12.72	12.72	12.82	
Channel				26115	26340	26615	
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	17.72	17.65	17.71	
15	QPSK	1	37	17.64	17.60	17.67	
15	QPSK	1	74	17.60	17.56	17.60	
15	QPSK	36	0	16.78	16.78	16.71	17
15	QPSK	36	20	16.74	16.69	16.74	
15	QPSK	36	39	16.74	16.75	16.66	



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15	QPSK	75	0	16.77	16.70	16.82	
15	16QAM	1	0	16.62	16.72	16.93	17
15	16QAM	1	37	16.82	16.67	16.83	
15	16QAM	1	74	16.79	16.69	16.87	
15	16QAM	36	0	15.69	15.75	15.72	16
15	16QAM	36	20	15.72	15.79	15.83	
15	16QAM	36	39	15.77	15.73	15.75	
15	16QAM	75	0	15.72	15.80	15.84	
15	64QAM	1	0	15.87	15.77	15.89	16
15	64QAM	1	37	15.82	15.77	15.91	
15	64QAM	1	74	15.75	15.75	15.87	
15	64QAM	36	0	14.67	14.59	14.73	15
15	64QAM	36	20	14.71	14.78	14.76	
15	64QAM	36	39	14.72	14.77	14.78	
15	64QAM	75	0	14.81	14.76	14.75	
15	256QAM	1	0	12.76	12.77	12.86	13
15	256QAM	1	37	12.84	12.70	12.69	
15	256QAM	1	74	12.75	12.86	12.79	
15	256QAM	36	0	12.62	12.61	12.63	13
15	256QAM	36	20	12.69	12.73	12.76	
15	256QAM	36	39	12.70	12.68	12.74	
15	256QAM	75	0	12.63	12.71	12.76	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	17.66	17.68	17.63	18
10	QPSK	1	25	17.67	17.58	17.70	
10	QPSK	1	49	17.56	17.52	17.64	
10	QPSK	25	0	16.85	16.78	16.71	17
10	QPSK	25	12	16.81	16.66	16.69	
10	QPSK	25	25	16.78	16.70	16.60	
10	QPSK	50	0	16.70	16.73	16.82	
10	16QAM	1	0	16.64	16.78	16.89	17
10	16QAM	1	25	16.79	16.64	16.84	
10	16QAM	1	49	16.73	16.66	16.81	
10	16QAM	25	0	15.68	15.74	15.75	16
10	16QAM	25	12	15.73	15.76	15.76	
10	16QAM	25	25	15.77	15.76	15.72	
10	16QAM	50	0	15.69	15.80	15.88	
10	64QAM	1	0	15.85	15.80	15.92	16
10	64QAM	1	25	15.81	15.84	15.92	
10	64QAM	1	49	15.70	15.72	15.88	
10	64QAM	25	0	14.67	14.64	14.69	15
10	64QAM	25	12	14.79	14.78	14.76	
10	64QAM	25	25	14.69	14.79	14.84	
10	64QAM	50	0	14.85	14.78	14.84	
10	256QAM	1	0	12.81	12.77	12.84	13
10	256QAM	1	25	12.82	12.68	12.64	
10	256QAM	1	49	12.74	12.85	12.79	
10	256QAM	25	0	12.62	12.61	12.69	13
10	256QAM	25	12	12.71	12.74	12.78	
10	256QAM	25	25	12.70	12.69	12.81	
10	256QAM	50	0	12.62	12.65	12.73	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	17.68	17.63	17.69	18
5	QPSK	1	12	17.71	17.59	17.67	
5	QPSK	1	24	17.57	17.60	17.64	
5	QPSK	12	0	16.84	16.71	16.69	17
5	QPSK	12	7	16.82	16.66	16.71	
5	QPSK	12	13	16.79	16.67	16.61	
5	QPSK	25	0	16.76	16.67	16.86	
5	16QAM	1	0	16.61	16.75	16.87	17
5	16QAM	1	12	16.79	16.60	16.81	



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5	16QAM	1	24	16.80	16.70	16.86	16
5	16QAM	12	0	15.67	15.72	15.76	
5	16QAM	12	7	15.76	15.76	15.84	
5	16QAM	12	13	15.71	15.74	15.75	
5	16QAM	25	0	15.78	15.74	15.81	
5	64QAM	1	0	15.80	15.80	15.92	16
5	64QAM	1	12	15.89	15.84	15.87	
5	64QAM	1	24	15.70	15.75	15.83	
5	64QAM	12	0	14.70	14.59	14.70	15
5	64QAM	12	7	14.71	14.81	14.78	
5	64QAM	12	13	14.69	14.74	14.84	
5	64QAM	25	0	14.82	14.74	14.76	
5	256QAM	1	0	12.82	12.82	12.86	
5	256QAM	1	12	12.83	12.65	12.65	13
5	256QAM	1	24	12.72	12.83	12.81	
5	256QAM	12	0	12.69	12.60	12.65	13
5	256QAM	12	7	12.73	12.79	12.77	
5	256QAM	12	13	12.77	12.73	12.73	
5	256QAM	25	0	12.67	12.71	12.77	
Channel				26055	26340	26675	
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	17.72	17.69	17.64	18
3	QPSK	1	8	17.64	17.63	17.66	
3	QPSK	1	14	17.59	17.59	17.64	
3	QPSK	8	0	16.79	16.77	16.70	17
3	QPSK	8	4	16.80	16.69	16.74	
3	QPSK	8	7	16.74	16.68	16.61	
3	QPSK	15	0	16.77	16.67	16.80	
3	16QAM	1	0	16.58	16.72	16.92	
3	16QAM	1	8	16.81	16.64	16.89	17
3	16QAM	1	14	16.73	16.69	16.81	
3	16QAM	8	0	15.65	15.69	15.73	16
3	16QAM	8	4	15.79	15.73	15.83	
3	16QAM	8	7	15.75	15.72	15.74	
3	16QAM	15	0	15.72	15.79	15.84	
3	64QAM	1	0	15.79	15.75	15.91	
3	64QAM	1	8	15.85	15.76	15.93	16
3	64QAM	1	14	15.75	15.79	15.88	
3	64QAM	8	0	14.69	14.62	14.75	
3	64QAM	8	4	14.75	14.76	14.72	15
3	64QAM	8	7	14.66	14.73	14.80	
3	64QAM	15	0	14.84	14.81	14.77	
3	256QAM	1	0	12.81	12.79	12.83	
3	256QAM	1	8	12.81	12.71	12.68	
3	256QAM	1	14	12.72	12.90	12.78	13
3	256QAM	8	0	12.65	12.62	12.67	
3	256QAM	8	4	12.70	12.80	12.75	
3	256QAM	8	7	12.77	12.68	12.73	
3	256QAM	15	0	12.68	12.68	12.77	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	17.60	17.66	17.63	18
1.4	QPSK	1	3	17.65	17.59	17.62	
1.4	QPSK	1	5	17.62	17.65	17.64	
1.4	QPSK	3	0	17.62	17.64	17.72	
1.4	QPSK	3	1	17.65	17.66	17.67	
1.4	QPSK	3	3	17.62	17.69	17.66	17
1.4	QPSK	6	0	16.80	16.83	16.83	
1.4	16QAM	1	0	17.32	17.24	17.17	17
1.4	16QAM	1	3	17.29	17.21	17.28	
1.4	16QAM	1	5	17.24	17.03	17.15	
1.4	16QAM	3	0	16.94	16.96	16.99	
1.4	16QAM	3	1	17.02	17.02	16.96	



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1.4	16QAM	3	3	16.93	16.97	17.01	
1.4	16QAM	6	0	15.92	15.93	15.90	16
1.4	64QAM	1	0	15.98	16.03	16.00	16
1.4	64QAM	1	3	16.02	16.04	16.02	
1.4	64QAM	1	5	15.96	16.00	16.06	
1.4	64QAM	3	0	15.96	15.90	15.88	
1.4	64QAM	3	1	15.94	15.97	15.97	
1.4	64QAM	3	3	15.85	15.92	15.95	
1.4	64QAM	6	0	14.81	14.84	14.91	15
1.4	256QAM	1	0	12.91	12.93	12.99	13
1.4	256QAM	1	3	12.92	12.99	12.93	
1.4	256QAM	1	5	12.81	12.97	12.85	
1.4	256QAM	3	0	12.99	12.94	12.97	
1.4	256QAM	3	1	12.96	12.88	13.00	
1.4	256QAM	3	3	12.85	12.93	12.91	
1.4	256QAM	6	0	12.88	12.92	12.86	13

**<LTE Band 25\_MIMO2 Ant\_Reduced Power>**

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	17.75	17.70	17.69	18
20	QPSK	1	49	17.74	17.69	17.68	
20	QPSK	1	99	17.72	17.67	17.66	
20	QPSK	50	0	17.74	17.69	17.68	18
20	QPSK	50	24	17.73	17.68	17.67	
20	QPSK	50	50	17.71	17.66	17.65	
20	QPSK	100	0	17.72	17.67	17.66	18
20	16QAM	1	0	17.55	17.50	17.49	
20	16QAM	1	49	17.49	17.44	17.43	
20	16QAM	1	99	17.58	17.53	17.52	18
20	16QAM	50	0	17.70	17.65	17.64	
20	16QAM	50	24	17.74	17.69	17.68	
20	16QAM	50	50	17.73	17.68	17.67	18
20	16QAM	100	0	17.70	17.65	17.64	
20	64QAM	1	0	17.52	17.47	17.46	
20	64QAM	1	49	17.51	17.46	17.45	18
20	64QAM	1	99	17.55	17.50	17.49	
20	64QAM	50	0	17.62	17.57	17.56	
20	64QAM	50	24	17.65	17.60	17.59	18
20	64QAM	50	50	17.68	17.63	17.62	
20	64QAM	100	0	17.73	17.68	17.67	
20	256QAM	1	0	17.74	17.69	17.68	18
20	256QAM	1	49	17.72	17.67	17.66	
20	256QAM	1	99	17.71	17.66	17.65	
20	256QAM	50	0	17.73	17.68	17.67	18
20	256QAM	50	24	17.74	17.69	17.68	
20	256QAM	50	50	17.72	17.67	17.66	
20	256QAM	100	0	17.00	16.95	16.94	18
Channel				26115	26340	26615	
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	17.70	17.63	17.61	18
15	QPSK	1	37	17.69	17.62	17.62	
15	QPSK	1	74	17.64	17.60	17.59	
15	QPSK	36	0	17.66	17.61	17.63	18
15	QPSK	36	20	17.67	17.63	17.60	
15	QPSK	36	39	17.66	17.59	17.60	
15	QPSK	75	0	17.66	17.62	17.61	18
15	16QAM	1	0	17.48	17.44	17.44	



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15	16QAM	1	37	17.43	17.36	17.38	18
15	16QAM	1	74	17.50	17.46	17.45	
15	16QAM	36	0	17.65	17.59	17.57	
15	16QAM	36	20	17.67	17.64	17.60	
15	16QAM	36	39	17.68	17.61	17.59	
15	16QAM	75	0	17.62	17.58	17.58	
15	64QAM	1	0	17.44	17.40	17.39	18
15	64QAM	1	37	17.43	17.40	17.40	
15	64QAM	1	74	17.47	17.43	17.43	
15	64QAM	36	0	17.56	17.51	17.49	18
15	64QAM	36	20	17.58	17.55	17.53	
15	64QAM	36	39	17.61	17.58	17.54	
15	64QAM	75	0	17.68	17.60	17.60	
15	256QAM	1	0	17.66	17.62	17.60	
15	256QAM	1	37	17.66	17.61	17.58	18
15	256QAM	1	74	17.66	17.59	17.58	
15	256QAM	36	0	17.67	17.63	17.60	
15	256QAM	36	20	17.67	17.64	17.62	18
15	256QAM	36	39	17.64	17.60	17.59	
15	256QAM	75	0	16.92	16.87	16.88	
Channel				26090	26340	26640	
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	17.68	17.65	17.63	18
10	QPSK	1	25	17.66	17.64	17.63	
10	QPSK	1	49	17.66	17.59	17.61	
10	QPSK	25	0	17.69	17.64	17.61	18
10	QPSK	25	12	17.68	17.62	17.61	
10	QPSK	25	25	17.63	17.60	17.59	
10	QPSK	50	0	17.66	17.62	17.60	
10	16QAM	1	0	17.48	17.43	17.41	18
10	16QAM	1	25	17.43	17.38	17.35	
10	16QAM	1	49	17.53	17.46	17.46	
10	16QAM	25	0	17.65	17.59	17.59	18
10	16QAM	25	12	17.69	17.62	17.61	
10	16QAM	25	25	17.65	17.61	17.59	
10	16QAM	50	0	17.63	17.59	17.56	
10	64QAM	1	0	17.44	17.40	17.40	
10	64QAM	1	25	17.44	17.38	17.39	18
10	64QAM	1	49	17.49	17.42	17.44	
10	64QAM	25	0	17.57	17.50	17.51	
10	64QAM	25	12	17.60	17.52	17.54	18
10	64QAM	25	25	17.61	17.55	17.55	
10	64QAM	50	0	17.65	17.60	17.59	
10	256QAM	1	0	17.68	17.61	17.60	
10	256QAM	1	25	17.66	17.62	17.59	18
10	256QAM	1	49	17.64	17.61	17.59	
10	256QAM	25	0	17.65	17.61	17.61	
10	256QAM	25	12	17.69	17.61	17.60	18
10	256QAM	25	25	17.65	17.60	17.60	
10	256QAM	50	0	16.95	16.90	16.87	
Channel				26065	26340	26665	
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	17.70	17.62	17.64	18
5	QPSK	1	12	17.69	17.64	17.63	
5	QPSK	1	24	17.64	17.60	17.58	
5	QPSK	12	0	17.69	17.61	17.61	18
5	QPSK	12	7	17.65	17.62	17.61	
5	QPSK	12	13	17.66	17.58	17.57	
5	QPSK	25	0	17.65	17.61	17.58	
5	16QAM	1	0	17.49	17.42	17.42	18
5	16QAM	1	12	17.43	17.38	17.37	
5	16QAM	1	24	17.52	17.47	17.46	
5	16QAM	12	0	17.62	17.58	17.56	



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5	16QAM	12	7	17.66	17.61	17.63		
5	16QAM	12	13	17.65	17.60	17.60		
5	16QAM	25	0	17.65	17.60	17.57		
5	64QAM	1	0	17.45	17.39	17.39	18	
5	64QAM	1	12	17.44	17.41	17.38		
5	64QAM	1	24	17.49	17.44	17.44		
5	64QAM	12	0	17.57	17.49	17.48	18	
5	64QAM	12	7	17.59	17.54	17.51		
5	64QAM	12	13	17.61	17.58	17.57		
5	64QAM	25	0	17.67	17.63	17.60	18	
5	256QAM	1	0	17.67	17.64	17.60		
5	256QAM	1	12	17.64	17.60	17.58		
5	256QAM	1	24	17.66	17.59	17.59	18	
5	256QAM	12	0	17.65	17.63	17.59		
5	256QAM	12	7	17.68	17.61	17.60		
5	256QAM	12	13	17.65	17.62	17.60	18	
5	256QAM	25	0	16.94	16.89	16.88		
Channel				26055	26340	26675		Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	17.67	17.64	17.62	18	
3	QPSK	1	8	17.67	17.61	17.62		
3	QPSK	1	14	17.65	17.59	17.61		
3	QPSK	8	0	17.66	17.64	17.60	18	
3	QPSK	8	4	17.68	17.60	17.62		
3	QPSK	8	7	17.64	17.60	17.59		
3	QPSK	15	0	17.64	17.59	17.60	18	
3	16QAM	1	0	17.48	17.45	17.41		
3	16QAM	1	8	17.44	17.36	17.35		
3	16QAM	1	14	17.50	17.45	17.45	18	
3	16QAM	8	0	17.62	17.58	17.56		
3	16QAM	8	4	17.68	17.61	17.61		
3	16QAM	8	7	17.66	17.60	17.62	18	
3	16QAM	15	0	17.63	17.58	17.56		
3	64QAM	1	0	17.44	17.42	17.38		
3	64QAM	1	8	17.43	17.41	17.38	18	
3	64QAM	1	14	17.49	17.45	17.42		
3	64QAM	8	0	17.56	17.50	17.49		
3	64QAM	8	4	17.58	17.52	17.54	18	
3	64QAM	8	7	17.60	17.56	17.57		
3	64QAM	15	0	17.66	17.63	17.61		
3	256QAM	1	0	17.69	17.62	17.63	18	
3	256QAM	1	8	17.67	17.61	17.59		
3	256QAM	1	14	17.64	17.58	17.58		
3	256QAM	8	0	17.65	17.60	17.62	18	
3	256QAM	8	4	17.67	17.63	17.63		
3	256QAM	8	7	17.67	17.62	17.58		
3	256QAM	15	0	16.92	16.87	16.88	18	
Channel				26047	26340	26683		Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	17.69	17.62	17.63	18	
1.4	QPSK	1	3	17.67	17.62	17.61		
1.4	QPSK	1	5	17.64	17.61	17.59		
1.4	QPSK	3	0	17.68	17.61	17.63	18	
1.4	QPSK	3	1	17.65	17.63	17.62		
1.4	QPSK	3	3	17.66	17.59	17.59		
1.4	QPSK	6	0	17.66	17.60	17.60	18	
1.4	16QAM	1	0	17.47	17.44	17.43		
1.4	16QAM	1	3	17.42	17.37	17.37		
1.4	16QAM	1	5	17.52	17.47	17.47	18	
1.4	16QAM	3	0	17.63	17.58	17.56		
1.4	16QAM	3	1	17.66	17.63	17.60		
1.4	16QAM	3	3	17.67	17.61	17.62	18	
1.4	16QAM	6	0	17.64	17.60	17.59		



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1.4	64QAM	1	0	17.44	17.40	17.39	18
1.4	64QAM	1	3	17.45	17.38	17.38	
1.4	64QAM	1	5	17.49	17.42	17.43	
1.4	64QAM	3	0	17.55	17.49	17.51	
1.4	64QAM	3	1	17.57	17.55	17.53	
1.4	64QAM	3	3	17.62	17.56	17.55	
1.4	64QAM	6	0	17.65	17.61	17.62	18
1.4	256QAM	1	0	17.69	17.63	17.61	18
1.4	256QAM	1	3	17.65	17.59	17.58	
1.4	256QAM	1	5	17.66	17.58	17.60	
1.4	256QAM	3	0	17.67	17.63	17.60	
1.4	256QAM	3	1	17.66	17.62	17.61	
1.4	256QAM	3	3	17.65	17.61	17.61	
1.4	256QAM	6	0	16.94	16.87	16.88	18

**<LTE Band 26\_Main Ant\_Default Power>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	23.47	23.56	23.69	25
15	QPSK	1	37	23.67	23.59	23.60	
15	QPSK	1	74	23.54	23.62	23.58	
15	QPSK	36	0	22.64	22.67	22.83	24
15	QPSK	36	20	22.78	22.59	22.77	
15	QPSK	36	39	22.73	22.72	22.73	
15	QPSK	75	0	22.74	22.64	22.83	24
15	16QAM	1	0	22.82	22.97	22.95	
15	16QAM	1	37	22.99	22.96	23.01	
15	16QAM	1	74	22.82	23.00	22.89	23
15	16QAM	36	0	21.67	21.67	21.78	
15	16QAM	36	20	21.79	21.64	21.83	
15	16QAM	36	39	21.76	21.76	21.75	23
15	16QAM	75	0	21.74	21.67	21.82	
15	64QAM	1	0	21.70	21.87	21.82	
15	64QAM	1	37	21.92	21.83	21.87	22
15	64QAM	1	74	21.75	21.82	21.79	
15	64QAM	36	0	20.66	20.69	20.79	
15	64QAM	36	20	20.78	20.64	20.85	20
15	64QAM	36	39	20.74	20.71	20.77	
15	64QAM	75	0	20.74	20.66	20.82	
15	256QAM	1	0	18.41	18.46	18.43	20
15	256QAM	1	37	18.59	18.47	18.67	
15	256QAM	1	74	18.62	18.64	18.58	
15	256QAM	36	0	18.42	18.44	18.47	20
15	256QAM	36	20	18.54	18.37	18.61	
15	256QAM	36	39	18.44	18.46	18.45	
15	256QAM	75	0	18.44	18.38	18.55	24
Channel				26740	26865	26990	
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	23.50	23.61	23.65	25
10	QPSK	1	25	23.66	23.67	23.63	
10	QPSK	1	49	23.68	23.66	23.52	
10	QPSK	25	0	22.54	22.62	22.64	24
10	QPSK	25	12	22.72	22.64	22.61	
10	QPSK	25	25	22.75	22.71	22.63	
10	QPSK	50	0	22.68	22.63	22.60	24
10	16QAM	1	0	22.91	22.96	23.07	
10	16QAM	1	25	23.02	23.05	22.99	
10	16QAM	1	49	23.10	23.04	22.95	



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10	16QAM	25	0	21.57	21.65	21.67	23
10	16QAM	25	12	21.72	21.66	21.64	
10	16QAM	25	25	21.78	21.71	21.63	
10	16QAM	50	0	21.69	21.62	21.61	
10	64QAM	1	0	21.78	21.82	21.86	23
10	64QAM	1	25	21.88	21.91	21.87	
10	64QAM	1	49	21.94	21.91	21.77	
10	64QAM	25	0	20.56	20.66	20.65	22
10	64QAM	25	12	20.73	20.65	20.63	
10	64QAM	25	25	20.73	20.70	20.63	
10	64QAM	50	0	20.69	20.62	20.61	
10	256QAM	1	0	18.36	18.38	18.37	20
10	256QAM	1	25	18.52	18.38	18.62	
10	256QAM	1	49	18.54	18.59	18.49	
10	256QAM	25	0	18.37	18.39	18.38	20
10	256QAM	25	12	18.47	18.32	18.56	
10	256QAM	25	25	18.39	18.40	18.37	
10	256QAM	50	0	18.35	18.32	18.45	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	21.57	23.61	23.66	25
5	QPSK	1	12	23.57	23.66	23.65	
5	QPSK	1	24	20.70	23.61	23.61	
5	QPSK	12	0	22.57	22.68	22.61	24
5	QPSK	12	7	22.68	22.70	22.68	
5	QPSK	12	13	22.72	22.74	22.65	
5	QPSK	25	0	21.71	22.68	22.66	
5	16QAM	1	0	22.96	23.09	22.95	24
5	16QAM	1	12	23.04	23.11	23.00	
5	16QAM	1	24	23.03	23.08	23.04	
5	16QAM	12	0	21.60	21.75	21.64	23
5	16QAM	12	7	21.71	21.70	21.73	
5	16QAM	12	13	21.76	21.80	21.70	
5	16QAM	25	0	21.71	21.70	21.66	
5	64QAM	1	0	21.73	21.90	21.86	23
5	64QAM	1	12	21.90	21.97	21.86	
5	64QAM	1	24	21.86	21.92	21.82	
5	64QAM	12	0	20.57	20.70	20.63	22
5	64QAM	12	7	20.73	20.69	20.72	
5	64QAM	12	13	20.71	20.76	20.65	
5	64QAM	25	0	20.65	20.68	20.66	
5	256QAM	1	0	18.33	18.39	18.36	20
5	256QAM	1	12	18.54	18.40	18.61	
5	256QAM	1	24	18.55	18.57	18.53	
5	256QAM	12	0	18.34	18.36	18.38	20
5	256QAM	12	7	18.46	18.33	18.55	
5	256QAM	12	13	18.36	18.41	18.39	
5	256QAM	25	0	18.35	18.32	18.47	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	20.53	23.65	23.55	25
3	QPSK	1	8	20.63	23.62	23.64	
3	QPSK	1	14	20.56	23.64	23.58	
3	QPSK	8	0	22.59	22.65	22.56	24
3	QPSK	8	4	22.66	22.74	22.67	
3	QPSK	8	7	22.63	22.74	22.64	
3	QPSK	15	0	21.66	22.65	22.63	
3	16QAM	1	0	22.90	23.06	22.86	24
3	16QAM	1	8	23.01	23.15	23.05	
3	16QAM	1	14	22.92	23.00	22.93	
3	16QAM	8	0	21.69	21.74	21.62	23
3	16QAM	8	4	21.67	21.83	21.72	
3	16QAM	8	7	21.70	21.81	21.72	





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3	16QAM	15	0	21.64	21.67	21.61	23
3	64QAM	1	0	21.69	21.87	21.80	
3	64QAM	1	8	21.84	21.98	21.88	
3	64QAM	1	14	21.76	21.87	21.82	
3	64QAM	8	0	20.65	20.69	20.61	22
3	64QAM	8	4	20.69	20.81	20.67	
3	64QAM	8	7	20.63	20.73	20.67	
3	64QAM	15	0	20.65	20.66	20.61	
3	256QAM	1	0	18.36	18.40	18.36	20
3	256QAM	1	8	18.52	18.38	18.57	
3	256QAM	1	14	18.52	18.58	18.51	
3	256QAM	8	0	18.32	18.34	18.41	20
3	256QAM	8	4	18.44	18.31	18.53	
3	256QAM	8	7	18.39	18.41	18.36	
3	256QAM	15	0	18.39	18.33	18.45	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	20.54	23.56	23.54	25
1.4	QPSK	1	3	20.58	23.67	23.59	
1.4	QPSK	1	5	20.52	23.65	23.55	
1.4	QPSK	3	0	23.57	23.59	23.60	
1.4	QPSK	3	1	23.56	23.62	23.61	
1.4	QPSK	3	3	23.56	23.68	23.61	24
1.4	QPSK	6	0	22.57	22.60	22.61	
1.4	16QAM	1	0	22.90	22.91	22.89	24
1.4	16QAM	1	3	22.92	23.02	22.95	
1.4	16QAM	1	5	22.91	22.98	22.90	
1.4	16QAM	3	0	22.71	22.78	22.76	
1.4	16QAM	3	1	22.71	22.75	22.71	
1.4	16QAM	3	3	22.70	22.81	22.74	23
1.4	16QAM	6	0	21.63	21.67	21.66	
1.4	64QAM	1	0	21.68	21.74	21.72	23
1.4	64QAM	1	3	21.74	21.94	21.84	
1.4	64QAM	1	5	21.75	21.84	21.73	
1.4	64QAM	3	0	21.70	21.78	21.76	
1.4	64QAM	3	1	21.69	21.72	21.75	
1.4	64QAM	3	3	21.70	21.85	21.70	22
1.4	64QAM	6	0	20.60	20.64	20.64	
1.4	256QAM	1	0	18.35	18.37	18.34	20
1.4	256QAM	1	3	18.53	18.41	18.59	
1.4	256QAM	1	5	18.54	18.59	18.51	
1.4	256QAM	3	0	18.34	18.38	18.38	
1.4	256QAM	3	1	18.49	18.32	18.54	
1.4	256QAM	3	3	18.36	18.39	18.39	20
1.4	256QAM	6	0	18.38	18.31	18.49	

**<LTE Band 26\_Main Ant\_Reduced Power>**

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	Tune-up limit (dBm)
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	20.75	20.87	20.91	21
15	QPSK	1	37	20.72	20.80	20.90	
15	QPSK	1	74	20.70	20.76	20.64	
15	QPSK	36	0	19.86	19.91	19.98	20
15	QPSK	36	20	19.94	19.85	19.90	
15	QPSK	36	39	19.97	19.95	19.87	
15	QPSK	75	0	19.93	19.92	19.99	
15	16QAM	1	0	19.77	19.96	19.93	20
15	16QAM	1	37	19.99	19.98	19.88	



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15	16QAM	1	74	19.86	19.98	19.78	19
15	16QAM	36	0	18.78	18.93	18.94	
15	16QAM	36	20	19.00	18.83	18.94	
15	16QAM	36	39	18.93	18.85	18.87	
15	16QAM	75	0	18.96	18.88	18.90	19
15	64QAM	1	0	18.68	18.89	18.89	
15	64QAM	1	37	18.85	18.90	18.96	
15	64QAM	1	74	18.75	18.82	18.58	
15	64QAM	36	0	17.90	17.98	17.97	18
15	64QAM	36	20	17.95	17.85	17.97	
15	64QAM	36	39	17.97	17.94	17.91	
15	64QAM	75	0	17.98	17.90	17.98	
15	256QAM	1	0	15.63	15.92	15.74	16
15	256QAM	1	37	15.73	15.66	15.90	
15	256QAM	1	74	15.77	15.91	15.64	
15	256QAM	36	0	15.82	15.96	15.95	16
15	256QAM	36	20	16.00	15.81	16.00	
15	256QAM	36	39	15.91	15.88	15.89	
15	256QAM	75	0	15.93	15.87	15.98	
Channel				26740	26865	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	20.70	20.82	20.83	21
10	QPSK	1	25	20.65	20.78	20.85	
10	QPSK	1	49	20.63	20.75	20.61	
10	QPSK	25	0	19.79	19.81	19.93	20
10	QPSK	25	12	19.90	19.79	19.81	
10	QPSK	25	25	19.90	19.92	19.86	
10	QPSK	50	0	19.85	19.87	19.89	
10	16QAM	1	0	19.73	19.88	19.84	20
10	16QAM	1	25	19.89	19.91	19.87	
10	16QAM	1	49	19.81	19.94	19.77	
10	16QAM	25	0	18.68	18.87	18.91	
10	16QAM	25	12	18.97	18.81	18.90	19
10	16QAM	25	25	18.92	18.79	18.83	
10	16QAM	50	0	18.87	18.82	18.82	
10	64QAM	1	0	18.63	18.85	18.85	
10	64QAM	1	25	18.79	18.82	18.90	19
10	64QAM	1	49	18.73	18.79	18.57	
10	64QAM	25	0	17.86	17.96	17.91	
10	64QAM	25	12	17.89	17.84	17.96	18
10	64QAM	25	25	17.90	17.85	17.81	
10	64QAM	50	0	17.88	17.81	17.88	
10	256QAM	1	0	15.61	15.82	15.65	
10	256QAM	1	25	15.65	15.61	15.82	16
10	256QAM	1	49	15.71	15.90	15.62	
10	256QAM	25	0	15.75	15.93	15.94	
10	256QAM	25	12	15.99	15.74	15.94	
10	256QAM	25	25	15.84	15.83	15.87	16
10	256QAM	50	0	15.89	15.77	15.93	
Channel				26715	26865	27015	
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	18.63	20.79	20.73	21
5	QPSK	1	12	20.73	20.85	20.73	
5	QPSK	1	24	17.72	20.78	20.69	
5	QPSK	12	0	19.66	19.78	19.72	20
5	QPSK	12	7	19.79	19.79	19.76	
5	QPSK	12	13	19.80	19.87	19.75	
5	QPSK	25	0	18.74	19.78	19.79	
5	16QAM	1	0	19.77	19.96	19.87	20
5	16QAM	1	12	19.92	19.95	19.92	
5	16QAM	1	24	19.91	19.91	19.90	
5	16QAM	12	0	18.69	18.82	18.76	
5	16QAM	12	7	18.84	18.86	18.79	19



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5	16QAM	12	13	18.82	18.90	18.79	
5	16QAM	25	0	18.79	18.79	18.79	
5	64QAM	1	0	18.84	18.96	18.98	
5	64QAM	1	12	18.98	19.00	18.93	19
5	64QAM	1	24	18.99	18.92	18.90	
5	64QAM	12	0	17.68	17.80	17.74	
5	64QAM	12	7	17.81	17.80	17.79	18
5	64QAM	12	13	17.78	17.86	17.80	
5	64QAM	25	0	17.76	17.79	17.79	
5	256QAM	1	0	15.60	15.90	15.73	16
5	256QAM	1	12	15.67	15.60	15.86	
5	256QAM	1	24	15.75	15.87	15.58	
5	256QAM	12	0	15.77	15.88	15.90	16
5	256QAM	12	7	15.97	15.75	15.90	
5	256QAM	12	13	15.86	15.85	15.86	
5	256QAM	25	0	15.87	15.82	15.90	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	17.55	20.72	20.63	21
3	QPSK	1	8	17.69	20.83	20.74	
3	QPSK	1	14	17.63	20.75	20.66	
3	QPSK	8	0	19.72	19.78	19.67	20
3	QPSK	8	4	19.78	19.86	19.77	
3	QPSK	8	7	19.75	19.83	19.73	
3	QPSK	15	0	18.73	19.76	19.74	20
3	16QAM	1	0	19.94	19.95	20.00	
3	16QAM	1	8	20.00	19.92	19.97	
3	16QAM	1	14	19.96	19.98	19.98	19
3	16QAM	8	0	18.77	18.87	18.71	
3	16QAM	8	4	18.81	18.95	18.83	
3	16QAM	8	7	18.79	18.89	18.78	19
3	16QAM	15	0	18.75	18.79	18.78	
3	64QAM	1	0	18.86	18.92	18.90	
3	64QAM	1	8	18.98	19.00	18.87	19
3	64QAM	1	14	18.93	18.95	18.81	
3	64QAM	8	0	17.76	17.78	17.68	
3	64QAM	8	4	17.79	17.93	17.83	18
3	64QAM	8	7	17.78	17.88	17.75	
3	64QAM	15	0	17.74	17.78	17.81	
3	256QAM	1	0	15.59	15.90	15.72	16
3	256QAM	1	8	15.68	15.61	15.89	
3	256QAM	1	14	15.64	15.89	15.59	
3	256QAM	8	0	15.60	15.94	15.92	16
3	256QAM	8	4	15.62	15.80	15.98	
3	256QAM	8	7	15.57	15.86	15.79	
3	256QAM	15	0	15.60	15.77	15.89	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	17.63	20.70	20.64	21
1.4	QPSK	1	3	17.66	20.78	20.71	
1.4	QPSK	1	5	17.63	20.76	20.69	
1.4	QPSK	3	0	20.68	20.72	20.67	20
1.4	QPSK	3	1	20.66	20.73	20.70	
1.4	QPSK	3	3	20.67	20.80	20.71	
1.4	QPSK	6	0	19.66	19.73	19.72	20
1.4	16QAM	1	0	19.94	20.00	19.98	
1.4	16QAM	1	3	19.92	19.97	19.93	
1.4	16QAM	1	5	19.88	19.95	19.97	20
1.4	16QAM	3	0	19.79	19.86	19.80	
1.4	16QAM	3	1	19.80	19.86	19.83	
1.4	16QAM	3	3	19.78	19.93	19.84	19
1.4	16QAM	6	0	18.72	18.81	18.79	
1.4	64QAM	1	0	18.86	18.92	18.82	



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1.4	64QAM	1	3	18.79	18.96	18.91	
1.4	64QAM	1	5	18.78	18.98	18.86	
1.4	64QAM	3	0	18.78	18.82	18.78	
1.4	64QAM	3	1	18.76	18.80	18.80	
1.4	64QAM	3	3	18.78	18.87	18.81	18
1.4	64QAM	6	0	17.74	17.77	17.76	16
1.4	256QAM	1	0	15.61	15.74	15.85	
1.4	256QAM	1	3	15.79	15.86	15.86	
1.4	256QAM	1	5	15.59	15.90	15.75	
1.4	256QAM	3	0	15.65	15.79	15.74	
1.4	256QAM	3	1	15.77	15.78	15.81	
1.4	256QAM	3	3	15.66	15.76	15.73	16
1.4	256QAM	6	0	15.82	15.91	15.94	

**<LTE Band 30\_Main Ant\_Default Power>**

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		21.39		23
10	QPSK	1	25		21.34		
10	QPSK	1	49		21.31		
10	QPSK	25	0		20.46		22
10	QPSK	25	12		20.38		
10	QPSK	25	25		20.35		
10	QPSK	50	0		20.41		22
10	16QAM	1	0		20.79		
10	16QAM	1	25		20.78		
10	16QAM	1	49		20.71		21
10	16QAM	25	0		19.33		
10	16QAM	25	12		19.45		
10	16QAM	25	25		19.39		21
10	16QAM	50	0		19.41		
10	64QAM	1	0		19.57		
10	64QAM	1	25		19.64		
10	64QAM	1	49		19.55		
10	64QAM	25	0		18.35		20
10	64QAM	25	12		18.44		
10	64QAM	25	25		18.40		
10	64QAM	50	0		18.42		18
10	256QAM	1	0		16.46		
10	256QAM	1	25		16.45		
10	256QAM	1	49		16.34		18
10	256QAM	25	0		16.33		
10	256QAM	25	12		16.45		
10	256QAM	25	25		16.40		18
10	256QAM	50	0		16.41		
Channel				27685	27710	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	21.36	21.35	21.37	23
5	QPSK	1	12	21.32	21.30	21.32	
5	QPSK	1	24	21.26	21.26	21.27	
5	QPSK	12	0	20.43	20.44	20.44	22
5	QPSK	12	7	20.35	20.35	20.36	
5	QPSK	12	13	20.30	20.32	20.32	
5	QPSK	25	0	20.39	20.37	20.39	22
5	16QAM	1	0	20.77	20.74	20.76	
5	16QAM	1	12	20.75	20.75	20.74	
5	16QAM	1	24	20.67	20.68	20.66	22
5	16QAM	12	0	19.28	19.28	19.31	



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5	16QAM	12	7	19.42	19.43	19.40	
5	16QAM	12	13	19.34	19.34	19.37	
5	16QAM	25	0	19.38	19.39	19.37	
5	64QAM	1	0	19.52	19.55	19.54	21
5	64QAM	1	12	19.60	19.60	19.61	
5	64QAM	1	24	19.52	19.51	19.53	
5	64QAM	12	0	18.30	18.30	18.33	20
5	64QAM	12	7	18.41	18.41	18.40	
5	64QAM	12	13	18.35	18.36	18.37	
5	64QAM	25	0	18.37	18.37	18.40	
5	256QAM	1	0	16.43	16.41	16.43	18
5	256QAM	1	12	16.42	16.41	16.42	
5	256QAM	1	24	16.32	16.30	16.32	
5	256QAM	12	0	16.30	16.31	16.28	18
5	256QAM	12	7	16.43	16.41	16.42	
5	256QAM	12	13	16.35	16.35	16.38	
5	256QAM	25	0	16.37	16.38	16.39	

**<LTE Band 30\_MIMO2 Ant\_Default Power>**

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		21.93		23
10	QPSK	1	25		21.92		
10	QPSK	1	49		21.89		
10	QPSK	25	0		20.88		22
10	QPSK	25	12		20.86		
10	QPSK	25	25		20.82		
10	QPSK	50	0		20.81		
10	16QAM	1	0		20.84		22
10	16QAM	1	25		20.83		
10	16QAM	1	49		20.80		
10	16QAM	25	0		19.84		21
10	16QAM	25	12		19.85		
10	16QAM	25	25		19.81		
10	16QAM	50	0		19.83		
10	64QAM	1	0		19.65		21
10	64QAM	1	25		19.66		
10	64QAM	1	49		19.62		
10	64QAM	25	0		18.83		20
10	64QAM	25	12		18.86		
10	64QAM	25	25		18.81		
10	64QAM	50	0		18.82		
10	256QAM	1	0		16.93		18
10	256QAM	1	25		17.02		
10	256QAM	1	49		16.94		
10	256QAM	25	0		16.80		18
10	256QAM	25	12		16.79		
10	256QAM	25	25		16.76		
10	256QAM	50	0		16.81		
Channel				27685	27710	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	21.85	21.90	21.87	23
5	QPSK	1	12	21.85	21.87	21.85	
5	QPSK	1	24	21.82	21.85	21.82	
5	QPSK	12	0	20.82	20.83	20.81	22
5	QPSK	12	7	20.79	20.83	20.81	
5	QPSK	12	13	20.75	20.78	20.76	
5	QPSK	25	0	20.74	20.77	20.74	



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5	16QAM	1	0	20.76	20.81	20.77	22
5	16QAM	1	12	20.77	20.78	20.77	
5	16QAM	1	24	20.73	20.75	20.74	
5	16QAM	12	0	19.78	19.80	19.78	21
5	16QAM	12	7	19.78	19.80	19.80	
5	16QAM	12	13	19.74	19.76	19.75	
5	16QAM	25	0	19.77	19.79	19.78	
5	64QAM	1	0	19.57	19.60	19.58	21
5	64QAM	1	12	19.58	19.63	19.61	
5	64QAM	1	24	19.56	19.57	19.55	
5	64QAM	12	0	18.76	18.80	18.77	20
5	64QAM	12	7	18.78	18.83	18.80	
5	64QAM	12	13	18.73	18.76	18.74	
5	64QAM	25	0	18.74	18.77	18.75	
5	256QAM	1	0	16.85	16.88	16.87	18
5	256QAM	1	12	16.95	16.98	16.96	
5	256QAM	1	24	16.87	16.89	16.87	
5	256QAM	12	0	16.72	16.75	16.73	18
5	256QAM	12	7	16.71	16.75	16.72	
5	256QAM	12	13	16.70	16.73	16.70	
5	256QAM	25	0	16.73	16.77	16.76	

**<LTE Band 30\_Main Ant\_Reduced Power>**

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		15.78		16
10	QPSK	1	25		15.73		
10	QPSK	1	49		15.66		
10	QPSK	25	0		14.80		15
10	QPSK	25	12		14.76		
10	QPSK	25	25		14.75		
10	QPSK	50	0		14.66		
10	16QAM	1	0		14.98		15
10	16QAM	1	25		14.93		
10	16QAM	1	49		14.90		
10	16QAM	25	0		13.71		14
10	16QAM	25	12		13.75		
10	16QAM	25	25		13.75		
10	16QAM	50	0		13.76		
10	64QAM	1	0		13.98		14
10	64QAM	1	25		13.94		
10	64QAM	1	49		13.92		
10	64QAM	25	0		12.77		13
10	64QAM	25	12		12.76		
10	64QAM	25	25		12.77		
10	64QAM	50	0		12.73		
10	256QAM	1	0		10.74		11
10	256QAM	1	25		10.88		
10	256QAM	1	49		10.80		
10	256QAM	25	0		10.71		11
10	256QAM	25	12		10.74		
10	256QAM	25	25		10.78		
10	256QAM	50	0		10.75		
Channel				27685	27710	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	15.74	15.72	15.76	16
5	QPSK	1	12	15.66	15.65	15.66	
5	QPSK	1	24	15.57	15.56	15.60	



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5	QPSK	12	0	14.73	14.70	14.76	15
5	QPSK	12	7	14.69	14.69	14.67	
5	QPSK	12	13	14.74	14.74	14.70	
5	QPSK	25	0	14.58	14.58	14.58	
5	16QAM	1	0	14.89	14.92	14.95	15
5	16QAM	1	12	14.87	14.83	14.85	
5	16QAM	1	24	14.81	14.84	14.84	
5	16QAM	12	0	13.67	13.66	13.66	14
5	16QAM	12	7	13.68	13.66	13.72	
5	16QAM	12	13	13.71	13.74	13.71	
5	16QAM	25	0	13.75	13.71	13.75	
5	64QAM	1	0	13.90	13.90	13.97	14
5	64QAM	1	12	13.88	13.84	13.85	
5	64QAM	1	24	13.85	13.82	13.85	
5	64QAM	12	0	12.69	12.69	12.67	
5	64QAM	12	7	12.67	12.75	12.71	13
5	64QAM	12	13	12.73	12.75	12.75	
5	64QAM	25	0	12.67	12.66	12.63	
5	256QAM	1	0	10.71	10.66	10.66	
5	256QAM	1	12	10.86	10.82	10.84	11
5	256QAM	1	24	10.75	10.72	10.72	
5	256QAM	12	0	10.61	10.65	10.64	
5	256QAM	12	7	10.71	10.68	10.64	11
5	256QAM	12	13	10.76	10.73	10.70	
5	256QAM	25	0	10.67	10.66	10.69	

**<LTE Band 30\_MIMO2 Ant\_Reduced Power>**

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		18.32		18.5
10	QPSK	1	25		18.30		
10	QPSK	1	49		18.27		
10	QPSK	25	0		18.31		18.5
10	QPSK	25	12		18.29		
10	QPSK	25	25		18.28		
10	QPSK	50	0		18.30		18.5
10	16QAM	1	0		18.28		
10	16QAM	1	25		18.31		
10	16QAM	1	49		18.29		18.5
10	16QAM	25	0		18.27		
10	16QAM	25	12		18.26		
10	16QAM	25	25		18.28		18.5
10	16QAM	50	0		18.25		
10	64QAM	1	0		18.12		
10	64QAM	1	25		18.23		18.5
10	64QAM	1	49		18.12		
10	64QAM	25	0		18.31		
10	64QAM	25	12		18.30		18.5
10	64QAM	25	25		18.28		
10	64QAM	50	0		18.27		
10	256QAM	1	0		16.82		17
10	256QAM	1	25		16.97		
10	256QAM	1	49		16.77		
10	256QAM	25	0		16.75		17
10	256QAM	25	12		16.79		
10	256QAM	25	25		16.78		
10	256QAM	50	0		16.82		
Channel				27685	27710	27735	Tune-up limit



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Frequency (MHz)				2307.5	2310	2312.5	(dBm)
5	QPSK	1	0	18.22	18.24	18.22	18.5
5	QPSK	1	12	18.21	18.20	18.21	
5	QPSK	1	24	18.18	18.19	18.17	
5	QPSK	12	0	18.21	18.22	18.21	18.5
5	QPSK	12	7	18.21	18.20	18.20	
5	QPSK	12	13	18.19	18.18	18.19	
5	QPSK	25	0	18.20	18.20	18.22	18.5
5	16QAM	1	0	18.18	18.19	18.19	
5	16QAM	1	12	18.22	18.21	18.21	
5	16QAM	1	24	18.20	18.19	18.21	18.5
5	16QAM	12	0	18.19	18.17	18.18	
5	16QAM	12	7	18.16	18.16	18.16	
5	16QAM	12	13	18.18	18.18	18.19	18.5
5	16QAM	25	0	18.16	18.17	18.17	
5	64QAM	1	0	18.04	18.03	18.03	
5	64QAM	1	12	18.13	18.14	18.15	18.5
5	64QAM	1	24	18.02	18.04	18.04	
5	64QAM	12	0	18.21	18.23	18.21	
5	64QAM	12	7	18.22	18.22	18.21	18.5
5	64QAM	12	13	18.20	18.18	18.19	
5	64QAM	25	0	18.17	18.18	18.18	
5	256QAM	1	0	16.73	16.73	16.74	17
5	256QAM	1	12	16.88	16.88	16.89	
5	256QAM	1	24	16.68	16.68	16.69	
5	256QAM	12	0	16.65	16.65	16.66	17
5	256QAM	12	7	16.71	16.69	16.71	
5	256QAM	12	13	16.70	16.68	16.69	
5	256QAM	25	0	16.74	16.74	16.72	

**<LTE Band 66\_Main Ant\_Default Power>**

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	25
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	23.34	23.42	23.33	25
20	QPSK	1	49	23.27	23.29	23.27	
20	QPSK	1	99	23.19	23.27	23.21	
20	QPSK	50	0	22.39	22.42	22.38	24
20	QPSK	50	24	22.35	22.39	22.35	
20	QPSK	50	50	22.36	22.40	22.34	
20	QPSK	100	0	22.36	22.41	22.40	24
20	16QAM	1	0	22.62	22.75	22.67	
20	16QAM	1	49	22.58	22.70	22.65	
20	16QAM	1	99	22.63	22.66	22.37	23
20	16QAM	50	0	21.33	21.41	21.39	
20	16QAM	50	24	21.40	21.39	21.34	
20	16QAM	50	50	21.38	21.44	21.37	23
20	16QAM	100	0	21.40	21.39	21.41	
20	64QAM	1	0	21.59	21.62	21.58	
20	64QAM	1	49	21.49	21.63	21.58	23
20	64QAM	1	99	21.54	21.60	21.39	
20	64QAM	50	0	20.30	20.42	20.38	
20	64QAM	50	24	20.40	20.41	20.35	22
20	64QAM	50	50	20.37	20.45	20.38	
20	64QAM	100	0	20.38	20.39	20.42	
20	256QAM	1	0	18.13	18.14	18.27	20
20	256QAM	1	49	18.15	18.20	18.22	
20	256QAM	1	99	18.12	18.29	18.33	
20	256QAM	50	0	18.00	18.12	18.08	20





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20	256QAM	50	24	18.14	18.08	18.10	
20	256QAM	50	50	18.18	18.20	18.15	
20	256QAM	100	0	18.16	18.14	18.18	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	23.26	23.32	23.27	25
15	QPSK	1	37	23.18	23.24	23.17	
15	QPSK	1	74	23.13	23.17	23.11	
15	QPSK	36	0	22.20	22.37	22.27	24
15	QPSK	36	20	22.31	22.31	22.26	
15	QPSK	36	39	22.29	22.35	22.30	
15	QPSK	75	0	22.31	22.31	22.31	24
15	16QAM	1	0	22.56	22.69	22.58	
15	16QAM	1	37	22.52	22.65	22.56	
15	16QAM	1	74	22.58	22.58	22.28	23
15	16QAM	36	0	21.25	21.32	21.31	
15	16QAM	36	20	21.31	21.30	21.29	
15	16QAM	36	39	21.32	21.37	21.31	23
15	16QAM	75	0	21.33	21.29	21.35	
15	64QAM	1	0	21.50	21.53	21.50	
15	64QAM	1	37	21.39	21.57	21.52	23
15	64QAM	1	74	21.48	21.50	21.29	
15	64QAM	36	0	20.23	20.36	20.29	
15	64QAM	36	20	20.34	20.33	20.29	22
15	64QAM	36	39	20.29	20.38	20.31	
15	64QAM	75	0	20.32	20.32	20.34	
15	256QAM	1	0	18.03	18.05	18.20	20
15	256QAM	1	37	18.09	18.13	18.13	
15	256QAM	1	74	18.04	18.21	18.23	
15	256QAM	36	0	18.02	18.02	18.03	20
15	256QAM	36	20	18.09	18.03	18.00	
15	256QAM	36	39	18.13	18.15	18.07	
15	256QAM	75	0	18.07	18.06	18.13	20
Channel				132022	132322	132622	
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	23.28	23.32	23.28	25
10	QPSK	1	25	23.17	23.19	23.17	
10	QPSK	1	49	23.13	23.18	23.14	
10	QPSK	25	0	22.25	22.37	22.28	24
10	QPSK	25	12	22.29	22.34	22.27	
10	QPSK	25	25	22.31	22.32	22.28	
10	QPSK	50	0	22.31	22.36	22.30	24
10	16QAM	1	0	22.52	22.66	22.60	
10	16QAM	1	25	22.48	22.65	22.55	
10	16QAM	1	49	22.55	22.57	22.30	23
10	16QAM	25	0	21.26	21.34	21.33	
10	16QAM	25	12	21.33	21.29	21.28	
10	16QAM	25	25	21.32	21.35	21.28	23
10	16QAM	50	0	21.33	21.32	21.31	
10	64QAM	1	0	21.51	21.53	21.49	
10	64QAM	1	25	21.42	21.54	21.53	23
10	64QAM	1	49	21.44	21.54	21.29	
10	64QAM	25	0	20.25	20.34	20.28	
10	64QAM	25	12	20.34	20.33	20.28	22
10	64QAM	25	25	20.28	20.38	20.33	
10	64QAM	50	0	20.28	20.31	20.37	
10	256QAM	1	0	18.08	18.05	18.17	20
10	256QAM	1	25	18.05	18.13	18.17	
10	256QAM	1	49	18.04	18.20	18.23	
10	256QAM	25	0	18.01	18.04	18.00	20
10	256QAM	25	12	18.04	18.08	18.05	
10	256QAM	25	25	18.10	18.13	18.10	
10	256QAM	50	0	18.06	18.05	18.11	



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Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	23.29	23.35	23.27	25
5	QPSK	1	12	23.20	23.23	23.19	
5	QPSK	1	24	23.10	23.21	23.13	
5	QPSK	12	0	22.21	22.37	22.30	24
5	QPSK	12	7	22.29	22.31	22.28	
5	QPSK	12	13	22.27	22.33	22.31	
5	QPSK	25	0	22.27	22.33	22.30	24
5	16QAM	1	0	22.53	22.69	22.60	
5	16QAM	1	12	22.52	22.64	22.60	
5	16QAM	1	24	22.55	22.60	22.30	23
5	16QAM	12	0	21.25	21.34	21.30	
5	16QAM	12	7	21.35	21.29	21.29	
5	16QAM	12	13	21.31	21.39	21.30	23
5	16QAM	25	0	21.34	21.31	21.35	
5	64QAM	1	0	21.49	21.53	21.49	
5	64QAM	1	12	21.40	21.56	21.52	23
5	64QAM	1	24	21.44	21.55	21.30	
5	64QAM	12	0	20.24	20.34	20.30	
5	64QAM	12	7	20.33	20.32	20.26	22
5	64QAM	12	13	20.30	20.38	20.30	
5	64QAM	25	0	20.30	20.32	20.34	
5	256QAM	1	0	18.07	18.08	18.21	20
5	256QAM	1	12	18.08	18.15	18.14	
5	256QAM	1	24	18.02	18.23	18.25	
5	256QAM	12	0	18.01	18.03	18.00	20
5	256QAM	12	7	18.06	18.09	18.04	
5	256QAM	12	13	18.08	18.14	18.06	
5	256QAM	25	0	18.09	18.09	18.11	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	23.24	23.35	23.27	25
3	QPSK	1	8	23.17	23.19	23.20	
3	QPSK	1	14	23.09	23.20	23.14	
3	QPSK	8	0	22.22	22.32	22.27	24
3	QPSK	8	4	22.34	22.29	22.28	
3	QPSK	8	7	22.29	22.30	22.30	
3	QPSK	15	0	22.27	22.36	22.32	24
3	16QAM	1	0	22.57	22.65	22.62	
3	16QAM	1	8	22.48	22.60	22.59	
3	16QAM	1	14	22.55	22.57	22.30	23
3	16QAM	8	0	21.23	21.31	21.33	
3	16QAM	8	4	21.31	21.30	21.25	
3	16QAM	8	7	21.28	21.35	21.27	23
3	16QAM	15	0	21.32	21.31	21.36	
3	64QAM	1	0	21.50	21.55	21.51	
3	64QAM	1	8	21.43	21.53	21.50	23
3	64QAM	1	14	21.47	21.54	21.31	
3	64QAM	8	0	20.23	20.35	20.32	
3	64QAM	8	4	20.32	20.31	20.26	22
3	64QAM	8	7	20.28	20.37	20.31	
3	64QAM	15	0	20.33	20.29	20.35	
3	256QAM	1	0	18.08	18.07	18.22	20
3	256QAM	1	8	18.09	18.12	18.15	
3	256QAM	1	14	18.07	18.24	18.25	
3	256QAM	8	0	18.05	18.04	18.08	20
3	256QAM	8	4	18.04	18.00	18.03	
3	256QAM	8	7	18.11	18.10	18.07	
3	256QAM	15	0	18.09	18.05	18.10	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	23.13	23.15	23.12	25



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1.4	QPSK	1	3	23.16	23.24	23.16	
1.4	QPSK	1	5	23.15	23.22	23.14	
1.4	QPSK	3	0	23.18	23.19	23.11	
1.4	QPSK	3	1	23.16	23.25	23.11	
1.4	QPSK	3	3	23.16	23.24	23.16	24
1.4	QPSK	6	0	22.22	22.22	22.19	
1.4	16QAM	1	0	22.57	22.59	22.54	24
1.4	16QAM	1	3	22.62	22.64	22.55	
1.4	16QAM	1	5	22.52	22.56	22.48	
1.4	16QAM	3	0	22.28	22.43	22.31	
1.4	16QAM	3	1	22.32	22.44	22.31	
1.4	16QAM	3	3	22.34	22.33	22.27	
1.4	16QAM	6	0	21.20	21.33	21.28	23
1.4	64QAM	1	0	21.36	21.45	21.56	23
1.4	64QAM	1	3	21.38	21.56	21.49	
1.4	64QAM	1	5	21.32	21.35	21.37	
1.4	64QAM	3	0	21.26	21.29	21.27	
1.4	64QAM	3	1	21.25	21.36	21.24	
1.4	64QAM	3	3	21.33	21.38	21.34	
1.4	64QAM	6	0	20.25	20.32	20.18	22
1.4	256QAM	1	0	18.03	18.04	18.15	20
1.4	256QAM	1	3	18.03	18.07	18.10	
1.4	256QAM	1	5	18.02	18.18	18.14	
1.4	256QAM	3	0	18.01	18.11	18.02	
1.4	256QAM	3	1	18.00	18.05	18.01	
1.4	256QAM	3	3	18.00	18.06	18.00	
1.4	256QAM	6	0	18.04	18.03	18.03	20

**<LTE Band 66\_MIMO2 Ant\_Default Power>**

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	23.25	23.28	23.18	24
20	QPSK	1	49	23.23	23.23	23.26	
20	QPSK	1	99	23.15	23.19	23.17	
20	QPSK	50	0	22.27	22.31	22.24	23
20	QPSK	50	24	22.29	22.24	22.21	
20	QPSK	50	50	22.21	22.23	22.25	
20	QPSK	100	0	22.24	22.18	22.21	
20	16QAM	1	0	22.15	22.17	22.23	23
20	16QAM	1	49	22.06	22.08	22.14	
20	16QAM	1	99	22.03	22.06	22.09	
20	16QAM	50	0	21.24	21.22	21.21	22
20	16QAM	50	24	21.17	21.21	21.20	
20	16QAM	50	50	21.26	21.24	21.20	
20	16QAM	100	0	21.15	21.18	21.20	
20	64QAM	1	0	21.06	21.05	21.02	
20	64QAM	1	49	21.04	21.03	21.06	22
20	64QAM	1	99	21.04	21.01	21.04	
20	64QAM	50	0	20.11	20.08	20.06	
20	64QAM	50	24	20.05	20.07	20.10	21
20	64QAM	50	50	20.11	20.13	20.16	
20	64QAM	100	0	20.15	20.18	20.15	
20	256QAM	1	0	18.35	18.39	18.45	19
20	256QAM	1	49	18.47	18.41	18.47	
20	256QAM	1	99	18.45	18.43	18.43	
20	256QAM	50	0	18.14	18.14	18.18	19
20	256QAM	50	24	18.14	18.11	18.15	
20	256QAM	50	50	18.18	18.15	18.15	



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20	256QAM	100	0	18.13	18.08	18.11	Tune-up limit (dBm)
Channel				132047	132322	132597	
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	23.20	23.24	23.15	24
15	QPSK	1	37	23.19	23.20	23.21	
15	QPSK	1	74	23.11	23.15	23.13	
15	QPSK	36	0	22.23	22.27	22.19	23
15	QPSK	36	20	22.24	22.19	22.18	
15	QPSK	36	39	22.18	22.20	22.22	
15	QPSK	75	0	22.19	22.13	22.17	
15	16QAM	1	0	22.11	22.14	22.19	23
15	16QAM	1	37	22.01	22.03	22.09	
15	16QAM	1	74	22.00	22.02	22.04	
15	16QAM	36	0	21.20	21.18	21.17	22
15	16QAM	36	20	21.13	21.18	21.15	
15	16QAM	36	39	21.22	21.20	21.17	
15	16QAM	75	0	21.12	21.14	21.16	
15	64QAM	1	0	21.03	21.02	21.03	22
15	64QAM	1	37	21.01	21.00	21.02	
15	64QAM	1	74	21.02	21.05	21.01	
15	64QAM	36	0	20.06	20.03	20.03	21
15	64QAM	36	20	20.02	20.02	20.06	
15	64QAM	36	39	20.08	20.10	20.11	
15	64QAM	75	0	20.12	20.15	20.11	
15	256QAM	1	0	18.31	18.36	18.42	19
15	256QAM	1	37	18.43	18.37	18.44	
15	256QAM	1	74	18.41	18.40	18.38	
15	256QAM	36	0	18.11	18.11	18.14	19
15	256QAM	36	20	18.10	18.06	18.12	
15	256QAM	36	39	18.13	18.12	18.12	
15	256QAM	75	0	18.08	18.03	18.06	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	23.21	23.23	23.14	24
10	QPSK	1	25	23.18	23.19	23.22	
10	QPSK	1	49	23.11	23.16	23.12	
10	QPSK	25	0	22.22	22.26	22.19	23
10	QPSK	25	12	22.26	22.19	22.17	
10	QPSK	25	25	22.17	22.18	22.21	
10	QPSK	50	0	22.19	22.14	22.16	
10	16QAM	1	0	22.10	22.12	22.18	23
10	16QAM	1	25	22.03	22.03	22.09	
10	16QAM	1	49	22.00	22.03	22.04	
10	16QAM	25	0	21.20	21.18	21.16	22
10	16QAM	25	12	21.13	21.18	21.17	
10	16QAM	25	25	21.23	21.19	21.16	
10	16QAM	50	0	21.11	21.14	21.17	
10	64QAM	1	0	21.03	21.02	21.02	22
10	64QAM	1	25	21.00	21.00	21.03	
10	64QAM	1	49	21.00	21.04	21.00	
10	64QAM	25	0	20.07	20.04	20.03	21
10	64QAM	25	12	20.01	20.03	20.06	
10	64QAM	25	25	20.06	20.10	20.13	
10	64QAM	50	0	20.11	20.14	20.11	
10	256QAM	1	0	18.32	18.36	18.41	19
10	256QAM	1	25	18.42	18.36	18.42	
10	256QAM	1	49	18.42	18.40	18.39	
10	256QAM	25	0	18.11	18.11	18.15	19
10	256QAM	25	12	18.09	18.08	18.11	
10	256QAM	25	25	18.13	18.10	18.11	
10	256QAM	50	0	18.08	18.05	18.08	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	



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5	QPSK	1	0	23.21	23.24	23.13	24
5	QPSK	1	12	23.18	23.20	23.22	
5	QPSK	1	24	23.10	23.15	23.14	
5	QPSK	12	0	22.23	22.27	22.19	23
5	QPSK	12	7	22.26	22.20	22.17	
5	QPSK	12	13	22.16	22.18	22.20	
5	QPSK	25	0	22.20	22.15	22.16	23
5	16QAM	1	0	22.10	22.12	22.19	
5	16QAM	1	12	22.03	22.05	22.11	
5	16QAM	1	24	22.07	22.01	22.05	22
5	16QAM	12	0	21.19	21.17	21.16	
5	16QAM	12	7	21.13	21.18	21.17	
5	16QAM	12	13	21.21	21.21	21.17	22
5	16QAM	25	0	21.11	21.15	21.16	
5	64QAM	1	0	21.01	21.00	21.00	
5	64QAM	1	12	21.04	21.04	21.01	22
5	64QAM	1	24	21.01	21.03	21.07	
5	64QAM	12	0	20.07	20.05	20.01	
5	64QAM	12	7	20.01	20.02	20.06	21
5	64QAM	12	13	20.08	20.09	20.13	
5	64QAM	25	0	20.12	20.14	20.10	
5	256QAM	1	0	18.30	18.34	18.42	19
5	256QAM	1	12	18.43	18.37	18.42	
5	256QAM	1	24	18.40	18.40	18.38	
5	256QAM	12	0	18.11	18.11	18.15	19
5	256QAM	12	7	18.11	18.07	18.12	
5	256QAM	12	13	18.15	18.12	18.12	
5	256QAM	25	0	18.10	18.05	18.06	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	23.22	23.25	23.15	24
3	QPSK	1	8	23.20	23.19	23.23	
3	QPSK	1	14	23.12	23.14	23.13	
3	QPSK	8	0	22.23	22.28	22.21	23
3	QPSK	8	4	22.25	22.19	22.17	
3	QPSK	8	7	22.16	22.20	22.22	
3	QPSK	15	0	22.19	22.15	22.17	23
3	16QAM	1	0	22.12	22.14	22.18	
3	16QAM	1	8	22.01	22.04	22.11	
3	16QAM	1	14	22.00	22.01	22.05	22
3	16QAM	8	0	21.20	21.18	21.17	
3	16QAM	8	4	21.13	21.18	21.16	
3	16QAM	8	7	21.23	21.20	21.17	22
3	16QAM	15	0	21.12	21.13	21.16	
3	64QAM	1	0	21.02	21.01	21.04	
3	64QAM	1	8	21.00	21.05	21.03	22
3	64QAM	1	14	21.00	21.04	21.01	
3	64QAM	8	0	20.07	20.04	20.01	
3	64QAM	8	4	20.01	20.04	20.07	21
3	64QAM	8	7	20.08	20.10	20.13	
3	64QAM	15	0	20.12	20.13	20.12	
3	256QAM	1	0	18.31	18.35	18.41	19
3	256QAM	1	8	18.44	18.38	18.42	
3	256QAM	1	14	18.41	18.39	18.38	
3	256QAM	8	0	18.10	18.10	18.14	19
3	256QAM	8	4	18.11	18.08	18.11	
3	256QAM	8	7	18.14	18.10	18.11	
3	256QAM	15	0	18.09	18.05	18.06	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	23.21	23.25	23.13	24
1.4	QPSK	1	3	23.19	23.20	23.17	
1.4	QPSK	1	5	23.20	23.16	23.17	



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1.4	QPSK	3	0	23.22	23.23	23.26	
1.4	QPSK	3	1	23.27	23.21	23.22	
1.4	QPSK	3	3	23.15	23.18	23.24	
1.4	QPSK	6	0	22.19	22.14	22.17	23
1.4	16QAM	1	0	22.15	22.14	22.16	23
1.4	16QAM	1	3	22.09	22.04	22.06	
1.4	16QAM	1	5	22.06	22.02	22.01	
1.4	16QAM	3	0	22.05	22.07	22.13	
1.4	16QAM	3	1	22.04	22.05	22.02	
1.4	16QAM	3	3	22.00	22.04	22.01	22
1.4	16QAM	6	0	21.15	21.15	21.13	
1.4	64QAM	1	0	21.04	21.01	21.03	22
1.4	64QAM	1	3	21.06	21.04	21.01	
1.4	64QAM	1	5	21.03	21.00	21.06	
1.4	64QAM	3	0	21.07	21.11	21.11	
1.4	64QAM	3	1	21.06	21.07	21.09	
1.4	64QAM	3	3	21.08	21.05	21.06	21
1.4	64QAM	6	0	20.12	20.15	20.15	
1.4	256QAM	1	0	18.34	18.35	18.31	19
1.4	256QAM	1	3	18.36	18.36	18.32	
1.4	256QAM	1	5	18.43	18.40	18.46	
1.4	256QAM	3	0	18.13	18.10	18.14	
1.4	256QAM	3	1	18.02	18.06	18.06	
1.4	256QAM	3	3	18.11	18.10	18.07	19
1.4	256QAM	6	0	18.10	18.04	18.00	

**<LTE Band 66\_Main Ant\_Reduced Power>**

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	17.68	17.77	17.65	18.5
20	QPSK	1	49	17.64	17.65	17.58	
20	QPSK	1	99	17.60	17.53	17.59	
20	QPSK	50	0	16.73	16.79	16.69	17.5
20	QPSK	50	24	16.65	16.70	16.60	
20	QPSK	50	50	16.60	16.69	16.59	
20	QPSK	100	0	16.77	16.64	16.63	17.5
20	16QAM	1	0	16.91	16.85	16.86	
20	16QAM	1	49	16.92	16.76	16.95	
20	16QAM	1	99	16.94	16.90	16.82	16.5
20	16QAM	50	0	15.61	15.59	15.58	
20	16QAM	50	24	15.78	15.67	15.63	
20	16QAM	50	50	15.76	15.72	15.71	
20	16QAM	100	0	15.73	15.67	15.70	
20	64QAM	1	0	15.69	15.82	15.73	16.5
20	64QAM	1	49	15.85	15.80	15.85	
20	64QAM	1	99	15.93	15.83	15.75	
20	64QAM	50	0	14.67	14.63	14.62	15.5
20	64QAM	50	24	14.72	14.68	14.64	
20	64QAM	50	50	14.76	14.64	14.70	
20	64QAM	100	0	14.74	14.70	14.59	
20	256QAM	1	0	12.66	12.64	12.71	13.5
20	256QAM	1	49	12.71	12.69	12.65	
20	256QAM	1	99	12.88	12.87	12.83	
20	256QAM	50	0	12.63	12.58	12.61	13.5
20	256QAM	50	24	12.73	12.65	12.62	
20	256QAM	50	50	12.74	12.68	12.68	
20	256QAM	100	0	12.67	12.70	12.60	
Channel				132047	132322	132597	Tune-up limit



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Frequency (MHz)				1717.5	1745	1772.5	(dBm)
15	QPSK	1	0	17.65	17.70	17.61	18.5
15	QPSK	1	37	17.58	17.61	17.56	
15	QPSK	1	74	17.50	17.49	17.58	
15	QPSK	36	0	16.68	16.74	16.68	17.5
15	QPSK	36	20	16.62	16.62	16.53	
15	QPSK	36	39	16.51	16.63	16.50	
15	QPSK	75	0	16.71	16.63	16.61	17.5
15	16QAM	1	0	16.88	16.77	16.82	
15	16QAM	1	37	16.82	16.67	16.91	
15	16QAM	1	74	16.88	16.80	16.75	16.5
15	16QAM	36	0	15.52	15.49	15.49	
15	16QAM	36	20	15.71	15.63	15.53	
15	16QAM	36	39	15.72	15.70	15.67	16.5
15	16QAM	75	0	15.70	15.64	15.68	
15	64QAM	1	0	15.59	15.79	15.65	
15	64QAM	1	37	15.82	15.70	15.82	16.5
15	64QAM	1	74	15.92	15.76	15.65	
15	64QAM	36	0	14.57	14.55	14.53	
15	64QAM	36	20	14.66	14.59	14.58	15.5
15	64QAM	36	39	14.67	14.54	14.62	
15	64QAM	75	0	14.72	14.65	14.57	
15	256QAM	1	0	12.59	12.58	12.64	13.5
15	256QAM	1	37	12.69	12.65	12.60	
15	256QAM	1	74	12.86	12.86	12.75	
15	256QAM	36	0	12.59	12.57	12.56	13.5
15	256QAM	36	20	12.68	12.64	12.54	
15	256QAM	36	39	12.71	12.65	12.58	
15	256QAM	75	0	12.60	12.69	12.59	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	17.58	17.75	17.58	18.5
10	QPSK	1	25	17.61	17.63	17.54	
10	QPSK	1	49	17.52	17.49	17.52	
10	QPSK	25	0	16.65	16.74	16.62	17.5
10	QPSK	25	12	16.57	16.67	16.50	
10	QPSK	25	25	16.57	16.64	16.55	
10	QPSK	50	0	16.70	16.63	16.55	17.5
10	16QAM	1	0	16.87	16.75	16.76	
10	16QAM	1	25	16.90	16.70	16.91	
10	16QAM	1	49	16.90	16.89	16.73	16.5
10	16QAM	25	0	15.52	15.52	15.49	
10	16QAM	25	12	15.72	15.60	15.58	
10	16QAM	25	25	15.75	15.64	15.64	16.5
10	16QAM	50	0	15.69	15.65	15.65	
10	64QAM	1	0	15.67	15.79	15.64	
10	64QAM	1	25	15.76	15.79	15.84	16.5
10	64QAM	1	49	15.90	15.76	15.72	
10	64QAM	25	0	14.57	14.55	14.58	
10	64QAM	25	12	14.68	14.59	14.63	15.5
10	64QAM	25	25	14.71	14.59	14.61	
10	64QAM	50	0	14.65	14.69	14.49	
10	256QAM	1	0	12.57	12.63	12.69	13.5
10	256QAM	1	25	12.65	12.63	12.56	
10	256QAM	1	49	12.78	12.84	12.80	
10	256QAM	25	0	12.59	12.52	12.54	13.5
10	256QAM	25	12	12.63	12.61	12.52	
10	256QAM	25	25	12.66	12.67	12.59	
10	256QAM	50	0	12.57	12.65	12.54	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	17.60	17.68	17.58	18.5
5	QPSK	1	12	17.59	17.59	17.53	



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5	QPSK	1	24	17.51	17.52	17.56	17.5
5	QPSK	12	0	16.70	16.72	16.65	
5	QPSK	12	7	16.59	16.60	16.59	
5	QPSK	12	13	16.52	16.61	16.51	
5	QPSK	25	0	16.74	16.63	16.61	17.5
5	16QAM	1	0	16.85	16.84	16.78	
5	16QAM	1	12	16.90	16.69	16.89	
5	16QAM	1	24	16.93	16.87	16.79	16.5
5	16QAM	12	0	15.58	15.50	15.54	
5	16QAM	12	7	15.71	15.63	15.60	
5	16QAM	12	13	15.69	15.62	15.69	
5	16QAM	25	0	15.63	15.60	15.69	
5	64QAM	1	0	15.60	15.80	15.69	16.5
5	64QAM	1	12	15.76	15.78	15.78	
5	64QAM	1	24	15.83	15.77	15.70	
5	64QAM	12	0	14.65	14.55	14.52	15.5
5	64QAM	12	7	14.66	14.62	14.59	
5	64QAM	12	13	14.69	14.55	14.68	
5	64QAM	25	0	14.64	14.64	14.52	
5	256QAM	1	0	12.60	12.57	12.68	
5	256QAM	1	12	12.70	12.61	12.63	13.5
5	256QAM	1	24	12.85	12.81	12.80	
5	256QAM	12	0	12.58	12.55	12.54	13.5
5	256QAM	12	7	12.70	12.61	12.53	
5	256QAM	12	13	12.67	12.63	12.60	
5	256QAM	25	0	12.64	12.62	12.57	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	17.67	17.75	17.59	18.5
3	QPSK	1	8	17.60	17.58	17.55	
3	QPSK	1	14	17.51	17.52	17.53	
3	QPSK	8	0	16.64	16.77	16.63	17.5
3	QPSK	8	4	16.57	16.69	16.50	
3	QPSK	8	7	16.54	16.66	16.49	
3	QPSK	15	0	16.67	16.58	16.57	17.5
3	16QAM	1	0	16.90	16.81	16.79	
3	16QAM	1	8	16.88	16.67	16.91	
3	16QAM	1	14	16.91	16.82	16.77	
3	16QAM	8	0	15.56	15.52	15.53	
3	16QAM	8	4	15.72	15.59	15.60	16.5
3	16QAM	8	7	15.67	15.66	15.61	
3	16QAM	15	0	15.63	15.64	15.68	16.5
3	64QAM	1	0	15.64	15.74	15.72	
3	64QAM	1	8	15.84	15.70	15.83	
3	64QAM	1	14	15.87	15.75	15.68	
3	64QAM	8	0	14.58	14.55	14.54	15.5
3	64QAM	8	4	14.63	14.61	14.58	
3	64QAM	8	7	14.70	14.55	14.65	
3	64QAM	15	0	14.69	14.65	14.53	
3	256QAM	1	0	12.58	12.59	12.66	
3	256QAM	1	8	12.62	12.67	12.61	13.5
3	256QAM	1	14	12.80	12.85	12.76	
3	256QAM	8	0	12.57	12.50	12.51	13.5
3	256QAM	8	4	12.65	12.56	12.54	
3	256QAM	8	7	12.65	12.59	12.60	
3	256QAM	15	0	12.60	12.66	12.53	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	17.65	17.51	17.54	18.5
1.4	QPSK	1	3	17.69	17.53	17.66	
1.4	QPSK	1	5	17.64	17.58	17.58	
1.4	QPSK	3	0	17.69	17.65	17.60	
1.4	QPSK	3	1	17.73	17.60	17.63	





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1.4	QPSK	3	3	17.70	17.53	17.61	
1.4	QPSK	6	0	16.63	16.55	16.58	17.5
1.4	16QAM	1	0	16.98	16.82	16.99	17.5
1.4	16QAM	1	3	16.90	16.89	16.90	
1.4	16QAM	1	5	16.81	16.88	16.98	
1.4	16QAM	3	0	16.92	16.90	16.84	
1.4	16QAM	3	1	16.86	16.91	16.91	
1.4	16QAM	3	3	16.93	16.94	16.89	
1.4	16QAM	6	0	15.90	15.79	15.81	
1.4	64QAM	1	0	15.96	15.91	15.81	16.5
1.4	64QAM	1	3	15.95	16.00	15.97	
1.4	64QAM	1	5	15.92	15.92	15.93	
1.4	64QAM	3	0	15.91	15.83	15.89	
1.4	64QAM	3	1	15.92	15.89	15.86	
1.4	64QAM	3	3	15.97	15.81	15.90	
1.4	64QAM	6	0	14.79	14.75	14.81	15.5
1.4	256QAM	1	0	12.81	12.77	12.83	13.5
1.4	256QAM	1	3	12.98	12.75	12.86	
1.4	256QAM	1	5	12.80	12.86	12.84	
1.4	256QAM	3	0	12.85	12.85	12.88	
1.4	256QAM	3	1	12.78	12.85	12.87	
1.4	256QAM	3	3	12.84	12.82	12.81	
1.4	256QAM	6	0	12.87	12.79	12.83	13.5

**<LTE Band 66\_MIMO2 Ant\_Reduced Power>**

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	16.08	16.12	16.05	16.5
20	QPSK	1	49	16.04	16.08	16.01	
20	QPSK	1	99	16.01	16.05	15.98	
20	QPSK	50	0	16.03	16.07	16.00	16.5
20	QPSK	50	24	16.02	16.06	15.99	
20	QPSK	50	50	16.01	16.05	15.98	
20	QPSK	100	0	16.02	16.06	15.99	
20	16QAM	1	0	16.05	16.09	16.02	16.5
20	16QAM	1	49	16.04	16.08	16.01	
20	16QAM	1	99	16.03	16.07	16.00	
20	16QAM	50	0	16.04	16.08	16.01	16.5
20	16QAM	50	24	16.05	16.09	16.02	
20	16QAM	50	50	16.02	16.06	15.99	
20	16QAM	100	0	16.04	16.08	16.01	
20	64QAM	1	0	15.87	15.91	15.84	16.5
20	64QAM	1	49	15.84	15.88	15.81	
20	64QAM	1	99	15.82	15.86	15.79	
20	64QAM	50	0	16.05	16.09	16.02	16.5
20	64QAM	50	24	16.04	16.08	16.01	
20	64QAM	50	50	16.03	16.07	16.00	
20	64QAM	100	0	16.02	16.06	15.99	
20	256QAM	1	0	16.07	16.11	16.04	16.5
20	256QAM	1	49	16.06	16.10	16.03	
20	256QAM	1	99	16.05	16.09	16.02	
20	256QAM	50	0	16.00	16.04	15.97	16.5
20	256QAM	50	24	16.01	16.05	15.98	
20	256QAM	50	50	16.05	16.09	16.02	
20	256QAM	100	0	16.04	16.08	16.01	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	16.02	16.05	16.00	16.5



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15	QPSK	1	37	15.98	16.01	15.94	16.5
15	QPSK	1	74	15.93	15.99	15.92	
15	QPSK	36	0	15.95	16.02	15.92	
15	QPSK	36	20	15.96	15.99	15.92	
15	QPSK	36	39	15.95	15.97	15.93	
15	QPSK	75	0	15.96	15.98	15.91	
15	16QAM	1	0	15.97	16.04	15.96	16.5
15	16QAM	1	37	15.99	16.01	15.95	
15	16QAM	1	74	15.97	16.01	15.92	
15	16QAM	36	0	15.98	16.01	15.96	16.5
15	16QAM	36	20	16.00	16.02	15.94	
15	16QAM	36	39	15.97	16.01	15.94	
15	16QAM	75	0	15.97	16.01	15.95	
15	64QAM	1	0	15.79	15.84	15.76	
15	64QAM	1	37	15.76	15.83	15.74	16.5
15	64QAM	1	74	15.76	15.81	15.72	
15	64QAM	36	0	15.99	16.01	15.95	
15	64QAM	36	20	15.96	16.02	15.93	16.5
15	64QAM	36	39	15.97	15.99	15.92	
15	64QAM	75	0	15.95	15.98	15.94	
15	256QAM	1	0	16.02	16.03	15.97	
15	256QAM	1	37	16.00	16.05	15.95	
15	256QAM	1	74	15.99	16.01	15.94	16.5
15	256QAM	36	0	15.95	15.98	15.91	
15	256QAM	36	20	15.94	16.00	15.90	
15	256QAM	36	39	15.99	16.04	15.96	
15	256QAM	75	0	15.99	16.00	15.94	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	16.02	16.04	16.00	16.5
10	QPSK	1	25	15.97	16.02	15.94	
10	QPSK	1	49	15.93	15.97	15.93	
10	QPSK	25	0	15.98	15.99	15.92	
10	QPSK	25	12	15.96	16.00	15.91	
10	QPSK	25	25	15.96	16.00	15.93	16.5
10	QPSK	50	0	15.97	16.00	15.94	
10	16QAM	1	0	16.00	16.02	15.94	
10	16QAM	1	25	15.98	16.02	15.96	
10	16QAM	1	49	15.95	16.02	15.92	
10	16QAM	25	0	15.97	16.02	15.95	16.5
10	16QAM	25	12	15.99	16.02	15.95	
10	16QAM	25	25	15.94	16.00	15.94	
10	16QAM	50	0	15.98	16.00	15.93	
10	64QAM	1	0	15.82	15.84	15.79	
10	64QAM	1	25	15.78	15.81	15.73	16.5
10	64QAM	1	49	15.77	15.81	15.72	
10	64QAM	25	0	15.97	16.01	15.97	
10	64QAM	25	12	15.97	16.00	15.93	16.5
10	64QAM	25	25	15.96	16.01	15.93	
10	64QAM	50	0	15.95	15.98	15.91	
10	256QAM	1	0	16.02	16.03	15.99	
10	256QAM	1	25	15.98	16.04	15.96	
10	256QAM	1	49	15.97	16.04	15.94	16.5
10	256QAM	25	0	15.93	15.99	15.90	
10	256QAM	25	12	15.95	15.98	15.92	
10	256QAM	25	25	15.98	16.04	15.96	
10	256QAM	50	0	15.97	16.00	15.93	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	16.02	16.07	16.00	16.5
5	QPSK	1	12	15.99	16.03	15.94	
5	QPSK	1	24	15.94	15.99	15.92	
5	QPSK	12	0	15.98	15.99	15.95	



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5	QPSK	12	7	15.96	15.99	15.92	
5	QPSK	12	13	15.94	15.98	15.93	
5	QPSK	25	0	15.96	15.99	15.93	
5	16QAM	1	0	15.98	16.02	15.95	16.5
5	16QAM	1	12	15.98	16.03	15.95	
5	16QAM	1	24	15.95	16.01	15.94	
5	16QAM	12	0	15.97	16.03	15.95	16.5
5	16QAM	12	7	15.99	16.03	15.97	
5	16QAM	12	13	15.95	15.98	15.92	
5	16QAM	25	0	15.98	16.01	15.95	16.5
5	64QAM	1	0	15.79	15.85	15.79	
5	64QAM	1	12	15.79	15.80	15.73	
5	64QAM	1	24	15.75	15.78	15.73	16.5
5	64QAM	12	0	16.00	16.03	15.96	
5	64QAM	12	7	15.99	16.00	15.94	
5	64QAM	12	13	15.95	16.02	15.94	16.5
5	64QAM	25	0	15.95	16.00	15.93	
5	256QAM	1	0	15.99	16.03	15.97	
5	256QAM	1	12	16.01	16.02	15.97	16.5
5	256QAM	1	24	15.97	16.03	15.97	
5	256QAM	12	0	15.95	15.99	15.91	
5	256QAM	12	7	15.96	16.00	15.90	16.5
5	256QAM	12	13	15.99	16.03	15.95	
5	256QAM	25	0	15.97	16.02	15.95	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	16.03	16.06	15.97	16.5
3	QPSK	1	8	15.99	16.03	15.94	
3	QPSK	1	14	15.96	15.97	15.90	
3	QPSK	8	0	15.96	16.00	15.95	16.5
3	QPSK	8	4	15.97	16.01	15.91	
3	QPSK	8	7	15.94	15.99	15.93	
3	QPSK	15	0	15.95	15.98	15.94	16.5
3	16QAM	1	0	15.99	16.01	15.96	
3	16QAM	1	8	15.99	16.00	15.95	
3	16QAM	1	14	15.96	15.99	15.95	16.5
3	16QAM	8	0	15.97	16.03	15.93	
3	16QAM	8	4	15.98	16.03	15.95	
3	16QAM	8	7	15.94	15.98	15.91	16.5
3	16QAM	15	0	15.99	16.02	15.94	
3	64QAM	1	0	15.80	15.86	15.78	
3	64QAM	1	8	15.76	15.81	15.74	16.5
3	64QAM	1	14	15.74	15.78	15.74	
3	64QAM	8	0	15.99	16.03	15.94	
3	64QAM	8	4	15.99	16.03	15.93	16.5
3	64QAM	8	7	15.96	16.01	15.93	
3	64QAM	15	0	15.97	16.01	15.92	
3	256QAM	1	0	16.02	16.03	15.99	16.5
3	256QAM	1	8	16.01	16.03	15.96	
3	256QAM	1	14	15.97	16.04	15.94	
3	256QAM	8	0	15.94	15.99	15.92	16.5
3	256QAM	8	4	15.93	15.98	15.93	
3	256QAM	8	7	16.00	16.02	15.94	
3	256QAM	15	0	15.96	16.00	15.93	16.5
Channel				131979	132322	132665	
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	16.02	16.04	16.00	16.5
1.4	QPSK	1	3	15.96	16.02	15.96	
1.4	QPSK	1	5	15.93	16.00	15.93	
1.4	QPSK	3	0	15.96	16.00	15.94	
1.4	QPSK	3	1	15.94	16.01	15.93	
1.4	QPSK	3	3	15.94	15.99	15.93	
1.4	QPSK	6	0	15.96	15.99	15.91	16.5



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1.4	16QAM	1	0	15.97	16.02	15.96	16.5
1.4	16QAM	1	3	15.96	16.02	15.93	
1.4	16QAM	1	5	15.96	16.01	15.93	
1.4	16QAM	3	0	15.96	16.00	15.96	
1.4	16QAM	3	1	16.00	16.03	15.96	
1.4	16QAM	3	3	15.96	15.99	15.91	
1.4	16QAM	6	0	15.98	16.00	15.94	16.5
1.4	64QAM	1	0	15.82	15.83	15.78	16.5
1.4	64QAM	1	3	15.77	15.82	15.73	
1.4	64QAM	1	5	15.76	15.81	15.72	
1.4	64QAM	3	0	15.99	16.04	15.97	
1.4	64QAM	3	1	15.96	16.02	15.95	
1.4	64QAM	3	3	15.96	16.01	15.95	
1.4	64QAM	6	0	15.96	16.01	15.91	16.5
1.4	256QAM	1	0	15.99	16.04	15.97	16.5
1.4	256QAM	1	3	15.98	16.02	15.96	
1.4	256QAM	1	5	16.00	16.01	15.97	
1.4	256QAM	3	0	15.95	15.99	15.91	
1.4	256QAM	3	1	15.94	16.00	15.93	
1.4	256QAM	3	3	15.97	16.03	15.96	
1.4	256QAM	6	0	15.97	16.03	15.93	16.5

**<LTE Band 71\_Main Ant\_Default Power>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	25
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	23.12	23.33	23.41	25
20	QPSK	1	49	23.39	23.35	23.39	
20	QPSK	1	99	23.25	23.29	23.27	
20	QPSK	50	0	22.42	22.49	22.51	24
20	QPSK	50	24	22.50	22.42	22.49	
20	QPSK	50	50	22.50	22.42	22.43	
20	QPSK	100	0	22.48	22.40	22.53	24
20	16QAM	1	0	22.45	22.67	22.74	
20	16QAM	1	49	22.86	22.73	22.76	
20	16QAM	1	99	22.52	22.58	22.62	23
20	16QAM	50	0	21.45	21.50	21.45	
20	16QAM	50	24	21.54	21.43	21.52	
20	16QAM	50	50	21.52	21.45	21.48	23
20	16QAM	100	0	21.55	21.42	21.53	
20	64QAM	1	0	21.43	21.59	21.66	
20	64QAM	1	49	21.70	21.62	21.61	23
20	64QAM	1	99	21.54	21.58	21.62	
20	64QAM	50	0	20.45	20.52	20.42	
20	64QAM	50	24	20.55	20.44	20.51	22
20	64QAM	50	50	20.52	20.44	20.48	
20	64QAM	100	0	20.57	20.48	20.51	
20	256QAM	1	0	18.08	18.09	18.18	20
20	256QAM	1	49	18.14	18.11	18.20	
20	256QAM	1	99	18.09	18.28	18.26	
20	256QAM	50	0	18.03	18.07	18.05	20
20	256QAM	50	24	18.10	18.08	18.10	
20	256QAM	50	50	18.13	18.20	18.10	
20	256QAM	100	0	18.13	18.10	18.09	25
Channel				133197	133297	133397	
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	23.07	23.24	23.34	25
15	QPSK	1	37	23.30	23.25	23.34	
15	QPSK	1	74	23.20	23.20	23.19	



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15	QPSK	36	0	22.32	22.42	22.46	24
15	QPSK	36	20	22.45	22.33	22.41	
15	QPSK	36	39	22.41	22.33	22.37	
15	QPSK	75	0	22.39	22.33	22.46	
15	16QAM	1	0	22.38	22.62	22.67	24
15	16QAM	1	37	22.76	22.63	22.67	
15	16QAM	1	74	22.42	22.53	22.53	
15	16QAM	36	0	21.39	21.45	21.39	23
15	16QAM	36	20	21.45	21.33	21.43	
15	16QAM	36	39	21.45	21.35	21.43	
15	16QAM	75	0	21.46	21.34	21.46	
15	64QAM	1	0	21.34	21.54	21.61	23
15	64QAM	1	37	21.62	21.52	21.51	
15	64QAM	1	74	21.48	21.52	21.52	
15	64QAM	36	0	20.35	20.46	20.34	22
15	64QAM	36	20	20.48	20.34	20.44	
15	64QAM	36	39	20.44	20.34	20.42	
15	64QAM	75	0	20.51	20.42	20.45	
15	256QAM	1	0	18.00	18.00	18.13	20
15	256QAM	1	37	18.05	18.03	18.15	
15	256QAM	1	74	18.00	18.22	18.19	
15	256QAM	36	0	18.05	18.02	18.09	20
15	256QAM	36	20	18.02	18.01	18.04	
15	256QAM	36	39	18.06	18.14	18.02	
15	256QAM	75	0	18.07	18.01	18.02	
Channel				133172	133297	133422	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	23.04	23.25	23.33	25
10	QPSK	1	25	23.30	23.29	23.32	
10	QPSK	1	49	23.19	23.24	23.17	
10	QPSK	25	0	22.36	22.43	22.43	24
10	QPSK	25	12	22.40	22.37	22.43	
10	QPSK	25	25	22.40	22.35	22.36	
10	QPSK	50	0	22.40	22.35	22.44	
10	16QAM	1	0	22.38	22.57	22.64	24
10	16QAM	1	25	22.80	22.68	22.70	
10	16QAM	1	49	22.47	22.53	22.54	
10	16QAM	25	0	21.37	21.41	21.39	23
10	16QAM	25	12	21.46	21.33	21.43	
10	16QAM	25	25	21.45	21.36	21.40	
10	16QAM	50	0	21.45	21.32	21.48	
10	64QAM	1	0	21.34	21.51	21.60	23
10	64QAM	1	25	21.62	21.57	21.54	
10	64QAM	1	49	21.45	21.53	21.53	
10	64QAM	25	0	20.36	20.42	20.33	22
10	64QAM	25	12	20.50	20.34	20.46	
10	64QAM	25	25	20.45	20.36	20.41	
10	64QAM	50	0	20.52	20.43	20.44	
10	256QAM	1	0	18.00	18.03	18.09	20
10	256QAM	1	25	18.09	18.04	18.11	
10	256QAM	1	49	18.00	18.18	18.20	
10	256QAM	25	0	18.04	18.02	18.08	20
10	256QAM	25	12	18.01	18.00	18.02	
10	256QAM	25	25	18.03	18.15	18.02	
10	256QAM	50	0	18.04	18.04	18.03	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	23.03	23.25	23.33	25
5	QPSK	1	12	23.33	23.27	23.34	
5	QPSK	1	24	23.16	23.20	23.22	
5	QPSK	12	0	22.34	22.42	22.42	24
5	QPSK	12	7	22.41	22.36	22.43	
5	QPSK	12	13	22.44	22.34	22.33	



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5	QPSK	25	0	22.39	22.35	22.45	
5	16QAM	1	0	22.35	22.62	22.68	24
5	16QAM	1	12	22.77	22.65	22.66	
5	16QAM	1	24	22.43	22.51	22.52	
5	16QAM	12	0	21.38	21.43	21.39	23
5	16QAM	12	7	21.49	21.38	21.43	
5	16QAM	12	13	21.44	21.36	21.43	
5	16QAM	25	0	21.48	21.37	21.48	
5	64QAM	1	0	21.33	21.53	21.56	23
5	64QAM	1	12	21.62	21.55	21.52	
5	64QAM	1	24	21.44	21.49	21.53	
5	64QAM	12	0	20.38	20.42	20.37	22
5	64QAM	12	7	20.50	20.36	20.45	
5	64QAM	12	13	20.44	20.38	20.41	
5	64QAM	25	0	20.52	20.42	20.41	
5	256QAM	1	0	18.09	18.01	18.09	20
5	256QAM	1	12	18.07	18.03	18.10	
5	256QAM	1	24	18.03	18.21	18.21	
5	256QAM	12	0	18.06	18.08	18.08	20
5	256QAM	12	7	18.04	18.02	18.01	
5	256QAM	12	13	18.06	18.12	18.05	
5	256QAM	25	0	18.06	18.03	18.03	

**<LTE Band 71\_Main Ant\_Reduced Power>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	21.60	21.95	21.97	22
20	QPSK	1	49	21.46	21.74	21.74	
20	QPSK	1	99	21.42	21.56	21.58	
20	QPSK	50	0	20.88	20.83	20.91	21
20	QPSK	50	24	20.79	20.80	20.78	
20	QPSK	50	50	20.86	20.80	20.84	
20	QPSK	100	0	20.73	20.75	20.95	
20	16QAM	1	0	20.91	20.95	20.87	21
20	16QAM	1	49	20.77	20.97	20.92	
20	16QAM	1	99	20.71	20.72	20.69	
20	16QAM	50	0	19.87	19.94	19.82	20
20	16QAM	50	24	19.92	19.83	19.80	
20	16QAM	50	50	19.91	19.75	19.75	
20	16QAM	100	0	19.99	19.83	19.73	
20	64QAM	1	0	19.82	19.98	19.87	20
20	64QAM	1	49	19.81	19.79	19.74	
20	64QAM	1	99	19.63	19.70	19.61	
20	64QAM	50	0	18.91	18.91	18.83	19
20	64QAM	50	24	19.00	18.87	18.80	
20	64QAM	50	50	18.90	18.87	18.94	
20	64QAM	100	0	18.99	18.90	18.79	
20	256QAM	1	0	16.98	16.92	16.98	17
20	256QAM	1	49	16.93	16.91	16.96	
20	256QAM	1	99	16.98	16.95	16.84	
20	256QAM	50	0	16.85	16.86	16.85	17
20	256QAM	50	24	16.90	16.77	16.75	
20	256QAM	50	50	16.91	16.78	16.77	
20	256QAM	100	0	16.93	16.82	16.76	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	21.59	21.93	21.94	22
15	QPSK	1	37	21.42	21.69	21.70	



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15	QPSK	1	74	21.33	21.48	21.55	21
15	QPSK	36	0	20.81	20.78	20.90	
15	QPSK	36	20	20.72	20.74	20.77	
15	QPSK	36	39	20.77	20.72	20.79	
15	QPSK	75	0	20.70	20.70	20.90	21
15	16QAM	1	0	20.88	20.86	20.81	
15	16QAM	1	37	20.69	20.90	20.84	
15	16QAM	1	74	20.62	20.71	20.60	20
15	16QAM	36	0	19.77	19.87	19.81	
15	16QAM	36	20	19.88	19.76	19.78	
15	16QAM	36	39	19.87	19.66	19.71	
15	16QAM	75	0	19.93	19.75	19.71	
15	64QAM	1	0	19.74	19.95	19.86	20
15	64QAM	1	37	19.80	19.77	19.65	
15	64QAM	1	74	19.58	19.65	19.53	
15	64QAM	36	0	18.85	18.83	18.80	19
15	64QAM	36	20	18.91	18.80	18.78	
15	64QAM	36	39	18.80	18.83	18.91	
15	64QAM	75	0	18.95	18.89	18.73	
15	256QAM	1	0	16.96	16.88	16.93	
15	256QAM	1	37	16.87	16.83	16.93	17
15	256QAM	1	74	16.93	16.90	16.83	
15	256QAM	36	0	16.75	16.84	16.82	17
15	256QAM	36	20	16.82	16.74	16.65	
15	256QAM	36	39	16.84	16.77	16.72	
15	256QAM	75	0	16.90	16.81	16.69	
Channel				133172	133297	133422	
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	21.55	21.89	21.91	22
10	QPSK	1	25	21.41	21.66	21.70	
10	QPSK	1	49	21.39	21.51	21.57	
10	QPSK	25	0	20.85	20.81	20.88	21
10	QPSK	25	12	20.75	20.70	20.76	
10	QPSK	25	25	20.80	20.71	20.75	
10	QPSK	50	0	20.66	20.68	20.86	21
10	16QAM	1	0	20.82	20.92	20.83	
10	16QAM	1	25	20.74	20.92	20.84	
10	16QAM	1	49	20.70	20.68	20.68	20
10	16QAM	25	0	19.85	19.86	19.80	
10	16QAM	25	12	19.85	19.76	19.74	
10	16QAM	25	25	19.90	19.67	19.71	20
10	16QAM	50	0	19.94	19.79	19.68	
10	64QAM	1	0	19.77	19.95	19.85	
10	64QAM	1	25	19.76	19.74	19.65	19
10	64QAM	1	49	19.61	19.67	19.52	
10	64QAM	25	0	18.89	18.90	18.82	
10	64QAM	25	12	18.94	18.80	18.74	17
10	64QAM	25	25	18.84	18.79	18.86	
10	64QAM	50	0	18.97	18.82	18.78	
10	256QAM	1	0	16.96	16.84	16.89	17
10	256QAM	1	25	16.87	16.88	16.87	
10	256QAM	1	49	16.89	16.94	16.79	
10	256QAM	25	0	16.75	16.76	16.83	17
10	256QAM	25	12	16.81	16.75	16.73	
10	256QAM	25	25	16.87	16.73	16.75	
10	256QAM	50	0	16.83	16.75	16.72	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	21.50	21.90	21.88	22
5	QPSK	1	12	21.37	21.64	21.73	
5	QPSK	1	24	21.37	21.54	21.53	
5	QPSK	12	0	20.82	20.81	20.82	21
5	QPSK	12	7	20.73	20.76	20.72	



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5	QPSK	12	13	20.85	20.78	20.74	
5	QPSK	25	0	20.68	20.69	20.89	
5	16QAM	1	0	20.86	20.94	20.85	21
5	16QAM	1	12	20.74	20.94	20.82	
5	16QAM	1	24	20.65	20.69	20.62	
5	16QAM	12	0	19.78	19.87	19.73	20
5	16QAM	12	7	19.83	19.74	19.75	
5	16QAM	12	13	19.84	19.67	19.72	
5	16QAM	25	0	19.98	19.75	19.68	
5	64QAM	1	0	19.76	19.93	19.77	20
5	64QAM	1	12	19.79	19.75	19.72	
5	64QAM	1	24	19.62	19.61	19.59	
5	64QAM	12	0	18.83	18.88	18.77	19
5	64QAM	12	7	18.97	18.81	18.72	
5	64QAM	12	13	18.80	18.83	18.92	
5	64QAM	25	0	18.94	18.81	18.71	
5	256QAM	1	0	16.97	16.84	16.90	17
5	256QAM	1	12	16.84	16.88	16.94	
5	256QAM	1	24	16.97	16.85	16.81	
5	256QAM	12	0	16.83	16.83	16.76	17
5	256QAM	12	7	16.82	16.73	16.69	
5	256QAM	12	13	16.88	16.68	16.68	
5	256QAM	25	0	16.92	16.79	16.75	

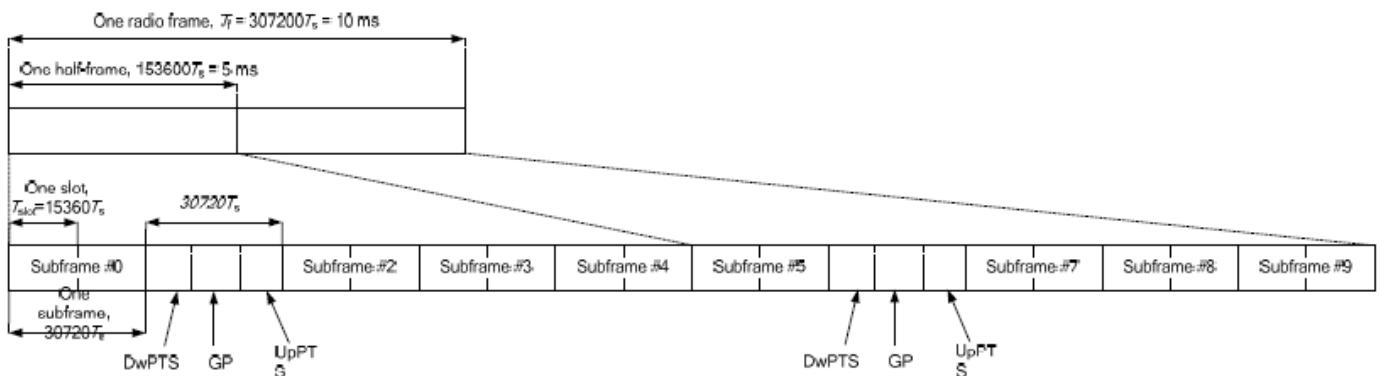


**<TDD LTE SAR Measurement>**

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 Base station simulator was used for LTE output power measurements and SAR testing.



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

**Table 4.2-2: Uplink-downlink configurations.**

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

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

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



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

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

The highest duty factor is resulted from:

- i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subframes, 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.



<LTE Band 38\_Main Ant\_Default Power>

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	23.29	23.27	23.39	25
20	QPSK	1	49	23.34	23.37	23.34	
20	QPSK	1	99	23.32	23.35	23.32	
20	QPSK	50	0	22.36	22.38	22.50	24
20	QPSK	50	24	22.46	22.42	22.41	
20	QPSK	50	50	22.48	22.46	22.48	
20	QPSK	100	0	22.47	22.44	22.49	
20	16QAM	1	0	22.35	22.36	22.33	24
20	16QAM	1	49	22.34	22.41	22.42	
20	16QAM	1	99	22.38	22.38	22.32	
20	16QAM	50	0	21.36	21.38	21.40	23
20	16QAM	50	24	21.48	21.40	21.42	
20	16QAM	50	50	21.49	21.50	21.49	
20	16QAM	100	0	21.48	21.49	21.39	
20	64QAM	1	0	21.24	21.29	21.31	23
20	64QAM	1	49	21.37	21.30	21.32	
20	64QAM	1	99	21.29	21.32	21.37	
20	64QAM	50	0	20.36	20.37	20.38	22
20	64QAM	50	24	20.50	20.42	20.43	
20	64QAM	50	50	20.49	20.51	20.48	
20	64QAM	100	0	20.48	20.50	20.38	
20	256QAM	1	0	18.43	18.47	18.45	20
20	256QAM	1	49	18.33	18.37	18.36	
20	256QAM	1	99	18.35	18.37	18.32	
20	256QAM	50	0	18.27	18.27	18.24	20
20	256QAM	50	24	18.15	18.13	18.11	
20	256QAM	50	50	18.16	18.19	18.16	
20	256QAM	100	0	18.15	18.10	18.09	
Channel				37825	38000	38175	
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	23.23	23.18	23.33	25
15	QPSK	1	37	23.27	23.28	23.24	
15	QPSK	1	74	23.24	23.30	23.25	
15	QPSK	36	0	22.28	22.28	22.44	24
15	QPSK	36	20	22.40	22.36	22.33	
15	QPSK	36	39	22.40	22.37	22.39	
15	QPSK	75	0	22.37	22.34	22.44	
15	16QAM	1	0	22.28	22.30	22.27	24
15	16QAM	1	37	22.27	22.35	22.37	
15	16QAM	1	74	22.33	22.29	22.22	
15	16QAM	36	0	21.30	21.32	21.34	23
15	16QAM	36	20	21.39	21.30	21.36	
15	16QAM	36	39	21.42	21.40	21.39	
15	16QAM	75	0	21.42	21.44	21.33	
15	64QAM	1	0	21.16	21.19	21.24	23
15	64QAM	1	37	21.28	21.21	21.26	
15	64QAM	1	74	21.20	21.26	21.30	
15	64QAM	36	0	20.26	20.27	20.32	22
15	64QAM	36	20	20.44	20.35	20.33	
15	64QAM	36	39	20.42	20.45	20.39	
15	64QAM	75	0	20.43	20.42	20.32	
15	256QAM	1	0	18.36	18.39	18.40	20
15	256QAM	1	37	18.26	18.27	18.30	
15	256QAM	1	74	18.25	18.32	18.22	
15	256QAM	36	0	18.21	18.19	18.19	20
15	256QAM	36	20	18.07	18.04	18.05	



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15	256QAM	36	39	18.09	18.12	18.06	
15	256QAM	75	0	18.08	18.01	18.06	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	23.20	23.17	23.32	25
10	QPSK	1	25	23.27	23.31	23.26	
10	QPSK	1	49	23.22	23.29	23.22	
10	QPSK	25	0	22.27	22.30	22.43	24
10	QPSK	25	12	22.39	22.33	22.32	
10	QPSK	25	25	22.42	22.36	22.40	
10	QPSK	50	0	22.42	22.35	22.39	
10	16QAM	1	0	22.27	22.29	22.23	24
10	16QAM	1	25	22.24	22.36	22.36	
10	16QAM	1	49	22.28	22.33	22.27	
10	16QAM	25	0	21.29	21.31	21.32	23
10	16QAM	25	12	21.38	21.32	21.34	
10	16QAM	25	25	21.42	21.44	21.43	
10	16QAM	50	0	21.43	21.39	21.30	
10	64QAM	1	0	21.16	21.19	21.23	23
10	64QAM	1	25	21.31	21.22	21.23	
10	64QAM	1	49	21.21	21.24	21.31	
10	64QAM	25	0	20.30	20.32	20.29	22
10	64QAM	25	12	20.42	20.34	20.36	
10	64QAM	25	25	20.41	20.45	20.42	
10	64QAM	50	0	20.43	20.42	20.32	
10	256QAM	1	0	18.33	18.38	18.38	20
10	256QAM	1	25	18.25	18.28	18.29	
10	256QAM	1	49	18.30	18.27	18.23	
10	256QAM	25	0	18.21	18.18	18.16	20
10	256QAM	25	12	18.07	18.04	18.06	
10	256QAM	25	25	18.10	18.11	18.10	
10	256QAM	50	0	18.10	18.03	18.04	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	23.24	23.21	23.34	25
5	QPSK	1	12	23.26	23.30	23.25	
5	QPSK	1	24	23.26	23.25	23.22	
5	QPSK	12	0	22.26	22.29	22.43	24
5	QPSK	12	7	22.38	22.32	22.36	
5	QPSK	12	13	22.41	22.41	22.38	
5	QPSK	25	0	22.41	22.36	22.39	
5	16QAM	1	0	22.28	22.26	22.27	24
5	16QAM	1	12	22.26	22.36	22.35	
5	16QAM	1	24	22.31	22.32	22.24	
5	16QAM	12	0	21.29	21.30	21.30	23
5	16QAM	12	7	21.38	21.32	21.33	
5	16QAM	12	13	21.43	21.41	21.44	
5	16QAM	25	0	21.43	21.41	21.34	
5	64QAM	1	0	21.19	21.22	21.22	23
5	64QAM	1	12	21.29	21.23	21.25	
5	64QAM	1	24	21.19	21.26	21.28	
5	64QAM	12	0	20.26	20.27	20.31	22
5	64QAM	12	7	20.43	20.34	20.37	
5	64QAM	12	13	20.41	20.41	20.41	
5	64QAM	25	0	20.41	20.45	20.30	
5	256QAM	1	0	18.36	18.41	18.40	20
5	256QAM	1	12	18.26	18.29	18.29	
5	256QAM	1	24	18.30	18.30	18.27	
5	256QAM	12	0	18.17	18.17	18.16	20
5	256QAM	12	7	18.07	18.04	18.05	
5	256QAM	12	13	18.07	18.12	18.10	
5	256QAM	25	0	18.09	18.04	18.03	



<LTE Band 38\_MIMO2 Ant\_Default Power>

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	23.15	23.17	23.27	24
20	QPSK	1	49	23.18	23.22	23.22	
20	QPSK	1	99	23.20	23.26	23.20	
20	QPSK	50	0	22.51	22.51	22.52	23
20	QPSK	50	24	22.45	22.44	22.44	
20	QPSK	50	50	22.44	22.41	22.43	
20	QPSK	100	0	22.37	22.41	22.41	
20	16QAM	1	0	22.09	22.11	22.05	23
20	16QAM	1	49	22.05	22.04	22.03	
20	16QAM	1	99	22.00	22.06	22.01	
20	16QAM	50	0	21.54	21.51	21.48	22
20	16QAM	50	24	21.50	21.48	21.47	
20	16QAM	50	50	21.45	21.50	21.45	
20	16QAM	100	0	21.47	21.47	21.44	
20	64QAM	1	0	21.18	21.13	21.15	22
20	64QAM	1	49	21.16	21.11	21.12	
20	64QAM	1	99	21.07	21.07	21.09	
20	64QAM	50	0	20.36	20.39	20.36	21
20	64QAM	50	24	20.34	20.35	20.35	
20	64QAM	50	50	20.40	20.44	20.42	
20	64QAM	100	0	20.50	20.46	20.48	
20	256QAM	1	0	18.67	18.66	18.70	19
20	256QAM	1	49	18.73	18.74	18.75	
20	256QAM	1	99	18.66	18.67	18.62	
20	256QAM	50	0	18.47	18.41	18.45	19
20	256QAM	50	24	18.46	18.50	18.44	
20	256QAM	50	50	18.50	18.46	18.44	
20	256QAM	100	0	18.41	18.44	18.43	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	23.11	23.14	23.22	24
15	QPSK	1	37	23.14	23.18	23.19	
15	QPSK	1	74	23.15	23.21	23.16	
15	QPSK	36	0	22.46	22.46	22.48	23
15	QPSK	36	20	22.40	22.41	22.40	
15	QPSK	36	39	22.41	22.38	22.40	
15	QPSK	75	0	22.34	22.36	22.36	23
15	16QAM	1	0	22.04	22.06	22.00	
15	16QAM	1	37	22.01	22.00	22.02	
15	16QAM	1	74	22.04	22.02	22.00	
15	16QAM	36	0	21.50	21.48	21.43	22
15	16QAM	36	20	21.45	21.43	21.42	
15	16QAM	36	39	21.42	21.47	21.40	
15	16QAM	75	0	21.42	21.42	21.40	
15	64QAM	1	0	21.13	21.10	21.11	22
15	64QAM	1	37	21.12	21.08	21.08	
15	64QAM	1	74	21.04	21.04	21.04	
15	64QAM	36	0	20.31	20.36	20.33	21
15	64QAM	36	20	20.31	20.31	20.32	
15	64QAM	36	39	20.37	20.40	20.39	
15	64QAM	75	0	20.46	20.42	20.43	
15	256QAM	1	0	18.63	18.61	18.67	19
15	256QAM	1	37	18.68	18.69	18.70	
15	256QAM	1	74	18.63	18.63	18.57	
15	256QAM	36	0	18.43	18.37	18.41	19
15	256QAM	36	20	18.41	18.45	18.41	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	18.46	18.42	18.39	
15	256QAM	75	0	18.36	18.40	18.38	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	23.12	23.12	23.24	24
10	QPSK	1	25	23.14	23.19	23.17	
10	QPSK	1	49	23.16	23.22	23.15	
10	QPSK	25	0	22.47	22.48	22.48	23
10	QPSK	25	12	22.42	22.41	22.41	
10	QPSK	25	25	22.41	22.37	22.39	
10	QPSK	50	0	22.33	22.37	22.37	
10	16QAM	1	0	22.06	22.08	22.02	23
10	16QAM	1	25	22.02	22.06	22.00	
10	16QAM	1	49	22.05	22.02	22.03	
10	16QAM	25	0	21.51	21.46	21.44	22
10	16QAM	25	12	21.46	21.45	21.43	
10	16QAM	25	25	21.41	21.47	21.42	
10	16QAM	50	0	21.42	21.43	21.41	
10	64QAM	1	0	21.15	21.08	21.12	22
10	64QAM	1	25	21.11	21.08	21.07	
10	64QAM	1	49	21.04	21.02	21.04	
10	64QAM	25	0	20.31	20.36	20.31	21
10	64QAM	25	12	20.31	20.30	20.30	
10	64QAM	25	25	20.37	20.39	20.37	
10	64QAM	50	0	20.45	20.42	20.45	
10	256QAM	1	0	18.63	18.62	18.66	19
10	256QAM	1	25	18.70	18.70	18.71	
10	256QAM	1	49	18.63	18.64	18.57	
10	256QAM	25	0	18.42	18.37	18.42	19
10	256QAM	25	12	18.41	18.45	18.39	
10	256QAM	25	25	18.46	18.41	18.41	
10	256QAM	50	0	18.38	18.41	18.39	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	23.11	23.14	23.22	24
5	QPSK	1	12	23.14	23.18	23.19	
5	QPSK	1	24	23.16	23.23	23.16	
5	QPSK	12	0	22.47	22.46	22.47	23
5	QPSK	12	7	22.42	22.40	22.40	
5	QPSK	12	13	22.41	22.36	22.39	
5	QPSK	25	0	22.32	22.36	22.37	
5	16QAM	1	0	22.04	22.08	22.01	23
5	16QAM	1	12	22.00	22.01	22.03	
5	16QAM	1	24	22.05	22.02	22.04	
5	16QAM	12	0	21.49	21.46	21.43	22
5	16QAM	12	7	21.47	21.44	21.43	
5	16QAM	12	13	21.40	21.47	21.40	
5	16QAM	25	0	21.44	21.44	21.39	
5	64QAM	1	0	21.15	21.09	21.10	22
5	64QAM	1	12	21.12	21.06	21.07	
5	64QAM	1	24	21.04	21.02	21.05	
5	64QAM	12	0	20.32	20.36	20.33	21
5	64QAM	12	7	20.31	20.32	20.30	
5	64QAM	12	13	20.37	20.39	20.39	
5	64QAM	25	0	20.45	20.42	20.44	
5	256QAM	1	0	18.64	18.63	18.65	19
5	256QAM	1	12	18.68	18.71	18.72	
5	256QAM	1	24	18.61	18.62	18.59	
5	256QAM	12	0	18.43	18.36	18.40	19
5	256QAM	12	7	18.41	18.45	18.40	
5	256QAM	12	13	18.45	18.43	18.41	
5	256QAM	25	0	18.38	18.39	18.39	



**<LTE Band 38\_Main Ant\_Reduced Power>**

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	17.24	17.21	17.28	17.5
20	QPSK	1	49	17.20	17.20	17.27	
20	QPSK	1	99	17.05	17.18	17.20	
20	QPSK	50	0	16.30	16.32	16.35	16.5
20	QPSK	50	24	16.28	16.24	16.31	
20	QPSK	50	50	16.26	16.30	16.30	
20	QPSK	100	0	16.32	16.31	16.36	
20	16QAM	1	0	16.34	16.26	16.42	16.5
20	16QAM	1	49	16.24	16.34	16.49	
20	16QAM	1	99	16.21	16.16	16.28	
20	16QAM	50	0	15.28	15.22	15.31	15.5
20	16QAM	50	24	15.31	15.32	15.31	
20	16QAM	50	50	15.29	15.28	15.35	
20	16QAM	100	0	15.31	15.31	15.40	
20	64QAM	1	0	15.42	15.41	15.44	15.5
20	64QAM	1	49	15.34	15.37	15.42	
20	64QAM	1	99	15.20	15.15	15.39	
20	64QAM	50	0	14.27	14.23	14.28	14.5
20	64QAM	50	24	14.31	14.30	14.28	
20	64QAM	50	50	14.25	14.30	14.33	
20	64QAM	100	0	14.30	14.29	14.37	
20	256QAM	1	0	12.39	12.37	12.39	12.5
20	256QAM	1	49	12.24	12.39	12.40	
20	256QAM	1	99	12.34	12.37	12.43	
20	256QAM	50	0	12.23	12.23	12.31	12.5
20	256QAM	50	24	12.26	12.29	12.27	
20	256QAM	50	50	12.23	12.24	12.34	
20	256QAM	100	0	12.29	12.28	12.34	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	17.11	17.12	17.17	17.5
15	QPSK	1	37	17.08	17.07	17.19	
15	QPSK	1	74	16.97	17.07	17.11	
15	QPSK	36	0	16.22	16.21	16.22	16.5
15	QPSK	36	20	16.15	16.12	16.21	
15	QPSK	36	39	16.17	16.18	16.22	
15	QPSK	75	0	16.19	16.21	16.25	
15	16QAM	1	0	16.21	16.18	16.32	16.5
15	16QAM	1	37	16.11	16.24	16.38	
15	16QAM	1	74	16.08	16.03	16.16	
15	16QAM	36	0	15.18	15.13	15.19	15.5
15	16QAM	36	20	15.21	15.23	15.20	
15	16QAM	36	39	15.19	15.15	15.25	
15	16QAM	75	0	15.22	15.19	15.30	
15	64QAM	1	0	15.31	15.31	15.33	15.5
15	64QAM	1	37	15.26	15.28	15.34	
15	64QAM	1	74	15.10	15.05	15.31	
15	64QAM	36	0	14.14	14.14	14.19	14.5
15	64QAM	36	20	14.20	14.21	14.19	
15	64QAM	36	39	14.15	14.20	14.21	
15	64QAM	75	0	14.20	14.16	14.24	
15	256QAM	1	0	12.28	12.29	12.27	12.5
15	256QAM	1	37	12.14	12.30	12.30	
15	256QAM	1	74	12.23	12.29	12.33	
15	256QAM	36	0	12.11	12.14	12.23	12.5
15	256QAM	36	20	12.15	12.17	12.19	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	12.15	12.13	12.23	
15	256QAM	75	0	12.16	12.17	12.25	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	17.11	17.12	17.20	17.5
10	QPSK	1	25	17.08	17.07	17.18	
10	QPSK	1	49	16.93	17.05	17.08	
10	QPSK	25	0	16.17	16.24	16.26	16.5
10	QPSK	25	12	16.17	16.11	16.23	
10	QPSK	25	25	16.17	16.19	16.21	
10	QPSK	50	0	16.22	16.18	16.28	
10	16QAM	1	0	16.26	16.17	16.30	
10	16QAM	1	25	16.13	16.25	16.38	16.5
10	16QAM	1	49	16.10	16.06	16.16	
10	16QAM	25	0	15.17	15.12	15.19	15.5
10	16QAM	25	12	15.21	15.21	15.22	
10	16QAM	25	25	15.20	15.15	15.25	
10	16QAM	50	0	15.20	15.19	15.28	
10	64QAM	1	0	15.32	15.29	15.34	
10	64QAM	1	25	15.24	15.28	15.32	15.5
10	64QAM	1	49	15.10	15.04	15.26	
10	64QAM	25	0	14.19	14.14	14.19	
10	64QAM	25	12	14.19	14.20	14.19	14.5
10	64QAM	25	25	14.13	14.19	14.20	
10	64QAM	50	0	14.19	14.21	14.26	
10	256QAM	1	0	12.26	12.28	12.28	
10	256QAM	1	25	12.12	12.31	12.29	12.5
10	256QAM	1	49	12.26	12.24	12.32	
10	256QAM	25	0	12.13	12.12	12.21	
10	256QAM	25	12	12.13	12.19	12.15	12.5
10	256QAM	25	25	12.11	12.15	12.25	
10	256QAM	50	0	12.17	12.18	12.26	
Channel				37775	38000	38225	
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	17.15	17.12	17.16	17.5
5	QPSK	1	12	17.10	17.08	17.19	
5	QPSK	1	24	16.95	17.07	17.12	
5	QPSK	12	0	16.19	16.20	16.24	16.5
5	QPSK	12	7	16.17	16.14	16.21	
5	QPSK	12	13	16.16	16.20	16.17	
5	QPSK	25	0	16.24	16.23	16.25	
5	16QAM	1	0	16.24	16.15	16.30	
5	16QAM	1	12	16.15	16.23	16.38	16.5
5	16QAM	1	24	16.10	16.08	16.17	
5	16QAM	12	0	15.15	15.12	15.23	
5	16QAM	12	7	15.23	15.22	15.23	15.5
5	16QAM	12	13	15.17	15.17	15.23	
5	16QAM	25	0	15.23	15.19	15.30	
5	64QAM	1	0	15.34	15.32	15.33	
5	64QAM	1	12	15.23	15.28	15.33	15.5
5	64QAM	1	24	15.11	15.03	15.26	
5	64QAM	12	0	14.15	14.14	14.15	
5	64QAM	12	7	14.20	14.20	14.19	14.5
5	64QAM	12	13	14.17	14.18	14.21	
5	64QAM	25	0	14.18	14.21	14.28	
5	256QAM	1	0	12.29	12.24	12.26	
5	256QAM	1	12	12.13	12.29	12.28	12.5
5	256QAM	1	24	12.25	12.27	12.34	
5	256QAM	12	0	12.11	12.12	12.21	12.5
5	256QAM	12	7	12.18	12.21	12.19	
5	256QAM	12	13	12.10	12.11	12.21	
5	256QAM	25	0	12.19	12.20	12.21	





**<LTE Band 38\_MIMO2 Ant\_Reduced Power>**

Channel	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	17.5
20	QPSK	1	49	
20	QPSK	1	99	
20	QPSK	50	0	17.5
20	QPSK	50	24	
20	QPSK	50	50	
20	QPSK	100	0	
20	16QAM	1	0	17.5
20	16QAM	1	49	
20	16QAM	1	99	
20	16QAM	50	0	17.5
20	16QAM	50	24	
20	16QAM	50	50	
20	16QAM	100	0	
20	64QAM	1	0	17.5
20	64QAM	1	49	
20	64QAM	1	99	
20	64QAM	50	0	17.5
20	64QAM	50	24	
20	64QAM	50	50	
20	64QAM	100	0	
20	256QAM	1	0	17.5
20	256QAM	1	49	
20	256QAM	1	99	
20	256QAM	50	0	17.5
20	256QAM	50	24	
20	256QAM	50	50	
20	256QAM	100	0	
Channel	37825	38000	38175	
Frequency (MHz)	2577.5	2595	2612.5	
15	QPSK	1	0	17.5
15	QPSK	1	37	
15	QPSK	1	74	
15	QPSK	36	0	17.5
15	QPSK	36	20	
15	QPSK	36	39	
15	QPSK	75	0	
15	16QAM	1	0	17.5
15	16QAM	1	37	
15	16QAM	1	74	
15	16QAM	36	0	17.5
15	16QAM	36	20	
15	16QAM	36	39	
15	16QAM	75	0	
15	64QAM	1	0	17.5
15	64QAM	1	37	
15	64QAM	1	74	
15	64QAM	36	0	17.5
15	64QAM	36	20	
15	64QAM	36	39	
15	64QAM	75	0	
15	256QAM	1	0	17.5
15	256QAM	1	37	
15	256QAM	1	74	
15	256QAM	36	0	17.5
15	256QAM	36	20	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	16.78	16.81	16.88	
15	256QAM	75	0	16.79	16.80	16.88	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	17.00	17.03	17.10	17.5
10	QPSK	1	25	16.96	16.97	17.07	
10	QPSK	1	49	16.94	16.96	17.06	
10	QPSK	25	0	16.98	16.97	17.06	17.5
10	QPSK	25	12	16.94	16.99	17.07	
10	QPSK	25	25	16.95	16.97	17.06	
10	QPSK	50	0	16.95	16.99	17.07	
10	16QAM	1	0	16.98	17.01	17.08	
10	16QAM	1	25	16.98	17.00	17.08	17.5
10	16QAM	1	49	16.97	16.98	17.06	
10	16QAM	25	0	16.94	16.95	17.05	17.5
10	16QAM	25	12	16.96	16.98	17.08	
10	16QAM	25	25	17.01	17.03	17.11	
10	16QAM	50	0	17.00	17.01	17.08	
10	64QAM	1	0	17.00	17.01	17.08	
10	64QAM	1	25	16.98	17.01	17.06	17.5
10	64QAM	1	49	16.96	17.00	17.08	
10	64QAM	25	0	16.81	16.83	16.93	
10	64QAM	25	12	16.96	16.97	17.03	17.5
10	64QAM	25	25	16.89	16.92	17.02	
10	64QAM	50	0	16.97	16.99	17.07	
10	256QAM	1	0	16.81	16.86	16.93	
10	256QAM	1	25	16.88	16.90	16.95	
10	256QAM	1	49	16.93	16.95	17.02	17.5
10	256QAM	25	0	16.76	16.80	16.86	
10	256QAM	25	12	16.82	16.84	16.92	17.5
10	256QAM	25	25	16.78	16.80	16.90	
10	256QAM	50	0	16.81	16.83	16.89	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	17.02	17.05	17.12	17.5
5	QPSK	1	12	16.98	16.97	17.06	
5	QPSK	1	24	16.94	16.99	17.07	
5	QPSK	12	0	16.97	16.99	17.05	17.5
5	QPSK	12	7	16.97	16.97	17.07	
5	QPSK	12	13	16.95	16.97	17.03	
5	QPSK	25	0	16.97	16.98	17.07	
5	16QAM	1	0	16.99	17.00	17.08	
5	16QAM	1	12	16.99	17.02	17.10	17.5
5	16QAM	1	24	16.99	16.98	17.06	
5	16QAM	12	0	16.93	16.96	17.04	17.5
5	16QAM	12	7	16.96	16.98	17.05	
5	16QAM	12	13	16.99	17.03	17.09	
5	16QAM	25	0	17.00	16.99	17.09	
5	64QAM	1	0	16.99	17.01	17.08	
5	64QAM	1	12	16.97	16.99	17.06	17.5
5	64QAM	1	24	16.95	16.98	17.08	
5	64QAM	12	0	16.80	16.85	16.91	
5	64QAM	12	7	16.93	16.97	17.05	17.5
5	64QAM	12	13	16.90	16.92	17.01	
5	64QAM	25	0	16.97	16.99	17.07	
5	256QAM	1	0	16.84	16.83	16.91	
5	256QAM	1	12	16.87	16.90	16.97	
5	256QAM	1	24	16.91	16.94	17.03	17.5
5	256QAM	12	0	16.75	16.78	16.86	
5	256QAM	12	7	16.80	16.82	16.91	17.5
5	256QAM	12	13	16.77	16.81	16.89	
5	256QAM	25	0	16.80	16.81	16.90	



<LTE Band 41\_Main Ant\_Default Power>

Channel	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	23.43	23.47	23.54	23.36	23.31	25
20	QPSK	1	49	23.42	23.41	23.49	23.34	23.29	
20	QPSK	1	99	23.41	23.43	23.47	23.34	23.26	
20	QPSK	50	0	22.55	22.56	22.59	22.50	22.36	24
20	QPSK	50	24	22.48	22.55	22.51	22.39	22.33	
20	QPSK	50	50	22.51	22.51	22.48	22.47	22.33	
20	QPSK	100	0	22.53	22.51	22.55	22.44	22.35	24
20	16QAM	1	0	22.48	22.58	22.47	22.41	22.26	
20	16QAM	1	49	22.54	22.46	22.51	22.41	22.32	
20	16QAM	1	99	22.43	22.47	22.62	22.42	22.34	23
20	16QAM	50	0	21.44	21.46	21.47	21.41	21.27	
20	16QAM	50	24	21.54	21.57	21.51	21.47	21.35	
20	16QAM	50	50	21.52	21.55	21.61	21.46	21.31	23
20	16QAM	100	0	21.54	21.56	21.52	21.47	21.34	
20	64QAM	1	0	21.32	21.43	21.42	21.29	21.16	
20	64QAM	1	49	21.51	21.38	21.57	21.36	21.21	23
20	64QAM	1	99	21.43	21.36	21.53	21.33	21.28	
20	64QAM	50	0	20.42	20.50	20.47	20.39	20.27	
20	64QAM	50	24	20.55	20.56	20.52	20.50	20.37	22
20	64QAM	50	50	20.53	20.54	20.60	20.50	20.33	
20	64QAM	100	0	20.54	20.55	20.49	20.48	20.35	
20	256QAM	1	0	18.10	18.23	18.31	18.32	18.31	20
20	256QAM	1	49	18.12	18.28	18.24	18.20	18.15	
20	256QAM	1	99	18.16	18.27	18.22	18.29	18.25	
20	256QAM	50	0	18.12	18.35	18.34	18.35	18.21	20
20	256QAM	50	24	18.11	18.43	18.33	18.26	18.29	
20	256QAM	50	50	18.21	18.41	18.39	18.21	18.15	
20	256QAM	100	0	18.15	18.41	18.32	18.26	18.16	
Channel	39725	40173	40620	41068	41515	Tune-up limit (dBm)			
Channel	2503.5	2548.3	2593	2637.8	2682.5				
15	QPSK	1	0	23.36	23.33	23.46	23.28	23.21	25.00
15	QPSK	1	37	23.33	23.42	23.39	23.27	23.23	
15	QPSK	1	74	23.35	23.35	23.39	23.27	23.21	
15	QPSK	36	0	22.36	22.38	22.52	22.33	22.22	24
15	QPSK	36	20	22.49	22.48	22.42	22.41	22.25	
15	QPSK	36	39	22.44	22.49	22.39	22.38	22.24	
15	QPSK	75	0	22.46	22.42	22.46	22.35	22.29	24
15	16QAM	1	0	22.38	22.50	22.40	22.31	22.16	
15	16QAM	1	37	22.49	22.40	22.41	22.35	22.22	
15	16QAM	1	74	22.33	22.41	22.55	22.33	22.27	23
15	16QAM	36	0	21.39	21.38	21.42	21.33	21.20	
15	16QAM	36	20	21.44	21.51	21.41	21.41	21.27	
15	16QAM	36	39	21.45	21.50	21.54	21.38	21.26	23
15	16QAM	75	0	21.49	21.48	21.45	21.42	21.27	
15	64QAM	1	0	21.23	21.37	21.34	21.22	21.07	
15	64QAM	1	37	21.41	21.30	21.49	21.30	21.12	23
15	64QAM	1	74	21.36	21.28	21.44	21.23	21.20	
15	64QAM	36	0	20.35	20.40	20.39	20.34	20.18	
15	64QAM	36	20	20.48	20.48	20.47	20.41	20.27	22
15	64QAM	36	39	20.46	20.48	20.52	20.40	20.23	
15	64QAM	75	0	20.48	20.50	20.43	20.40	20.26	
15	256QAM	1	0	18.00	18.18	18.23	18.23	18.21	20
15	256QAM	1	37	18.05	18.19	18.19	18.13	18.06	
15	256QAM	1	74	18.07	18.20	18.15	18.22	18.15	
15	256QAM	36	0	18.07	18.27	18.25	18.28	18.13	20
15	256QAM	36	20	18.02	18.38	18.24	18.19	18.21	



# FCC SAR TEST REPORT

Report No. : FA391816

15	256QAM	36	39	18.14	18.31	18.32	18.13	18.07	
15	256QAM	75	0	18.07	18.34	18.27	18.19	18.07	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	23.35	23.31	23.48	23.31	23.16	25.00
10	QPSK	1	25	23.37	23.38	23.44	23.27	23.22	
10	QPSK	1	49	23.35	23.36	23.42	23.24	23.22	
10	QPSK	25	0	22.35	22.41	22.50	22.34	22.20	24
10	QPSK	25	12	22.45	22.50	22.46	22.43	22.23	
10	QPSK	25	25	22.41	22.49	22.38	22.39	22.27	
10	QPSK	50	0	22.44	22.45	22.49	22.37	22.25	24
10	16QAM	1	0	22.40	22.53	22.38	22.31	22.20	
10	16QAM	1	25	22.44	22.39	22.41	22.34	22.23	
10	16QAM	1	49	22.37	22.38	22.56	22.32	22.24	23
10	16QAM	25	0	21.34	21.39	21.39	21.31	21.17	
10	16QAM	25	12	21.49	21.47	21.43	21.40	21.29	
10	16QAM	25	25	21.44	21.47	21.54	21.38	21.21	23
10	16QAM	50	0	21.47	21.51	21.47	21.42	21.29	
10	64QAM	1	0	21.27	21.38	21.35	21.23	21.06	
10	64QAM	1	25	21.41	21.32	21.51	21.26	21.15	23
10	64QAM	1	49	21.35	21.31	21.44	21.23	21.20	
10	64QAM	25	0	20.34	20.40	20.39	20.29	20.18	
10	64QAM	25	12	20.47	20.48	20.42	20.41	20.31	22
10	64QAM	25	25	20.44	20.44	20.54	20.40	20.27	
10	64QAM	50	0	20.45	20.48	20.42	20.40	20.25	
10	256QAM	1	0	18.01	18.15	18.22	18.27	18.21	20
10	256QAM	1	25	18.06	18.22	18.17	18.15	18.09	
10	256QAM	1	49	18.11	18.21	18.12	18.21	18.15	
10	256QAM	25	0	18.02	18.27	18.29	18.26	18.14	20
10	256QAM	25	12	18.05	18.35	18.28	18.17	18.22	
10	256QAM	25	25	18.14	18.36	18.30	18.11	18.09	
10	256QAM	50	0	18.10	18.35	18.24	18.17	18.09	
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	23.32	23.31	23.45	23.28	23.17	25.00
5	QPSK	1	12	23.33	23.42	23.41	23.24	23.24	
5	QPSK	1	24	23.31	23.33	23.41	23.28	23.21	
5	QPSK	12	0	22.38	22.41	22.52	22.34	22.19	24
5	QPSK	12	7	22.48	22.46	22.46	22.44	22.28	
5	QPSK	12	13	22.46	22.45	22.39	22.42	22.27	
5	QPSK	25	0	22.46	22.42	22.49	22.39	22.25	24
5	16QAM	1	0	22.39	22.49	22.38	22.34	22.20	
5	16QAM	1	12	22.45	22.37	22.44	22.36	22.24	
5	16QAM	1	24	22.36	22.39	22.56	22.35	22.25	23
5	16QAM	12	0	21.39	21.39	21.38	21.31	21.18	
5	16QAM	12	7	21.46	21.48	21.45	21.41	21.29	
5	16QAM	12	13	21.47	21.45	21.51	21.37	21.26	23
5	16QAM	25	0	21.45	21.48	21.46	21.39	21.28	
5	64QAM	1	0	21.23	21.38	21.32	21.21	21.09	
5	64QAM	1	12	21.44	21.30	21.47	21.29	21.14	23
5	64QAM	1	24	21.38	21.28	21.45	21.26	21.23	
5	64QAM	12	0	20.32	20.43	20.37	20.33	20.22	
5	64QAM	12	7	20.47	20.49	20.45	20.43	20.29	22
5	64QAM	12	13	20.44	20.46	20.55	20.44	20.25	
5	64QAM	25	0	20.48	20.45	20.43	20.39	20.25	
5	256QAM	1	0	18.05	18.15	18.23	18.25	18.21	20
5	256QAM	1	12	18.05	18.23	18.17	18.13	18.10	
5	256QAM	1	24	18.09	18.19	18.12	18.24	18.20	
5	256QAM	12	0	18.07	18.29	18.27	18.25	18.11	20
5	256QAM	12	7	18.03	18.34	18.25	18.20	18.23	
5	256QAM	12	13	18.13	18.35	18.30	18.15	18.07	
5	256QAM	25	0	18.06	18.36	18.23	18.18	18.11	



<LTE Band 41_MIMO2 Ant_Default Power>									
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	23.11	23.18	23.32	23.26	23.25	24
20	QPSK	1	49	23.22	23.26	23.27	23.13	23.03	
20	QPSK	1	99	23.03	23.22	23.25	23.24	23.10	
20	QPSK	50	0	22.26	22.18	22.45	22.28	22.18	23
20	QPSK	50	24	22.15	22.22	22.43	22.43	22.19	
20	QPSK	50	50	22.30	22.15	22.42	22.38	22.33	
20	QPSK	100	0	22.35	22.34	22.41	22.31	22.39	
20	16QAM	1	0	22.52	22.48	22.57	22.28	22.35	23
20	16QAM	1	49	22.48	22.55	22.56	22.52	22.28	
20	16QAM	1	99	22.33	22.50	22.55	22.32	22.49	
20	16QAM	50	0	21.42	21.42	21.45	21.33	21.37	22
20	16QAM	50	24	21.36	21.17	21.44	21.15	21.44	
20	16QAM	50	50	21.46	21.25	21.46	21.46	21.26	
20	16QAM	100	0	21.19	21.19	21.41	21.36	21.39	
20	64QAM	1	0	21.04	21.08	21.28	21.18	21.06	22
20	64QAM	1	49	21.07	21.15	21.27	21.04	21.09	
20	64QAM	1	99	21.08	21.05	21.15	21.05	21.13	
20	64QAM	50	0	20.18	20.10	20.36	20.22	20.23	21
20	64QAM	50	24	20.16	20.36	20.37	20.07	20.34	
20	64QAM	50	50	20.31	20.14	20.39	20.33	20.39	
20	64QAM	100	0	20.19	20.19	20.38	20.28	20.38	
20	256QAM	1	0	18.43	18.24	18.52	18.45	18.23	19
20	256QAM	1	49	18.24	18.23	18.51	18.37	18.23	
20	256QAM	1	99	18.31	18.42	18.55	18.48	18.40	
20	256QAM	50	0	18.14	18.14	18.35	18.21	18.05	19
20	256QAM	50	24	18.38	18.37	18.38	18.37	18.11	
20	256QAM	50	50	18.30	18.17	18.34	18.05	18.22	
20	256QAM	100	0	18.13	18.02	18.32	18.30	18.29	
Channel				39725.4	40173.4	40620.4	41068.4	41515	
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	23.09	23.15	23.29	23.23	23.22	24.00
15	QPSK	1	37	23.19	23.25	23.26	23.10	23.01	
15	QPSK	1	74	23.01	23.21	23.23	23.23	23.08	
15	QPSK	36	0	22.24	22.15	22.42	22.25	22.15	23
15	QPSK	36	20	22.14	22.19	22.40	22.41	22.18	
15	QPSK	36	39	22.28	22.12	22.39	22.37	22.31	
15	QPSK	75	0	22.34	22.31	22.40	22.28	22.36	23
15	16QAM	1	0	22.50	22.45	22.54	22.26	22.33	
15	16QAM	1	37	22.46	22.53	22.55	22.49	22.26	
15	16QAM	1	74	22.32	22.47	22.54	22.29	22.46	
15	16QAM	36	0	21.39	21.41	21.44	21.30	21.34	22
15	16QAM	36	20	21.33	21.14	21.43	21.14	21.41	
15	16QAM	36	39	21.43	21.24	21.44	21.45	21.23	
15	16QAM	75	0	21.17	21.16	21.38	21.35	21.38	
15	64QAM	1	0	21.03	21.06	21.27	21.16	21.04	22
15	64QAM	1	37	21.04	21.12	21.25	21.03	21.07	
15	64QAM	1	74	21.05	21.04	21.14	21.02	21.12	
15	64QAM	36	0	20.16	20.09	20.33	20.19	20.20	21
15	64QAM	36	20	20.15	20.35	20.34	20.05	20.33	
15	64QAM	36	39	20.30	20.12	20.38	20.31	20.38	
15	64QAM	75	0	20.17	20.18	20.35	20.27	20.37	
15	256QAM	1	0	18.42	18.21	18.50	18.44	18.20	19
15	256QAM	1	37	18.22	18.21	18.50	18.36	18.20	
15	256QAM	1	74	18.30	18.39	18.54	18.47	18.37	
15	256QAM	36	0	18.11	18.11	18.32	18.19	18.03	19
15	256QAM	36	20	18.36	18.34	18.37	18.36	18.10	



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15	256QAM	36	39	18.28	18.16	18.32	18.03	18.19	
15	256QAM	75	0	18.10	18.00	18.31	18.27	18.28	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	23.10	23.15	23.30	23.25	23.24	24.00
10	QPSK	1	25	23.21	23.24	23.26	23.10	23.02	
10	QPSK	1	49	23.02	23.21	23.23	23.23	23.08	
10	QPSK	25	0	22.24	22.15	22.43	22.25	22.15	23
10	QPSK	25	12	22.12	22.19	22.41	22.41	22.17	
10	QPSK	25	25	22.29	22.14	22.39	22.37	22.31	
10	QPSK	50	0	22.32	22.31	22.38	22.30	22.37	
10	16QAM	1	0	22.50	22.47	22.56	22.25	22.32	23
10	16QAM	1	25	22.46	22.53	22.55	22.49	22.26	
10	16QAM	1	49	22.32	22.47	22.53	22.29	22.47	
10	16QAM	25	0	21.39	21.39	21.44	21.31	21.36	22
10	16QAM	25	12	21.33	21.15	21.42	21.12	21.42	
10	16QAM	25	25	21.45	21.22	21.45	21.43	21.23	
10	16QAM	50	0	21.16	21.16	21.38	21.33	21.36	
10	64QAM	1	0	21.02	21.07	21.26	21.15	21.04	22
10	64QAM	1	25	21.06	21.13	21.26	21.02	21.08	
10	64QAM	1	49	21.06	21.03	21.14	21.04	21.10	
10	64QAM	25	0	20.17	20.08	20.34	20.21	20.22	21
10	64QAM	25	12	20.14	20.35	20.36	20.05	20.31	
10	64QAM	25	25	20.30	20.13	20.37	20.31	20.37	
10	64QAM	50	0	20.18	20.16	20.35	20.26	20.36	
10	256QAM	1	0	18.40	18.21	18.49	18.42	18.20	19
10	256QAM	1	25	18.21	18.21	18.48	18.36	18.22	
10	256QAM	1	49	18.30	18.41	18.54	18.47	18.39	
10	256QAM	25	0	18.13	18.12	18.33	18.18	18.04	19
10	256QAM	25	12	18.37	18.35	18.36	18.35	18.10	
10	256QAM	25	25	18.29	18.14	18.32	18.02	18.20	
10	256QAM	50	0	18.12	18.01	18.31	18.29	18.26	
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	23.10	23.15	23.29	23.24	23.23	24.00
5	QPSK	1	12	23.19	23.24	23.25	23.11	23.02	
5	QPSK	1	24	23.02	23.19	23.22	23.22	23.07	
5	QPSK	12	0	22.25	22.16	22.42	22.27	22.17	23
5	QPSK	12	7	22.13	22.19	22.40	22.41	22.17	
5	QPSK	12	13	22.27	22.13	22.39	22.35	22.30	
5	QPSK	25	0	22.34	22.33	22.38	22.28	22.37	
5	16QAM	1	0	22.50	22.45	22.54	22.27	22.34	23
5	16QAM	1	12	22.46	22.53	22.55	22.51	22.25	
5	16QAM	1	24	22.32	22.47	22.52	22.29	22.48	
5	16QAM	12	0	21.39	21.41	21.43	21.32	21.34	22
5	16QAM	12	7	21.34	21.16	21.42	21.13	21.43	
5	16QAM	12	13	21.45	21.22	21.43	21.44	21.23	
5	16QAM	25	0	21.16	21.18	21.40	21.35	21.37	
5	64QAM	1	0	21.01	21.07	21.27	21.17	21.04	22
5	64QAM	1	12	21.05	21.12	21.26	21.02	21.06	
5	64QAM	1	24	21.05	21.03	21.13	21.02	21.11	
5	64QAM	12	0	20.15	20.09	20.35	20.21	20.20	21
5	64QAM	12	7	20.15	20.33	20.36	20.06	20.31	
5	64QAM	12	13	20.29	20.12	20.37	20.32	20.38	
5	64QAM	25	0	20.17	20.18	20.37	20.25	20.37	
5	256QAM	1	0	18.40	18.22	18.51	18.44	18.20	19
5	256QAM	1	12	18.23	18.21	18.50	18.34	18.21	
5	256QAM	1	24	18.29	18.40	18.53	18.45	18.38	
5	256QAM	12	0	18.13	18.12	18.33	18.19	18.03	19
5	256QAM	12	7	18.35	18.34	18.37	18.34	18.08	
5	256QAM	12	13	18.29	18.14	18.33	18.03	18.20	
5	256QAM	25	0	18.12	18.01	18.30	18.27	18.26	



<LTE Band 41\_Main Ant\_Reduced Power>

Channel	Frequency (MHz)	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)		
Channel		39750	40185	40620	41055	41490			
Frequency (MHz)		2506	2549.5	2593	2636.5	2680			
20	QPSK	1	0	17.26	17.23	17.39	17.33	17.18	17.5
20	QPSK	1	49	17.25	17.26	17.29	17.23	17.11	
20	QPSK	1	99	17.20	17.22	17.30	17.24	17.13	
20	QPSK	50	0	16.36	16.34	16.39	16.34	16.18	16.5
20	QPSK	50	24	16.34	16.30	16.29	16.29	16.13	
20	QPSK	50	50	16.35	16.33	16.30	16.30	16.10	
20	QPSK	100	0	16.32	16.31	16.35	16.34	16.12	16.5
20	16QAM	1	0	16.23	16.28	16.31	16.32	16.22	
20	16QAM	1	49	16.28	16.28	16.29	16.32	16.07	
20	16QAM	1	99	16.12	16.27	16.34	16.23	16.11	16.5
20	16QAM	50	0	15.29	15.28	15.28	15.26	15.14	
20	16QAM	50	24	15.34	15.32	15.29	15.33	15.10	
20	16QAM	50	50	15.35	15.31	15.38	15.28	15.16	15.5
20	16QAM	100	0	15.31	15.31	15.26	15.29	15.09	
20	64QAM	1	0	15.20	15.18	15.32	15.30	15.12	
20	64QAM	1	49	15.23	15.24	15.35	15.17	15.13	15.5
20	64QAM	1	99	15.16	15.18	15.37	15.25	15.14	
20	64QAM	50	0	14.29	14.27	14.27	14.26	14.14	
20	64QAM	50	24	14.36	14.34	14.30	14.35	14.12	14.5
20	64QAM	50	50	14.33	14.32	14.34	14.27	14.17	
20	64QAM	100	0	14.32	14.32	14.26	14.31	14.12	
20	256QAM	1	0	12.12	12.35	12.18	12.34	11.98	12.5
20	256QAM	1	49	12.15	12.42	12.23	12.40	12.01	
20	256QAM	1	99	12.21	12.39	12.29	12.46	12.10	
20	256QAM	50	0	12.15	12.38	12.24	12.40	12.05	12.5
20	256QAM	50	24	12.25	12.47	12.34	12.49	12.17	
20	256QAM	50	50	12.22	12.46	12.34	12.47	12.20	
20	256QAM	100	0	12.24	12.42	12.30	12.42	12.18	
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	17.18	17.17	17.34	17.26	17.12	17.50
15	QPSK	1	37	17.19	17.18	17.21	17.15	17.04	
15	QPSK	1	74	17.12	17.17	17.22	17.18	17.07	
15	QPSK	36	0	16.30	16.28	16.32	16.29	16.10	16.5
15	QPSK	36	20	16.27	16.25	16.21	16.23	16.06	
15	QPSK	36	39	16.27	16.27	16.25	16.22	16.04	
15	QPSK	75	0	16.27	16.25	16.28	16.27	16.05	16.5
15	16QAM	1	0	16.16	16.23	16.23	16.25	16.14	
15	16QAM	1	37	16.21	16.20	16.21	16.25	16.01	
15	16QAM	1	74	16.05	16.21	16.29	16.18	16.06	16.5
15	16QAM	36	0	15.22	15.22	15.21	15.20	15.07	
15	16QAM	36	20	15.28	15.24	15.21	15.26	15.04	
15	16QAM	36	39	15.29	15.23	15.30	15.20	15.08	15.5
15	16QAM	75	0	15.26	15.26	15.18	15.22	15.03	
15	64QAM	1	0	15.14	15.10	15.26	15.25	15.07	
15	64QAM	1	37	15.15	15.18	15.28	15.12	15.06	15.5
15	64QAM	1	74	15.08	15.12	15.29	15.20	15.07	
15	64QAM	36	0	14.23	14.20	14.20	14.18	14.09	
15	64QAM	36	20	14.28	14.27	14.25	14.29	14.04	14.5
15	64QAM	36	39	14.26	14.24	14.27	14.21	14.10	
15	64QAM	75	0	14.24	14.25	14.21	14.25	14.07	
15	256QAM	1	0	12.04	12.27	12.11	12.26	11.91	12.5
15	256QAM	1	37	12.10	12.34	12.18	12.32	11.95	
15	256QAM	1	74	12.15	12.32	12.24	12.40	12.05	
15	256QAM	36	0	12.07	12.33	12.17	12.33	11.99	12.5
15	256QAM	36	20	12.18	12.42	12.26	12.43	12.09	



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15	256QAM	36	39	12.17	12.40	12.29	12.41	12.15	
15	256QAM	75	0	12.17	12.35	12.22	12.36	12.10	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	17.21	17.15	17.33	17.28	17.12	17.50
10	QPSK	1	25	17.19	17.20	17.24	17.15	17.03	
10	QPSK	1	49	17.12	17.14	17.22	17.16	17.08	
10	QPSK	25	0	16.31	16.28	16.31	16.27	16.10	16.5
10	QPSK	25	12	16.28	16.22	16.23	16.23	16.07	
10	QPSK	25	25	16.29	16.28	16.23	16.23	16.05	
10	QPSK	50	0	16.25	16.23	16.28	16.28	16.06	
10	16QAM	1	0	16.17	16.22	16.26	16.27	16.14	16.5
10	16QAM	1	25	16.23	16.20	16.23	16.24	16.01	
10	16QAM	1	49	16.05	16.22	16.28	16.18	16.03	
10	16QAM	25	0	15.21	15.22	15.21	15.19	15.06	15.5
10	16QAM	25	12	15.28	15.24	15.22	15.28	15.04	
10	16QAM	25	25	15.28	15.24	15.32	15.20	15.11	
10	16QAM	50	0	15.26	15.26	15.21	15.21	15.04	
10	64QAM	1	0	15.14	15.11	15.26	15.24	15.06	15.5
10	64QAM	1	25	15.16	15.18	15.27	15.09	15.08	
10	64QAM	1	49	15.09	15.11	15.31	15.20	15.06	
10	64QAM	25	0	14.22	14.19	14.19	14.21	14.08	14.5
10	64QAM	25	12	14.29	14.27	14.23	14.27	14.05	
10	64QAM	25	25	14.26	14.25	14.26	14.19	14.10	
10	64QAM	50	0	14.27	14.27	14.18	14.25	14.07	
10	256QAM	1	0	12.04	12.30	12.13	12.27	11.91	12.5
10	256QAM	1	25	12.10	12.36	12.15	12.34	11.93	
10	256QAM	1	49	12.15	12.32	12.22	12.38	12.03	
10	256QAM	25	0	12.09	12.31	12.17	12.32	11.97	12.5
10	256QAM	25	12	12.19	12.39	12.26	12.42	12.09	
10	256QAM	25	25	12.17	12.40	12.29	12.41	12.12	
10	256QAM	50	0	12.19	12.37	12.22	12.37	12.10	
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	17.21	17.15	17.31	17.26	17.13	17.50
5	QPSK	1	12	17.20	17.20	17.21	17.16	17.05	
5	QPSK	1	24	17.12	17.17	17.22	17.18	17.06	
5	QPSK	12	0	16.28	16.29	16.33	16.28	16.13	16.5
5	QPSK	12	7	16.29	16.23	16.22	16.21	16.06	
5	QPSK	12	13	16.30	16.28	16.22	16.24	16.03	
5	QPSK	25	0	16.24	16.23	16.30	16.29	16.06	
5	16QAM	1	0	16.15	16.22	16.23	16.26	16.16	16.5
5	16QAM	1	12	16.22	16.22	16.23	16.27	16.00	
5	16QAM	1	24	16.06	16.19	16.29	16.17	16.05	
5	16QAM	12	0	15.23	15.21	15.23	15.20	15.09	15.5
5	16QAM	12	7	15.28	15.26	15.23	15.26	15.04	
5	16QAM	12	13	15.30	15.26	15.31	15.23	15.11	
5	16QAM	25	0	15.24	15.24	15.20	15.24	15.01	
5	64QAM	1	0	15.15	15.10	15.24	15.22	15.04	15.5
5	64QAM	1	12	15.18	15.17	15.28	15.12	15.07	
5	64QAM	1	24	15.11	15.10	15.32	15.20	15.06	
5	64QAM	12	0	14.22	14.22	14.20	14.19	14.08	14.5
5	64QAM	12	7	14.29	14.29	14.22	14.30	14.04	
5	64QAM	12	13	14.27	14.24	14.27	14.20	14.10	
5	64QAM	25	0	14.25	14.26	14.18	14.26	14.07	
5	256QAM	1	0	12.07	12.27	12.10	12.27	11.90	12.5
5	256QAM	1	12	12.07	12.37	12.17	12.33	11.93	
5	256QAM	1	24	12.15	12.34	12.21	12.38	12.03	
5	256QAM	12	0	12.10	12.30	12.19	12.35	12.00	12.5
5	256QAM	12	7	12.19	12.41	12.29	12.44	12.11	
5	256QAM	12	13	12.16	12.40	12.26	12.42	12.12	
5	256QAM	25	0	12.18	12.35	12.24	12.34	12.10	





<LTE Band 41\_MIMO2 Ant\_Reduced Power>

Channel	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel	39750	40185	40620	41055	41490	
Frequency (MHz)	2506	2549.5	2593	2636.5	2680	
20 QPSK 1 0	17.01	17.05	17.18	17.07	16.98	17.5
20 QPSK 1 49	16.97	17.01	17.12	17.03	16.94	
20 QPSK 1 99	16.95	16.99	17.10	17.01	16.92	
20 QPSK 50 0	16.97	17.01	17.08	17.03	16.94	17.5
20 QPSK 50 24	16.96	17.00	17.07	17.02	16.93	
20 QPSK 50 50	16.95	16.99	17.06	17.01	16.92	
20 QPSK 100 0	16.96	17.00	17.07	17.02	16.93	
20 16QAM 1 0	17.00	17.04	17.11	17.06	16.97	17.5
20 16QAM 1 49	16.97	17.01	17.08	17.03	16.94	
20 16QAM 1 99	16.95	16.99	17.06	17.01	16.92	
20 16QAM 50 0	16.98	17.02	17.09	17.04	16.95	17.5
20 16QAM 50 24	16.97	17.01	17.08	17.03	16.94	
20 16QAM 50 50	17.00	17.04	17.11	17.06	16.97	
20 16QAM 100 0	16.99	17.03	17.10	17.05	16.96	
20 64QAM 1 0	16.98	17.02	17.09	17.04	16.95	17.5
20 64QAM 1 49	16.97	17.01	17.08	17.03	16.94	
20 64QAM 1 99	16.95	16.99	17.06	17.01	16.92	
20 64QAM 50 0	16.98	17.02	17.09	17.04	16.95	17.5
20 64QAM 50 24	16.99	17.03	17.10	17.05	16.96	
20 64QAM 50 50	16.96	17.00	17.07	17.02	16.93	
20 64QAM 100 0	16.95	16.99	17.06	17.01	16.92	
20 256QAM 1 0	16.80	16.84	16.91	16.86	16.77	17.5
20 256QAM 1 49	16.87	16.91	16.98	16.93	16.84	
20 256QAM 1 99	16.88	16.92	16.99	16.94	16.85	
20 256QAM 50 0	16.85	16.89	16.96	16.91	16.82	17.5
20 256QAM 50 24	16.85	16.89	16.96	16.91	16.82	
20 256QAM 50 50	16.91	16.95	17.02	16.97	16.88	
20 256QAM 100 0	16.90	16.94	17.01	16.96	16.87	
Channel	39725.4	40173.4	40620.4	41068.4	41515	
Frequency (MHz)	2503.5	2548.3	2593	2637.8	2682.5	
15 QPSK 1 0	16.99	16.95	17.13	17.06	16.97	17.50
15 QPSK 1 37	16.96	16.92	17.07	17.00	16.84	
15 QPSK 1 74	16.86	16.92	17.01	16.94	16.85	
15 QPSK 36 0	16.89	16.91	17.02	17.02	16.90	17.5
15 QPSK 36 20	16.90	16.99	17.03	17.00	16.88	
15 QPSK 36 39	16.88	16.97	17.03	16.94	16.87	
15 QPSK 75 0	16.86	16.94	17.06	16.99	16.83	17.5
15 16QAM 1 0	16.95	16.99	17.10	16.98	16.95	
15 16QAM 1 37	16.91	16.94	17.01	16.93	16.85	
15 16QAM 1 74	16.89	16.95	17.05	17.00	16.88	
15 16QAM 36 0	16.91	16.97	17.05	16.95	16.85	17.5
15 16QAM 36 20	16.90	16.96	16.99	16.95	16.91	
15 16QAM 36 39	16.98	16.96	17.08	17.04	16.87	
15 16QAM 75 0	16.96	16.95	17.01	16.95	16.86	17.5
15 64QAM 1 0	16.97	17.01	17.02	16.95	16.89	
15 64QAM 1 37	16.88	16.93	17.03	17.00	16.89	
15 64QAM 1 74	16.90	16.91	17.00	16.91	16.90	
15 64QAM 36 0	16.93	16.94	17.04	17.00	16.93	17.5
15 64QAM 36 20	16.92	17.01	17.08	16.98	16.87	
15 64QAM 36 39	16.89	16.91	17.04	16.97	16.91	
15 64QAM 75 0	16.91	16.93	17.01	16.99	16.86	17.5
15 256QAM 1 0	16.75	16.80	16.86	16.76	16.73	
15 256QAM 1 37	16.79	16.82	16.92	16.85	16.77	
15 256QAM 1 74	16.87	16.82	16.89	16.91	16.79	
15 256QAM 36 0	16.84	16.81	16.89	16.87	16.78	17.5
15 256QAM 36 20	16.82	16.80	16.94	16.84	16.73	



# FCC SAR TEST REPORT

Report No. : FA391816

15	256QAM	36	39	16.89	16.90	16.95	16.87	16.82	
15	256QAM	75	0	16.85	16.84	17.00	16.92	16.77	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	16.98	16.99	17.09	16.97	16.97	17.50
10	QPSK	1	25	16.94	16.94	17.04	16.94	16.87	
10	QPSK	1	49	16.89	16.95	17.01	16.98	16.83	
10	QPSK	25	0	16.88	17.00	17.03	17.01	16.92	17.5
10	QPSK	25	12	16.91	16.99	17.00	16.96	16.85	
10	QPSK	25	25	16.92	16.90	16.97	16.97	16.86	
10	QPSK	50	0	16.87	16.98	16.97	17.00	16.90	17.5
10	16QAM	1	0	16.93	17.00	17.05	17.05	16.88	
10	16QAM	1	25	16.91	16.97	17.00	16.93	16.92	
10	16QAM	1	49	16.88	16.93	17.04	16.94	16.84	17.5
10	16QAM	25	0	16.90	16.98	17.04	17.01	16.90	
10	16QAM	25	12	16.94	16.91	17.07	17.00	16.86	
10	16QAM	25	25	16.96	16.95	17.04	17.00	16.95	17.5
10	16QAM	50	0	16.94	17.01	17.07	16.95	16.93	
10	64QAM	1	0	16.91	16.95	17.08	16.97	16.91	
10	64QAM	1	25	16.92	16.91	16.99	16.96	16.88	17.5
10	64QAM	1	49	16.92	16.95	16.98	16.93	16.88	
10	64QAM	25	0	16.90	17.01	17.07	17.03	16.90	
10	64QAM	25	12	16.90	16.95	17.04	16.98	16.90	17.5
10	64QAM	25	25	16.94	16.98	17.01	16.93	16.83	
10	64QAM	50	0	16.87	16.92	17.04	16.91	16.83	
10	256QAM	1	0	16.90	17.02	17.04	17.02	16.95	17.5
10	256QAM	1	25	16.82	16.88	16.91	16.83	16.74	
10	256QAM	1	49	16.81	16.86	16.97	16.92	16.78	
10	256QAM	25	0	16.77	16.83	16.90	16.85	16.73	17.5
10	256QAM	25	12	16.76	16.81	16.90	16.82	16.76	
10	256QAM	25	25	16.90	16.92	17.00	16.89	16.78	
10	256QAM	50	0	16.87	16.85	16.92	16.89	16.86	
Channel				39675	40148	40620	41093	41565	
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	Tune-up limit (dBm)
5	QPSK	1	0	16.94	17.00	17.17	17.01	16.96	17.50
5	QPSK	1	12	16.93	16.92	17.02	16.94	16.86	
5	QPSK	1	24	16.86	16.98	17.01	16.99	16.84	
5	QPSK	12	0	16.93	16.91	17.03	16.97	16.85	17.5
5	QPSK	12	7	16.90	16.93	17.05	16.97	16.85	
5	QPSK	12	13	16.94	16.89	16.97	16.99	16.90	
5	QPSK	25	0	16.91	16.90	16.99	16.93	16.89	17.5
5	16QAM	1	0	16.96	16.98	17.06	16.96	16.90	
5	16QAM	1	12	16.96	16.97	17.06	16.96	16.88	
5	16QAM	1	24	16.91	16.91	16.98	16.91	16.90	17.5
5	16QAM	12	0	16.92	16.98	17.06	16.98	16.89	
5	16QAM	12	7	16.93	16.94	17.00	17.00	16.90	
5	16QAM	12	13	16.98	16.94	17.06	16.96	16.93	17.5
5	16QAM	25	0	16.89	16.96	17.01	17.04	16.88	
5	64QAM	1	0	16.88	16.92	17.03	17.01	16.85	
5	64QAM	1	12	16.94	16.96	17.05	17.02	16.84	17.5
5	64QAM	1	24	16.88	16.89	16.98	16.99	16.83	
5	64QAM	12	0	16.94	17.00	17.03	16.95	16.87	
5	64QAM	12	7	16.98	17.01	17.00	17.00	16.95	17.5
5	64QAM	12	13	16.88	16.97	17.05	16.99	16.91	
5	64QAM	25	0	16.92	16.94	17.03	16.94	16.83	
5	256QAM	1	0	16.93	16.95	17.04	16.98	16.92	17.5
5	256QAM	1	12	16.85	16.88	16.89	16.86	16.82	
5	256QAM	1	24	16.79	16.83	16.94	16.84	16.83	
5	256QAM	12	0	16.82	16.80	16.87	16.87	16.80	17.5
5	256QAM	12	7	16.80	16.81	16.87	16.81	16.81	
5	256QAM	12	13	16.82	16.87	16.97	16.90	16.81	
5	256QAM	25	0	16.83	16.84	16.96	16.95	16.83	



<LTE Band 41\_HPUE\_Main Ant\_Default Power>

Channel	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)
20	25.33	25.47	25.54	25.50	25.36	27
20	25.19	25.36	25.45	25.37	25.22	
20	25.18	25.32	25.44	25.37	25.25	
20	24.33	24.45	24.57	24.48	24.35	26
20	24.26	24.42	24.51	24.47	24.28	
20	24.30	24.44	24.56	24.48	24.37	
20	24.27	24.43	24.53	24.47	24.33	26
20	24.65	24.81	24.91	24.83	24.68	
20	24.53	24.69	24.78	24.74	24.58	
20	24.48	24.61	24.72	24.64	24.51	25
20	23.37	23.47	23.58	23.52	23.40	
20	23.30	23.45	23.54	23.45	23.33	
20	23.29	23.41	23.51	23.44	23.32	25
20	23.29	23.45	23.55	23.50	23.36	
20	24.54	24.68	24.76	24.69	24.56	
20	24.38	24.53	24.62	24.56	24.39	25
20	24.35	24.48	24.57	24.53	24.36	
20	23.32	23.46	23.57	23.50	23.38	
20	23.26	23.41	23.52	23.48	23.31	24
20	23.26	23.40	23.48	23.41	23.26	
20	23.25	23.43	23.51	23.44	23.29	
20	20.50	20.63	20.71	20.67	20.49	22
20	20.42	20.60	20.68	20.61	20.45	
20	20.34	20.47	20.58	20.51	20.39	
20	20.31	20.49	20.57	20.49	20.34	22
20	20.28	20.41	20.50	20.43	20.31	
20	20.23	20.40	20.48	20.41	20.28	
20	20.26	20.42	20.51	20.47	20.33	22
15	25.31	25.41	25.47	25.47	25.26	
15	25.17	25.26	25.42	25.30	25.13	
15	25.16	25.27	25.43	25.30	25.15	27
15	24.27	24.40	24.53	24.46	24.33	
15	24.16	24.41	24.48	24.42	24.18	
15	24.24	24.36	24.54	24.44	24.30	26
15	24.21	24.39	24.51	24.45	24.31	
15	24.58	24.76	24.90	24.77	24.66	
15	24.46	24.59	24.77	24.69	24.49	26
15	24.40	24.58	24.63	24.60	24.49	
15	23.28	23.38	23.55	23.50	23.35	
15	23.24	23.36	23.51	23.35	23.25	25
15	23.24	23.40	23.41	23.38	23.31	
15	23.19	23.37	23.54	23.40	23.32	
15	24.52	24.67	24.67	24.67	24.50	25
15	24.28	24.45	24.58	24.47	24.36	
15	24.25	24.44	24.49	24.51	24.30	
15	23.24	23.44	23.55	23.40	23.30	24
15	23.21	23.31	23.47	23.42	23.26	
15	23.25	23.36	23.43	23.35	23.23	
15	23.16	23.39	23.42	23.37	23.21	22
15	20.40	20.53	20.63	20.59	20.46	
15	20.39	20.59	20.66	20.54	20.35	
15	20.30	20.43	20.50	20.46	20.30	22
15	20.24	20.43	20.56	20.47	20.28	
15	20.21	20.34	20.45	20.36	20.21	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	20.18	20.39	20.47	20.35	20.22	
15	256QAM	75	0	20.25	20.40	20.48	20.43	20.27	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	25.26	25.45	25.45	25.45	25.32	27
10	QPSK	1	25	25.17	25.30	25.44	25.29	25.18	
10	QPSK	1	49	25.16	25.29	25.40	25.30	25.23	
10	QPSK	25	0	24.25	24.37	24.56	24.42	24.33	26
10	QPSK	25	12	24.18	24.34	24.41	24.42	24.24	
10	QPSK	25	25	24.29	24.39	24.50	24.38	24.30	
10	QPSK	50	0	24.18	24.36	24.52	24.46	24.28	
10	16QAM	1	0	24.59	24.80	24.89	24.79	24.66	26
10	16QAM	1	25	24.43	24.60	24.76	24.70	24.56	
10	16QAM	1	49	24.38	24.58	24.70	24.54	24.50	
10	16QAM	25	0	23.35	23.40	23.48	23.50	23.39	25
10	16QAM	25	12	23.29	23.44	23.46	23.36	23.23	
10	16QAM	25	25	23.20	23.34	23.48	23.39	23.27	
10	16QAM	50	0	23.28	23.39	23.45	23.47	23.28	
10	64QAM	1	0	24.45	24.63	24.69	24.63	24.48	25
10	64QAM	1	25	24.34	24.43	24.61	24.51	24.31	
10	64QAM	1	49	24.33	24.39	24.50	24.47	24.29	
10	64QAM	25	0	23.26	23.43	23.53	23.42	23.37	24
10	64QAM	25	12	23.19	23.40	23.51	23.43	23.24	
10	64QAM	25	25	23.20	23.31	23.39	23.36	23.20	
10	64QAM	50	0	23.20	23.34	23.49	23.37	23.19	
10	256QAM	1	0	20.45	20.59	20.69	20.59	20.39	22
10	256QAM	1	25	20.32	20.52	20.65	20.57	20.36	
10	256QAM	1	49	20.25	20.38	20.52	20.42	20.34	
10	256QAM	25	0	20.25	20.41	20.55	20.44	20.29	22
10	256QAM	25	12	20.25	20.31	20.40	20.36	20.22	
10	256QAM	25	25	20.18	20.32	20.43	20.34	20.21	
10	256QAM	50	0	20.16	20.35	20.45	20.42	20.29	
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	25.28	25.43	25.48	25.45	25.35	27
5	QPSK	1	12	25.09	25.32	25.37	25.35	25.16	
5	QPSK	1	24	25.08	25.24	25.34	25.34	25.20	
5	QPSK	12	0	24.26	24.40	24.51	24.42	24.31	26
5	QPSK	12	7	24.24	24.34	24.45	24.40	24.23	
5	QPSK	12	13	24.26	24.43	24.54	24.38	24.29	
5	QPSK	25	0	24.19	24.39	24.45	24.42	24.25	
5	16QAM	1	0	24.58	24.75	24.81	24.82	24.62	26
5	16QAM	1	12	24.51	24.60	24.75	24.73	24.52	
5	16QAM	1	24	24.44	24.57	24.69	24.56	24.47	
5	16QAM	12	0	23.27	23.40	23.55	23.46	23.34	25
5	16QAM	12	7	23.28	23.40	23.45	23.43	23.29	
5	16QAM	12	13	23.24	23.39	23.42	23.42	23.25	
5	16QAM	25	0	23.23	23.36	23.51	23.40	23.31	
5	64QAM	1	0	24.51	24.65	24.71	24.68	24.50	25
5	64QAM	1	12	24.31	24.47	24.58	24.52	24.34	
5	64QAM	1	24	24.31	24.43	24.48	24.47	24.26	
5	64QAM	12	0	23.28	23.44	23.56	23.42	23.33	24
5	64QAM	12	7	23.19	23.33	23.47	23.40	23.28	
5	64QAM	12	13	23.20	23.37	23.40	23.35	23.16	
5	64QAM	25	0	23.15	23.36	23.48	23.36	23.21	
5	256QAM	1	0	20.46	20.58	20.65	20.60	20.41	22
5	256QAM	1	12	20.33	20.51	20.63	20.53	20.43	
5	256QAM	1	24	20.25	20.40	20.50	20.43	20.30	
5	256QAM	12	0	20.23	20.43	20.53	20.46	20.31	22
5	256QAM	12	7	20.22	20.39	20.41	20.35	20.24	
5	256QAM	12	13	20.22	20.31	20.42	20.38	20.23	
5	256QAM	25	0	20.17	20.36	20.48	20.39	20.32	



<LTE Band 41\_HPUE\_Main Ant\_Reduced Power>

Channel	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	18.74	18.76	18.92	18.82	18.69	19.5
20	QPSK	1	49	18.73	18.74	18.81	18.76	18.67	
20	QPSK	1	99	18.71	18.74	18.85	18.79	18.67	
20	QPSK	50	0	17.85	17.86	17.88	17.86	17.70	18.5
20	QPSK	50	24	17.84	17.80	17.81	17.85	17.66	
20	QPSK	50	50	17.84	17.84	17.80	17.83	17.65	
20	QPSK	100	0	16.74	16.75	16.68	16.73	16.68	18.5
20	16QAM	1	0	17.96	18.01	18.09	18.12	18.02	
20	16QAM	1	49	18.09	18.22	18.12	18.10	17.92	
20	16QAM	1	99	17.91	17.99	18.17	18.03	17.96	17.5
20	16QAM	50	0	16.81	16.78	16.74	16.82	16.67	
20	16QAM	50	24	16.85	16.83	16.79	16.89	16.67	
20	16QAM	50	50	16.85	16.83	16.87	16.84	16.71	17.5
20	16QAM	100	0	16.33	16.33	16.28	16.32	16.11	
20	64QAM	1	0	16.92	16.96	17.04	17.07	16.88	
20	64QAM	1	49	16.89	17.00	16.96	17.07	16.81	17.5
20	64QAM	1	99	16.93	16.88	17.09	16.89	16.94	
20	64QAM	50	0	15.79	15.79	15.78	15.82	15.64	
20	64QAM	50	24	15.87	15.86	15.81	15.88	15.65	16.5
20	64QAM	50	50	15.84	15.83	15.89	15.83	15.67	
20	64QAM	100	0	16.29	16.30	16.28	16.33	16.14	
20	256QAM	1	0	13.90	14.09	14.04	14.00	13.73	14.5
20	256QAM	1	49	13.84	14.05	14.00	13.95	13.70	
20	256QAM	1	99	13.92	14.11	14.08	14.02	13.79	
20	256QAM	50	0	13.80	14.01	13.86	13.91	13.75	14.5
20	256QAM	50	24	13.88	14.01	13.97	13.96	13.69	
20	256QAM	50	50	13.83	13.95	13.93	13.92	13.65	
20	256QAM	100	0	13.83	13.96	13.92	13.91	13.65	
Channel	39725	40173	40620	41068	41515	Tune-up limit			
Frequency (MHz)	2503.5	2548.3	2593	2637.8	2682.5	(dBm)			
15	QPSK	1	0	18.67	18.69	18.87	18.75	18.62	19.50
15	QPSK	1	37	18.66	18.69	18.76	18.69	18.60	
15	QPSK	1	74	18.65	18.69	18.80	18.74	18.60	
15	QPSK	36	0	17.78	17.79	17.83	17.80	17.65	18.5
15	QPSK	36	20	17.77	17.73	17.74	17.78	17.60	
15	QPSK	36	39	17.77	17.77	17.75	17.77	17.59	
15	QPSK	75	0	16.68	16.68	16.61	16.68	16.61	18.5
15	16QAM	1	0	17.89	17.96	18.02	18.07	17.97	
15	16QAM	1	37	18.04	18.15	18.06	18.04	17.87	
15	16QAM	1	74	17.85	17.93	18.11	17.98	17.91	17.5
15	16QAM	36	0	16.76	16.73	16.68	16.77	16.60	
15	16QAM	36	20	16.80	16.76	16.72	16.83	16.62	
15	16QAM	36	39	16.80	16.77	16.80	16.77	16.66	17.5
15	16QAM	75	0	16.26	16.27	16.21	16.25	16.04	
15	64QAM	1	0	16.86	16.90	16.99	17.01	16.82	
15	64QAM	1	37	16.84	16.93	16.90	17.01	16.74	17.5
15	64QAM	1	74	16.88	16.81	17.03	16.83	16.87	
15	64QAM	36	0	15.74	15.72	15.72	15.77	15.59	
15	64QAM	36	20	15.82	15.80	15.76	15.83	15.60	16.5
15	64QAM	36	39	15.77	15.76	15.82	15.76	15.60	
15	64QAM	75	0	16.24	16.24	16.23	16.27	16.08	
15	256QAM	1	0	13.84	14.02	13.98	13.93	13.68	14.5
15	256QAM	1	37	13.79	13.99	13.94	13.90	13.63	
15	256QAM	1	74	13.85	14.04	14.02	13.97	13.72	
15	256QAM	36	0	13.75	13.96	13.79	13.86	13.70	14.5
15	256QAM	36	20	13.82	13.95	13.90	13.89	13.63	



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15	256QAM	36	39	13.78	13.88	13.87	13.85	13.58	
15	256QAM	75	0	13.77	13.89	13.87	13.86	13.60	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	18.67	18.71	18.87	18.77	18.63	19.50
10	QPSK	1	25	18.68	18.67	18.75	18.71	18.61	
10	QPSK	1	49	18.65	18.67	18.80	18.73	18.60	
10	QPSK	25	0	17.80	17.81	17.83	17.81	17.65	18.5
10	QPSK	25	12	17.77	17.74	17.76	17.79	17.61	
10	QPSK	25	25	17.79	17.77	17.73	17.77	17.60	
10	QPSK	50	0	16.69	16.70	16.61	16.66	16.61	
10	16QAM	1	0	17.90	17.94	18.04	18.05	17.97	18.5
10	16QAM	1	25	18.02	18.16	18.07	18.04	17.86	
10	16QAM	1	49	17.84	17.93	18.12	17.97	17.91	
10	16QAM	25	0	16.74	16.71	16.69	16.76	16.62	17.5
10	16QAM	25	12	16.79	16.76	16.72	16.84	16.60	
10	16QAM	25	25	16.78	16.78	16.82	16.79	16.66	
10	16QAM	50	0	16.28	16.28	16.23	16.26	16.05	
10	64QAM	1	0	16.87	16.89	16.97	17.01	16.81	17.5
10	64QAM	1	25	16.84	16.95	16.91	17.02	16.74	
10	64QAM	1	49	16.86	16.81	17.03	16.83	16.88	
10	64QAM	25	0	15.73	15.74	15.71	15.77	15.57	16.5
10	64QAM	25	12	15.80	15.80	15.74	15.83	15.60	
10	64QAM	25	25	15.77	15.76	15.83	15.78	15.60	
10	64QAM	50	0	16.24	16.25	16.21	16.28	16.07	
10	256QAM	1	0	13.85	14.03	13.97	13.94	13.67	14.5
10	256QAM	1	25	13.77	13.98	13.94	13.89	13.63	
10	256QAM	1	49	13.87	14.05	14.01	13.96	13.72	
10	256QAM	25	0	13.75	13.94	13.81	13.86	13.70	14.5
10	256QAM	25	12	13.83	13.96	13.90	13.89	13.62	
10	256QAM	25	25	13.77	13.90	13.87	13.87	13.60	
10	256QAM	50	0	13.77	13.91	13.87	13.84	13.60	
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	18.67	18.69	18.85	18.76	18.62	19.50
5	QPSK	1	12	18.67	18.69	18.76	18.70	18.61	
5	QPSK	1	24	18.64	18.68	18.78	18.72	18.62	
5	QPSK	12	0	17.80	17.80	17.83	17.80	17.63	18.5
5	QPSK	12	7	17.79	17.73	17.75	17.80	17.59	
5	QPSK	12	13	17.77	17.79	17.73	17.77	17.58	
5	QPSK	25	0	16.67	16.70	16.61	16.67	16.62	
5	16QAM	1	0	17.89	17.94	18.04	18.07	17.96	18.5
5	16QAM	1	12	18.04	18.15	18.06	18.03	17.87	
5	16QAM	1	24	17.86	17.92	18.10	17.98	17.91	
5	16QAM	12	0	16.76	16.71	16.68	16.76	16.61	17.5
5	16QAM	12	7	16.78	16.76	16.73	16.82	16.61	
5	16QAM	12	13	16.79	16.77	16.81	16.79	16.65	
5	16QAM	25	0	16.26	16.27	16.22	16.25	16.05	
5	64QAM	1	0	16.86	16.89	16.98	17.02	16.82	17.5
5	64QAM	1	12	16.83	16.95	16.89	17.02	16.75	
5	64QAM	1	24	16.88	16.82	17.03	16.84	16.87	
5	64QAM	12	0	15.73	15.72	15.72	15.76	15.59	16.5
5	64QAM	12	7	15.80	15.79	15.74	15.82	15.60	
5	64QAM	12	13	15.79	15.76	15.84	15.78	15.60	
5	64QAM	25	0	16.24	16.23	16.21	16.27	16.08	
5	256QAM	1	0	13.85	14.03	13.99	13.95	13.66	14.5
5	256QAM	1	12	13.78	13.98	13.94	13.90	13.65	
5	256QAM	1	24	13.85	14.04	14.03	13.97	13.73	
5	256QAM	12	0	13.74	13.96	13.79	13.85	13.68	14.5
5	256QAM	12	7	13.83	13.95	13.91	13.90	13.62	
5	256QAM	12	13	13.76	13.90	13.86	13.86	13.60	
5	256QAM	25	0	13.78	13.91	13.86	13.86	13.58	



<LTE Band 42\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	20.34	20.26	20.30	22
20	QPSK	1	49	20.30	20.23	20.20	
20	QPSK	1	99	20.25	20.17	20.18	
20	QPSK	50	0	19.50	19.42	19.46	21
20	QPSK	50	24	19.40	19.37	19.32	
20	QPSK	50	50	19.48	19.43	19.45	
20	QPSK	100	0	19.46	19.42	19.41	
20	16QAM	1	0	19.36	19.28	19.36	21
20	16QAM	1	49	19.32	19.27	19.29	
20	16QAM	1	99	19.26	19.17	19.19	
20	16QAM	50	0	18.34	18.32	18.30	20
20	16QAM	50	24	18.44	18.34	18.35	
20	16QAM	50	50	18.42	18.37	18.37	
20	16QAM	100	0	18.48	18.43	18.40	
20	64QAM	1	0	18.24	18.22	18.16	20
20	64QAM	1	49	18.32	18.23	18.30	
20	64QAM	1	99	18.15	18.11	18.05	
20	64QAM	50	0	17.36	17.34	17.35	19
20	64QAM	50	24	17.49	17.45	17.42	
20	64QAM	50	50	17.46	17.42	17.42	
20	64QAM	100	0	17.41	17.37	17.31	
20	256QAM	1	0	15.25	15.17	15.25	17
20	256QAM	1	49	15.33	15.29	15.28	
20	256QAM	1	99	15.35	15.33	15.25	
20	256QAM	50	0	15.42	15.38	15.35	17
20	256QAM	50	24	15.51	15.51	15.42	
20	256QAM	50	50	15.48	15.45	15.38	
20	256QAM	100	0	15.48	15.39	15.39	
Channel				42165	42590	43015	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	20.24	20.16	20.25	22
15	QPSK	1	37	20.20	20.15	20.13	
15	QPSK	1	74	20.18	20.10	20.08	
15	QPSK	36	0	19.44	19.36	19.37	21
15	QPSK	36	20	19.31	19.31	19.23	
15	QPSK	36	39	19.41	19.38	19.35	
15	QPSK	75	0	19.39	19.36	19.33	
15	16QAM	1	0	19.30	19.22	19.29	21
15	16QAM	1	37	19.22	19.21	19.24	
15	16QAM	1	74	19.17	19.10	19.12	
15	16QAM	36	0	18.28	18.25	18.20	20
15	16QAM	36	20	18.36	18.29	18.30	
15	16QAM	36	39	18.32	18.30	18.27	
15	16QAM	75	0	18.41	18.33	18.32	
15	64QAM	1	0	18.15	18.14	18.08	20
15	64QAM	1	37	18.26	18.14	18.23	
15	64QAM	1	74	18.09	18.02	18.00	
15	64QAM	36	0	17.26	17.26	17.26	19
15	64QAM	36	20	17.39	17.36	17.33	
15	64QAM	36	39	17.36	17.35	17.36	
15	64QAM	75	0	17.32	17.31	17.26	
15	256QAM	1	0	15.19	15.10	15.18	17
15	256QAM	1	37	15.27	15.21	15.21	
15	256QAM	1	74	15.25	15.27	15.20	
15	256QAM	36	0	15.36	15.33	15.29	17
15	256QAM	36	20	15.42	15.41	15.33	



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15	256QAM	36	39	15.38	15.37	15.32	
15	256QAM	75	0	15.42	15.31	15.33	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	20.28	20.18	20.25	22
10	QPSK	1	25	20.21	20.18	20.12	
10	QPSK	1	49	20.19	20.10	20.12	
10	QPSK	25	0	19.44	19.37	19.37	21
10	QPSK	25	12	19.31	19.31	19.26	
10	QPSK	25	25	19.41	19.36	19.35	
10	QPSK	50	0	19.38	19.35	19.35	
10	16QAM	1	0	19.28	19.23	19.29	
10	16QAM	1	25	19.25	19.19	19.24	21
10	16QAM	1	49	19.19	19.08	19.09	
10	16QAM	25	0	18.28	18.25	18.25	20
10	16QAM	25	12	18.34	18.28	18.29	
10	16QAM	25	25	18.35	18.28	18.30	
10	16QAM	50	0	18.42	18.36	18.30	
10	64QAM	1	0	18.17	18.15	18.11	
10	64QAM	1	25	18.25	18.14	18.22	20
10	64QAM	1	49	18.07	18.06	18.00	
10	64QAM	25	0	17.28	17.26	17.25	
10	64QAM	25	12	17.40	17.36	17.37	19
10	64QAM	25	25	17.36	17.35	17.33	
10	64QAM	50	0	17.32	17.27	17.26	
10	256QAM	1	0	15.18	15.11	15.19	17
10	256QAM	1	25	15.27	15.20	15.22	
10	256QAM	1	49	15.30	15.24	15.19	
10	256QAM	25	0	15.34	15.28	15.29	
10	256QAM	25	12	15.46	15.46	15.32	17
10	256QAM	25	25	15.41	15.38	15.32	
10	256QAM	50	0	15.40	15.33	15.32	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	20.24	20.17	20.23	22
5	QPSK	1	12	20.23	20.15	20.12	
5	QPSK	1	24	20.19	20.10	20.09	
5	QPSK	12	0	19.44	19.32	19.39	21
5	QPSK	12	7	19.31	19.28	19.26	
5	QPSK	12	13	19.42	19.38	19.40	
5	QPSK	25	0	19.37	19.35	19.35	
5	16QAM	1	0	19.31	19.23	19.28	
5	16QAM	1	12	19.23	19.21	19.24	21
5	16QAM	1	24	19.17	19.11	19.13	
5	16QAM	12	0	18.24	18.22	18.23	
5	16QAM	12	7	18.39	18.26	18.30	20
5	16QAM	12	13	18.35	18.32	18.29	
5	16QAM	25	0	18.40	18.38	18.34	
5	64QAM	1	0	18.19	18.13	18.11	
5	64QAM	1	12	18.22	18.15	18.24	
5	64QAM	1	24	18.05	18.06	18.00	20
5	64QAM	12	0	17.26	17.25	17.30	
5	64QAM	12	7	17.41	17.35	17.33	
5	64QAM	12	13	17.39	17.34	17.32	
5	64QAM	25	0	17.31	17.29	17.23	
5	256QAM	1	0	15.16	15.09	15.19	17
5	256QAM	1	12	15.25	15.21	15.21	
5	256QAM	1	24	15.28	15.24	15.15	
5	256QAM	12	0	15.34	15.32	15.30	
5	256QAM	12	7	15.44	15.41	15.34	17
5	256QAM	12	13	15.42	15.37	15.33	
5	256QAM	25	0	15.43	15.30	15.32	





<LTE Band 42\_MIMO2 Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	20.25	20.06	20.13	22
20	QPSK	1	49	20.22	20.07	20.10	
20	QPSK	1	99	20.17	20.02	20.11	
20	QPSK	50	0	19.33	19.10	19.12	21
20	QPSK	50	24	19.31	19.16	19.13	
20	QPSK	50	50	19.32	19.18	19.24	
20	QPSK	100	0	19.31	19.18	19.14	
20	16QAM	1	0	19.50	19.41	19.35	21
20	16QAM	1	49	19.65	19.49	19.48	
20	16QAM	1	99	19.52	19.35	19.39	
20	16QAM	50	0	18.33	18.12	18.12	20
20	16QAM	50	24	18.34	18.17	18.17	
20	16QAM	50	50	18.33	18.15	18.25	
20	16QAM	100	0	18.31	18.17	18.13	
20	64QAM	1	0	18.42	18.34	18.33	20
20	64QAM	1	49	18.50	18.30	18.34	
20	64QAM	1	99	18.38	18.22	18.37	
20	64QAM	50	0	17.31	17.09	17.12	19
20	64QAM	50	24	17.31	17.16	17.12	
20	64QAM	50	50	17.30	17.14	17.22	
20	64QAM	100	0	17.27	17.15	17.11	
20	256QAM	1	0	15.30	15.19	15.20	17
20	256QAM	1	49	15.38	15.20	15.26	
20	256QAM	1	99	15.39	15.22	15.35	
20	256QAM	50	0	15.28	15.09	15.11	17
20	256QAM	50	24	15.29	15.17	15.22	
20	256QAM	50	50	15.30	15.14	15.25	
20	256QAM	100	0	15.27	15.13	15.23	
Channel				42165	42590	43015	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	20.23	20.03	20.01	22
15	QPSK	1	37	20.15	20.02	20.03	
15	QPSK	1	74	20.13	20.03	20.06	
15	QPSK	36	0	19.26	19.08	19.03	21
15	QPSK	36	20	19.29	19.08	19.01	
15	QPSK	36	39	19.28	19.10	19.07	
15	QPSK	75	0	19.23	19.09	19.00	
15	16QAM	1	0	19.48	19.36	19.16	21
15	16QAM	1	37	19.61	19.42	19.35	
15	16QAM	1	74	19.43	19.32	19.22	
15	16QAM	36	0	18.24	18.06	18.09	20
15	16QAM	36	20	18.31	18.09	18.01	
15	16QAM	36	39	18.25	18.08	18.09	
15	16QAM	75	0	18.26	18.09	18.06	
15	64QAM	1	0	18.39	18.32	18.17	20
15	64QAM	1	37	18.44	18.25	18.19	
15	64QAM	1	74	18.29	18.15	18.21	
15	64QAM	36	0	17.22	17.07	17.07	19
15	64QAM	36	20	17.25	17.11	17.08	
15	64QAM	36	39	17.21	17.08	17.05	
15	64QAM	75	0	17.20	17.06	17.03	
15	256QAM	1	0	15.27	15.12	15.04	17
15	256QAM	1	37	15.36	15.17	15.10	
15	256QAM	1	74	15.34	15.16	15.22	
15	256QAM	36	0	15.22	15.00	15.03	17
15	256QAM	36	20	15.22	15.13	15.07	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	15.26	15.12	15.12	
15	256QAM	75	0	15.20	15.07	15.08	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	20.21	20.07	20.09	22
10	QPSK	1	25	20.20	20.04	20.01	
10	QPSK	1	49	20.10	20.04	20.05	
10	QPSK	25	0	19.30	19.06	19.05	21
10	QPSK	25	12	19.26	19.13	19.01	
10	QPSK	25	25	19.29	19.11	19.11	
10	QPSK	50	0	19.28	19.11	19.07	
10	16QAM	1	0	19.44	19.34	19.20	
10	16QAM	1	25	19.57	19.41	19.36	21
10	16QAM	1	49	19.48	19.30	19.21	
10	16QAM	25	0	18.29	18.04	18.04	20
10	16QAM	25	12	18.26	18.11	18.00	
10	16QAM	25	25	18.26	18.13	18.08	
10	16QAM	50	0	18.27	18.12	18.06	
10	64QAM	1	0	18.33	18.26	18.14	
10	64QAM	1	25	18.48	18.21	18.20	
10	64QAM	1	49	18.29	18.15	18.18	20
10	64QAM	25	0	17.23	17.01	17.07	
10	64QAM	25	12	17.22	17.07	17.08	
10	64QAM	25	25	17.23	17.11	17.07	19
10	64QAM	50	0	17.25	17.10	17.05	
10	256QAM	1	0	15.25	15.13	15.08	
10	256QAM	1	25	15.32	15.17	15.12	17
10	256QAM	1	49	15.37	15.17	15.17	
10	256QAM	25	0	15.24	15.06	15.05	
10	256QAM	25	12	15.20	15.12	15.08	17
10	256QAM	25	25	15.25	15.06	15.13	
10	256QAM	50	0	15.24	15.09	15.11	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	20.20	20.00	20.08	22
5	QPSK	1	12	20.20	20.04	20.05	
5	QPSK	1	24	20.11	20.09	20.04	
5	QPSK	12	0	19.31	19.02	19.05	21
5	QPSK	12	7	19.22	19.12	19.06	
5	QPSK	12	13	19.28	19.14	19.09	
5	QPSK	25	0	19.23	19.11	19.07	
5	16QAM	1	0	19.42	19.36	19.18	
5	16QAM	1	12	19.57	19.40	19.29	21
5	16QAM	1	24	19.48	19.26	19.26	
5	16QAM	12	0	18.24	18.08	18.00	
5	16QAM	12	7	18.30	18.12	18.02	20
5	16QAM	12	13	18.29	18.11	18.08	
5	16QAM	25	0	18.24	18.11	18.05	
5	64QAM	1	0	18.34	18.32	18.15	
5	64QAM	1	12	18.48	18.22	18.15	20
5	64QAM	1	24	18.33	18.14	18.22	
5	64QAM	12	0	17.26	17.05	17.09	19
5	64QAM	12	7	17.29	17.09	17.09	
5	64QAM	12	13	17.22	17.11	17.10	
5	64QAM	25	0	17.20	17.10	17.03	
5	256QAM	1	0	15.21	15.11	15.04	
5	256QAM	1	12	15.32	15.17	15.10	17
5	256QAM	1	24	15.36	15.16	15.20	
5	256QAM	12	0	15.24	15.05	15.09	
5	256QAM	12	7	15.21	15.11	15.09	17
5	256QAM	12	13	15.23	15.07	15.10	
5	256QAM	25	0	15.25	15.08	15.11	



<LTE Band 42\_Main Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	16.73	16.53	16.55	17
20	QPSK	1	49	16.71	16.47	16.51	
20	QPSK	1	99	16.67	16.43	16.45	
20	QPSK	50	0	16.72	16.45	16.46	17
20	QPSK	50	24	16.68	16.48	16.46	
20	QPSK	50	50	16.71	16.42	16.46	
20	QPSK	100	0	16.70	16.42	16.44	
20	16QAM	1	0	16.70	16.47	16.48	17
20	16QAM	1	49	16.59	16.36	16.37	
20	16QAM	1	99	16.65	16.41	16.46	
20	16QAM	50	0	16.57	16.33	16.37	17
20	16QAM	50	24	16.71	16.42	16.47	
20	16QAM	50	50	16.64	16.40	16.40	
20	16QAM	100	0	16.59	16.40	16.36	
20	64QAM	1	0	16.64	16.43	16.43	17
20	64QAM	1	49	16.61	16.38	16.34	
20	64QAM	1	99	16.64	16.38	16.39	
20	64QAM	50	0	16.56	16.35	16.31	17
20	64QAM	50	24	16.58	16.30	16.33	
20	64QAM	50	50	16.57	16.35	16.39	
20	64QAM	100	0	16.63	16.38	16.41	
20	256QAM	1	0	15.47	15.23	15.19	15.5
20	256QAM	1	49	15.47	15.28	15.21	
20	256QAM	1	99	15.41	15.14	15.21	
20	256QAM	50	0	15.32	15.08	15.06	15.5
20	256QAM	50	24	15.37	15.08	15.12	
20	256QAM	50	50	15.39	15.19	15.13	
20	256QAM	100	0	15.38	15.12	15.19	
Channel				42165	42590	43015	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	16.68	16.47	16.49	17
15	QPSK	1	37	16.66	16.40	16.46	
15	QPSK	1	74	16.62	16.37	16.38	
15	QPSK	36	0	16.64	16.38	16.38	17
15	QPSK	36	20	16.60	16.41	16.39	
15	QPSK	36	39	16.63	16.37	16.41	
15	QPSK	75	0	16.64	16.37	16.38	
15	16QAM	1	0	16.63	16.39	16.40	17
15	16QAM	1	37	16.54	16.29	16.31	
15	16QAM	1	74	16.60	16.33	16.40	
15	16QAM	36	0	16.52	16.25	16.32	17
15	16QAM	36	20	16.66	16.36	16.39	
15	16QAM	36	39	16.59	16.33	16.33	
15	16QAM	75	0	16.53	16.34	16.30	
15	64QAM	1	0	16.58	16.36	16.35	17
15	64QAM	1	37	16.54	16.32	16.29	
15	64QAM	1	74	16.57	16.31	16.33	
15	64QAM	36	0	16.50	16.30	16.23	17
15	64QAM	36	20	16.53	16.23	16.25	
15	64QAM	36	39	16.51	16.30	16.34	
15	64QAM	75	0	16.56	16.30	16.35	
15	256QAM	1	0	15.40	15.18	15.11	15.5
15	256QAM	1	37	15.42	15.22	15.15	
15	256QAM	1	74	15.34	15.08	15.16	
15	256QAM	36	0	15.24	15.00	14.98	15.5
15	256QAM	36	20	15.31	15.03	15.05	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	15.34	15.11	15.06	
15	256QAM	75	0	15.32	15.05	15.11	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	16.65	16.45	16.49	17
10	QPSK	1	25	16.66	16.41	16.44	
10	QPSK	1	49	16.62	16.36	16.37	
10	QPSK	25	0	16.66	16.40	16.39	17
10	QPSK	25	12	16.60	16.40	16.40	
10	QPSK	25	25	16.65	16.34	16.40	
10	QPSK	50	0	16.62	16.35	16.37	
10	16QAM	1	0	16.64	16.41	16.42	
10	16QAM	1	25	16.51	16.30	16.30	17
10	16QAM	1	49	16.58	16.35	16.41	
10	16QAM	25	0	16.52	16.26	16.32	17
10	16QAM	25	12	16.66	16.34	16.41	
10	16QAM	25	25	16.57	16.32	16.35	
10	16QAM	50	0	16.54	16.35	16.28	
10	64QAM	1	0	16.59	16.35	16.36	
10	64QAM	1	25	16.56	16.31	16.28	17
10	64QAM	1	49	16.57	16.30	16.32	
10	64QAM	25	0	16.48	16.28	16.26	
10	64QAM	25	12	16.51	16.22	16.26	17
10	64QAM	25	25	16.52	16.29	16.33	
10	64QAM	50	0	16.56	16.30	16.35	
10	256QAM	1	0	15.42	15.16	15.14	
10	256QAM	1	25	15.40	15.21	15.14	15.5
10	256QAM	1	49	15.34	15.08	15.16	
10	256QAM	25	0	15.24	15.00	14.99	
10	256QAM	25	12	15.31	15.03	15.05	15.5
10	256QAM	25	25	15.31	15.14	15.06	
10	256QAM	50	0	15.30	15.05	15.14	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	16.65	16.45	16.50	17
5	QPSK	1	12	16.63	16.40	16.43	
5	QPSK	1	24	16.59	16.36	16.37	
5	QPSK	12	0	16.64	16.37	16.40	17
5	QPSK	12	7	16.62	16.40	16.39	
5	QPSK	12	13	16.63	16.36	16.38	
5	QPSK	25	0	16.65	16.36	16.39	
5	16QAM	1	0	16.62	16.39	16.41	
5	16QAM	1	12	16.52	16.30	16.29	17
5	16QAM	1	24	16.60	16.34	16.40	
5	16QAM	12	0	16.52	16.26	16.31	
5	16QAM	12	7	16.63	16.35	16.39	17
5	16QAM	12	13	16.57	16.34	16.33	
5	16QAM	25	0	16.53	16.34	16.29	
5	64QAM	1	0	16.59	16.36	16.36	
5	64QAM	1	12	16.54	16.30	16.26	17
5	64QAM	1	24	16.56	16.31	16.34	
5	64QAM	12	0	16.48	16.29	16.24	
5	64QAM	12	7	16.50	16.24	16.28	17
5	64QAM	12	13	16.49	16.27	16.33	
5	64QAM	25	0	16.56	16.33	16.33	
5	256QAM	1	0	15.39	15.18	15.13	
5	256QAM	1	12	15.40	15.23	15.14	15.5
5	256QAM	1	24	15.33	15.08	15.14	
5	256QAM	12	0	15.24	15.01	15.00	
5	256QAM	12	7	15.32	15.01	15.07	15.5
5	256QAM	12	13	15.33	15.13	15.08	
5	256QAM	25	0	15.30	15.07	15.12	



<LTE Band 42\_MIMO2 Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	18.43	18.32	18.27	19
20	QPSK	1	49	18.40	18.23	18.26	
20	QPSK	1	99	18.33	18.24	18.22	
20	QPSK	50	0	17.52	17.20	17.25	18
20	QPSK	50	24	17.51	17.33	17.36	
20	QPSK	50	50	17.50	17.32	17.35	
20	QPSK	100	0	17.51	17.31	17.34	
20	16QAM	1	0	17.50	17.25	17.31	18
20	16QAM	1	49	17.48	17.20	17.39	
20	16QAM	1	99	17.36	17.25	17.26	
20	16QAM	50	0	16.47	16.25	16.26	17
20	16QAM	50	24	16.50	16.34	16.35	
20	16QAM	50	50	16.46	16.30	16.38	
20	16QAM	100	0	16.48	16.30	16.35	
20	64QAM	1	0	16.44	16.27	16.13	17
20	64QAM	1	49	16.28	16.15	16.30	
20	64QAM	1	99	16.29	16.20	16.24	
20	64QAM	50	0	15.50	15.22	15.27	16
20	64QAM	50	24	15.49	15.34	15.35	
20	64QAM	50	50	15.45	15.31	15.33	
20	64QAM	100	0	15.47	15.31	15.33	
20	256QAM	1	0	13.33	13.24	13.15	14
20	256QAM	1	49	13.40	13.22	13.14	
20	256QAM	1	99	13.42	13.30	13.23	
20	256QAM	50	0	13.48	13.23	13.24	14
20	256QAM	50	24	13.47	13.31	13.31	
20	256QAM	50	50	13.46	13.30	13.36	
20	256QAM	100	0	13.47	13.29	13.35	
Channel				42165	42590	43015	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	18.34	18.22	18.20	19
15	QPSK	1	37	18.33	18.16	18.17	
15	QPSK	1	74	18.28	18.15	18.12	
15	QPSK	36	0	17.43	17.14	17.15	18
15	QPSK	36	20	17.44	17.27	17.29	
15	QPSK	36	39	17.44	17.23	17.26	
15	QPSK	75	0	17.46	17.21	17.27	
15	16QAM	1	0	17.41	17.16	17.22	18
15	16QAM	1	37	17.43	17.14	17.30	
15	16QAM	1	74	17.28	17.17	17.17	
15	16QAM	36	0	16.38	16.18	16.18	17
15	16QAM	36	20	16.45	16.28	16.26	
15	16QAM	36	39	16.39	16.20	16.30	
15	16QAM	75	0	16.40	16.23	16.28	
15	64QAM	1	0	16.37	16.18	16.04	17
15	64QAM	1	37	16.20	16.09	16.22	
15	64QAM	1	74	16.21	16.12	16.16	
15	64QAM	36	0	15.42	15.16	15.21	16
15	64QAM	36	20	15.43	15.27	15.28	
15	64QAM	36	39	15.38	15.21	15.24	
15	64QAM	75	0	15.41	15.22	15.25	
15	256QAM	1	0	13.25	13.18	13.05	14
15	256QAM	1	37	13.34	13.15	13.08	
15	256QAM	1	74	13.35	13.23	13.15	
15	256QAM	36	0	13.41	13.16	13.15	14
15	256QAM	36	20	13.40	13.22	13.25	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	13.41	13.21	13.30	
15	256QAM	75	0	13.42	13.23	13.27	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	18.35	18.23	18.17	19
10	QPSK	1	25	18.31	18.15	18.18	
10	QPSK	1	49	18.27	18.14	18.14	
10	QPSK	25	0	17.42	17.12	17.17	18
10	QPSK	25	12	17.46	17.26	17.28	
10	QPSK	25	25	17.43	17.25	17.27	
10	QPSK	50	0	17.45	17.24	17.24	
10	16QAM	1	0	17.42	17.16	17.23	
10	16QAM	1	25	17.40	17.11	17.31	18
10	16QAM	1	49	17.29	17.19	17.20	
10	16QAM	25	0	16.41	16.18	16.16	17
10	16QAM	25	12	16.42	16.27	16.29	
10	16QAM	25	25	16.38	16.20	16.28	
10	16QAM	50	0	16.40	16.23	16.25	
10	64QAM	1	0	16.38	16.21	16.05	
10	64QAM	1	25	16.20	16.07	16.20	17
10	64QAM	1	49	16.22	16.14	16.16	
10	64QAM	25	0	15.44	15.14	15.21	
10	64QAM	25	12	15.40	15.25	15.29	16
10	64QAM	25	25	15.39	15.24	15.25	
10	64QAM	50	0	15.40	15.25	15.25	
10	256QAM	1	0	13.26	13.14	13.06	14
10	256QAM	1	25	13.34	13.12	13.06	
10	256QAM	1	49	13.33	13.20	13.13	
10	256QAM	25	0	13.40	13.13	13.18	14
10	256QAM	25	12	13.41	13.21	13.24	
10	256QAM	25	25	13.37	13.24	13.28	
10	256QAM	50	0	13.41	13.21	13.29	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	18.35	18.24	18.18	19
5	QPSK	1	12	18.31	18.13	18.16	
5	QPSK	1	24	18.26	18.14	18.16	
5	QPSK	12	0	17.44	17.10	17.19	18
5	QPSK	12	7	17.44	17.26	17.26	
5	QPSK	12	13	17.43	17.26	17.27	
5	QPSK	25	0	17.44	17.23	17.27	
5	16QAM	1	0	17.44	17.16	17.25	
5	16QAM	1	12	17.41	17.11	17.33	18
5	16QAM	1	24	17.31	17.17	17.19	
5	16QAM	12	0	16.42	16.19	16.19	
5	16QAM	12	7	16.44	16.28	16.27	17
5	16QAM	12	13	16.40	16.24	16.32	
5	16QAM	25	0	16.40	16.22	16.25	
5	64QAM	1	0	16.35	16.21	16.04	
5	64QAM	1	12	16.21	16.05	16.21	17
5	64QAM	1	24	16.23	16.10	16.18	
5	64QAM	12	0	15.43	15.14	15.19	16
5	64QAM	12	7	15.44	15.27	15.28	
5	64QAM	12	13	15.40	15.25	15.27	
5	64QAM	25	0	15.39	15.23	15.27	
5	256QAM	1	0	13.25	13.17	13.09	
5	256QAM	1	12	13.33	13.13	13.04	14
5	256QAM	1	24	13.37	13.24	13.15	
5	256QAM	12	0	13.42	13.14	13.18	14
5	256QAM	12	7	13.38	13.25	13.23	
5	256QAM	12	13	13.38	13.20	13.27	
5	256QAM	25	0	13.39	13.22	13.27	



<LTE Band 43\_MIMO2 Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				44690	45090	45490	
Frequency (MHz)				3710	3750	3790	
20	QPSK	1	0	20.17	20.28	20.10	22
20	QPSK	1	49	20.25	20.27	20.13	
20	QPSK	1	99	20.20	20.20	20.09	
20	QPSK	50	0	19.20	19.36	19.14	21
20	QPSK	50	24	19.32	19.25	19.11	
20	QPSK	50	50	19.31	19.21	19.22	
20	QPSK	100	0	19.23	19.29	19.14	
20	16QAM	1	0	19.49	19.46	19.41	21
20	16QAM	1	49	19.53	19.67	19.56	
20	16QAM	1	99	19.51	19.60	19.45	
20	16QAM	50	0	18.22	18.20	18.14	20
20	16QAM	50	24	18.34	18.25	18.16	
20	16QAM	50	50	18.31	18.36	18.22	
20	16QAM	100	0	18.30	18.24	18.12	
20	64QAM	1	0	18.50	18.38	18.34	20
20	64QAM	1	49	18.50	18.47	18.38	
20	64QAM	1	99	18.47	18.47	18.31	
20	64QAM	50	0	17.23	17.21	17.13	19
20	64QAM	50	24	17.31	17.25	17.13	
20	64QAM	50	50	17.31	17.34	17.21	
20	64QAM	100	0	17.30	17.21	17.13	
20	256QAM	1	0	15.60	15.55	15.49	17
20	256QAM	1	49	15.64	15.55	15.57	
20	256QAM	1	99	15.70	15.67	15.68	
20	256QAM	50	0	15.49	15.43	15.40	17
20	256QAM	50	24	15.61	15.51	15.45	
20	256QAM	50	50	15.59	15.50	15.56	
20	256QAM	100	0	15.58	15.48	15.44	
Channel				44665	45090	45515	Tune-up limit (dBm)
Frequency (MHz)				3707.5	3750	3792.5	
15	QPSK	1	0	20.07	20.20	20.03	22
15	QPSK	1	37	20.17	20.18	20.08	
15	QPSK	1	74	20.14	20.13	20.00	
15	QPSK	36	0	19.14	19.31	19.04	21
15	QPSK	36	20	19.23	19.19	19.05	
15	QPSK	36	39	19.26	19.16	19.14	
15	QPSK	75	0	19.17	19.20	19.06	
15	16QAM	1	0	19.42	19.38	19.31	21
15	16QAM	1	37	19.45	19.57	19.46	
15	16QAM	1	74	19.43	19.51	19.40	
15	16QAM	36	0	18.16	18.15	18.07	20
15	16QAM	36	20	18.28	18.18	18.07	
15	16QAM	36	39	18.22	18.28	18.17	
15	16QAM	75	0	18.20	18.15	18.04	
15	64QAM	1	0	18.40	18.31	18.28	20
15	64QAM	1	37	18.42	18.38	18.32	
15	64QAM	1	74	18.39	18.40	18.25	
15	64QAM	36	0	17.14	17.13	17.04	19
15	64QAM	36	20	17.21	17.16	17.05	
15	64QAM	36	39	17.23	17.28	17.12	
15	64QAM	75	0	17.21	17.13	17.03	
15	256QAM	1	0	15.53	15.48	15.42	17
15	256QAM	1	37	15.58	15.47	15.51	
15	256QAM	1	74	15.62	15.62	15.62	
15	256QAM	36	0	15.40	15.34	15.34	17
15	256QAM	36	20	15.51	15.42	15.35	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	15.51	15.40	15.47	
15	256QAM	75	0	15.52	15.41	15.38	
Channel				44640	45090	45540	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	QPSK	1	0	20.11	20.20	20.05	22
10	QPSK	1	25	20.17	20.21	20.08	
10	QPSK	1	49	20.13	20.14	20.03	
10	QPSK	25	0	19.12	19.29	19.09	21
10	QPSK	25	12	19.27	19.19	19.02	
10	QPSK	25	25	19.25	19.13	19.14	
10	QPSK	50	0	19.13	19.22	19.08	
10	16QAM	1	0	19.43	19.36	19.34	
10	16QAM	1	25	19.47	19.59	19.50	21
10	16QAM	1	49	19.42	19.55	19.39	
10	16QAM	25	0	18.15	18.15	18.07	20
10	16QAM	25	12	18.25	18.19	18.09	
10	16QAM	25	25	18.21	18.28	18.12	
10	16QAM	50	0	18.20	18.17	18.07	
10	64QAM	1	0	18.41	18.31	18.27	
10	64QAM	1	25	18.44	18.40	18.30	
10	64QAM	1	49	18.37	18.41	18.21	20
10	64QAM	25	0	17.16	17.16	17.04	
10	64QAM	25	12	17.21	17.16	17.03	19
10	64QAM	25	25	17.23	17.24	17.15	
10	64QAM	50	0	17.25	17.12	17.08	
10	256QAM	1	0	15.50	15.48	15.39	
10	256QAM	1	25	15.58	15.46	15.51	17
10	256QAM	1	49	15.64	15.58	15.61	
10	256QAM	25	0	15.44	15.33	15.31	
10	256QAM	25	12	15.54	15.43	15.39	17
10	256QAM	25	25	15.52	15.45	15.49	
10	256QAM	25	0	15.50	15.39	15.35	
Channel				44615	45090	45565	
Frequency (MHz)				3702.5	3750	3797.5	
5	QPSK	1	0	20.10	20.18	20.03	22
5	QPSK	1	12	20.16	20.19	20.07	
5	QPSK	1	24	20.13	20.13	20.00	
5	QPSK	12	0	19.14	19.26	19.09	21
5	QPSK	12	7	19.25	19.20	19.02	
5	QPSK	12	13	19.26	19.12	19.16	
5	QPSK	25	0	19.18	19.19	19.05	
5	16QAM	1	0	19.41	19.38	19.36	
5	16QAM	1	12	19.43	19.62	19.48	21
5	16QAM	1	24	19.44	19.51	19.39	
5	16QAM	12	0	18.13	18.11	18.05	
5	16QAM	12	7	18.25	18.16	18.09	20
5	16QAM	12	13	18.23	18.29	18.17	
5	16QAM	25	0	18.23	18.18	18.04	
5	64QAM	1	0	18.44	18.29	18.28	
5	64QAM	1	12	18.44	18.39	18.30	20
5	64QAM	1	24	18.42	18.39	18.24	
5	64QAM	12	0	17.16	17.14	17.04	19
5	64QAM	12	7	17.26	17.18	17.04	
5	64QAM	12	13	17.21	17.28	17.13	
5	64QAM	25	0	17.23	17.14	17.05	
5	256QAM	1	0	15.55	15.45	15.43	
5	256QAM	1	12	15.59	15.50	15.51	17
5	256QAM	1	24	15.61	15.59	15.58	
5	256QAM	12	0	15.39	15.35	15.30	17
5	256QAM	12	7	15.56	15.44	15.40	
5	256QAM	12	13	15.54	15.41	15.46	
5	256QAM	25	0	15.52	15.38	15.37	





<LTE Band 43\_MIMO2 Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				44690	45090	45490	
Frequency (MHz)				3710	3750	3790	
20	QPSK	1	0	19.08	19.09	19.02	20
20	QPSK	1	49	19.05	19.08	19.00	
20	QPSK	1	99	19.06	19.07	18.98	
20	QPSK	50	0	17.97	18.11	18.05	19
20	QPSK	50	24	18.05	18.08	18.04	
20	QPSK	50	50	18.06	18.07	18.02	
20	QPSK	100	0	18.04	18.07	18.01	19
20	16QAM	1	0	18.03	18.10	18.01	
20	16QAM	1	49	18.06	18.12	18.19	
20	16QAM	1	99	18.11	18.12	18.22	18
20	16QAM	50	0	17.01	17.06	17.11	
20	16QAM	50	24	17.05	17.09	17.25	
20	16QAM	50	50	17.16	17.19	17.28	18
20	16QAM	100	0	17.04	17.07	17.23	
20	64QAM	1	0	16.93	17.03	17.07	
20	64QAM	1	49	17.05	17.14	17.08	18
20	64QAM	1	99	17.10	17.06	17.16	
20	64QAM	50	0	15.98	16.05	16.05	
20	64QAM	50	24	16.02	16.07	16.21	17
20	64QAM	50	50	16.16	16.16	16.26	
20	64QAM	100	0	16.03	16.07	16.20	
20	256QAM	1	0	13.86	13.98	13.97	15
20	256QAM	1	49	13.95	14.07	14.08	
20	256QAM	1	99	14.15	14.17	14.21	
20	256QAM	50	0	13.95	14.04	14.09	15
20	256QAM	50	24	14.02	14.06	14.24	
20	256QAM	50	50	14.13	14.18	14.26	
20	256QAM	100	0	14.01	14.08	14.19	
Channel				44665	45090	45515	
Frequency (MHz)				3707.5	3750	3792.5	Tune-up limit (dBm)
15	QPSK	1	0	18.86	19.01	18.97	20
15	QPSK	1	37	19.00	19.03	18.95	
15	QPSK	1	74	19.01	19.02	18.93	
15	QPSK	36	0	17.90	18.03	17.99	19
15	QPSK	36	20	17.98	18.03	17.97	
15	QPSK	36	39	17.99	18.01	17.94	
15	QPSK	75	0	17.97	18.01	17.94	19
15	16QAM	1	0	17.97	18.05	17.94	
15	16QAM	1	37	18.01	18.06	18.12	
15	16QAM	1	74	18.04	18.07	18.15	18
15	16QAM	36	0	16.96	17.00	17.03	
15	16QAM	36	20	16.99	17.03	17.20	
15	16QAM	36	39	17.10	17.14	17.20	18
15	16QAM	75	0	16.96	17.01	17.16	
15	64QAM	1	0	16.88	16.96	17.02	
15	64QAM	1	37	16.99	17.08	17.03	18
15	64QAM	1	74	17.04	17.01	17.10	
15	64QAM	36	0	15.92	15.99	15.99	
15	64QAM	36	20	15.94	15.99	16.15	17
15	64QAM	36	39	16.08	16.11	16.19	
15	64QAM	75	0	15.95	16.01	16.12	
15	256QAM	1	0	13.79	13.92	13.90	15
15	256QAM	1	37	13.90	14.02	14.03	
15	256QAM	1	74	14.10	14.11	14.16	
15	256QAM	36	0	13.88	13.97	14.01	15
15	256QAM	36	20	13.95	13.99	14.16	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	14.05	14.13	14.21	
15	256QAM	75	0	13.96	14.01	14.11	
Channel				44640	45090	45540	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	QPSK	1	0	18.84	19.01	18.96	20
10	QPSK	1	25	19.00	19.01	18.92	
10	QPSK	1	49	19.01	19.01	18.91	
10	QPSK	25	0	17.89	18.05	17.99	19
10	QPSK	25	12	17.97	18.03	17.99	
10	QPSK	25	25	17.99	18.00	17.96	
10	QPSK	50	0	17.99	18.01	17.93	
10	16QAM	1	0	17.97	18.02	17.95	19
10	16QAM	1	25	18.00	18.04	18.14	
10	16QAM	1	49	18.06	18.05	18.15	
10	16QAM	25	0	16.96	17.00	17.03	18
10	16QAM	25	12	16.99	17.01	17.18	
10	16QAM	25	25	17.08	17.14	17.20	
10	16QAM	50	0	16.99	17.02	17.15	
10	64QAM	1	0	16.88	16.96	16.99	
10	64QAM	1	25	16.97	17.07	17.03	18
10	64QAM	1	49	17.04	17.00	17.10	
10	64QAM	25	0	15.91	15.97	16.00	
10	64QAM	25	12	15.95	16.02	16.14	17
10	64QAM	25	25	16.10	16.11	16.19	
10	64QAM	50	0	15.98	16.00	16.15	
10	256QAM	1	0	13.80	13.90	13.91	15
10	256QAM	1	25	13.90	13.99	14.02	
10	256QAM	1	49	14.10	14.10	14.15	
10	256QAM	25	0	13.90	13.99	14.01	
10	256QAM	25	12	13.96	14.00	14.18	15
10	256QAM	25	25	14.06	14.10	14.20	
10	256QAM	50	0	13.94	14.02	14.12	
Channel				44615	45090	45565	Tune-up limit (dBm)
Frequency (MHz)				3702.5	3750	3797.5	
5	QPSK	1	0	18.84	19.03	18.94	20
5	QPSK	1	12	19.00	19.03	18.93	
5	QPSK	1	24	18.99	19.02	18.90	
5	QPSK	12	0	17.89	18.06	17.98	19
5	QPSK	12	7	17.97	18.01	17.99	
5	QPSK	12	13	17.99	17.99	17.97	
5	QPSK	25	0	17.98	18.01	17.93	
5	16QAM	1	0	17.97	18.03	17.96	19
5	16QAM	1	12	18.00	18.05	18.13	
5	16QAM	1	24	18.03	18.07	18.17	
5	16QAM	12	0	16.95	16.99	17.04	
5	16QAM	12	7	16.98	17.03	17.20	18
5	16QAM	12	13	17.09	17.13	17.23	
5	16QAM	25	0	16.98	17.00	17.15	
5	64QAM	1	0	16.88	16.96	17.00	18
5	64QAM	1	12	17.00	17.08	17.03	
5	64QAM	1	24	17.03	16.98	17.10	
5	64QAM	12	0	15.93	15.98	15.97	17
5	64QAM	12	7	15.96	16.02	16.14	
5	64QAM	12	13	16.09	16.11	16.18	
5	64QAM	25	0	15.98	15.99	16.12	
5	256QAM	1	0	13.80	13.92	13.89	15
5	256QAM	1	12	13.87	14.02	14.02	
5	256QAM	1	24	14.08	14.12	14.14	
5	256QAM	12	0	13.88	13.98	14.01	15
5	256QAM	12	7	13.96	13.98	14.18	
5	256QAM	12	13	14.08	14.10	14.21	
5	256QAM	25	0	13.96	14.01	14.11	



<LTE Band 48\_Main Ant\_Default Power>

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	20.56	20.61	20.66	20.70	22
20	QPSK	1	49	20.54	20.50	20.52	20.64	
20	QPSK	1	99	20.47	20.42	20.45	20.57	
20	QPSK	50	0	19.58	19.62	19.60	19.70	21
20	QPSK	50	24	19.57	19.57	19.58	19.66	
20	QPSK	50	50	19.53	19.52	19.51	19.62	
20	QPSK	100	0	19.59	19.62	19.64	19.72	
20	16QAM	1	0	19.23	19.20	19.19	19.31	21
20	16QAM	1	49	19.18	19.19	19.13	19.28	
20	16QAM	1	99	19.18	19.17	19.18	19.26	
20	16QAM	50	0	18.60	18.61	18.57	18.72	20
20	16QAM	50	24	18.55	18.53	18.56	18.66	
20	16QAM	50	50	18.48	18.48	18.50	18.62	
20	16QAM	100	0	18.60	18.56	18.60	18.70	
20	64QAM	1	0	18.12	18.06	18.11	18.21	20
20	64QAM	1	49	18.03	18.04	18.05	18.17	
20	64QAM	1	99	18.00	18.01	18.04	18.15	
20	64QAM	50	0	17.55	17.53	17.55	17.65	19
20	64QAM	50	24	17.49	17.49	17.48	17.63	
20	64QAM	50	50	17.51	17.48	17.45	17.59	
20	64QAM	100	0	17.57	17.54	17.53	17.66	
20	256QAM	1	0	15.64	15.63	15.69	15.78	17
20	256QAM	1	49	15.63	15.61	15.68	15.76	
20	256QAM	1	99	15.57	15.58	15.63	15.71	
20	256QAM	50	0	15.59	15.56	15.59	15.68	17
20	256QAM	50	24	15.50	15.53	15.51	15.65	
20	256QAM	50	50	15.53	15.52	15.55	15.66	
20	256QAM	100	0	15.55	15.53	15.53	15.66	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	20.46	20.54	20.57	20.64	22
15	QPSK	1	37	20.44	20.45	20.43	20.59	
15	QPSK	1	74	20.41	20.37	20.36	20.47	
15	QPSK	36	0	19.49	19.53	19.53	19.60	21
15	QPSK	36	20	19.50	19.51	19.51	19.61	
15	QPSK	36	39	19.47	19.42	19.41	19.54	
15	QPSK	75	0	19.51	19.52	19.57	19.62	
15	16QAM	1	0	19.18	19.11	19.10	19.24	21
15	16QAM	1	37	19.13	19.09	19.05	19.18	
15	16QAM	1	74	19.12	19.09	19.11	19.16	
15	16QAM	36	0	18.52	18.54	18.52	18.67	20
15	16QAM	36	20	18.46	18.45	18.48	18.60	
15	16QAM	36	39	18.38	18.43	18.45	18.54	
15	16QAM	75	0	18.55	18.46	18.50	18.63	
15	64QAM	1	0	18.06	18.06	18.03	18.16	20
15	64QAM	1	37	18.07	18.04	18.07	18.10	
15	64QAM	1	74	18.02	18.01	18.04	18.06	
15	64QAM	36	0	17.48	17.46	17.50	17.58	19
15	64QAM	36	20	17.44	17.40	17.42	17.54	
15	64QAM	36	39	17.42	17.41	17.37	17.54	
15	64QAM	75	0	17.48	17.45	17.44	17.56	
15	256QAM	1	0	15.58	15.58	15.62	15.71	17
15	256QAM	1	37	15.58	15.52	15.61	15.71	
15	256QAM	1	74	15.48	15.50	15.55	15.63	
15	256QAM	36	0	15.51	15.49	15.52	15.59	17
15	256QAM	36	20	15.42	15.46	15.44	15.59	



**FCC SAR TEST REPORT**

**Report No. : FA391816**

15	256QAM	36	39	15.43	15.47	15.46	15.57	
15	256QAM	75	0	15.48	15.43	15.48	15.58	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	20.51	20.53	20.58	20.61	22
10	QPSK	1	25	20.46	20.42	20.43	20.58	
10	QPSK	1	49	20.38	20.36	20.37	20.51	
10	QPSK	25	0	19.51	19.54	19.50	19.63	21
10	QPSK	25	12	19.49	19.51	19.51	19.59	
10	QPSK	25	25	19.48	19.44	19.42	19.55	
10	QPSK	50	0	19.54	19.57	19.54	19.65	
10	16QAM	1	0	19.18	19.10	19.14	19.26	21
10	16QAM	1	25	19.09	19.11	19.08	19.18	
10	16QAM	1	49	19.10	19.08	19.13	19.17	
10	16QAM	25	0	18.54	18.54	18.50	18.63	20
10	16QAM	25	12	18.45	18.43	18.48	18.56	
10	16QAM	25	25	18.41	18.39	18.42	18.57	
10	16QAM	50	0	18.53	18.47	18.52	18.60	
10	64QAM	1	0	18.03	18.08	18.02	18.13	20
10	64QAM	1	25	18.06	18.09	18.09	18.10	
10	64QAM	1	49	18.00	18.05	18.08	18.09	
10	64QAM	25	0	17.45	17.48	17.49	17.58	19
10	64QAM	25	12	17.42	17.41	17.41	17.58	
10	64QAM	25	25	17.43	17.42	17.39	17.52	
10	64QAM	50	0	17.49	17.48	17.43	17.58	
10	256QAM	1	0	15.56	15.56	15.61	15.68	17
10	256QAM	1	25	15.57	15.51	15.63	15.68	
10	256QAM	1	49	15.52	15.49	15.53	15.61	
10	256QAM	25	0	15.54	15.49	15.52	15.59	17
10	256QAM	25	12	15.40	15.44	15.46	15.59	
10	256QAM	25	25	15.43	15.47	15.45	15.59	
10	256QAM	50	0	15.50	15.43	15.46	15.60	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	20.49	20.55	20.56	20.64	22
5	QPSK	1	12	20.47	20.45	20.45	20.58	
5	QPSK	1	24	20.38	20.33	20.35	20.50	
5	QPSK	12	0	19.53	19.55	19.52	19.60	21
5	QPSK	12	7	19.51	19.50	19.50	19.57	
5	QPSK	12	13	19.45	19.46	19.44	19.52	
5	QPSK	25	0	19.54	19.53	19.58	19.66	
5	16QAM	1	0	19.14	19.11	19.09	19.23	21
5	16QAM	1	12	19.08	19.11	19.08	19.18	
5	16QAM	1	24	19.12	19.08	19.10	19.17	
5	16QAM	12	0	18.52	18.56	18.48	18.65	20
5	16QAM	12	7	18.49	18.45	18.48	18.57	
5	16QAM	12	13	18.39	18.40	18.43	18.55	
5	16QAM	25	0	18.51	18.49	18.55	18.64	
5	64QAM	1	0	18.07	18.06	18.03	18.14	20
5	64QAM	1	12	18.07	18.04	18.07	18.08	
5	64QAM	1	24	18.03	18.02	18.08	18.10	
5	64QAM	12	0	17.45	17.48	17.47	17.58	19
5	64QAM	12	7	17.41	17.40	17.41	17.58	
5	64QAM	12	13	17.41	17.42	17.40	17.53	
5	64QAM	25	0	17.52	17.45	17.47	17.56	
5	256QAM	1	0	15.59	15.53	15.60	15.73	17
5	256QAM	1	12	15.56	15.54	15.59	15.67	
5	256QAM	1	24	15.50	15.50	15.54	15.62	
5	256QAM	12	0	15.52	15.46	15.54	15.59	17
5	256QAM	12	7	15.45	15.47	15.43	15.60	
5	256QAM	12	13	15.48	15.42	15.48	15.56	
5	256QAM	25	0	15.49	15.44	15.47	15.61	



<LTE Band 48\_MIMO2 Ant\_Default Power>

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	20.12	20.14	20.10	20.30	22
20	QPSK	1	49	20.15	20.17	20.23	20.27	
20	QPSK	1	99	20.19	20.13	20.24	20.26	
20	QPSK	50	0	19.13	19.18	19.17	19.38	21
20	QPSK	50	24	19.24	19.28	19.32	19.36	
20	QPSK	50	50	19.24	19.25	19.33	19.30	
20	QPSK	100	0	19.25	19.22	19.29	19.38	
20	16QAM	1	0	19.39	19.38	19.47	19.51	21
20	16QAM	1	49	19.48	19.56	19.80	19.65	
20	16QAM	1	99	19.48	19.44	19.55	19.62	
20	16QAM	50	0	18.11	18.16	18.19	18.27	20
20	16QAM	50	24	18.23	18.23	18.29	18.37	
20	16QAM	50	50	18.28	18.24	18.34	18.38	
20	16QAM	100	0	18.20	18.24	18.30	18.35	
20	64QAM	1	0	18.31	18.37	18.44	18.51	20
20	64QAM	1	49	18.40	18.41	18.49	18.52	
20	64QAM	1	99	18.38	18.37	18.52	18.51	
20	64QAM	50	0	17.11	17.14	17.18	17.26	19
20	64QAM	50	24	17.23	17.24	17.32	17.35	
20	64QAM	50	50	17.23	17.23	17.31	17.36	
20	64QAM	100	0	17.20	17.23	17.30	17.33	
20	256QAM	1	0	15.59	15.51	15.51	15.30	17
20	256QAM	1	49	15.67	15.60	15.56	15.36	
20	256QAM	1	99	15.78	15.61	15.55	15.43	
20	256QAM	50	0	15.50	15.42	15.37	15.21	17
20	256QAM	50	24	15.60	15.47	15.49	15.25	
20	256QAM	50	50	15.50	15.51	15.44	15.33	
20	256QAM	100	0	15.42	15.47	15.44	15.24	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	20.02	20.04	20.04	20.25	22
15	QPSK	1	37	20.09	20.07	20.13	20.22	
15	QPSK	1	74	20.10	20.06	20.17	20.23	
15	QPSK	36	0	19.03	19.09	19.10	19.35	21
15	QPSK	36	20	19.14	19.20	19.22	19.34	
15	QPSK	36	39	19.14	19.18	19.24	19.26	
15	QPSK	75	0	19.18	19.16	19.20	19.34	
15	16QAM	1	0	19.32	19.30	19.40	19.49	21
15	16QAM	1	37	19.38	19.50	19.72	19.64	
15	16QAM	1	74	19.38	19.38	19.46	19.61	
15	16QAM	36	0	18.02	18.09	18.11	18.25	20
15	16QAM	36	20	18.15	18.13	18.20	18.36	
15	16QAM	36	39	18.22	18.18	18.27	18.36	
15	16QAM	75	0	18.14	18.16	18.24	18.33	
15	64QAM	1	0	18.23	18.29	18.37	18.48	20
15	64QAM	1	37	18.34	18.33	18.41	18.48	
15	64QAM	1	74	18.32	18.31	18.43	18.48	
15	64QAM	36	0	17.02	17.04	17.09	17.21	19
15	64QAM	36	20	17.17	17.17	17.25	17.34	
15	64QAM	36	39	17.17	17.16	17.24	17.34	
15	64QAM	75	0	17.11	17.13	17.21	17.32	
15	256QAM	1	0	15.53	15.43	15.41	15.29	17
15	256QAM	1	37	15.59	15.50	15.50	15.33	
15	256QAM	1	74	15.71	15.55	15.45	15.40	
15	256QAM	36	0	15.40	15.35	15.31	15.16	17
15	256QAM	36	20	15.52	15.37	15.40	15.22	



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15	256QAM	36	39	15.42	15.43	15.34	15.28	
15	256QAM	75	0	15.34	15.37	15.37	15.22	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	20.05	20.04	20.00	20.29	22
10	QPSK	1	25	20.09	20.09	20.14	20.22	
10	QPSK	1	49	20.12	20.04	20.14	20.22	
10	QPSK	25	0	19.05	19.12	19.08	19.33	21
10	QPSK	25	12	19.16	19.19	19.26	19.35	
10	QPSK	25	25	19.17	19.15	19.23	19.27	
10	QPSK	50	0	19.19	19.16	19.21	19.34	
10	16QAM	1	0	19.32	19.32	19.40	19.47	21
10	16QAM	1	25	19.39	19.47	19.72	19.60	
10	16QAM	1	49	19.40	19.38	19.45	19.59	
10	16QAM	25	0	18.04	18.08	18.11	18.26	20
10	16QAM	25	12	18.17	18.15	18.20	18.36	
10	16QAM	25	25	18.19	18.15	18.26	18.33	
10	16QAM	50	0	18.12	18.14	18.23	18.30	
10	64QAM	1	0	18.23	18.30	18.35	18.50	20
10	64QAM	1	25	18.32	18.34	18.39	18.49	
10	64QAM	1	49	18.29	18.30	18.42	18.47	
10	64QAM	25	0	17.01	17.06	17.08	17.25	19
10	64QAM	25	12	17.14	17.16	17.23	17.33	
10	64QAM	25	25	17.14	17.14	17.23	17.32	
10	64QAM	50	0	17.13	17.16	17.24	17.31	
10	256QAM	1	0	15.50	15.42	15.41	15.29	17
10	256QAM	1	25	15.60	15.54	15.47	15.33	
10	256QAM	1	49	15.72	15.51	15.49	15.39	
10	256QAM	25	0	15.42	15.36	15.27	15.19	17
10	256QAM	25	12	15.50	15.41	15.39	15.23	
10	256QAM	25	25	15.41	15.42	15.34	15.32	
10	256QAM	50	0	15.34	15.40	15.35	15.22	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	20.06	20.05	20.01	20.26	22
5	QPSK	1	12	20.09	20.08	20.17	20.25	
5	QPSK	1	24	20.13	20.07	20.18	20.22	
5	QPSK	12	0	19.03	19.08	19.09	19.37	21
5	QPSK	12	7	19.16	19.19	19.25	19.34	
5	QPSK	12	13	19.17	19.17	19.26	19.25	
5	QPSK	25	0	19.16	19.13	19.21	19.35	
5	16QAM	1	0	19.30	19.28	19.38	19.49	21
5	16QAM	1	12	19.39	19.47	19.70	19.64	
5	16QAM	1	24	19.40	19.34	19.45	19.57	
5	16QAM	12	0	18.02	18.08	18.11	18.25	20
5	16QAM	12	7	18.16	18.16	18.21	18.35	
5	16QAM	12	13	18.20	18.17	18.25	18.33	
5	16QAM	25	0	18.11	18.17	18.24	18.30	
5	64QAM	1	0	18.25	18.30	18.35	18.50	20
5	64QAM	1	12	18.30	18.31	18.42	18.49	
5	64QAM	1	24	18.29	18.27	18.46	18.50	
5	64QAM	12	0	17.01	17.04	17.12	17.25	19
5	64QAM	12	7	17.17	17.15	17.23	17.34	
5	64QAM	12	13	17.17	17.13	17.22	17.32	
5	64QAM	25	0	17.13	17.16	17.24	17.32	
5	256QAM	1	0	15.52	15.43	15.45	15.28	17
5	256QAM	1	12	15.57	15.51	15.46	15.34	
5	256QAM	1	24	15.70	15.54	15.47	15.41	
5	256QAM	12	0	15.43	15.34	15.30	15.20	17
5	256QAM	12	7	15.54	15.37	15.41	15.21	
5	256QAM	12	13	15.43	15.45	15.34	15.31	
5	256QAM	25	0	15.35	15.37	15.36	15.20	



<LTE Band 48\_Main Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	17.28	17.28	17.37	17.63	18
20	QPSK	1	49	17.38	17.38	17.34	17.25	
20	QPSK	1	99	17.45	17.41	17.41	17.35	
20	QPSK	50	0	17.42	17.35	17.40	17.48	18
20	QPSK	50	24	17.43	17.46	17.44	17.47	
20	QPSK	50	50	17.43	17.44	17.43	17.46	
20	QPSK	100	0	17.42	17.43	17.42	17.46	18
20	16QAM	1	0	17.47	17.45	17.47	17.46	
20	16QAM	1	49	17.48	17.47	17.45	17.42	
20	16QAM	1	99	17.43	17.47	17.48	17.44	18
20	16QAM	50	0	17.39	17.40	17.36	17.31	
20	16QAM	50	24	17.37	17.36	17.40	17.40	
20	16QAM	50	50	17.38	17.45	17.41	17.38	18
20	16QAM	100	0	17.37	17.45	17.42	17.40	
20	64QAM	1	0	17.43	17.49	17.46	17.43	
20	64QAM	1	49	17.47	17.42	17.47	17.44	18
20	64QAM	1	99	17.49	17.48	17.46	17.43	
20	64QAM	50	0	17.38	17.38	17.41	17.35	
20	64QAM	50	24	17.52	17.49	17.51	17.41	18
20	64QAM	50	50	17.54	17.48	17.52	17.50	
20	64QAM	100	0	17.50	17.52	17.50	17.49	
20	256QAM	1	0	17.48	17.49	17.48	17.44	18
20	256QAM	1	49	17.26	17.30	17.29	17.23	
20	256QAM	1	99	17.37	17.35	17.34	17.27	
20	256QAM	50	0	17.10	17.17	17.15	17.07	18
20	256QAM	50	24	17.29	17.32	17.31	17.21	
20	256QAM	50	50	17.31	17.29	17.31	17.26	
20	256QAM	100	0	17.29	17.30	17.25	17.15	
Channel				55315	55820	56160	56665	
Frequency (MHz)				3557.5	3608	3642	3692.5	Tune-up limit (dBm)
15	QPSK	1	0	17.19	17.22	17.30	17.55	18
15	QPSK	1	37	17.29	17.30	17.28	17.19	
15	QPSK	1	74	17.39	17.34	17.33	17.29	
15	QPSK	36	0	17.35	17.26	17.33	17.41	18
15	QPSK	36	20	17.34	17.40	17.37	17.41	
15	QPSK	36	39	17.34	17.38	17.37	17.37	
15	QPSK	75	0	17.35	17.34	17.35	17.37	18
15	16QAM	1	0	17.40	17.39	17.39	17.39	
15	16QAM	1	37	17.42	17.38	17.39	17.33	
15	16QAM	1	74	17.37	17.40	17.39	17.36	18
15	16QAM	36	0	17.33	17.34	17.28	17.25	
15	16QAM	36	20	17.30	17.27	17.34	17.32	
15	16QAM	36	39	17.31	17.38	17.32	17.29	18
15	16QAM	75	0	17.31	17.38	17.33	17.32	
15	64QAM	1	0	17.37	17.43	17.39	17.34	
15	64QAM	1	37	17.40	17.35	17.39	17.35	18
15	64QAM	1	74	17.41	17.41	17.40	17.37	
15	64QAM	36	0	17.30	17.31	17.34	17.28	
15	64QAM	36	20	17.46	17.40	17.42	17.32	18
15	64QAM	36	39	17.45	17.40	17.46	17.42	
15	64QAM	75	0	17.42	17.43	17.43	17.42	
15	256QAM	1	0	17.40	17.41	17.40	17.36	18
15	256QAM	1	37	17.20	17.21	17.21	17.14	
15	256QAM	1	74	17.28	17.29	17.25	17.20	
15	256QAM	36	0	17.02	17.11	17.09	17.01	18
15	256QAM	36	20	17.22	17.26	17.22	17.15	



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15	256QAM	36	39	17.25	17.21	17.23	17.19	
15	256QAM	75	0	17.23	17.24	17.16	17.08	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	17.20	17.22	17.28	17.55	18
10	QPSK	1	25	17.29	17.29	17.25	17.18	
10	QPSK	1	49	17.36	17.34	17.34	17.26	
10	QPSK	25	0	17.33	17.26	17.34	17.41	18
10	QPSK	25	12	17.35	17.38	17.35	17.41	
10	QPSK	25	25	17.35	17.36	17.34	17.38	
10	QPSK	50	0	17.36	17.37	17.34	17.40	
10	16QAM	1	0	17.41	17.39	17.38	17.37	18
10	16QAM	1	25	17.41	17.40	17.38	17.35	
10	16QAM	1	49	17.35	17.41	17.39	17.37	
10	16QAM	25	0	17.30	17.34	17.27	17.22	18
10	16QAM	25	12	17.28	17.27	17.34	17.33	
10	16QAM	25	25	17.30	17.38	17.35	17.31	
10	16QAM	50	0	17.30	17.37	17.35	17.31	
10	64QAM	1	0	17.36	17.43	17.37	17.35	18
10	64QAM	1	25	17.39	17.33	17.39	17.35	
10	64QAM	1	49	17.42	17.42	17.39	17.35	
10	64QAM	25	0	17.30	17.32	17.34	17.27	18
10	64QAM	25	12	17.44	17.41	17.45	17.32	
10	64QAM	25	25	17.46	17.41	17.46	17.44	
10	64QAM	50	0	17.43	17.44	17.41	17.43	
10	256QAM	1	0	17.39	17.40	17.39	17.38	18
10	256QAM	1	25	17.19	17.24	17.22	17.17	
10	256QAM	1	49	17.28	17.28	17.26	17.18	
10	256QAM	25	0	17.03	17.08	17.07	17.01	18
10	256QAM	25	12	17.23	17.25	17.23	17.12	
10	256QAM	25	25	17.23	17.21	17.22	17.19	
10	256QAM	50	0	17.20	17.21	17.18	17.08	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	17.19	17.21	17.31	17.57	18
5	QPSK	1	12	17.32	17.29	17.25	17.17	
5	QPSK	1	24	17.38	17.33	17.33	17.29	
5	QPSK	12	0	17.33	17.27	17.33	17.41	18
5	QPSK	12	7	17.34	17.37	17.37	17.38	
5	QPSK	12	13	17.37	17.36	17.36	17.39	
5	QPSK	25	0	17.35	17.35	17.34	17.37	
5	16QAM	1	0	17.41	17.37	17.40	17.37	18
5	16QAM	1	12	17.39	17.38	17.38	17.33	
5	16QAM	1	24	17.35	17.40	17.39	17.35	
5	16QAM	12	0	17.31	17.31	17.28	17.24	18
5	16QAM	12	7	17.30	17.28	17.33	17.33	
5	16QAM	12	13	17.29	17.36	17.32	17.31	
5	16QAM	25	0	17.28	17.39	17.35	17.31	
5	64QAM	1	0	17.36	17.41	17.39	17.35	18
5	64QAM	1	12	17.40	17.35	17.39	17.36	
5	64QAM	1	24	17.42	17.42	17.38	17.37	
5	64QAM	12	0	17.29	17.31	17.32	17.28	18
5	64QAM	12	7	17.46	17.43	17.43	17.33	
5	64QAM	12	13	17.45	17.40	17.43	17.43	
5	64QAM	25	0	17.43	17.43	17.41	17.41	
5	256QAM	1	0	17.39	17.43	17.39	17.38	18
5	256QAM	1	12	17.19	17.23	17.20	17.16	
5	256QAM	1	24	17.30	17.26	17.27	17.19	
5	256QAM	12	0	17.01	17.10	17.08	16.99	18
5	256QAM	12	7	17.22	17.23	17.23	17.12	
5	256QAM	12	13	17.22	17.22	17.22	17.19	
5	256QAM	25	0	17.22	17.24	17.17	17.06	





<LTE Band 48\_MIMO2 Ant\_Reduced Power>

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	19.00	19.04	19.03	19.16	20
20	QPSK	1	49	18.97	19.05	18.94	19.03	
20	QPSK	1	99	18.91	19.03	18.91	19.01	
20	QPSK	50	0	18.08	18.05	17.99	18.19	19
20	QPSK	50	24	18.10	18.14	18.00	18.18	
20	QPSK	50	50	18.01	18.15	18.04	18.15	
20	QPSK	100	0	18.08	18.16	17.98	18.18	19
20	16QAM	1	0	17.99	18.08	18.06	18.03	
20	16QAM	1	49	18.12	18.03	18.08	18.21	
20	16QAM	1	99	17.90	18.11	17.91	18.25	18
20	16QAM	50	0	17.08	17.06	16.97	17.15	
20	16QAM	50	24	17.09	17.20	16.98	17.16	
20	16QAM	50	50	17.05	17.17	17.02	17.30	18
20	16QAM	100	0	17.05	17.18	17.02	17.18	
20	64QAM	1	0	16.94	17.09	17.02	17.04	
20	64QAM	1	49	17.02	17.07	16.94	17.06	18
20	64QAM	1	99	16.81	17.03	16.80	17.21	
20	64QAM	50	0	16.08	16.05	15.98	16.10	
20	64QAM	50	24	16.05	16.17	15.97	16.15	17
20	64QAM	50	50	16.05	16.15	16.01	16.27	
20	64QAM	100	0	16.04	16.15	15.96	16.18	
20	256QAM	1	0	13.99	14.03	13.91	13.98	15
20	256QAM	1	49	13.89	14.03	13.95	14.10	
20	256QAM	1	99	13.98	14.02	13.89	14.23	
20	256QAM	50	0	14.07	14.11	13.98	14.10	15
20	256QAM	50	24	14.04	14.08	13.99	14.18	
20	256QAM	50	50	13.99	14.03	14.00	14.25	
20	256QAM	100	0	14.05	14.09	13.97	14.17	
Channel				55315	55820	56160	56665	
Frequency (MHz)				3557.5	3608	3642	3692.5	Tune-up limit (dBm)
15	QPSK	1	0	18.93	18.96	18.98	19.00	20
15	QPSK	1	37	18.91	18.98	18.86	18.97	
15	QPSK	1	74	18.86	18.95	18.85	18.94	
15	QPSK	36	0	18.03	17.97	17.94	18.13	19
15	QPSK	36	20	18.02	18.08	17.93	18.10	
15	QPSK	36	39	17.93	18.08	17.99	18.09	
15	QPSK	75	0	18.03	18.09	17.93	18.10	19
15	16QAM	1	0	17.94	18.00	18.01	17.96	
15	16QAM	1	37	18.06	17.97	18.02	18.14	
15	16QAM	1	74	17.83	18.06	17.85	18.17	18
15	16QAM	36	0	17.02	17.00	16.90	17.07	
15	16QAM	36	20	17.04	17.14	16.91	17.09	
15	16QAM	36	39	16.98	17.12	16.96	17.23	18
15	16QAM	75	0	17.00	17.11	16.96	17.12	
15	64QAM	1	0	16.89	17.04	16.95	16.97	
15	64QAM	1	37	16.97	17.02	16.87	16.98	18
15	64QAM	1	74	16.73	16.97	16.72	17.15	
15	64QAM	36	0	16.02	15.98	15.90	16.04	
15	64QAM	36	20	15.99	16.10	15.91	16.08	17
15	64QAM	36	39	15.98	16.07	15.93	16.22	
15	64QAM	75	0	15.97	16.10	15.88	16.10	
15	256QAM	1	0	13.92	13.98	13.85	13.92	15
15	256QAM	1	37	13.81	13.98	13.90	14.05	
15	256QAM	1	74	13.93	13.96	13.84	14.18	
15	256QAM	36	0	14.02	14.06	13.92	14.02	15
15	256QAM	36	20	13.97	14.00	13.92	14.12	



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15	256QAM	36	39	13.94	13.97	13.95	14.20	
15	256QAM	75	0	14.00	14.02	13.91	14.11	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	18.95	18.96	18.95	18.99	20
10	QPSK	1	25	18.92	18.99	18.87	18.95	
10	QPSK	1	49	18.84	18.97	18.84	18.95	
10	QPSK	25	0	18.02	17.98	17.91	18.11	19
10	QPSK	25	12	18.04	18.09	17.95	18.11	
10	QPSK	25	25	17.94	18.07	17.98	18.09	
10	QPSK	50	0	18.03	18.09	17.90	18.12	
10	16QAM	1	0	17.93	18.03	18.00	17.97	19
10	16QAM	1	25	18.07	17.97	18.02	18.15	
10	16QAM	1	49	17.84	18.04	17.83	18.19	
10	16QAM	25	0	17.02	16.99	16.91	17.10	18
10	16QAM	25	12	17.01	17.12	16.92	17.09	
10	16QAM	25	25	17.00	17.12	16.97	17.23	
10	16QAM	50	0	16.99	17.10	16.95	17.10	
10	64QAM	1	0	16.87	17.02	16.95	16.98	18
10	64QAM	1	25	16.95	17.01	16.89	17.00	
10	64QAM	1	49	16.74	16.97	16.74	17.13	
10	64QAM	25	0	16.00	15.99	15.90	16.05	17
10	64QAM	25	12	15.97	16.11	15.90	16.10	
10	64QAM	25	25	15.98	16.09	15.96	16.19	
10	64QAM	50	0	15.99	16.09	15.89	16.10	
10	256QAM	1	0	13.94	13.98	13.84	13.90	15
10	256QAM	1	25	13.84	13.96	13.88	14.04	
10	256QAM	1	49	13.92	13.95	13.83	14.16	
10	256QAM	25	0	13.99	14.04	13.93	14.03	15
10	256QAM	25	12	13.98	14.03	13.91	14.13	
10	256QAM	25	25	13.92	13.96	13.92	14.19	
10	256QAM	50	0	13.98	14.01	13.90	14.10	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	18.94	18.98	18.96	18.98	20
5	QPSK	1	12	18.89	18.99	18.89	18.96	
5	QPSK	1	24	18.83	18.95	18.85	18.95	
5	QPSK	12	0	18.03	17.97	17.94	18.12	19
5	QPSK	12	7	18.04	18.07	17.92	18.13	
5	QPSK	12	13	17.94	18.09	17.96	18.10	
5	QPSK	25	0	18.00	18.10	17.91	18.13	
5	16QAM	1	0	17.93	18.02	18.01	17.95	19
5	16QAM	1	12	18.07	17.97	18.02	18.16	
5	16QAM	1	24	17.85	18.03	17.84	18.20	
5	16QAM	12	0	17.00	17.00	16.91	17.10	18
5	16QAM	12	7	17.01	17.13	16.92	17.10	
5	16QAM	12	13	16.99	17.10	16.94	17.22	
5	16QAM	25	0	16.99	17.12	16.96	17.11	
5	64QAM	1	0	16.87	17.04	16.97	16.99	18
5	64QAM	1	12	16.97	17.01	16.86	17.01	
5	64QAM	1	24	16.76	16.96	16.74	17.14	
5	64QAM	12	0	16.00	15.97	15.92	16.04	17
5	64QAM	12	7	15.99	16.12	15.89	16.09	
5	64QAM	12	13	15.98	16.08	15.94	16.22	
5	64QAM	25	0	15.96	16.08	15.88	16.13	
5	256QAM	1	0	13.91	13.98	13.84	13.91	15
5	256QAM	1	12	13.84	13.97	13.89	14.05	
5	256QAM	1	24	13.92	13.97	13.83	14.16	
5	256QAM	12	0	14.02	14.03	13.92	14.03	15
5	256QAM	12	7	13.98	14.00	13.94	14.12	
5	256QAM	12	13	13.94	13.97	13.95	14.18	
5	256QAM	25	0	13.97	14.03	13.92	14.12	



**<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		
Number	Combination	Covered by	Number	Combination	Covered by
		Measurement Superset			Measurement Superset
1	CA_43C		61	CA_48D	417
2	CA_48B	417	62	CA_66D	417
3	CA_48C	417	63	CA_25A-25A-25A	418
4	CA_66B	417	64	CA_48A-48C	417
5	CA_2A-2A	409	65	CA_66A-66A-66A	417
6	CA_4A-4A	410	66	CA_66A-66B	417
7	CA_25A-25A	418	67	CA_66A-66C	417
8	CA_43A-43A		68	CA_2A-2A-4A	290
9	CA_48A-48A	417	69	CA_2A-2A-5A	398
10	CA_2A-4A	290	70	CA_2A-2A-7A	402
11	CA_2A-5A	398	71	CA_2A-2A-12A	389
12	CA_2A-12A	389	72	CA_2A-2A-13A	407
13	CA_2A-13A	407	73	CA_2A-2A-14A	392
14	CA_2A-14A	392	74	CA_2A-2A-29A	393
15	CA_2A-26A	180	75	CA_2A-2A-30A	394
16	CA_2A-29A	393	76	CA_2A-2A-46A	408
17	CA_2A-30A	394	77	CA_2A-2A-66A	409
18	CA_2A-46A	408	78	CA_2A-2A-71A	325
19	CA_2A-48A	409	79	CA_2A-4A-4A	290
20	CA_2A-66A	409	80	CA_2A-5B	398
21	CA_2A-71A	325	81	CA_2C-5A	398
22	CA_4A-12A	327	82	CA_2A-7A-7A	402
23	CA_4A-13A	158	83	CA_2A-7C	402
24	CA_4A-29A	328	84	CA_2A-12A-12A	389
25	CA_4A-30A	410	85	CA_2C-12A	389
26	CA_4A-46A	365	86	CA_2C-29A	393
27	CA_4A-48A	366	87	CA_2C-30A	394
28	CA_4A-71A	271	88	CA_2A-46A-46A	408
29	CA_5A-25A		89	CA_2A-46C	408
30	CA_5A-30A	412	90	CA_2A-48A-48A	409
31	CA_5A-38A		91	CA_2A-48C	409
32	CA_5A-41A		92	CA_2A-66A-66A	409
33	CA_5A-48A	336	93	CA_2A-66B	409
34	CA_7A-12A	340	94	CA_2A-66C	409
35	CA_7A-13A	388	95	CA_2C-66A	409
36	CA_7A-25A	415	96	CA_4A-4A-5A	410
37	CA_7A-26A	198	97	CA_4A-4A-7A	290
38	CA_7A-29A	344	98	CA_4A-4A-12A	327
39	CA_7A-66A	415	99	CA_4A-4A-13A	158
40	CA_12A-25A		100	CA_4A-4A-29A	328
41	CA_12A-30A	345	101	CA_4A-4A-30A	410
42	CA_12A-66A	389	102	CA_4A-4A-71A	271
43	CA_13A-48A	417	103	CA_4A-5B	410
44	CA_13A-66A	417	104	CA_4A-7A-7A	290



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45	CA_14A-30A	351	105	CA_4A-12A-12A	327
46	CA_14A-66A	392	106	CA_4A-46A-46A	365
47	CA_25A-26A	418	107	CA_4A-46C	365
48	CA_25A-41A	418	108	CA_4A-48C	366
49	CA_25A-46A	256	109	CA_5A-5A-66A	413
50	CA_25A-66A	415	110	CA_5B-30A	412
51	CA_26A-41A	418	111	CA_5A-66A-66A	413
52	CA_29A-30A	354	112	CA_5A-66B	413
53	CA_29A-66A	393	113	CA_5A-66C	413
54	CA_30A-66A	412	114	CA_5B-66A	413
55	CA_41A-46A	374	115	CA_7A-7A-13A	388
56	CA_41A-48A		116	CA_7A-7A-25A	415
57	CA_46A-66A	416	117	CA_7A-7A-26A	198
58	CA_48A-66A	417	118	CA_7A-7A-29A	344
59	CA_48A-71A	154	119	CA_7A-7A-46A	411
60	CA_66A-71A	325	120	CA_7A-7A-66A	415
			121	CA_7C-13A	388
			122	CA_7A-25A-25A	415
			123	CA_7C-25A	415
			124	CA_7C-29A	344
			125	CA_7A-66A-66A	415
			126	CA_7C-66A	415
			127	CA_12A-66A-66A	389
			128	CA_12A-66C	389
			129	CA_13A-48A-48A	417
			130	CA_13A-48C	417
			131	CA_13A-66A-66A	417
			132	CA_13A-66B	417
			133	CA_13A-66C	417
			134	CA_14A-66A-66A	392
			135	CA_25A-25A-26A	418
			136	CA_25A-25A-41A	418
			137	CA_25A-25A-66A	415
			138	CA_25A-41C	418
			139	CA_25A-46C	256
			140	CA_26A-41C	418
			141	CA_29A-66A-66A	393
			142	CA_30A-66A-66A	412
			143	CA_41A-46C	374
			144	CA_46A-46A-66A	416
			145	CA_46A-66A-66A	416
			146	CA_46A-66C	416
			147	CA_46C-66A	416
			148	CA_48A-48A-66A	417
			149	CA_48A-48A-71A	154
			150	CA_48A-66A-66A	417
			151	CA_48A-66B	417
			152	CA_48A-66C	417
			153	CA_48C-66A	417
			154	CA_48C-71A	
			155	CA_66A-66A-71A	325
			156	CA_66C-71A	325
			157	CA_2A-4A-12A	287
			158	CA_2A-4A-13A	
			159	CA_2A-4A-29A	
			160	CA_2A-4A-30A	



			161	CA_2A-4A-71A	271
			162	CA_2A-5A-7A	292
			163	CA_2A-5A-30A	394
			164	CA_2A-5A-46A	395
			165	CA_2A-5A-48A	
			166	CA_2A-5A-66A	398
			167	CA_2A-7A-12A	274
			168	CA_2A-7A-13A	388
			169	CA_2A-7A-26A	
			170	CA_2A-7A-29A	305
			171	CA_2A-7A-46A	401
			172	CA_2A-7A-66A	402
			173	CA_2A-12A-30A	309
			174	CA_2A-12A-66A	389
			175	CA_2A-13A-46A	403
			176	CA_2A-13A-48A	404
			177	CA_2A-13A-66A	407
			178	CA_2A-14A-30A	280
			179	CA_2A-14A-66A	392
			180	CA_2A-26A-66A	
			181	CA_2A-29A-30A	318
			182	CA_2A-29A-66A	393
			183	CA_2A-30A-66A	320
			184	CA_2A-46A-66A	408
			185	CA_2A-48A-66A	409
			186	CA_2A-66A-71A	325
			187	CA_4A-5A-30A	410
			188	CA_4A-7A-12A	
			189	CA_4A-12A-30A	327
			190	CA_4A-29A-30A	328
			191	CA_5A-7A-46A	411
			192	CA_5A-30A-66A	412
			193	CA_5A-46A-66A	413
			194	CA_5A-48A-66A	336
			195	CA_7A-12A-66A	340
			196	CA_7A-13A-66A	341
			197	CA_7A-25A-66A	415
			198	CA_7A-26A-66A	
			199	CA_7A-29A-66A	344
			200	CA_7A-46A-66A	
			201	CA_12A-30A-66A	345
			202	CA_13A-46A-66A	416
			203	CA_13A-48A-66A	417
			204	CA_14A-30A-66A	351
			205	CA_25A-26A-41A	418
			206	CA_29A-30A-66A	354
			207	CA_29A-46A-66A	

4CC Downlink Carrier Aggregation			5CC Downlink Carrier Aggregation		
Number	Combination	Covered by	Number	Combination	Covered by
		Measurement Superset			Measurement Superset
208	CA_48E	417	355	CA_48A-48E	417
209	CA_48A-48D	417	356	CA_48C-48D	417
210	CA_48C-48C	417	357	CA_2A-2A-46D	408
211	CA_2A-2A-4A-4A	290	358	CA_2A-2A-66A-66B	409
212	CA_2A-2A-5B	398	359	CA_2A-2A-66A-66C	409



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213	CA_2A-2A-7A-7A	402	360	CA_2A-46A-46D	408
214	CA_2A-2A-7C	402	361	CA_2A-46E	408
215	CA_2A-2A-12A-12A	389	362	CA_2A-48A-48D	409
216	CA_2A-2A-46C	408	363	CA_2A-48C-48C	409
217	CA_2A-2A-66A-66A	409	364	CA_2A-48E	409
218	CA_2A-2A-66B	409	365	CA_4A-46A-46D	
219	CA_2A-2A-66C	409	366	CA_4A-48E	
220	CA_2A-46A-46C	408	367	CA_5B-66A-66B	413
221	CA_2A-46D	408	368	CA_5B-66A-66C	413
222	CA_2A-48A-48C	409	369	CA_7A-7A-46D	411
223	CA_2A-48D	409	370	CA_13A-48A-48D	417
224	CA_2A-66A-66A-66A	409	371	CA_13A-48C-48C	417
225	CA_2A-66A-66B	409	372	CA_25A-25A-41D	418
226	CA_2A-66A-66C	409	373	CA_25A-41E	418
227	CA_2C-66A-66A	409	374	CA_41A-46E	
228	CA_2A-66D	409	375	CA_46A-46D-66A	416
229	CA_4A-4A-5B	410	376	CA_46D-66A-66A	416
230	CA_4A-4A-12A-12A	327	377	CA_46E-66A	416
231	CA_4A-46A-46C	365	378	CA_48A-48C-66B	417
232	CA_4A-46D	365	379	CA_48A-48C-66C	417
233	CA_4A-48D	366	380	CA_48A-48D-66A	417
234	CA_5A-5A-66A-66A	413	381	CA_48C-48C-66A	417
235	CA_5A-5A-66B	413	382	CA_48E-66A	417
236	CA_5A-5A-66C	413	383	CA_2A-2A-5A-66A-66A	398
237	CA_5A-48D	336	384	CA_2A-2A-5A-66B	398
238	CA_5A-66A-66B	413	385	CA_2A-2A-5A-66C	398
239	CA_5A-66A-66C	413	386	CA_2A-2A-5B-66A	398
240	CA_5B-66A-66A	413	387	CA_2A-2A-7A-7A-13A	388
241	CA_5A-66D	413	388	CA_2A-2A-7C-13A	
242	CA_5B-66B	413	389	CA_2A-2A-12A-66A-66A	
243	CA_5B-66C	413	390	CA_2A-2A-13A-66A-66A	407
244	CA_7A-7A-25A-25A	415	391	CA_2A-2A-13A-66B	407
245	CA_7A-7A-46C	411	392	CA_2A-2A-14A-66A-66A	
246	CA_7A-7A-66A-66A	415	393	CA_2A-2A-29A-66A-66A	
247	CA_7C-25A-25A	415	394	CA_2C-5B-30A	
248	CA_13A-48A-48C	417	395	CA_2A-5A-46D	
249	CA_13A-48D	417	396	CA_2A-5B-66A-66A	398
250	CA_13A-66A-66B	417	397	CA_2A-5B-66B	398
251	CA_13A-66A-66C	417	398	CA_2A-5B-66C	
252	CA_13A-66D	417	399	CA_2A-7A-7A-46C	401
253	CA_14A-66A-66A-66A	392	400	CA_2A-7A-7A-66A-66A	402
254	CA_25A-25A-41C	418	401	CA_2A-7A-46D	
255	CA_25A-41D	418	402	CA_2A-7C-66A-66A	
256	CA_25A-46D		403	CA_2A-13A-46D	
257	CA_41A-46D	374	404	CA_2A-13A-48D	
258	CA_46A-46C-66A	416	405	CA_2A-13A-66A-66B	407
259	CA_46C-66A-66A	416	406	CA_2A-13A-66A-66C	407
260	CA_46D-66A	416	407	CA_2A-13A-66D	
261	CA_48A-48A-66A-66A	417	408	CA_2A-46D-66A	
262	CA_48A-48A-66B	417	409	CA_2A-48D-66A	
263	CA_48A-48A-66C	417	410	CA_4A-4A-5B-30A	
264	CA_48A-48C-66A	417	411	CA_5A-7A-46D	
265	CA_48C-66A-66A	417	412	CA_5B-30A-66A-66A	
266	CA_48C-66B	417	413	CA_5A-46D-66A	
267	CA_48C-66C	417	414	CA_7A-7A-25A-25A-66A	415
268	CA_48D-66A	417	415	CA_7C-25A-25A-66A	



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269	CA_2A-2A-4A-5A	288	416	CA_13A-46D-66A	
270	CA_2A-2A-4A-12A	287	417	CA_13A-48D-66A	
271	CA_2A-2A-4A-71A		418	CA_25A-25A-26A-41C	
272	CA_2A-2A-5A-30A	394			
273	CA_2A-2A-5A-66A	398			
274	CA_2A-2A-7A-12A				
275	CA_2A-2A-7A-13A	388			
276	CA_2A-2A-7A-66A	402			
277	CA_2A-2A-12A-30A	309			
278	CA_2A-2A-12A-66A	389			
279	CA_2A-2A-13A-66A	407			
280	CA_2A-2A-14A-30A				
281	CA_2A-2A-14A-66A	392			
282	CA_2A-2A-29A-30A	318			
283	CA_2A-2A-29A-66A	393			
284	CA_2A-2A-30A-66A	320			
285	CA_2A-2A-66A-71A	325			
286	CA_2A-4A-4A-5A	288			
287	CA_2A-4A-4A-12A				
288	CA_2A-4A-5B				
289	CA_2A-4A-7A-7A	290			
290	CA_2A-4A-7C				
291	CA_2A-5A-7A-7A	292			
292	CA_2A-5A-7C				
293	CA_2A-5B-30A	394			
294	CA_2C-5A-30A	394			
295	CA_2A-5A-46C	395			
296	CA_2A-5A-66A-66A	398			
297	CA_2A-5A-66B	398			
298	CA_2A-5A-66C	398			
299	CA_2A-5B-66A	398			
300	CA_2A-7A-7A-13A	388			
301	CA_2A-7A-7A-29A	305			
302	CA_2A-7A-7A-46A	401			
303	CA_2A-7A-7A-66A	402			
304	CA_2A-7C-13A	388			
305	CA_2A-7C-29A				
306	CA_2A-7A-46C	401			
307	CA_2A-7A-66A-66A	402			
308	CA_2A-7C-66A	402			
309	CA_2C-12A-30A				
310	CA_2A-12A-66A-66A	389			
311	CA_2A-12A-66C	389			
312	CA_2A-13A-46C	403			
313	CA_2A-13A-48C	404			
314	CA_2A-13A-66A-66A	407			
315	CA_2A-13A-66B	407			
316	CA_2A-13A-66C	407			
317	CA_2A-14A-66A-66A	392			
318	CA_2C-29A-30A				
319	CA_2A-29A-66A-66A	393			
320	CA_2A-30A-66A-66A				
321	CA_2A-46C-66A	408			
322	CA_2A-48A-66A-66A	409			
323	CA_2A-48C-66A	409			
324	CA_2A-66A-66A-71A	325			



325	CA_2A-66C-71A				
326	CA_4A-4A-5A-30A	410			
327	CA_4A-4A-12A-30A				
328	CA_4A-4A-29A-30A				
329	CA_4A-5B-30A	410			
330	CA_5A-7A-7A-66A	332			
331	CA_5A-7A-46C	411			
332	CA_5A-7A-66A-66A				
333	CA_5A-30A-66A-66A	412			
334	CA_5B-30A-66A	412			
335	CA_5A-46C-66A	413			
336	CA_5A-48A-66A-66A				
337	CA_7A-7A-13A-66A	341			
338	CA_7A-7A-25A-66A	415			
339	CA_7A-7A-29A-66A	344			
340	CA_7A-12A-66A-66A				
341	CA_7C-13A-66A				
342	CA_7A-25A-25A-66A	415			
343	CA_7C-25A-66A	415			
344	CA_7C-29A-66A				
345	CA_12A-30A-66A-66A				
346	CA_13A-46C-66A	416			
347	CA_13A-48A-66A-66A	417			
348	CA_13A-48A-66B	417			
349	CA_13A-48A-66C	417			
350	CA_13A-48C-66A	417			
351	CA_14A-30A-66A-66A				
352	CA_25A-25A-26A-41A	418			
353	CA_25A-26A-41C	418			
354	CA_29A-30A-66A-66A				



**<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.

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

**<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		5	10	844	20600	QPSK	1	0	25	20	1960	8340	23.45	23.65
		5	10	844	20600	QPSK	1	0	38	20	2595	38000	23.41	23.65
		5	10	844	20600	QPSK	1	0	41	20	2593	40620	23.41	23.65
		12	10	707.5	23095	QPSK	1	0	25	20	1960	8340	23.35	23.55
		41	20	2593	40620	QPSK	1	0	48	20	3641	56150	23.29	23.54
Intra-Band	Non-Contiguous	43	20	3700	44590	QPSK	1	0	43	20	3665	44240	20.03	20.32
	Contiguous	43	20	3700	44590	QPSK	1	0	43	20	3719.80	44788	20.04	20.32

**<Three Carrier power verification>**

Configure	PCC							SCC1				SCC2				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	13	10	751	5230	23.11	23.32
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	29	10	722.5	9715	23.03	23.32
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	30	10	2355	9820	23.03	23.32
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	48	20	3641	56150	23.12	23.32
	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	26	15	876.5	8865	23.05	23.32
	2	20	1860	18700	QPSK	1	0	26	15	876.5	8865	66	20	2155	66886	23.05	23.32
	4	20	1745	20300	QPSK	1	0	7	20	2655	3100	12	10	737.5	5095	23.04	23.34
	7	20	2535	21100	QPSK	1	0	26	15	876.5	8865	66	20	2155	66886	23.08	23.38
	7	20	2535	21100	QPSK	1	0	46	20	5537.5	50665	66	20	2155	66886	23.14	23.38
	48	20	3690	56640	QPSK	1	0	48	20	3670.2	56442	71	20	634.5	68761	20.05	20.30
	66	20	1745	132322	QPSK	1	0	29	10	722.5	9715	46	20	5537.5	50665	23.18	23.42



<Four Carrier power verification>

Configure	PCC							SCC1				SCC2				SCC3				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	14	10	763	5330	30	10	2355	9820	23.08	23.32
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	4	20	2132.5	2175	71	20	634.5	68761	23.06	23.32
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	7	20	2655	3100	12	10	737.5	5095	23.03	23.32
	2	20	1860	18700	QPSK	1	0	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.11	23.32
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	4	5	2152.5	2375	12	10	737.5	5095	23.06	23.32
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	5	10	891.4	2624	23.05	23.32
	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	7	20	2635.2	2902	23.08	23.32
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	7	20	2655	3100	7	20	2635.2	2902	23.06	23.32
	2	20	1860	18700	QPSK	1	0	66	20	2155	66886	66	20	2135.2	66688	71	20	634.5	68761	23.04	23.32
	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	20	2635.2	2902	29	10	722.5	9715	23.12	23.32
	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	12	10	737.5	5095	30	10	2355	9820	23.06	23.32
	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	29	10	722.5	9715	30	10	2355	9820	23.11	23.32
	4	20	1745	20300	QPSK	1	0	4	5	2112.5	1975	12	10	737.5	5095	30	10	2355	9820	23.13	23.34
	4	20	1745	20300	QPSK	1	0	4	5	2112.5	1975	29	10	722.5	9715	30	10	2355	9820	23.04	23.34
	5	10	844	20600	QPSK	1	0	48	20	3670.2	56442	66	20	2155	66886	66	5	2197.5	67311	23.35	23.65
	5	10	844	20600	QPSK	1	0	7	20	2655	3100	66	20	2155	66886	66	5	2197.5	67311	23.43	23.65
	7	20	2535	21100	QPSK	1	0	12	10	737.5	5095	66	20	2155	66886	66	5	2197.5	67311	23.18	23.38
	7	20	2535	21100	QPSK	1	0	7	20	2635.2	2902	13	10	751	5230	66	20	2155	66886	23.12	23.38
	7	20	2535	21100	QPSK	1	0	7	20	2635.2	2902	29	10	722.5	9715	66	20	2155	66886	23.09	23.38
	12	10	707.5	23095	QPSK	1	0	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.30	23.55
14	10	793	23330	QPSK	1	0	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.36	23.59	
25	20	1860	26140	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	23.13	23.33	
30	10	2310	27710	QPSK	1	0	29	10	722.5	9715	66	20	2155	66886	66	5	2197.5	67311	21.15	21.39	

<Five Carrier power verification>

Configure	PCC							SCC1				SCC2				SCC3				SCC4		Power			
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1860	18700	QPSK	1	0	13	10	751	5230	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	23.02	23.32
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	48	20	3641	56150	48	20	3621.2	55952	48	20	3601.4	55754	23.09	23.32
	2	20	1860	18700	QPSK	1	0	13	10	751	5230	66	20	2155	66886	66	20	2135.2	66688	66	20	2115.4	66490	23.07	23.32
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	12	10	737.5	5095	66	20	2155	66886	66	5	2197.5	67311	23.07	23.32
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	4	5	2152.5	2375	66	20	2155	66886	66	5	2197.5	67311	23.02	23.32
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	5	10	881.5	2525	66	20	2155	66886	66	5	2197.5	67311	23.06	23.32
	2	20	1860	18700	QPSK	1	0	2	5	1987.5	1175	7	20	2655	3100	7	20	2635.2	2902	13	10	751	5230	23.07	23.32
	2	20	1860	18700	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	66	20	2155	66886	23.09	23.32
	2	20	1860	18700	QPSK	1	0	48	20	3641	56150	48	20	3621.2	55952	48	20	3601.4	55754	66	20	2155	66886	23.11	23.32
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	23.03	23.32
	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	5	10	891.4	2624	66	20	2155	66886	66	20	2135.2	66688	23.03	23.32
	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	23.09	23.32
	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	20	2635.2	2902	66	20	2155	66886	66	5	2197.5	67311	23.07	23.32
	2	20	1860	18700	QPSK	1	0	2	20	1959.8	898	5	10	881.5	2525	5	10	891.4	2624	30	10	2355	9820	23.05	23.32
	4	20	1745	20300	QPSK	1	0	46	20	5537.5	50665	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	23.05	23.34
	4	20	1745	20300	QPSK	1	0	48	20	3641	56150	48	20	3621.2	55952	48	20	3601.4	55754	48	20	3581.6	55556	23.07	23.34
	4	20	1745	20300	QPSK	1	0	4	5	2112.5	1975	5	10	881.5	2525	5	10	891.4	2624	30	10	2355	9820	23.12	23.34
	5	10	844	20600	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	66	20	2155	66886	23.35	23.65
	5	10	844	20600	QPSK	1	0	7	20	2655	3100	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	23.37	23.65
	5	10	844	20600	QPSK	1	0	5	10	879.1	2501	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.38	23.65
7	20	2535	21100	QPSK	1	0	7	20	2635.2	2902	25	20	1960	8340	25	5	1932.5	8065	66	20	2155	66886	23.15	23.38	
13	10	782	23230	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	66	20	2155	66886	23.32	23.56	
13	10	782	23230	QPSK	1	0	48	20	3641	56150	48	20	3621.2	55952	48	20	3601.4	55754	66	20	2155	66886	23.26	23.56	
25	20	1860	26140	QPSK	1	0	25	5	1992.5	8665	26	15	876.5	8865	41	20	2593	40620	41	20	2612.8	40818	23.09	23.33	
41	20	2593	40620	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	23.26	23.54	

**<LTE Uplink carrier aggregation>**

2CC Uplink Carrier Aggregation	
Number	Combination
1	2C
2	5B
3	7C
4	66B
5	66C
6	38C
7	41C
8	42C
9	43C
10	48C

**<Intra-band>**

**General Note:**

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

**Default Power Mode**

CA_2C_Ant 0										
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				
18700	18898	QPSK	1	0	0	0	1	0	23.03	25
18900	18702	QPSK	1	0	0	0	1	0	23.09	25
19100	18902	QPSK	1	0	0	0	1	0	23.1	25

CA_5B_Ant 0										
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	23.42	25
20475	20574	QPSK	1	49	1	0	2	0	23.93	25
20600	20501	QPSK	1	0	1	49	2	0	23.89	25



CA_7C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	23.15	25
21100	20902	QPSK	1	0	1	99	2	0	23.92	25
21350	21152	QPSK	1	0	1	99	2	0	24.18	25

CA_66B_Ant 0										
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	23.23	25
132229	132322	QPSK	1	0	0	0	2	0	23.22	25
132504	132597	QPSK	1	0	0	0	2	0	23.34	25

CA_66C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	23.11	25
132322	132124	QPSK	1	0	1	99	2	0	23.99	25
132572	132374	QPSK	1	0	1	99	2	0	23.81	25

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	23.34	25
37802	38000	QPSK	1	0	0	0	1	0	23.26	25
38150	37952	QPSK	1	0	0	0	1	0	23.31	25

CA_41C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	23.02	25
40185	39987	QPSK	1	0	1	99	2	0	23.94	25
40620	40422	QPSK	1	0	1	99	2	0	24.08	25
41055	40857	QPSK	1	0	1	99	2	0	24.02	25
41490	41292	QPSK	1	0	1	99	2	0	23.99	25

CA_41C_HPUE_Ant 0										
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	25.13	27
40185	39987	QPSK	1	0	1	99	2	0	26.05	27
40620	40422	QPSK	1	0	1	99	2	0	26.2	27
41055	40857	QPSK	1	0	1	99	2	0	26.11	27
41490	41292	QPSK	1	0	1	99	2	0	25.91	27



CA_42C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
42190	42388	QPSK	1	0	0	0	1	0	20.68	22
42392	42590	QPSK	1	0	0	0	2	0	20.56	22
42792	42990	QPSK	1	0	0	0	2	0	20.37	22

CA_43C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
44690	44888	QPSK	1	0	0	0	1	0	20.38	22
45090	44892	QPSK	1	0	1	99	2	0	20.98	22
45490	45292	QPSK	1	0	1	99	2	0	20.82	22

CA_48C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	20.68	22
55632	55830	QPSK	1	0	0	0	2	0	20.69	22
55952	56150	QPSK	1	0	0	0	2	0	20.66	22
56442	56640	QPSK	1	0	0	0	2	0	20.9	22

**Reduced Power Mode**

CA_2C_Ant 0										
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				
18700	18898	QPSK	1	0	0	0	1	0	17.02	18
18900	18702	QPSK	1	0	0	0	1	0	17.05	18
19100	18902	QPSK	1	0	0	0	1	0	17.13	18

CA_5B_Ant 0										
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	20.07	21
20475	20574	QPSK	1	49	1	0	2	0	20.57	21
20600	20501	QPSK	1	0	1	49	2	0	20.53	21

CA_7C_Ant 0										
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	13.79	15
21100	20902	QPSK	1	0	1	99	2	0	14.76	15
21350	21152	QPSK	1	0	1	99	2	0	14.8	15

CA_66B_Ant 0										
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	17.12	18.5
132229	132322	QPSK	1	0	0	0	2	0	17.19	18.5
132504	132597	QPSK	1	0	0	0	2	0	17.22	18.5

CA_66C_Ant 0										
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	17.03	18.5
132322	132124	QPSK	1	0	1	99	2	0	17.73	18.5
132572	132374	QPSK	1	0	1	99	2	0	17.75	18.5

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	16.99	17.5
37802	38000	QPSK	1	0	0	0	1	0	16.87	17.5
38150	37952	QPSK	1	0	0	0	1	0	16.73	17.5



CA_41C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	16.57	17.5
40185	39987	QPSK	1	0	1	99	2	0	17.35	17.5
40620	40422	QPSK	1	0	1	99	2	0	17.36	17.5
41055	40857	QPSK	1	0	1	99	2	0	17.28	17.5
41490	41292	QPSK	1	0	1	99	2	0	17.26	17.5

CA_41C_HPUE_Ant 0										
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	18.62	19.5
40185	39987	QPSK	1	0	1	99	2	0	19.45	19.5
40620	40422	QPSK	1	0	1	99	2	0	19.5	19.5
41055	40857	QPSK	1	0	1	99	2	0	19.46	19.5
41490	41292	QPSK	1	0	1	99	2	0	19.43	19.5

CA_42C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
42190	42388	QPSK	1	0	0	0	1	0	18.35	19
42392	42590	QPSK	1	0	0	0	2	0	18.3	19
42792	42990	QPSK	1	0	0	0	2	0	18.06	19

CA_43C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
44690	44888	QPSK	1	0	0	0	1	0	19.3	20
45090	44892	QPSK	1	0	1	99	2	0	19.62	20
45490	45292	QPSK	1	0	1	99	2	0	19.52	20

CA_48C_Ant 2										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	19.21	20
55632	55830	QPSK	1	0	0	0	2	0	19.11	20
55952	56150	QPSK	1	0	0	0	2	0	19.03	20
56442	56640	QPSK	1	0	0	0	2	0	19.23	20

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

**General Note:**

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

### <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 <sup>1</sup>	≤ 1.2 <sup>1</sup>	≤ 0.2 <sup>1</sup>
		≤ 0.5 <sup>2</sup>	≤ 0.5 <sup>2</sup>	0 <sup>2</sup>
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM			≤ 1
CP-OFDM	256 QAM	≤ 2.5		
		≤ 4.5		
	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
		≤ 6.5		

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

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

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

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





<FR1 n2\_Main Ant\_Default Power>

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	24.20	24.13	24.05	25.0
20	PI/2 BPSK	1	53	24.11	24.09	24.06	
20	PI/2 BPSK	1	104	24.15	24.14	24.10	
20	PI/2 BPSK	50	0	23.71	23.68	23.64	24.5
20	PI/2 BPSK	50	28	24.13	24.12	24.04	25.0
20	PI/2 BPSK	50	56	23.75	23.69	23.58	24.5
20	PI/2 BPSK	100	0	23.77	23.72	23.60	
20	QPSK	1	1	24.07	24.06	24.05	
20	QPSK	1	53	24.17	24.09	24.03	25.0
20	QPSK	1	104	24.18	24.10	23.91	
20	QPSK	50	0	23.28	23.22	23.12	
20	QPSK	50	28	24.16	24.10	24.00	25.0
20	QPSK	50	56	23.22	23.17	23.13	24.0
20	QPSK	100	0	23.27	23.19	23.15	
20	16QAM	1	1	22.91	22.89	22.81	
20	64QAM	1	1	22.01	22.00	21.95	22.5
20	256QAM	1	1	19.65	19.61	19.58	20.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	24.08	24.10	24.02	25.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	24.11	24.05	24.09	25.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	24.10	24.09	24.01	25.0



<FR1 n2\_MIMO2 Ant\_Default Power>

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	23.15	23.27	23.18	24.0
20	PI/2 BPSK	1	53	23.08	23.21	23.10	
20	PI/2 BPSK	1	104	23.03	23.18	23.08	
20	PI/2 BPSK	50	0	22.70	22.82	22.70	23.5
20	PI/2 BPSK	50	28	23.09	23.23	23.13	24.0
20	PI/2 BPSK	50	56	22.60	22.74	22.63	23.5
20	PI/2 BPSK	100	0	22.66	22.79	22.64	
20	QPSK	1	1	23.03	23.16	23.01	24.0
20	QPSK	1	53	22.99	23.12	22.99	
20	QPSK	1	104	22.99	23.10	22.99	
20	QPSK	50	0	22.19	22.31	22.17	23.0
20	QPSK	50	28	23.01	23.11	22.97	24.0
20	QPSK	50	56	22.18	22.28	22.16	23.0
20	QPSK	100	0	22.18	22.32	22.20	
20	16QAM	1	1	22.12	22.22	22.07	23.0
20	64QAM	1	1	20.96	21.09	20.99	21.5
20	256QAM	1	1	18.74	18.89	18.75	19.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	23.07	23.17	23.10	24.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	23.10	23.17	23.11	24.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	23.09	23.18	23.08	24.0



<FR1 n2\_Main Ant\_Reduced Power>

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	18.28	18.24	18.15	
20	PI/2 BPSK	1	53	18.21	18.17	18.08	18.5
20	PI/2 BPSK	1	104	18.20	18.16	18.07	
20	PI/2 BPSK	50	0	18.15	18.11	18.02	18.5
20	PI/2 BPSK	50	28	18.19	18.15	18.06	18.5
20	PI/2 BPSK	50	56	18.15	18.11	18.02	18.5
20	PI/2 BPSK	100	0	18.18	18.14	18.05	
20	QPSK	1	1	18.23	18.19	18.10	18.5
20	QPSK	1	53	18.22	18.18	18.09	
20	QPSK	1	104	18.22	18.18	18.09	
20	QPSK	50	0	18.16	18.12	18.03	18.5
20	QPSK	50	28	18.14	18.10	18.01	18.5
20	QPSK	50	56	18.23	18.19	18.10	18.5
20	QPSK	100	0	18.21	18.17	18.08	
20	16QAM	1	1	18.22	18.18	18.09	18.5
20	64QAM	1	1	18.27	18.23	18.14	18.5
20	256QAM	1	1	18.26	18.22	18.13	18.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	18.20	18.19	18.10	18.5
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	18.22	18.16	18.08	18.5
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	18.22	18.17	18.08	18.5



<FR1 n2\_MIMO2 Ant\_Reduced Power>

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	17.62	17.74	17.61	18.0
20	PI/2 BPSK	1	53	17.56	17.68	17.55	
20	PI/2 BPSK	1	104	17.46	17.58	17.45	
20	PI/2 BPSK	50	0	17.41	17.53	17.40	18.0
20	PI/2 BPSK	50	28	17.43	17.55	17.42	18.0
20	PI/2 BPSK	50	56	17.36	17.48	17.35	18.0
20	PI/2 BPSK	100	0	17.42	17.54	17.41	
20	QPSK	1	1	17.49	17.61	17.48	18.0
20	QPSK	1	53	17.41	17.53	17.40	
20	QPSK	1	104	17.40	17.52	17.39	
20	QPSK	50	0	17.45	17.57	17.44	18.0
20	QPSK	50	28	17.44	17.56	17.43	18.0
20	QPSK	50	56	17.38	17.50	17.37	18.0
20	QPSK	100	0	17.46	17.58	17.45	
20	16QAM	1	1	17.42	17.54	17.41	18.0
20	64QAM	1	1	17.61	17.73	17.60	18.0
20	256QAM	1	1	17.47	17.59	17.46	18.0
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	17.55	17.68	17.54	18.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	17.54	17.66	17.53	18.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	17.55	17.65	17.52	18.0



<FR1 n5\_Main Ant\_Default Power>

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	24.26	24.17	24.11	25.0
20	PI/2 BPSK	1	53	24.23	24.15	24.08	
20	PI/2 BPSK	1	104	24.09	24.02	23.98	
20	PI/2 BPSK	50	0	23.85	23.78	23.71	24.5
20	PI/2 BPSK	50	28	24.19	24.15	24.14	25.0
20	PI/2 BPSK	50	56	23.76	23.72	23.69	24.5
20	PI/2 BPSK	100	0	23.83	23.75	23.71	
20	QPSK	1	1	24.16	24.07	24.08	25.0
20	QPSK	1	53	24.11	24.05	24.06	
20	QPSK	1	104	24.03	23.96	23.91	
20	QPSK	50	0	23.35	23.30	23.26	24.0
20	QPSK	50	28	24.16	24.14	24.11	25.0
20	QPSK	50	56	23.32	23.21	23.15	24.0
20	QPSK	100	0	23.33	23.30	23.26	
20	16QAM	1	1	23.42	23.39	23.33	24.0
20	64QAM	1	1	21.96	21.94	21.96	22.5
20	256QAM	1	1	19.99	19.96	19.91	20.5
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	24.19	24.09	24.06	25.0
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	24.22	24.13	24.03	25.0
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	24.16	24.12	24.07	25.0



<FR1 n5\_Main Ant\_Reduced Power>

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	19.81	19.71	19.68	20.5
20	PI/2 BPSK	1	53	19.62	19.52	19.49	
20	PI/2 BPSK	1	104	19.68	19.58	19.55	
20	PI/2 BPSK	50	0	19.68	19.58	19.55	20.5
20	PI/2 BPSK	50	28	19.69	19.59	19.56	20.5
20	PI/2 BPSK	50	56	19.61	19.51	19.48	20.5
20	PI/2 BPSK	100	0	19.71	19.61	19.58	
20	QPSK	1	1	19.75	19.65	19.62	20.5
20	QPSK	1	53	19.52	19.42	19.39	
20	QPSK	1	104	19.57	19.47	19.44	
20	QPSK	50	0	19.72	19.62	19.59	20.5
20	QPSK	50	28	19.66	19.56	19.53	20.5
20	QPSK	50	56	19.64	19.54	19.51	20.5
20	QPSK	100	0	19.70	19.60	19.57	
20	16QAM	1	1	19.56	19.46	19.43	20.5
20	64QAM	1	1	19.79	19.69	19.66	20.5
20	256QAM	1	1	19.40	19.35	19.33	20.5
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	19.75	19.65	19.60	20.5
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	19.76	19.65	19.62	20.5
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	19.74	19.64	19.63	20.5



<FR1 n7\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				504000	507000	510000	
Frequency (MHz)				2520	2535	2550	
40	PI/2 BPSK	1	1	23.92	24.08	24.02	25.0
40	PI/2 BPSK	1	108	23.91	24.07	24.01	
40	PI/2 BPSK	1	214	23.88	24.05	23.99	
40	PI/2 BPSK	108	0	23.47	23.61	23.57	24.5
40	PI/2 BPSK	108	54	23.85	24.03	23.96	25.0
40	PI/2 BPSK	108	108	23.51	23.64	23.60	24.5
40	PI/2 BPSK	216	0	23.45	23.59	23.55	
40	QPSK	1	1	23.82	23.99	23.91	25.0
40	QPSK	1	108	23.89	24.02	23.95	
40	QPSK	1	214	23.83	24.00	23.91	
40	QPSK	108	0	22.94	23.08	23.04	24.0
40	QPSK	108	54	23.81	23.95	23.88	25.0
40	QPSK	108	108	23.05	23.17	23.15	24.0
40	QPSK	216	0	22.91	23.11	23.03	
40	16QAM	1	1	22.82	22.96	22.95	24.0
40	64QAM	1	1	21.72	21.84	21.80	22.5
40	256QAM	1	1	19.73	19.87	19.84	20.5
Channel				503000	507000	511000	Tune-up limit (dBm)
Frequency (MHz)				2515	2535	2555	
30	PI/2 BPSK	1	1	23.89	24.06	23.99	25.0
Channel				502500	507000	511500	Tune-up limit (dBm)
Frequency (MHz)				2512.5	2535	2557.5	
25	PI/2 BPSK	1	1	23.85	24.00	23.95	25.0
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	23.93	24.02	23.96	25.0
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	23.88	23.98	24.00	25.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	23.91	24.01	24.03	25.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	23.90	23.97	23.97	25.0



<FR1 n7\_MIMO2 Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				504000	507000	510000	
Frequency (MHz)				2520	2535	2550	
40	PI/2 BPSK	1	1	22.88	22.98	22.94	24.0
40	PI/2 BPSK	1	108	22.85	22.95	22.89	
40	PI/2 BPSK	1	214	22.83	22.91	22.86	
40	PI/2 BPSK	108	0	22.46	22.55	22.47	23.5
40	PI/2 BPSK	108	54	22.86	22.92	22.84	24.0
40	PI/2 BPSK	108	108	22.58	22.67	22.61	23.5
40	PI/2 BPSK	216	0	22.51	22.58	22.49	
40	QPSK	1	1	22.86	22.92	22.84	24.0
40	QPSK	1	108	22.74	22.84	22.74	
40	QPSK	1	214	22.76	22.81	22.76	
40	QPSK	108	0	21.98	22.07	21.98	23.0
40	QPSK	108	54	22.85	22.91	22.83	24.0
40	QPSK	108	108	22.14	22.19	22.14	23.0
40	QPSK	216	0	22.03	22.10	22.02	
40	16QAM	1	1	21.95	22.01	21.94	23.0
40	64QAM	1	1	20.50	20.56	20.49	21.5
40	256QAM	1	1	18.59	18.65	18.60	19.5
Channel				503000	507000	511000	Tune-up limit (dBm)
Frequency (MHz)				2515	2535	2555	
30	PI/2 BPSK	1	1	22.81	22.88	22.89	24.0
Channel				502500	507000	511500	Tune-up limit (dBm)
Frequency (MHz)				2512.5	2535	2557.5	
25	PI/2 BPSK	1	1	22.78	22.84	22.88	24.0
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	22.82	22.88	22.89	24.0
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	22.81	22.92	22.87	24.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	22.81	22.89	22.88	24.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	22.79	22.89	22.86	24.0





<FR1 n7\_Main Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				504000	507000	510000	
Frequency (MHz)				2520	2535	2550	
40	PI/2 BPSK	1	1	14.98	14.99	14.97	15.0
40	PI/2 BPSK	1	108	14.97	14.98	14.96	
40	PI/2 BPSK	1	214	14.95	14.96	14.94	
40	PI/2 BPSK	108	0	14.96	14.97	14.95	15.0
40	PI/2 BPSK	108	54	14.97	14.98	14.96	15.0
40	PI/2 BPSK	108	108	14.94	14.95	14.93	15.0
40	PI/2 BPSK	216	0	14.96	14.97	14.95	
40	QPSK	1	1	14.97	14.98	14.96	15.0
40	QPSK	1	108	14.95	14.96	14.94	
40	QPSK	1	214	14.94	14.95	14.93	
40	QPSK	108	0	14.93	14.94	14.92	15.0
40	QPSK	108	54	14.95	14.96	14.94	15.0
40	QPSK	108	108	14.94	14.95	14.93	15.0
40	QPSK	216	0	14.93	14.94	14.92	
40	16QAM	1	1	14.89	14.90	14.88	15.0
40	64QAM	1	1	14.95	14.96	14.94	15.0
40	256QAM	1	1	14.96	14.97	14.95	15.0
Channel				503000	507000	511000	Tune-up limit (dBm)
Frequency (MHz)				2515	2535	2555	
30	PI/2 BPSK	1	1	14.92	14.92	14.90	15.0
Channel				502500	507000	511500	Tune-up limit (dBm)
Frequency (MHz)				2512.5	2535	2557.5	
25	PI/2 BPSK	1	1	14.90	14.93	14.89	15.0
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	14.93	14.94	14.92	15.0
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	14.91	14.94	14.89	15.0
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	14.92	14.91	14.88	15.0
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	14.90	14.92	14.90	15.0



<FR1 n7\_MIMO2 Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				504000	507000	510000	
Frequency (MHz)				2520	2535	2550	
40	PI/2 BPSK	1	1	17.38	17.48	17.47	17.5
40	PI/2 BPSK	1	108	17.37	17.47	17.46	
40	PI/2 BPSK	1	214	17.35	17.45	17.44	
40	PI/2 BPSK	108	0	17.35	17.45	17.44	17.5
40	PI/2 BPSK	108	54	17.36	17.46	17.45	17.5
40	PI/2 BPSK	108	108	17.35	17.45	17.44	17.5
40	PI/2 BPSK	216	0	17.30	17.40	17.39	
40	QPSK	1	1	17.37	17.47	17.46	17.5
40	QPSK	1	108	17.35	17.45	17.44	
40	QPSK	1	214	17.34	17.44	17.43	
40	QPSK	108	0	17.33	17.43	17.42	17.5
40	QPSK	108	54	17.32	17.42	17.41	17.5
40	QPSK	108	108	17.36	17.46	17.45	17.5
40	QPSK	216	0	17.35	17.45	17.44	
40	16QAM	1	1	17.28	17.38	17.37	17.5
40	64QAM	1	1	17.37	17.47	17.46	17.5
40	256QAM	1	1	17.33	17.43	17.42	17.5
Channel				503000	507000	511000	Tune-up limit (dBm)
Frequency (MHz)				2515	2535	2555	
30	PI/2 BPSK	1	1	17.30	17.41	17.39	17.5
Channel				502500	507000	511500	Tune-up limit (dBm)
Frequency (MHz)				2512.5	2535	2557.5	
25	PI/2 BPSK	1	1	17.30	17.42	17.41	17.5
Channel				502000	507000	512000	Tune-up limit (dBm)
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	17.30	17.41	17.40	17.5
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	17.32	17.41	17.40	17.5
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	17.29	17.41	17.40	17.5
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	17.32	17.39	17.39	17.5



<FR1 n12\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				141300	141500	141700	
Frequency (MHz)				706.5	707.5	708.5	
15	PI/2 BPSK	1	1	24.01	24.09	24.04	
15	PI/2 BPSK	1	40	23.94	24.03	23.95	25.0
15	PI/2 BPSK	1	77	23.89	23.94	23.87	
15	PI/2 BPSK	36	0	23.65	23.70	23.60	24.5
15	PI/2 BPSK	36	22	23.94	24.00	23.90	25.0
15	PI/2 BPSK	36	43	23.47	23.55	23.45	24.5
15	PI/2 BPSK	75	0	23.59	23.64	23.57	
15	QPSK	1	1	23.97	24.03	23.98	25.0
15	QPSK	1	40	23.85	23.95	23.86	
15	QPSK	1	77	23.83	23.90	23.81	
15	QPSK	36	0	23.20	23.26	23.16	24.0
15	QPSK	36	22	23.92	23.98	23.93	25.0
15	QPSK	36	43	23.02	23.12	23.02	24.0
15	QPSK	75	0	23.15	23.21	23.15	
15	16QAM	1	1	23.26	23.31	23.25	24.0
15	64QAM	1	1	21.78	21.86	21.77	22.5
15	256QAM	1	1	19.93	19.98	19.91	20.5
Channel				140800	141500	142200	Tune-up limit (dBm)
Frequency (MHz)				704	707.5	711	
10	PI/2 BPSK	1	1	23.91	24.02	23.94	25.0
Channel				140300	141500	142700	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	PI/2 BPSK	1	1	23.94	23.99	23.98	25.0



<FR1 n12\_Main Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				141300	141500	141700	
Frequency (MHz)				706.5	707.5	708.5	
15	PI/2 BPSK	1	1	21.57	21.67	21.54	
15	PI/2 BPSK	1	40	21.56	21.66	21.53	22.0
15	PI/2 BPSK	1	77	21.41	21.51	21.38	22.0
15	PI/2 BPSK	36	0	21.51	21.61	21.48	
15	PI/2 BPSK	36	22	21.53	21.63	21.50	22.0
15	PI/2 BPSK	36	43	21.45	21.55	21.42	22.0
15	PI/2 BPSK	75	0	21.51	21.61	21.48	
15	QPSK	1	1	21.38	21.48	21.35	22.0
15	QPSK	1	40	21.37	21.47	21.34	
15	QPSK	1	77	21.27	21.37	21.24	
15	QPSK	36	0	21.45	21.55	21.42	22.0
15	QPSK	36	22	21.43	21.53	21.40	22.0
15	QPSK	36	43	21.35	21.45	21.32	22.0
15	QPSK	75	0	21.46	21.56	21.43	
15	16QAM	1	1	21.54	21.64	21.51	22.0
15	64QAM	1	1	21.55	21.65	21.52	22.0
15	256QAM	1	1	19.90	19.95	19.89	20.5
Channel				140800	141500	142200	Tune-up limit (dBm)
Frequency (MHz)				704	707.5	711	
10	PI/2 BPSK	1	1	21.51	21.60	21.48	22.0
Channel				140300	141500	142700	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	PI/2 BPSK	1	1	21.52	21.60	21.46	22.0

<FR1 n13\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					156400		
Frequency (MHz)					782		
10	PI/2 BPSK	1	1		23.97		25.0
10	PI/2 BPSK	1	26		23.95		
10	PI/2 BPSK	1	50		23.92		
10	PI/2 BPSK	25	0		23.51		24.5
10	PI/2 BPSK	25	14		23.91		25.0
10	PI/2 BPSK	25	27		23.46		24.5
10	PI/2 BPSK	50	0		23.62		
10	QPSK	1	1		23.87		25.0
10	QPSK	1	26		23.85		
10	QPSK	1	50		23.80		
10	QPSK	25	0		23.03		24.0
10	QPSK	25	14		23.86		25.0
10	QPSK	25	27		22.96		24.0
10	QPSK	50	0		23.00		
10	16QAM	1	1		22.93		24.0
10	64QAM	1	1		21.60		22.5
10	256QAM	1	1		19.83		20.5
Channel				155900	156400	156900	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	PI/2 BPSK	1	1	23.86	23.92	23.88	25.0



<FR1 n13\_Main Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					156400		
Frequency (MHz)					782		
10	PI/2 BPSK	1	1		21.78		22.0
10	PI/2 BPSK	1	26		21.75		
10	PI/2 BPSK	1	50		21.74		
10	PI/2 BPSK	25	0		21.70		22.0
10	PI/2 BPSK	25	14		21.72		22.0
10	PI/2 BPSK	25	27		21.68		22.0
10	PI/2 BPSK	50	0		21.70		
10	QPSK	1	1		21.77		
10	QPSK	1	26		21.75		22.0
10	QPSK	1	50		21.74		
10	QPSK	25	0		21.72		
10	QPSK	25	14		21.71		22.0
10	QPSK	25	27		21.68		22.0
10	QPSK	50	0		21.74		
10	16QAM	1	1		21.60		
10	64QAM	1	1		21.76		22.0
10	256QAM	1	1		19.80		20.5
Channel				155900	156400	156900	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	PI/2 BPSK	1	1	21.73	21.74	21.71	22.0

<FR1 n14\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					158600		
Frequency (MHz)					793		
10	PI/2 BPSK	1	1		23.95		25.0
10	PI/2 BPSK	1	26		23.90		
10	PI/2 BPSK	1	50		23.88		
10	PI/2 BPSK	25	0		23.51		24.5
10	PI/2 BPSK	25	14		23.91		25.0
10	PI/2 BPSK	25	27		23.46		24.5
10	PI/2 BPSK	50	0		23.57		
10	QPSK	1	1		23.90		
10	QPSK	1	26		23.86		25.0
10	QPSK	1	50		23.84		
10	QPSK	25	0		23.02		
10	QPSK	25	14		23.88		25.0
10	QPSK	25	27		22.95		24.0
10	QPSK	50	0		23.04		
10	16QAM	1	1		23.30		
10	64QAM	1	1		21.85		22.5
10	256QAM	1	1		19.64		20.5
Channel				158100	158600	159100	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	PI/2 BPSK	1	1	23.89	23.91	23.86	25.0



<FR1 n14\_Main Ant\_Reduced Power>

Channel	BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel						158600		
Frequency (MHz)						793		
10		PI/2 BPSK	1	1		21.99		22.0
10		PI/2 BPSK	1	26		21.91		
10		PI/2 BPSK	1	50		21.92		
10		PI/2 BPSK	25	0		21.88		22.0
10		PI/2 BPSK	25	14		21.91		22.0
10		PI/2 BPSK	25	27		21.81		22.0
10		PI/2 BPSK	50	0		21.87		
10		QPSK	1	1		21.90		22.0
10		QPSK	1	26		21.84		
10		QPSK	1	50		21.82		
10		QPSK	25	0		21.90		22.0
10		QPSK	25	14		21.89		22.0
10		QPSK	25	27		21.82		22.0
10		QPSK	50	0		21.90		
10		16QAM	1	1		21.97		22.0
10		64QAM	1	1		21.98		22.0
10		256QAM	1	1		19.55		20.5
Channel					158100	158600	159100	
Frequency (MHz)					790.5	793	795.5	Tune-up limit (dBm)
5		PI/2 BPSK	1	1	21.93	21.96	21.91	22.0



<FR1 n25\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				374000	376500	379000	
Frequency (MHz)				1870	1882.5	1895	
40	PI/2 BPSK	1	1	24.17	24.24	24.19	25.0
40	PI/2 BPSK	1	108	24.12	24.20	24.14	
40	PI/2 BPSK	1	214	24.10	24.17	24.11	
40	PI/2 BPSK	108	0	23.78	23.88	23.80	24.5
40	PI/2 BPSK	108	54	24.10	24.19	24.12	25.0
40	PI/2 BPSK	108	108	23.78	23.87	23.79	24.5
40	PI/2 BPSK	216	0	23.77	23.84	23.78	
40	QPSK	1	1	24.10	24.17	24.07	25.0
40	QPSK	1	108	24.05	24.11	24.04	
40	QPSK	1	214	23.97	24.06	23.99	
40	QPSK	108	0	23.23	23.30	23.20	24.0
40	QPSK	108	54	24.10	24.15	24.09	25.0
40	QPSK	108	108	23.24	23.32	23.22	24.0
40	QPSK	216	0	23.31	23.37	23.29	
40	16QAM	1	1	23.17	23.24	23.14	24.0
40	64QAM	1	1	22.21	22.26	22.21	22.5
40	256QAM	1	1	20.08	20.18	20.09	20.5
Channel				373000	376500	380000	Tune-up limit (dBm)
Frequency (MHz)				1865	1882.5	1900	
30	PI/2 BPSK	1	1	24.09	24.18	24.11	25.0
Channel				372500	376500	380500	Tune-up limit (dBm)
Frequency (MHz)				1862.5	1882.5	1902.5	
25	PI/2 BPSK	1	1	24.12	24.17	24.12	25.0
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	24.11	24.14	24.10	25.0
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	24.07	24.14	24.11	25.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	24.10	24.19	24.10	25.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	24.08	24.15	24.10	25.0



<FR1 n25\_MIMO2 Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				374000	376500	379000	Tune-up limit (dBm)
Frequency (MHz)				1870	1882.5	1895	
40	PI/2 BPSK	1	1	23.06	23.15	23.23	24.0
40	PI/2 BPSK	1	108	23.05	23.05	23.17	
40	PI/2 BPSK	1	214	23.01	23.01	23.13	
40	PI/2 BPSK	108	0	22.53	22.55	22.67	23.5
40	PI/2 BPSK	108	54	23.08	23.09	23.20	24.0
40	PI/2 BPSK	108	108	22.63	22.63	22.76	23.5
40	PI/2 BPSK	216	0	22.53	22.50	22.65	
40	QPSK	1	1	23.09	23.08	23.21	24.0
40	QPSK	1	108	23.04	23.04	23.15	
40	QPSK	1	214	23.01	23.02	23.10	
40	QPSK	108	0	22.13	22.09	22.23	23.0
40	QPSK	108	54	23.06	23.03	23.16	24.0
40	QPSK	108	108	22.15	22.17	22.27	23.0
40	QPSK	216	0	22.07	22.07	22.18	
40	16QAM	1	1	22.43	22.47	22.58	23.0
40	64QAM	1	1	20.93	20.95	21.07	21.5
40	256QAM	1	1	18.70	18.68	18.82	19.5
Channel				373000	376500	380000	Tune-up limit (dBm)
Frequency (MHz)				1865	1882.5	1900	
30	PI/2 BPSK	1	1	23.04	23.09	23.16	24.0
Channel				372500	376500	380500	Tune-up limit (dBm)
Frequency (MHz)				1862.5	1882.5	1902.5	
25	PI/2 BPSK	1	1	23.03	23.10	23.17	24.0
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	23.02	23.06	23.14	24.0
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	23.01	23.09	23.16	24.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	23.00	23.08	23.16	24.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	23.02	23.10	23.13	24.0





<FR1 n25\_Main Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				374000	376500	379000	
Frequency (MHz)				1870	1882.5	1895	
40	PI/2 BPSK	1	1	18.13	18.21	18.19	18.5
40	PI/2 BPSK	1	108	18.12	18.20	18.18	
40	PI/2 BPSK	1	214	18.09	18.17	18.15	
40	PI/2 BPSK	108	0	18.10	18.18	18.16	18.5
40	PI/2 BPSK	108	54	18.11	18.19	18.17	18.5
40	PI/2 BPSK	108	108	18.08	18.16	18.14	18.5
40	PI/2 BPSK	216	0	18.10	18.18	18.16	
40	QPSK	1	1	18.06	18.14	18.12	18.5
40	QPSK	1	108	18.10	18.18	18.16	
40	QPSK	1	214	18.09	18.17	18.15	
40	QPSK	108	0	18.08	18.16	18.14	18.5
40	QPSK	108	54	18.06	18.14	18.12	18.5
40	QPSK	108	108	18.05	18.13	18.11	18.5
40	QPSK	216	0	18.10	18.18	18.16	
40	16QAM	1	1	18.06	18.14	18.12	18.5
40	64QAM	1	1	18.11	18.19	18.17	18.5
40	256QAM	1	1	18.12	18.20	18.18	18.5
Channel				373000	376500	380000	Tune-up limit (dBm)
Frequency (MHz)				1865	1882.5	1900	
30	PI/2 BPSK	1	1	18.08	18.16	18.13	18.5
Channel				372500	376500	380500	Tune-up limit (dBm)
Frequency (MHz)				1862.5	1882.5	1902.5	
25	PI/2 BPSK	1	1	18.07	18.15	18.12	18.5
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	18.07	18.14	18.14	18.5
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	18.07	18.15	18.12	18.5
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	18.07	18.14	18.11	18.5
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	18.06	18.13	18.14	18.5



<FR1 n25\_MIMO2 Ant\_Reduced Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				374000	376500	379000	
Frequency (MHz)				1870	1882.5	1895	
40	PI/2 BPSK	1	1	17.58	17.65	17.71	18.0
40	PI/2 BPSK	1	108	17.55	17.62	17.68	
40	PI/2 BPSK	1	214	17.48	17.55	17.61	
40	PI/2 BPSK	108	0	17.53	17.60	17.66	18.0
40	PI/2 BPSK	108	54	17.56	17.63	17.69	18.0
40	PI/2 BPSK	108	108	17.50	17.57	17.63	18.0
40	PI/2 BPSK	216	0	17.55	17.62	17.68	
40	QPSK	1	1	17.45	17.52	17.58	18.0
40	QPSK	1	108	17.54	17.61	17.67	
40	QPSK	1	214	17.42	17.49	17.55	
40	QPSK	108	0	17.56	17.63	17.69	18.0
40	QPSK	108	54	17.52	17.59	17.65	18.0
40	QPSK	108	108	17.48	17.55	17.61	18.0
40	QPSK	216	0	17.54	17.61	17.67	
40	16QAM	1	1	17.55	17.62	17.68	18.0
40	64QAM	1	1	17.56	17.63	17.69	18.0
40	256QAM	1	1	17.53	17.60	17.66	18.0
Channel				373000	376500	380000	Tune-up limit (dBm)
Frequency (MHz)				1865	1882.5	1900	
30	PI/2 BPSK	1	1	17.49	17.58	17.63	18.0
Channel				372500	376500	380500	Tune-up limit (dBm)
Frequency (MHz)				1862.5	1882.5	1902.5	
25	PI/2 BPSK	1	1	17.50	17.57	17.64	18.0
Channel				372000	376500	381000	Tune-up limit (dBm)
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	17.52	17.56	17.64	18.0
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	17.51	17.58	17.63	18.0
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	17.50	17.58	17.64	18.0
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	17.51	17.57	17.64	18.0



<FR1 n26\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				164800	166300	167800	
Frequency (MHz)				824	831.5	839	
20	PI/2 BPSK	1	1	24.03	24.16	24.10	25.0
20	PI/2 BPSK	1	53	24.00	24.11	24.03	
20	PI/2 BPSK	1	104	23.95	24.05	23.99	
20	PI/2 BPSK	50	0	23.70	23.76	23.67	24.5
20	PI/2 BPSK	50	28	24.07	24.13	24.03	25.0
20	PI/2 BPSK	50	56	23.60	23.69	23.63	24.5
20	PI/2 BPSK	100	0	23.73	23.83	23.78	
20	QPSK	1	1	24.05	24.12	24.07	25.0
20	QPSK	1	53	23.99	24.08	23.98	
20	QPSK	1	104	23.92	23.98	23.89	
20	QPSK	50	0	23.21	23.27	23.19	24.0
20	QPSK	50	28	23.94	24.02	23.92	25.0
20	QPSK	50	56	23.18	23.24	23.16	24.0
20	QPSK	100	0	23.25	23.30	23.21	
20	16QAM	1	1	23.23	23.31	23.26	24.0
20	64QAM	1	1	22.04	22.09	22.00	22.5
20	256QAM	1	1	19.78	19.83	19.74	20.5
Channel				164300	166300	168300	Tune-up limit (dBm)
Frequency (MHz)				821.5	831.5	841.5	
15	PI/2 BPSK	1	1	23.97	24.08	24.03	25.0
Channel				163800	166300	168800	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	PI/2 BPSK	1	1	23.95	24.11	24.01	25.0
Channel				163300	166300	169300	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	PI/2 BPSK	1	1	23.94	24.11	24.00	25.0



**<FR1 n26\_Main Ant\_Reduced Power>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				164800	166300	167800	
Frequency (MHz)				824	831.5	839	
20	PI/2 BPSK	1	1	19.97	20.24	20.15	20.5
20	PI/2 BPSK	1	53	19.91	20.18	20.09	
20	PI/2 BPSK	1	104	19.88	20.15	20.06	
20	PI/2 BPSK	50	0	19.85	20.12	20.03	20.5
20	PI/2 BPSK	50	28	19.86	20.13	20.04	20.5
20	PI/2 BPSK	50	56	19.77	20.04	19.95	20.5
20	PI/2 BPSK	100	0	19.85	20.12	20.03	
20	QPSK	1	1	19.96	20.23	20.14	
20	QPSK	1	53	19.87	20.14	20.05	20.5
20	QPSK	1	104	19.92	20.19	20.10	
20	QPSK	50	0	19.91	20.18	20.09	
20	QPSK	50	28	19.84	20.11	20.02	20.5
20	QPSK	50	56	19.83	20.10	20.01	20.5
20	QPSK	100	0	19.93	20.20	20.11	
20	16QAM	1	1	19.48	19.75	19.66	
20	64QAM	1	1	19.96	20.23	20.14	20.5
20	256QAM	1	1	19.75	19.80	19.70	20.5
Channel				164300	166300	168300	Tune-up limit (dBm)
Frequency (MHz)				821.5	831.5	841.5	
15	PI/2 BPSK	1	1	19.90	20.17	20.07	20.5
Channel				163800	166300	168800	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	PI/2 BPSK	1	1	19.89	20.19	20.09	20.5
Channel				163300	166300	169300	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	PI/2 BPSK	1	1	19.91	20.17	20.09	20.5

**<FR1 n30\_Main Ant\_Default Power>**

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		21.81		23.0
10	PI/2 BPSK	1	26		21.76		
10	PI/2 BPSK	1	50		21.70		
10	PI/2 BPSK	25	0		21.12		22.5
10	PI/2 BPSK	25	14		21.74		23.0
10	PI/2 BPSK	25	27		21.19		22.5
10	PI/2 BPSK	50	0		21.20		
10	QPSK	1	1		21.71		
10	QPSK	1	26		21.66		23.0
10	QPSK	1	50		21.60		
10	QPSK	25	0		20.65		
10	QPSK	25	14		21.67		23.0
10	QPSK	25	27		20.76		22.0
10	QPSK	50	0		20.71		
10	16QAM	1	1		20.59		
10	64QAM	1	1		19.45		20.5
10	256QAM	1	1		17.19		18.5
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	21.72	21.78	21.76	23.0



**<FR1 n30\_MIMO2 Ant\_Default Power>**

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		21.69		23.0
10	PI/2 BPSK	1	26		21.65		
10	PI/2 BPSK	1	50		21.60		
10	PI/2 BPSK	25	0		21.13		22.5
10	PI/2 BPSK	25	14		21.62		23.0
10	PI/2 BPSK	25	27		21.12		22.5
10	PI/2 BPSK	50	0		21.12		
10	QPSK	1	1		21.65		23.0
10	QPSK	1	26		21.60		
10	QPSK	1	50		21.53		
10	QPSK	25	0		20.60		22.0
10	QPSK	25	14		21.60		23.0
10	QPSK	25	27		20.61		22.0
10	QPSK	50	0		20.62		
10	16QAM	1	1		20.59		22.0
10	64QAM	1	1		19.56		20.5
10	256QAM	1	1		17.25		18.5
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	21.62	21.65	21.60	23.0

**<FR1 n30\_Main Ant\_Reduced Power>**

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		15.73		16.0
10	PI/2 BPSK	1	26		15.71		
10	PI/2 BPSK	1	50		15.70		
10	PI/2 BPSK	25	0		15.64		16.0
10	PI/2 BPSK	25	14		15.65		16.0
10	PI/2 BPSK	25	27		15.62		16.0
10	PI/2 BPSK	50	0		15.64		
10	QPSK	1	1		15.69		16.0
10	QPSK	1	26		15.68		
10	QPSK	1	50		15.66		
10	QPSK	25	0		15.59		16.0
10	QPSK	25	14		15.70		16.0
10	QPSK	25	27		15.63		16.0
10	QPSK	50	0		15.69		
10	16QAM	1	1		15.72		16.0
10	64QAM	1	1		15.71		16.0
10	256QAM	1	1		14.92		15.5
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	15.68	15.70	15.65	16.0



<FR1 n30\_MIMO2 Ant\_Reduced Power>

Channel	Frequency (MHz)	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		17.49		17.5
10	PI/2 BPSK			1	26		17.48		
10	PI/2 BPSK			1	50		17.47		
10	PI/2 BPSK			25	0		17.45		17.5
10	PI/2 BPSK			25	14		17.46		17.5
10	PI/2 BPSK			25	27		17.44		17.5
10	PI/2 BPSK			50	0		17.45		
10	QPSK			1	1		17.47		
10	QPSK			1	26		17.45		17.5
10	QPSK			1	50		17.43		
10	QPSK			25	0		17.46		
10	QPSK			25	14		17.45		17.5
10	QPSK			25	27		17.44		17.5
10	QPSK			50	0		17.45		
10	16QAM			1	1		17.47		
10	64QAM			1	1		16.40		16.5
10	256QAM			1	1		14.23		14.5
Channel						461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)						2307.5	2310	2312.5	
5	PI/2 BPSK			1	1	17.43	17.46	17.41	17.5



<FR1 n66\_Main Ant\_Default Power>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	24.14	24.22	24.19	25.0
40	PI/2 BPSK	1	108	24.06	24.16	24.11	
40	PI/2 BPSK	1	214	24.02	24.09	24.06	
40	PI/2 BPSK	108	0	23.72	23.82	23.75	24.5
40	PI/2 BPSK	108	54	24.03	24.13	24.03	25.0
40	PI/2 BPSK	108	108	23.74	23.83	23.75	24.5
40	PI/2 BPSK	216	0	23.71	23.79	23.74	
40	QPSK	1	1	23.89	23.94	23.84	25.0
40	QPSK	1	108	23.80	23.85	23.79	
40	QPSK	1	214	23.71	23.80	23.73	
40	QPSK	108	0	23.31	23.37	23.28	24.0
40	QPSK	108	54	24.05	24.12	24.06	25.0
40	QPSK	108	108	23.23	23.29	23.21	24.0
40	QPSK	216	0	23.22	23.30	23.24	
40	16QAM	1	1	22.93	23.03	22.93	24.0
40	64QAM	1	1	22.07	22.17	22.07	22.5
40	256QAM	1	1	20.26	20.32	20.27	20.5
Channel				345000	349000	353000	Tune-up limit (dBm)
Frequency (MHz)				1725	1745	1765	
30	PI/2 BPSK	1	1	24.05	24.15	24.11	25.0
Channel				344500	349000	353500	Tune-up limit (dBm)
Frequency (MHz)				1722.5	1745	1767.5	
25	PI/2 BPSK	1	1	24.09	24.14	24.10	25.0
Channel				344000	349000	354000	Tune-up limit (dBm)
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	24.07	24.17	24.09	25.0
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	24.08	24.16	24.12	25.0
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	24.08	24.17	24.09	25.0
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	24.08	24.13	24.14	25.0