



FCC SAR TEST REPORT

FCC ID : 2AVDZCM27
Equipment : IEEE 802.11 2X2 MIMO a/b/g/n/ac Wireless LAN + Bluetooth
+ NFC NGFF Module
Brand Name : LiveU
Model Name : AW-CM276NF

FCC ID : 2AVDZEM91
Equipment : Wireless Module
Brand Name : LiveU
Model Name : EM9191

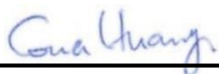
FCC ID : 2AVDZEM75
Equipment : Radio Module
Brand Name : LiveU
Model Name : EM7565

Applicant : LiveU, Inc
2 University Plaza Drive Suite 505, Hackensack, New Jersey
Manufacturer : LiveU Ltd.
5 Hagavish St, Kfar Saba 4442211, Israel
Standard : FCC 47 CFR Part 2 (2.1093)

AW-CM276NF: MAX Stand Alone 1g SAR Value: 0.20 W/kg
EM9191: MAX Stand Alone 1g SAR Value: 0.87 W/kg
EM7565: MAX Stand Alone 1g SAR Value: 0.55 W/kg
MAX Stand Alone limit: 1g SAR 1.6 W/kg
Separation distance: 0 mm

The product was received on Jul. 22, 2022 and testing was started from Dec. 30, 2022 and completed on Oct. 04, 2024. 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



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History of this test report

Report No.	Version	Description	Issued Date
FA220617002	01	Initial issue of report	Oct. 15, 2024



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) for LiveU, Inc, IEEE 802.11 2X2 MIMO a/b/g/n/ac Wireless LAN + Bluetooth + NFC NGFF Module, AW-CM276NF, are as follows.

FCC ID: 2AVDZCM27				
Equipment Class	Frequency Band		Highest SAR Summary	Highest Simultaneous Transmission with EM9191 1g SAR (W/kg)
			Body (Separation 0mm)	
			1g SAR (W/kg)	
DTS	WLAN	2.4GHz WLAN	0.02	1.54
NII		5GHz WLAN	0.20	1.59
Date of Testing:			2024/10/04	

FCC ID: 2AVDZEM91				
Equipment Class	Frequency Band		Highest SAR Summary	Highest Simultaneous Transmission with AW-CM276NF 1g SAR (W/kg)
			Body (Separation 0mm)	
			1g SAR (W/kg)	
Licensed	WCDMA	WCDMA II	0.51	1.59
		WCDMA IV	0.55	
		WCDMA V	0.29	
	LTE	LTE Band 7	0.47	
		LTE Band 12/17	0.28	
		LTE Band 13	0.40	
		LTE Band 14	0.38	
		LTE Band 2/25	0.47	
		LTE Band 5/26	0.28	
		LTE Band 38/41	0.28	
		LTE Band 4/66	0.52	
		LTE Band 71	0.26	
		FR1	FR1 n2	
	FR1 n5		0.33	
	FR1 n41		0.87	
	FR1 n66		0.55	
	FR1 n71		0.37	
Date of Testing:			2022/12/30 ~ 2023/02/10	

FCC ID: 2AVDZEM75				
Equipment Class	Frequency Band		Highest SAR Summary	Highest Simultaneous Transmission with AW-CM276NF 1g SAR (W/kg)
			Body (Separation 0mm)	
			1g SAR (W/kg)	
Licensed	WCDMA	WCDMA II	0.55	0.84
		WCDMA IV	0.48	
		WCDMA V	0.28	
	LTE	LTE Band 2	0.54	
		LTE Band 7	0.36	
		LTE Band 12	0.26	
		LTE Band 13	0.30	
		LTE Band 5/26	0.27	
		LTE Band 38/41	0.22	
		LTE Band 4/66	0.49	
Date of Testing:			2022/12/30 – 2023/02/10	

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

Reviewed by: Jason Wang
Report Producer: Daisy Peng

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 248227 D01 802.11 Wi-Fi SAR v02r02
- 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	IEEE 802.11 2X2 MIMO a/b/g/n/ac Wireless LAN + Bluetooth + NFC NGFF Module
Brand Name	LiveU
Model Name	AW-CM276NF
FCC ID	2AVDZCM27
Integrated Module	Brand Name: LiveU Model Name: AW-CM276NF
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 Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	WLAN: 802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
WWAN Module 1	
Integrated Module	Brand Name: LiveU Model Name: EM9191 FCC ID: 2AVDZEM91
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 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 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 n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 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
WWAN Module 2	
Integrated Module	Brand Name: LiveU Model Name: EM7565 FCC ID: 2AVDZEM75
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 26: 814 MHz ~ 849 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM
Remark: 1. The objective of this SAR evaluation is to address the continuous compliance of multiple modules integration. The WLAN module (FCC ID: 2AVDZCM27), WWAN modules (FCC ID: 2AVDZEM91 & 2AVDZEM75) are co-located and transmitting simultaneously in the portable Host / Live Video Transmission System, Model No: LU300S.	

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05												
FCC ID				2AVDZEM75 2AVDZEM91								
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 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 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 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz								
uplink modulations used				QPSK / 16QAM / 64QAM / 256QAM								
LTE Voice / Data requirements				Data only								
LTE MPR permanently built-in by design				Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								
				Modulation		Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)
						1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
				QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	
				16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	
				16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	
				64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	
				64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	
256 QAM				≥ 1						≤ 5		
LTE A-MPR				In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)								
Spectrum plots for RB configuration				A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.								
LTE Carrier Aggregation Combinations				Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 10.								
LTE Carrier Aggregation Additional Information				1. For Module EM9191, this device supports maximum of 7 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. 2. For Module EM7565, this device supports maximum of 3 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



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Report No. : FA220617002

H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 5												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5		
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535		
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5		
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 14												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Channel #		Channel #		Freq.(MHz)					
L	23305		790.5		23330		793					
M	23330		793									
H	23355		795.5									
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					
LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5		
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5		

LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
L M	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
	40620	2593	40620	2593	40620	2593	40620	2593				
H M	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770
LTE Band 71												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	133147	665.5	133172	668	133197	670.5	133222	673				
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5				
H	133447	695.5	133422	693	133397	690.5	133372	688				



3.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information																				
FCC ID	2AVDZEM91																			
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 n41: 2496 MHz ~ 2690 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n71: 663 MHz ~ 698 MHz																			
Channel Bandwidth	5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz 5G NR n41: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz 5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz, 25 MHz,30MHz, 40MHz 5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz																			
SCS	FDD: SCS15KHz, TDD: SCS30KHz																			
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM																			
A-MPR (Additional MPR) disabled for SAR Testing?	Yes																			
LTE Anchor Bands for n2	LTE B5/12																			
LTE Anchor Bands for n5	LTE B2/66																			
LTE Anchor Bands for n41	LTE B2/4/25																			
LTE Anchor Bands for n66	LTE B5/12/13/14/71																			
LTE Anchor Bands for n71	LTE B2/66																			
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 41																				
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		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)
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640
NR Band 66																				
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 30MHz		Bandwidth 40MHz									
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)								
L	342500	1712.5	343000	1715	343500	1717.5	344000	1720	345000	1725	346000	1730								
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745								
H	355500	1777.5	355000	1775	354500	1772.5	354000	1770	353000	1765	352000	1760								
NR Band 71																				
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz													
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)										
L	133100	665.5	133600	668	13410	670.5	134600	673												
M	136100	680.5	136100	680.5	136100	680.5	136100	680.5												
H	139100	695.5	138600	693	13810	690.5	137600	688												

4. RF Exposure Limits

4.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

4.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. The exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

5. Specific Absorption Rate (SAR)

5.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

5.2 SAR Definition

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

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

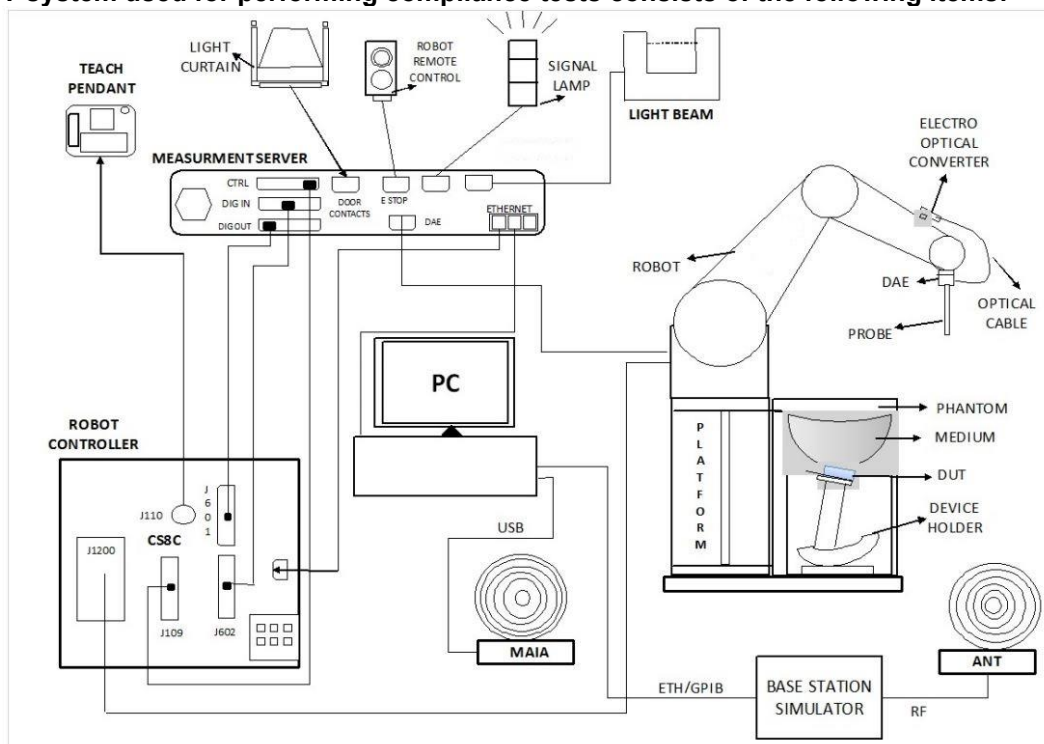
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

6. System Description and Setup

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



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

6.1 Test Site Location

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

Laboratory	EMC & Wireless Communications Laboratory		Wensan Laboratory				
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan				
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY	SAR18-HY	SAR21-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	SAR16-HY	SAR19-HY	SAR22-HY
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	SAR17-HY	SAR20-HY	

6.2 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<ES3DV3 Probe>

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

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

6.3 Data Acquisition Electronics (DAE)

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

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



Fig 5.1 Photo of DAE

6.4 Phantom

<SAM Twin Phantom>

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

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)	
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm	

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

6.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.



Mounting Device for Laptops

7. Measurement Procedures

The measurement procedures are as follows:

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

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

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

7.1 Spatial Peak SAR Evaluation

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

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

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

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

7.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

7.3 Area Scan

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

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

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

7.4 Zoom Scan

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

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

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

7.5 Volume Scan Procedures

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

7.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASy measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

8. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1107	Jun. 22, 2022	Jun. 21, 2023
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 ⁽²⁾	D1900V2	5d041	Aug. 19, 2021	Aug. 17, 2023
SPEAG	2450MHz System Validation Kit ⁽²⁾	D2450V2	929	Nov. 21, 2022	Nov. 19, 2024
SPEAG	2600MHz System Validation Kit	D2600V2	1078	Jun. 23, 2022	Jun. 22, 2023
SPEAG	5GHz System Validation Kit ⁽²⁾	D5GHzV2	1006	May. 25, 2023	May. 23, 2025
SPEAG	Data Acquisition Electronics	DAE4	316	Jan. 18, 2024	Jan. 17, 2025
SPEAG	Data Acquisition Electronics	DAE4	1647	Nov. 18, 2022	Nov. 17, 2023
SPEAG	Data Acquisition Electronics	DAE4	1697	Dec. 15, 2022	Dec. 14, 2023
SPEAG	Dosimetric E-Field Probe	ES3DV3	3184	Sep. 26, 2022	Sep. 25, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	7694	Nov. 15, 2022	Nov. 14, 2023
SPEAG	Dosimetric E-Field Probe	EX3DV4	7700	Feb. 01, 2024	Jan. 31, 2025
Testo	Hygro meter	608-H1	45196600	Nov. 02, 2022	Nov. 01, 2023
Testo	Hygro meter	608-H1	45196600	Nov. 02, 2023	Nov. 01, 2024
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Oct. 31, 2022	Oct. 30, 2023
Keysight	Wireless Communication Test Set	E5515C	MY50266977	May. 10, 2022	May. 09, 2023
Keysight	5G Wireless Test Platform	E7515B	MY59321826	Apr. 13, 2022	Apr. 12, 2023
R&S	BT Base Station	CBT	101136	Oct. 22, 2023	Oct. 21, 2024
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Oct. 12, 2022	Oct. 11, 2023
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 24, 2024	Sep. 23, 2025
Keysight	ENA Network Analyzer	E5071C	MY46104758	Sep. 22, 2022	Sep. 21, 2023
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 30, 2023	Oct. 29, 2024
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 28, 2022	Sep. 27, 2023
SPEAG	Dielectric Probe Kit	DAK-3.5	1146	Jul. 15, 2024	Jul. 14, 2025
LINE SEIKI	Digital Thermometer	DTM3000-spezial	2942	Oct. 31, 2022	Oct. 30, 2023
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 07, 2024	Aug. 06, 2025
Anritsu	Power Meter	ML2495A	1419002	Aug. 16, 2022	Aug. 15, 2023
Anritsu	Power Sensor	MA2411B	1911176	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Power Meter	ML2495A	1419002	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Power Sensor	MA2411B	1726150	Oct. 17, 2022	Oct. 16, 2023
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 21, 2022	Jul. 20, 2023
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 09, 2024	Jul. 08, 2025
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 14, 2022	Oct. 13, 2023
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 16, 2023	Oct. 15, 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.

9. System Verification

9.1 Tissue Verification

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

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	22.2	0.889	42.290	0.89	41.90	-0.11	0.93	± 5	2022/12/30
750	22.5	0.886	41.702	0.89	41.90	-0.45	-0.47	± 5	2023/1/2
750	22.8	0.889	41.843	0.89	41.90	-0.11	-0.14	± 5	2023/2/10
835	22.2	0.888	42.222	0.90	41.50	-1.33	1.74	± 5	2022/12/30
835	22.5	0.920	41.406	0.90	41.50	2.22	-0.23	± 5	2023/1/2
835	22.8	0.923	41.547	0.90	41.50	2.56	0.11	± 5	2023/2/10
1750	22.4	1.353	40.561	1.37	40.10	-1.24	1.15	± 5	2022/12/31
1750	22.8	1.365	40.241	1.37	40.10	-0.36	0.35	± 5	2023/2/10
1900	22.4	1.429	39.013	1.40	40.00	2.07	-2.47	± 5	2022/12/31
1900	22.8	1.442	38.693	1.40	40.00	3.00	-3.27	± 5	2023/2/10
2600	22.2	1.997	38.262	1.96	39.00	1.89	-1.89	± 5	2022/12/30
2600	22.8	1.990	37.834	1.96	39.00	1.53	-2.99	± 5	2023/2/10
2450	22.4	1.810	40.000	1.80	39.20	0.56	2.04	± 5	2024/10/4
5250	22.4	4.560	35.300	4.71	35.95	-3.18	-1.81	± 5	2024/10/4
5600	22.4	4.950	34.700	5.07	35.50	-2.37	-2.25	± 5	2024/10/4
5750	22.4	5.130	34.400	5.22	35.35	-1.72	-2.69	± 5	2024/10/4
5850	22.4	5.240	34.200	5.32	35.25	-1.50	-2.98	± 5	2024/10/4

9.2 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

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 (%)	Test Site
2022/12/30	750	250	D750V3-1107	ES3DV3 - SN3184	DAE4 Sn1647	2.130	8.540	8.52	-0.23	SAR08
2023/1/2	750	50	D750V3-1107	ES3DV3 - SN3184	DAE4 Sn1647	0.403	8.540	8.06	-5.62	SAR08
2023/2/10	750	50	D750V3-1107	EX3DV4 - SN7694	DAE4 Sn1697	0.434	8.540	8.68	1.64	SAR09
2022/12/30	835	250	D835V2-4d167	ES3DV3 - SN3184	DAE4 Sn1647	2.370	9.800	9.48	-3.27	SAR08
2023/1/2	835	50	D835V2-4d167	ES3DV3 - SN3184	DAE4 Sn1647	0.484	9.800	9.68	-1.22	SAR08
2023/2/10	835	50	D835V2-4d167	EX3DV4 - SN7694	DAE4 Sn1697	0.520	9.800	10.4	6.12	SAR09
2022/12/31	1750	50	D1750V2-1068	ES3DV3 - SN3184	DAE4 Sn1647	1.760	36.700	35.2	-4.09	SAR08
2023/2/10	1750	50	D1750V2-1068	EX3DV4 - SN7694	DAE4 Sn1697	1.740	36.700	34.8	-5.18	SAR09
2022/12/31	1900	50	D1900V2-5d041	ES3DV3 - SN3184	DAE4 Sn1647	2.060	40.600	41.2	1.48	SAR08
2023/2/10	1900	50	D1900V2-5d041	EX3DV4 - SN7694	DAE4 Sn1697	2.010	40.600	40.2	-0.99	SAR09
2022/12/30	2600	250	D2600V2-1078	ES3DV3 - SN3184	DAE4 Sn1647	14.500	55.400	58	4.69	SAR08
2023/2/10	2600	50	D2600V2-1078	EX3DV4 - SN7694	DAE4 Sn1697	2.850	55.400	57	2.89	SAR09
2024/10/4	2450	50	D2450V2-929	EX3DV4 - SN7700	DAE4 Sn316	2.400	52.400	48	-8.40	SAR-19
2024/10/4	5250	50	D5GHzV2-1006-5250	EX3DV4 - SN7700	DAE4 Sn316	3.690	81.200	73.8	-9.11	SAR-19
2024/10/4	5600	50	D5GHzV2-1006-5600	EX3DV4 - SN7700	DAE4 Sn316	3.970	84.700	79.4	-6.26	SAR-19
2024/10/4	5750	50	D5GHzV2-1006-5750	EX3DV4 - SN7700	DAE4 Sn316	3.780	80.900	75.6	-6.55	SAR-19
2024/10/4	5850	50	D5GHzV2-1006-5850	EX3DV4 - SN7700	DAE4 Sn316	4.010	81.800	80.2	-1.96	SAR-19

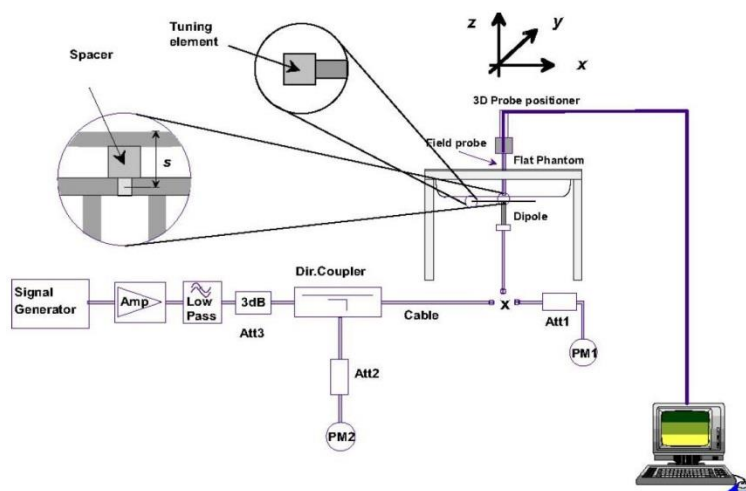


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

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

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

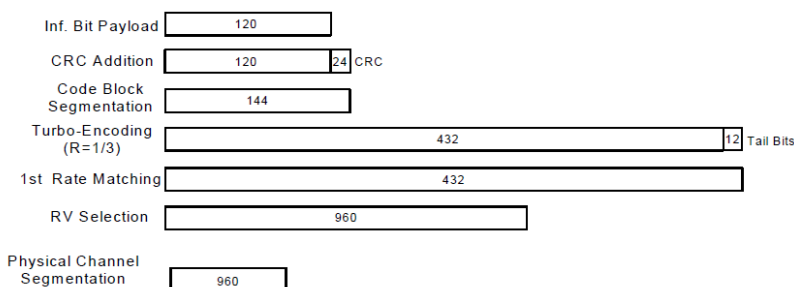
DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

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

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


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

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

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

EM9191

<WCDMA_Ant 1>													
Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	23.49	23.51	23.39	24.50	23.58	23.59	23.51	24.50	23.51	23.52	23.10	24.50
3GPP Rel 6	HSDPA Subtest-1	22.49	22.55	22.41	23.50	22.55	22.53	22.54	23.50	22.60	22.45	22.08	23.50
3GPP Rel 6	HSDPA Subtest-2	22.50	22.57	22.40	23.50	22.58	22.50	22.56	23.50	22.59	22.33	22.08	23.50
3GPP Rel 6	HSDPA Subtest-3	21.99	22.05	21.92	23.00	22.15	22.01	22.03	23.00	22.08	21.85	21.59	23.00
3GPP Rel 6	HSDPA Subtest-4	21.99	22.03	21.91	23.00	22.13	22.02	21.98	23.00	22.09	21.83	21.60	23.00
3GPP Rel 8	DC-HSDPA Subtest-1	22.43	22.54	22.31	23.50	22.64	22.43	22.54	23.50	22.54	22.29	21.99	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.42	22.49	22.37	23.50	22.57	22.48	22.46	23.50	22.52	22.25	21.98	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	21.97	22.00	21.82	23.00	22.05	21.96	21.99	23.00	21.98	21.85	21.51	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	21.94	21.94	21.91	23.00	22.05	21.95	21.98	23.00	22.06	21.74	21.59	23.00
3GPP Rel 6	HSUPA Subtest-1	22.45	22.55	22.37	23.50	22.68	22.42	22.50	23.50	22.60	22.33	22.07	23.50
3GPP Rel 6	HSUPA Subtest-2	20.46	20.54	20.40	21.50	20.67	20.45	20.50	21.50	20.57	20.37	20.10	21.50
3GPP Rel 6	HSUPA Subtest-3	21.47	21.56	21.40	22.50	21.70	21.48	21.48	22.50	21.58	21.35	21.09	22.50
3GPP Rel 6	HSUPA Subtest-4	20.48	20.51	20.43	21.50	20.64	20.50	20.53	21.50	20.56	20.39	20.11	21.50
3GPP Rel 6	HSUPA Subtest-5	22.50	22.50	22.40	23.50	22.70	22.50	22.50	23.50	22.60	22.40	22.10	23.50

<WCDMA_Ant 2>													
Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	23.44	23.45	23.38	24.50	23.54	23.55	23.51	24.50	23.44	23.45	23.02	24.50
3GPP Rel 6	HSDPA Subtest-1	22.48	22.47	22.39	23.50	22.64	22.44	22.54	23.50	22.50	22.29	21.98	23.50
3GPP Rel 6	HSDPA Subtest-2	22.46	22.57	22.31	23.50	22.61	22.45	22.46	23.50	22.57	22.31	21.99	23.50
3GPP Rel 6	HSDPA Subtest-3	21.97	22.05	21.83	23.00	22.07	21.97	21.97	23.00	22.01	21.85	21.49	23.00
3GPP Rel 6	HSDPA Subtest-4	21.92	22.03	21.82	23.00	22.08	21.96	21.96	23.00	22.03	21.83	21.53	23.00
3GPP Rel 8	DC-HSDPA Subtest-1	22.33	22.47	22.29	23.50	22.61	22.40	22.46	23.50	22.49	22.25	21.92	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.40	22.46	22.31	23.50	22.48	22.46	22.44	23.50	22.44	22.24	21.94	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	21.93	21.97	21.74	23.00	21.97	21.87	21.91	23.00	21.94	21.82	21.51	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	21.89	21.86	21.83	23.00	21.99	21.88	21.95	23.00	22.05	21.68	21.54	23.00
3GPP Rel 6	HSUPA Subtest-1	22.43	22.50	22.27	23.50	22.66	22.34	22.48	23.50	22.54	22.29	22.07	23.50
3GPP Rel 6	HSUPA Subtest-2	20.42	20.51	20.36	21.50	20.58	20.42	20.48	21.50	20.53	20.35	20.02	21.50
3GPP Rel 6	HSUPA Subtest-3	21.47	21.53	21.38	22.50	21.68	21.42	21.39	22.50	21.51	21.32	20.99	22.50
3GPP Rel 6	HSUPA Subtest-4	20.40	20.45	20.38	21.50	20.57	20.47	20.51	21.50	20.47	20.32	20.05	21.50
3GPP Rel 6	HSUPA Subtest-5	22.41	22.49	22.32	23.50	22.69	22.48	22.46	23.50	22.57	22.34	22.04	23.50

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<WCDMA_Ant 1>													
Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	22.69	22.70	22.53	24.00	22.67	22.72	22.63	24.00	22.86	22.87	22.65	24.00
3GPP Rel 6	HSDPA Subtest-1	21.65	21.64	21.52	23.00	21.67	21.72	21.74	23.00	21.94	22.02	21.78	23.00
3GPP Rel 6	HSDPA Subtest-2	21.68	21.67	21.24	23.00	21.58	21.72	21.68	23.00	21.98	21.95	21.88	23.00
3GPP Rel 6	HSDPA Subtest-3	21.22	21.20	21.09	22.50	21.13	21.27	21.13	22.50	21.46	21.54	21.35	22.50
3GPP Rel 6	HSDPA Subtest-4	21.15	21.23	21.03	22.50	21.09	21.11	21.12	22.50	21.46	21.48	21.25	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.59	21.60	21.51	23.00	21.61	21.71	21.66	23.00	21.87	21.96	21.68	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.67	21.59	21.22	23.00	21.57	21.69	21.63	23.00	21.97	21.90	21.79	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.22	21.19	21.01	22.50	21.03	21.21	21.04	22.50	21.38	21.50	21.35	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.06	21.15	20.99	22.50	21.06	21.11	21.10	22.50	21.42	21.38	21.25	22.50
3GPP Rel 6	HSUPA Subtest-1	21.65	21.61	21.49	23.00	21.68	21.73	21.69	23.00	21.98	21.92	21.72	23.00
3GPP Rel 6	HSUPA Subtest-2	19.71	19.67	19.41	21.00	19.63	19.78	19.63	21.00	19.99	19.92	19.62	21.00
3GPP Rel 6	HSUPA Subtest-3	20.72	20.64	20.55	22.00	20.75	20.71	20.58	22.00	20.93	20.88	20.59	22.00
3GPP Rel 6	HSUPA Subtest-4	19.64	19.66	19.62	21.00	19.77	19.74	19.79	21.00	20.03	19.93	19.65	21.00
3GPP Rel 6	HSUPA Subtest-5	21.40	21.70	21.50	23.00	21.70	21.50	21.70	23.00	21.80	21.80	21.50	23.00

<WCDMA_Ant 2>													
Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	22.68	22.69	22.50	24.00	22.67	22.68	22.59	24.00	22.81	22.83	22.65	24.00
3GPP Rel 6	HSDPA Subtest-1	21.58	21.60	21.47	23.00	21.64	21.71	21.64	23.00	21.89	21.90	21.67	23.00
3GPP Rel 6	HSDPA Subtest-2	21.56	21.58	21.47	23.00	21.58	21.74	21.51	23.00	21.92	21.84	21.63	23.00
3GPP Rel 6	HSDPA Subtest-3	21.08	21.11	20.91	22.50	21.06	21.24	21.03	22.50	21.42	21.43	21.14	22.50
3GPP Rel 6	HSDPA Subtest-4	21.06	21.12	20.95	22.50	21.13	21.16	21.00	22.50	21.38	21.32	21.12	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.57	21.55	21.47	23.00	21.54	21.67	21.61	23.00	21.81	21.85	21.62	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.55	21.57	21.39	23.00	21.57	21.67	21.45	23.00	21.86	21.74	21.59	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.00	21.04	20.84	22.50	21.03	21.19	20.99	22.50	21.42	21.41	21.14	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.04	21.09	20.93	22.50	21.03	21.11	20.93	22.50	21.29	21.24	21.04	22.50
3GPP Rel 6	HSUPA Subtest-1	21.53	21.60	21.55	23.00	21.65	21.61	21.53	23.00	21.89	21.88	21.66	23.00
3GPP Rel 6	HSUPA Subtest-2	19.61	19.59	19.59	21.00	19.56	19.63	19.58	21.00	19.94	19.87	19.64	21.00
3GPP Rel 6	HSUPA Subtest-3	20.68	20.62	20.50	22.00	20.73	20.77	20.66	22.00	20.93	20.85	20.68	22.00
3GPP Rel 6	HSUPA Subtest-4	19.68	19.96	19.56	21.00	19.69	19.80	19.65	21.00	19.95	19.91	19.67	21.00
3GPP Rel 6	HSUPA Subtest-5	21.30	21.50	21.20	23.00	21.50	21.40	21.60	23.00	21.70	21.70	21.40	23.00

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

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

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<LTE Band 2 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	22.69	22.82	22.80	24
20	QPSK	1	49	22.63	22.68	22.57	
20	QPSK	1	99	22.53	22.56	22.57	
20	QPSK	50	0	21.75	21.83	21.80	23
20	QPSK	50	24	21.71	21.81	21.79	
20	QPSK	50	50	21.73	21.74	21.74	
20	QPSK	100	0	21.69	21.82	21.75	23
20	16QAM	1	0	21.93	21.93	21.74	
20	16QAM	1	49	21.68	22.25	21.74	
20	16QAM	1	99	21.72	21.90	21.50	22
20	16QAM	50	0	20.76	20.78	20.67	
20	16QAM	50	24	20.74	20.74	20.72	
20	16QAM	50	50	20.85	20.80	20.77	22
20	16QAM	100	0	20.76	20.72	20.78	
20	64QAM	1	0	20.63	20.74	20.91	
20	64QAM	1	49	20.93	20.84	20.97	21
20	64QAM	1	99	20.80	20.83	20.78	
20	64QAM	50	0	19.71	19.74	19.75	
20	64QAM	50	24	19.79	19.83	19.71	19
20	64QAM	50	50	19.76	19.87	19.78	
20	64QAM	100	0	19.79	19.73	19.72	
20	256QAM	1	0	17.89	17.87	17.89	19
20	256QAM	1	49	17.95	17.95	17.73	
20	256QAM	1	99	17.84	18.02	17.79	
20	256QAM	50	0	17.82	17.80	17.76	19
20	256QAM	50	24	17.93	17.89	17.83	
20	256QAM	50	50	17.90	17.94	17.77	
20	256QAM	100	0	17.91	17.89	17.82	Tune-up limit (dBm)
Channel				18675	18900	19125	
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.64	22.81	22.64	24
15	QPSK	1	37	22.73	22.60	22.52	
15	QPSK	1	74	22.81	22.64	22.56	
15	QPSK	36	0	21.66	21.73	21.70	23
15	QPSK	36	20	21.86	21.85	21.65	
15	QPSK	36	39	21.79	21.81	21.62	
15	QPSK	75	0	21.79	21.72	21.64	23
15	16QAM	1	0	21.92	22.40	22.11	
15	16QAM	1	37	22.15	21.98	22.04	
15	16QAM	1	74	22.24	21.81	21.77	22
15	16QAM	36	0	20.72	20.69	20.64	
15	16QAM	36	20	20.79	20.85	20.62	
15	16QAM	36	39	20.67	20.79	20.65	22
15	16QAM	75	0	20.81	20.87	20.64	
15	64QAM	1	0	20.43	20.79	20.74	
15	64QAM	1	37	20.51	20.93	20.87	21
15	64QAM	1	74	20.51	20.74	20.64	
15	64QAM	36	0	19.69	19.76	19.68	



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15	64QAM	36	20	19.95	19.86	19.71	
15	64QAM	36	39	19.94	19.86	19.73	
15	64QAM	75	0	19.85	19.70	19.54	
15	256QAM	1	0	18.08	17.64	17.87	19
15	256QAM	1	37	17.89	17.72	18.03	
15	256QAM	1	74	17.74	17.92	17.96	
15	256QAM	36	0	17.55	17.86	17.97	19
15	256QAM	36	20	17.95	18.12	17.69	
15	256QAM	36	39	17.73	17.65	17.75	
15	256QAM	75	0	18.21	17.98	17.86	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	22.49	22.61	22.64	24
10	QPSK	1	25	22.64	22.72	22.54	
10	QPSK	1	49	22.52	22.63	22.48	
10	QPSK	25	0	21.73	21.70	21.60	23
10	QPSK	25	12	21.80	21.80	21.71	
10	QPSK	25	25	21.81	21.91	21.74	
10	QPSK	50	0	21.71	21.72	21.72	
10	16QAM	1	0	22.36	21.85	21.65	23
10	16QAM	1	25	21.92	21.97	21.77	
10	16QAM	1	49	22.36	21.85	22.13	
10	16QAM	25	0	20.71	20.67	20.49	22
10	16QAM	25	12	20.78	20.87	20.74	
10	16QAM	25	25	20.73	20.88	20.74	
10	16QAM	50	0	20.76	20.82	20.59	
10	64QAM	1	0	20.82	21.05	20.70	22
10	64QAM	1	25	21.08	21.22	20.44	
10	64QAM	1	49	21.21	20.81	20.74	
10	64QAM	25	0	19.73	19.74	19.59	21
10	64QAM	25	12	19.88	19.93	19.82	
10	64QAM	25	25	19.84	19.92	19.89	
10	64QAM	50	0	19.77	19.86	19.64	
10	256QAM	1	0	17.83	17.92	17.79	19
10	256QAM	1	25	18.11	18.22	17.61	
10	256QAM	1	49	17.77	17.93	18.08	
10	256QAM	25	0	17.74	17.62	18.00	19
10	256QAM	25	12	18.15	17.94	17.53	
10	256QAM	25	25	18.18	17.75	17.77	
10	256QAM	50	0	18.16	17.89	18.06	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	22.65	22.54	22.47	24
5	QPSK	1	12	22.81	22.63	22.50	
5	QPSK	1	24	22.79	22.78	22.59	
5	QPSK	12	0	21.77	21.81	21.65	23
5	QPSK	12	7	21.83	21.85	21.75	
5	QPSK	12	13	21.80	21.85	21.73	
5	QPSK	25	0	21.72	21.75	21.64	
5	16QAM	1	0	22.18	22.22	22.12	23
5	16QAM	1	12	21.70	22.35	21.85	
5	16QAM	1	24	22.00	22.37	22.22	
5	16QAM	12	0	20.83	20.88	20.67	22
5	16QAM	12	7	20.84	20.79	20.79	
5	16QAM	12	13	20.83	20.91	20.71	
5	16QAM	25	0	20.81	20.84	20.73	



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5	64QAM	1	0	21.05	21.05	20.88	22
5	64QAM	1	12	21.01	21.15	20.77	
5	64QAM	1	24	21.11	21.24	21.06	
5	64QAM	12	0	19.73	19.88	19.71	21
5	64QAM	12	7	19.81	19.87	19.83	
5	64QAM	12	13	19.77	19.84	19.80	
5	64QAM	25	0	19.73	19.83	19.68	19
5	256QAM	1	0	17.69	17.74	17.87	
5	256QAM	1	12	17.66	17.76	17.96	
5	256QAM	1	24	17.86	18.14	17.84	19
5	256QAM	12	0	17.70	18.08	17.93	
5	256QAM	12	7	17.96	18.00	17.82	
5	256QAM	12	13	18.19	17.71	17.49	19
5	256QAM	25	0	17.69	17.59	17.63	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.78	22.63	22.55	24
3	QPSK	1	8	22.75	22.72	22.62	
3	QPSK	1	14	22.71	22.75	22.45	
3	QPSK	8	0	21.74	21.84	21.68	23
3	QPSK	8	4	21.80	21.79	21.73	
3	QPSK	8	7	21.78	21.86	21.61	
3	QPSK	15	0	21.77	21.76	21.69	23
3	16QAM	1	0	21.67	21.71	22.04	
3	16QAM	1	8	22.00	22.46	22.20	
3	16QAM	1	14	21.96	22.22	22.06	22
3	16QAM	8	0	20.78	20.76	20.75	
3	16QAM	8	4	20.89	20.82	20.70	
3	16QAM	8	7	20.72	20.81	20.75	22
3	16QAM	15	0	20.75	20.75	20.76	
3	64QAM	1	0	20.99	20.83	20.86	22
3	64QAM	1	8	20.93	21.17	20.73	
3	64QAM	1	14	20.76	21.12	20.40	
3	64QAM	8	0	19.84	19.86	19.70	21
3	64QAM	8	4	19.85	19.72	19.62	
3	64QAM	8	7	19.83	19.95	19.68	
3	64QAM	15	0	19.78	19.82	19.70	19
3	256QAM	1	0	17.60	17.83	17.85	
3	256QAM	1	8	17.55	17.63	17.97	
3	256QAM	1	14	17.92	18.16	17.88	19
3	256QAM	8	0	17.66	18.02	17.80	
3	256QAM	8	4	18.00	17.72	17.67	
3	256QAM	8	7	18.47	17.78	17.57	19
3	256QAM	15	0	17.50	17.38	17.33	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.66	22.67	22.40	24
1.4	QPSK	1	3	22.64	22.74	22.55	
1.4	QPSK	1	5	22.66	22.67	22.33	
1.4	QPSK	3	0	22.65	22.72	22.53	
1.4	QPSK	3	1	22.62	22.74	22.51	
1.4	QPSK	3	3	22.70	22.75	22.55	
1.4	QPSK	6	0	21.75	21.80	21.58	23
1.4	16QAM	1	0	21.76	22.23	21.38	23
1.4	16QAM	1	3	21.74	21.76	21.67	
1.4	16QAM	1	5	21.87	21.90	21.69	



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1.4	16QAM	3	0	21.78	21.88	21.46	
1.4	16QAM	3	1	21.77	21.87	21.63	
1.4	16QAM	3	3	21.70	21.77	21.68	
1.4	16QAM	6	0	20.72	20.69	20.64	22
1.4	64QAM	1	0	20.85	21.07	20.86	22
1.4	64QAM	1	3	21.02	21.17	20.68	
1.4	64QAM	1	5	20.71	21.03	20.93	
1.4	64QAM	3	0	20.85	20.79	20.58	
1.4	64QAM	3	1	20.90	20.88	20.71	
1.4	64QAM	3	3	20.99	20.81	20.58	21
1.4	64QAM	6	0	19.91	19.88	19.79	
1.4	256QAM	1	0	17.88	17.91	18.05	19
1.4	256QAM	1	3	17.56	17.85	18.04	
1.4	256QAM	1	5	18.08	18.02	17.56	
1.4	256QAM	3	0	17.72	18.16	18.21	
1.4	256QAM	3	1	17.99	18.21	17.77	
1.4	256QAM	3	3	17.89	17.52	17.50	19
1.4	256QAM	6	0	17.55	17.50	17.81	

<LTE Band 2 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	22.67	22.82	22.74	24
20	QPSK	1	49	22.57	22.58	22.49	
20	QPSK	1	99	22.50	22.54	22.57	
20	QPSK	50	0	21.71	21.81	21.80	23
20	QPSK	50	24	21.69	21.79	21.75	
20	QPSK	50	50	21.66	21.64	21.72	
20	QPSK	100	0	21.66	21.74	21.75	
20	16QAM	1	0	21.87	21.89	21.72	23
20	16QAM	1	49	21.59	22.16	21.64	
20	16QAM	1	99	21.70	21.83	21.44	
20	16QAM	50	0	20.69	20.68	20.60	22
20	16QAM	50	24	20.65	20.65	20.62	
20	16QAM	50	50	20.80	20.80	20.67	
20	16QAM	100	0	20.69	20.63	20.71	
20	64QAM	1	0	20.60	20.69	20.85	22
20	64QAM	1	49	20.83	20.83	20.93	
20	64QAM	1	99	20.70	20.80	20.68	
20	64QAM	50	0	19.71	19.70	19.68	21
20	64QAM	50	24	19.78	19.75	19.67	
20	64QAM	50	50	19.68	19.86	19.78	
20	64QAM	100	0	19.69	19.70	19.62	
20	256QAM	1	0	17.85	17.78	17.89	19
20	256QAM	1	49	17.93	17.90	17.64	
20	256QAM	1	99	17.80	17.95	17.77	
20	256QAM	50	0	17.79	17.72	17.72	19
20	256QAM	50	24	17.87	17.85	17.76	
20	256QAM	50	50	17.88	17.92	17.67	
20	256QAM	100	0	17.91	17.80	17.77	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.57	22.79	22.64	24
15	QPSK	1	37	22.71	22.59	22.52	



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15	QPSK	1	74	22.79	22.57	22.50	23
15	QPSK	36	0	21.60	21.67	21.61	
15	QPSK	36	20	21.86	21.78	21.58	
15	QPSK	36	39	21.73	21.75	21.61	
15	QPSK	75	0	21.76	21.67	21.58	
15	16QAM	1	0	21.88	22.32	22.02	23
15	16QAM	1	37	22.07	21.95	21.98	
15	16QAM	1	74	22.19	21.75	21.68	
15	16QAM	36	0	20.66	20.69	20.59	22
15	16QAM	36	20	20.71	20.79	20.56	
15	16QAM	36	39	20.58	20.71	20.64	
15	16QAM	75	0	20.76	20.86	20.61	
15	64QAM	1	0	20.34	20.76	20.64	22
15	64QAM	1	37	20.45	20.92	20.83	
15	64QAM	1	74	20.45	20.72	20.59	
15	64QAM	36	0	19.63	19.72	19.65	21
15	64QAM	36	20	19.95	19.76	19.63	
15	64QAM	36	39	19.91	19.83	19.67	
15	64QAM	75	0	19.81	19.62	19.50	
15	256QAM	1	0	18.05	17.57	17.83	19
15	256QAM	1	37	17.84	17.63	18.01	
15	256QAM	1	74	17.74	17.86	17.96	
15	256QAM	36	0	17.53	17.85	17.95	19
15	256QAM	36	20	17.88	18.04	17.66	
15	256QAM	36	39	17.66	17.57	17.68	
15	256QAM	75	0	18.14	17.88	17.81	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	22.40	22.61	22.60	24
10	QPSK	1	25	22.61	22.70	22.48	
10	QPSK	1	49	22.43	22.57	22.44	
10	QPSK	25	0	21.66	21.61	21.56	23
10	QPSK	25	12	21.71	21.76	21.70	
10	QPSK	25	25	21.75	21.87	21.69	
10	QPSK	50	0	21.65	21.64	21.65	
10	16QAM	1	0	22.33	21.82	21.59	23
10	16QAM	1	25	21.86	21.97	21.75	
10	16QAM	1	49	22.30	21.80	22.13	
10	16QAM	25	0	20.71	20.65	20.48	22
10	16QAM	25	12	20.73	20.84	20.65	
10	16QAM	25	25	20.72	20.78	20.68	
10	16QAM	50	0	20.70	20.75	20.59	
10	64QAM	1	0	20.79	20.99	20.63	22
10	64QAM	1	25	21.07	21.18	20.35	
10	64QAM	1	49	21.14	20.72	20.72	
10	64QAM	25	0	19.70	19.66	19.54	21
10	64QAM	25	12	19.81	19.88	19.73	
10	64QAM	25	25	19.84	19.89	19.87	
10	64QAM	50	0	19.70	19.77	19.63	
10	256QAM	1	0	17.83	17.83	17.73	19
10	256QAM	1	25	18.04	18.13	17.56	
10	256QAM	1	49	17.69	17.90	18.00	
10	256QAM	25	0	17.69	17.57	17.94	19
10	256QAM	25	12	18.12	17.86	17.50	
10	256QAM	25	25	18.11	17.66	17.69	
10	256QAM	50	0	18.10	17.81	18.05	



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Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	22.62	22.51	22.44	24
5	QPSK	1	12	22.76	22.63	22.50	
5	QPSK	1	24	22.77	22.70	22.59	
5	QPSK	12	0	21.70	21.71	21.56	23
5	QPSK	12	7	21.76	21.84	21.71	
5	QPSK	12	13	21.73	21.81	21.72	
5	QPSK	25	0	21.68	21.69	21.61	
5	16QAM	1	0	22.18	22.14	22.05	23
5	16QAM	1	12	21.68	22.33	21.84	
5	16QAM	1	24	21.93	22.30	22.20	
5	16QAM	12	0	20.77	20.81	20.62	22
5	16QAM	12	7	20.84	20.71	20.73	
5	16QAM	12	13	20.82	20.82	20.63	
5	16QAM	25	0	20.78	20.80	20.69	
5	64QAM	1	0	21.05	20.97	20.88	22
5	64QAM	1	12	20.96	21.07	20.75	
5	64QAM	1	24	21.01	21.22	21.01	
5	64QAM	12	0	19.69	19.87	19.68	21
5	64QAM	12	7	19.75	19.79	19.81	
5	64QAM	12	13	19.75	19.83	19.71	
5	64QAM	25	0	19.71	19.73	19.58	
5	256QAM	1	0	17.67	17.69	17.78	19
5	256QAM	1	12	17.64	17.67	17.91	
5	256QAM	1	24	17.81	18.10	17.78	
5	256QAM	12	0	17.64	17.99	17.83	19
5	256QAM	12	7	17.96	17.98	17.80	
5	256QAM	12	13	18.18	17.61	17.49	
5	256QAM	25	0	17.64	17.56	17.60	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.72	22.59	22.48	24
3	QPSK	1	8	22.70	22.66	22.56	
3	QPSK	1	14	22.62	22.72	22.43	
3	QPSK	8	0	21.71	21.82	21.68	23
3	QPSK	8	4	21.70	21.69	21.63	
3	QPSK	8	7	21.71	21.84	21.58	
3	QPSK	15	0	21.76	21.73	21.60	
3	16QAM	1	0	21.62	21.62	21.96	23
3	16QAM	1	8	22.00	22.42	22.11	
3	16QAM	1	14	21.88	22.18	22.01	
3	16QAM	8	0	20.76	20.70	20.66	22
3	16QAM	8	4	20.89	20.81	20.65	
3	16QAM	8	7	20.72	20.75	20.65	
3	16QAM	15	0	20.72	20.74	20.70	
3	64QAM	1	0	20.96	20.76	20.83	22
3	64QAM	1	8	20.83	21.15	20.73	
3	64QAM	1	14	20.75	21.04	20.30	
3	64QAM	8	0	19.82	19.77	19.69	21
3	64QAM	8	4	19.77	19.67	19.52	
3	64QAM	8	7	19.78	19.90	19.61	
3	64QAM	15	0	19.78	19.79	19.65	
3	256QAM	1	0	17.50	17.78	17.78	19
3	256QAM	1	8	17.48	17.60	17.97	
3	256QAM	1	14	17.82	18.13	17.86	

3	256QAM	8	0	17.56	17.93	17.76	19
3	256QAM	8	4	17.91	17.65	17.67	
3	256QAM	8	7	18.40	17.76	17.52	
3	256QAM	15	0	17.41	17.38	17.27	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.58	22.58	22.33	24
1.4	QPSK	1	3	22.64	22.68	22.47	
1.4	QPSK	1	5	22.58	22.65	22.23	
1.4	QPSK	3	0	22.61	22.67	22.49	
1.4	QPSK	3	1	22.61	22.71	22.49	
1.4	QPSK	3	3	22.68	22.75	22.52	
1.4	QPSK	6	0	21.69	21.79	21.51	23
1.4	16QAM	1	0	21.72	22.13	21.34	23
1.4	16QAM	1	3	21.71	21.71	21.67	
1.4	16QAM	1	5	21.78	21.83	21.62	
1.4	16QAM	3	0	21.69	21.85	21.45	
1.4	16QAM	3	1	21.71	21.83	21.62	
1.4	16QAM	3	3	21.67	21.70	21.63	
1.4	16QAM	6	0	20.63	20.62	20.64	22
1.4	64QAM	1	0	20.75	21.02	20.82	22
1.4	64QAM	1	3	20.92	21.14	20.63	
1.4	64QAM	1	5	20.66	20.94	20.84	
1.4	64QAM	3	0	20.81	20.78	20.55	
1.4	64QAM	3	1	20.81	20.79	20.66	
1.4	64QAM	3	3	20.99	20.74	20.50	
1.4	64QAM	6	0	19.84	19.82	19.74	21
1.4	256QAM	1	0	17.82	17.89	17.96	19
1.4	256QAM	1	3	17.53	17.75	18.03	
1.4	256QAM	1	5	18.02	18.00	17.49	
1.4	256QAM	3	0	17.64	18.09	18.14	
1.4	256QAM	3	1	17.98	18.14	17.70	
1.4	256QAM	3	3	17.80	17.47	17.50	
1.4	256QAM	6	0	17.46	17.42	17.78	19

<LTE Band 4 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	22.89	22.91	22.71	24
20	QPSK	1	49	22.60	22.69	22.59	
20	QPSK	1	99	22.48	22.52	22.48	
20	QPSK	50	0	21.89	21.90	21.69	23
20	QPSK	50	24	21.88	21.67	21.43	
20	QPSK	50	50	21.64	21.74	21.68	
20	QPSK	100	0	21.81	21.82	21.76	
20	16QAM	1	0	21.96	22.18	21.82	23
20	16QAM	1	49	21.80	22.10	21.77	
20	16QAM	1	99	21.67	21.90	21.58	
20	16QAM	50	0	20.82	20.87	20.62	22
20	16QAM	50	24	20.80	20.78	20.67	
20	16QAM	50	50	20.65	20.71	20.66	
20	16QAM	100	0	20.84	20.81	20.72	
20	64QAM	1	0	21.19	21.09	20.93	22
20	64QAM	1	49	20.59	20.78	20.76	



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20	64QAM	1	99	20.39	20.70	20.91	21
20	64QAM	50	0	19.97	19.78	19.81	
20	64QAM	50	24	19.83	19.80	19.73	
20	64QAM	50	50	19.73	19.68	19.73	
20	64QAM	100	0	19.62	19.78	19.73	
20	256QAM	1	0	18.03	17.87	17.79	19
20	256QAM	1	49	17.99	17.68	17.71	
20	256QAM	1	99	17.82	17.62	17.80	
20	256QAM	50	0	17.94	17.82	17.66	19
20	256QAM	50	24	17.87	17.76	17.69	
20	256QAM	50	50	17.74	17.71	17.62	
20	256QAM	100	0	17.80	17.73	17.71	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	22.88	22.68	22.63	24
15	QPSK	1	37	22.56	22.58	22.57	
15	QPSK	1	74	22.57	22.49	22.52	
15	QPSK	36	0	21.93	21.85	21.75	23
15	QPSK	36	20	21.65	21.80	21.63	
15	QPSK	36	39	21.70	21.74	21.58	
15	QPSK	75	0	21.79	21.83	21.61	
15	16QAM	1	0	22.07	22.27	22.35	23
15	16QAM	1	37	21.76	22.02	22.06	
15	16QAM	1	74	21.69	22.12	21.72	
15	16QAM	36	0	20.94	20.83	20.66	22
15	16QAM	36	20	20.83	20.74	20.64	
15	16QAM	36	39	20.63	20.55	20.62	
15	16QAM	75	0	20.67	20.79	20.55	
15	64QAM	1	0	21.25	21.12	20.80	22
15	64QAM	1	37	20.85	20.55	20.72	
15	64QAM	1	74	20.83	20.51	20.88	
15	64QAM	36	0	19.99	19.91	19.64	21
15	64QAM	36	20	19.79	19.79	19.68	
15	64QAM	36	39	19.81	19.71	19.79	
15	64QAM	75	0	19.76	19.69	19.76	
15	256QAM	1	0	18.26	17.99	17.67	19
15	256QAM	1	37	17.84	17.57	17.45	
15	256QAM	1	74	17.82	17.75	17.77	
15	256QAM	36	0	17.88	17.86	17.50	19
15	256QAM	36	20	17.72	17.48	17.78	
15	256QAM	36	39	17.90	17.80	17.59	
15	256QAM	75	0	17.66	17.50	17.88	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	22.72	22.68	22.56	24
10	QPSK	1	25	22.68	22.48	22.65	
10	QPSK	1	49	22.71	22.53	22.62	
10	QPSK	25	0	21.83	21.72	21.63	23
10	QPSK	25	12	21.86	21.81	21.71	
10	QPSK	25	25	21.74	21.68	21.72	
10	QPSK	50	0	21.79	21.75	21.71	
10	16QAM	1	0	22.19	22.10	21.53	23
10	16QAM	1	25	21.87	22.04	21.78	
10	16QAM	1	49	21.98	22.15	22.15	
10	16QAM	25	0	20.85	20.61	20.51	22
10	16QAM	25	12	20.85	20.80	20.59	



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10	16QAM	25	25	20.89	20.84	20.72	
10	16QAM	50	0	20.59	20.72	20.58	
10	64QAM	1	0	20.80	20.84	20.75	
10	64QAM	1	25	20.96	20.91	21.16	22
10	64QAM	1	49	20.78	20.63	20.93	
10	64QAM	25	0	20.06	19.68	19.77	
10	64QAM	25	12	19.90	19.88	19.68	21
10	64QAM	25	25	19.70	19.76	19.83	
10	64QAM	50	0	19.81	19.74	19.74	
10	256QAM	1	0	17.97	18.10	17.72	19
10	256QAM	1	25	18.01	17.81	17.44	
10	256QAM	1	49	17.94	17.58	17.50	
10	256QAM	25	0	18.12	17.98	17.94	19
10	256QAM	25	12	18.05	18.00	17.66	
10	256QAM	25	25	17.57	17.84	17.92	
10	256QAM	50	0	17.51	17.49	17.96	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	22.84	22.51	22.66	24
5	QPSK	1	12	22.79	22.62	22.57	
5	QPSK	1	24	22.90	22.56	22.67	
5	QPSK	12	0	21.89	21.67	21.62	23
5	QPSK	12	7	21.86	21.76	21.69	
5	QPSK	12	13	21.86	21.69	21.73	
5	QPSK	25	0	21.86	21.77	21.72	
5	16QAM	1	0	22.11	22.10	21.74	23
5	16QAM	1	12	22.06	22.00	21.68	
5	16QAM	1	24	22.31	22.14	21.81	
5	16QAM	12	0	20.80	20.74	20.71	22
5	16QAM	12	7	20.91	20.70	20.81	
5	16QAM	12	13	20.95	20.62	20.76	
5	16QAM	25	0	20.88	20.65	20.82	
5	64QAM	1	0	21.01	20.78	21.00	22
5	64QAM	1	12	21.06	20.98	20.98	
5	64QAM	1	24	21.07	21.09	20.92	
5	64QAM	12	0	19.88	19.75	19.90	21
5	64QAM	12	7	19.99	19.85	19.85	
5	64QAM	12	13	19.96	19.66	19.70	
5	64QAM	25	0	19.91	19.67	19.79	
5	256QAM	1	0	17.88	18.06	18.05	19
5	256QAM	1	12	18.10	17.82	17.49	
5	256QAM	1	24	17.73	17.86	17.94	
5	256QAM	12	0	17.97	17.57	17.67	19
5	256QAM	12	7	17.72	17.97	17.58	
5	256QAM	12	13	17.48	17.89	17.82	
5	256QAM	25	0	18.09	17.94	17.89	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	22.78	22.60	22.69	24
3	QPSK	1	8	22.86	22.58	22.70	
3	QPSK	1	14	22.81	22.64	22.64	
3	QPSK	8	0	21.84	21.73	21.71	23
3	QPSK	8	4	21.91	21.74	21.68	
3	QPSK	8	7	21.84	21.72	21.72	
3	QPSK	15	0	21.82	21.71	21.62	
3	16QAM	1	0	22.04	22.12	21.97	23



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3	16QAM	1	8	22.18	21.99	21.84	
3	16QAM	1	14	22.26	21.96	21.91	
3	16QAM	8	0	20.79	20.71	20.71	
3	16QAM	8	4	21.02	20.88	20.79	22
3	16QAM	8	7	20.97	20.71	20.74	
3	16QAM	15	0	20.89	20.58	20.74	
3	64QAM	1	0	20.68	20.79	20.83	22
3	64QAM	1	8	21.06	20.90	20.92	
3	64QAM	1	14	21.02	20.83	20.87	
3	64QAM	8	0	19.84	19.75	19.67	21
3	64QAM	8	4	19.85	19.80	19.89	
3	64QAM	8	7	19.87	19.73	19.68	
3	64QAM	15	0	19.97	19.66	19.71	19
3	256QAM	1	0	17.94	17.85	17.62	
3	256QAM	1	8	17.82	17.49	17.44	
3	256QAM	1	14	17.58	17.87	18.05	19
3	256QAM	8	0	18.10	18.09	17.38	
3	256QAM	8	4	17.86	17.90	17.78	
3	256QAM	8	7	17.91	17.94	17.48	
3	256QAM	15	0	18.00	17.91	17.69	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	22.69	22.49	22.52	24
1.4	QPSK	1	3	22.76	22.63	22.63	
1.4	QPSK	1	5	22.70	22.52	22.50	
1.4	QPSK	3	0	22.72	22.59	22.55	
1.4	QPSK	3	1	22.77	22.56	22.62	
1.4	QPSK	3	3	22.79	22.55	22.64	
1.4	QPSK	6	0	21.85	21.65	21.57	23
1.4	16QAM	1	0	21.74	21.68	21.85	23
1.4	16QAM	1	3	21.74	21.72	21.92	
1.4	16QAM	1	5	21.69	22.12	21.95	
1.4	16QAM	3	0	21.89	21.55	21.68	
1.4	16QAM	3	1	21.91	21.76	21.75	
1.4	16QAM	3	3	21.58	21.69	21.71	
1.4	16QAM	6	0	20.80	20.71	20.78	22
1.4	64QAM	1	0	21.10	20.45	20.75	22
1.4	64QAM	1	3	21.20	21.01	20.79	
1.4	64QAM	1	5	21.20	20.92	20.52	
1.4	64QAM	3	0	21.00	20.81	20.86	
1.4	64QAM	3	1	21.05	20.91	20.56	
1.4	64QAM	3	3	21.03	20.85	20.77	
1.4	64QAM	6	0	19.84	19.69	19.67	21
1.4	256QAM	1	0	18.17	17.90	17.88	19
1.4	256QAM	1	3	18.26	17.49	17.83	
1.4	256QAM	1	5	18.01	17.71	18.01	
1.4	256QAM	3	0	18.15	17.72	17.44	
1.4	256QAM	3	1	18.08	18.02	17.43	
1.4	256QAM	3	3	17.62	17.47	17.35	
1.4	256QAM	6	0	18.01	17.85	17.70	19



<LTE Band 4 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	22.81	22.88	22.65	24
20	QPSK	1	49	22.52	22.59	22.54	
20	QPSK	1	99	22.46	22.49	22.44	
20	QPSK	50	0	21.85	21.87	21.63	23
20	QPSK	50	24	21.78	21.66	21.33	
20	QPSK	50	50	21.63	21.74	21.58	
20	QPSK	100	0	21.74	21.82	21.68	23
20	16QAM	1	0	21.89	22.15	21.78	
20	16QAM	1	49	21.72	22.09	21.69	
20	16QAM	1	99	21.58	21.87	21.56	22
20	16QAM	50	0	20.80	20.86	20.60	
20	16QAM	50	24	20.71	20.75	20.63	
20	16QAM	50	50	20.63	20.68	20.66	22
20	16QAM	100	0	20.83	20.75	20.65	
20	64QAM	1	0	21.16	21.04	20.83	
20	64QAM	1	49	20.49	20.78	20.68	21
20	64QAM	1	99	20.34	20.65	20.84	
20	64QAM	50	0	19.92	19.78	19.80	
20	64QAM	50	24	19.81	19.70	19.68	19
20	64QAM	50	50	19.66	19.66	19.68	
20	64QAM	100	0	19.54	19.78	19.71	
20	256QAM	1	0	17.94	17.85	17.77	19
20	256QAM	1	49	17.97	17.61	17.68	
20	256QAM	1	99	17.77	17.59	17.73	
20	256QAM	50	0	17.92	17.81	17.56	19
20	256QAM	50	24	17.85	17.74	17.61	
20	256QAM	50	50	17.72	17.71	17.57	
20	256QAM	100	0	17.74	17.72	17.64	Tune-up limit (dBm)
Channel				20025	20175	20325	
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	22.79	22.64	22.61	24
15	QPSK	1	37	22.56	22.48	22.48	
15	QPSK	1	74	22.48	22.49	22.42	
15	QPSK	36	0	21.87	21.75	21.68	23
15	QPSK	36	20	21.60	21.77	21.55	
15	QPSK	36	39	21.70	21.68	21.50	
15	QPSK	75	0	21.79	21.79	21.58	23
15	16QAM	1	0	22.07	22.22	22.31	
15	16QAM	1	37	21.72	21.99	22.05	
15	16QAM	1	74	21.68	22.12	21.67	22
15	16QAM	36	0	20.90	20.82	20.65	
15	16QAM	36	20	20.73	20.65	20.64	
15	16QAM	36	39	20.54	20.54	20.62	22
15	16QAM	75	0	20.66	20.72	20.49	
15	64QAM	1	0	21.22	21.03	20.70	
15	64QAM	1	37	20.76	20.52	20.62	21
15	64QAM	1	74	20.83	20.50	20.88	
15	64QAM	36	0	19.89	19.85	19.57	
15	64QAM	36	20	19.70	19.75	19.67	21
15	64QAM	36	39	19.71	19.61	19.77	



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15	64QAM	75	0	19.76	19.65	19.70	
15	256QAM	1	0	18.23	17.94	17.61	
15	256QAM	1	37	17.82	17.52	17.38	19
15	256QAM	1	74	17.76	17.66	17.74	
15	256QAM	36	0	17.87	17.76	17.47	
15	256QAM	36	20	17.69	17.39	17.69	19
15	256QAM	36	39	17.82	17.75	17.51	
15	256QAM	75	0	17.66	17.47	17.82	
Channel				20000	20175	20350	Tune-up limit
Frequency (MHz)				1715	1732.5	1750	(dBm)
10	QPSK	1	0	22.71	22.66	22.47	
10	QPSK	1	25	22.65	22.42	22.55	24
10	QPSK	1	49	22.63	22.46	22.55	
10	QPSK	25	0	21.73	21.70	21.61	
10	QPSK	25	12	21.85	21.78	21.68	23
10	QPSK	25	25	21.72	21.60	21.63	
10	QPSK	50	0	21.73	21.65	21.61	
10	16QAM	1	0	22.11	22.06	21.49	
10	16QAM	1	25	21.79	21.94	21.70	23
10	16QAM	1	49	21.88	22.07	22.07	
10	16QAM	25	0	20.84	20.58	20.50	
10	16QAM	25	12	20.83	20.76	20.54	22
10	16QAM	25	25	20.83	20.78	20.64	
10	16QAM	50	0	20.55	20.68	20.54	
10	64QAM	1	0	20.78	20.81	20.75	
10	64QAM	1	25	20.91	20.91	21.12	22
10	64QAM	1	49	20.68	20.63	20.87	
10	64QAM	25	0	20.03	19.65	19.76	
10	64QAM	25	12	19.84	19.85	19.67	21
10	64QAM	25	25	19.68	19.73	19.82	
10	64QAM	50	0	19.76	19.69	19.74	
10	256QAM	1	0	17.95	18.03	17.67	
10	256QAM	1	25	17.97	17.71	17.39	19
10	256QAM	1	49	17.85	17.54	17.49	
10	256QAM	25	0	18.08	17.98	17.94	
10	256QAM	25	12	18.03	17.98	17.64	19
10	256QAM	25	25	17.54	17.82	17.87	
10	256QAM	50	0	17.51	17.48	17.94	
Channel				19975	20175	20375	Tune-up limit
Frequency (MHz)				1712.5	1732.5	1752.5	(dBm)
5	QPSK	1	0	22.79	22.45	22.65	
5	QPSK	1	12	22.78	22.56	22.56	24
5	QPSK	1	24	22.87	22.49	22.57	
5	QPSK	12	0	21.79	21.59	21.58	
5	QPSK	12	7	21.82	21.69	21.69	23
5	QPSK	12	13	21.76	21.63	21.69	
5	QPSK	25	0	21.85	21.73	21.63	
5	16QAM	1	0	22.09	22.01	21.74	
5	16QAM	1	12	22.00	21.98	21.65	23
5	16QAM	1	24	22.21	22.11	21.77	
5	16QAM	12	0	20.79	20.71	20.67	
5	16QAM	12	7	20.86	20.61	20.72	22
5	16QAM	12	13	20.89	20.61	20.73	
5	16QAM	25	0	20.83	20.63	20.73	
5	64QAM	1	0	20.94	20.73	20.93	22
5	64QAM	1	12	21.00	20.98	20.92	



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5	64QAM	1	24	21.06	21.07	20.83	21
5	64QAM	12	0	19.87	19.67	19.84	
5	64QAM	12	7	19.94	19.78	19.82	
5	64QAM	12	13	19.88	19.57	19.65	
5	64QAM	25	0	19.87	19.65	19.79	
5	256QAM	1	0	17.78	17.99	18.04	19
5	256QAM	1	12	18.05	17.78	17.40	
5	256QAM	1	24	17.66	17.84	17.88	
5	256QAM	12	0	17.89	17.47	17.66	19
5	256QAM	12	7	17.70	17.93	17.55	
5	256QAM	12	13	17.46	17.83	17.76	
5	256QAM	25	0	18.00	17.87	17.82	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	22.69	22.57	22.62	24
3	QPSK	1	8	22.82	22.51	22.60	
3	QPSK	1	14	22.78	22.64	22.62	
3	QPSK	8	0	21.76	21.68	21.62	23
3	QPSK	8	4	21.89	21.72	21.64	
3	QPSK	8	7	21.79	21.62	21.68	
3	QPSK	15	0	21.75	21.71	21.52	
3	16QAM	1	0	21.99	22.06	21.89	23
3	16QAM	1	8	22.12	21.91	21.78	
3	16QAM	1	14	22.20	21.95	21.87	
3	16QAM	8	0	20.70	20.68	20.66	22
3	16QAM	8	4	20.93	20.80	20.76	
3	16QAM	8	7	20.92	20.65	20.69	
3	16QAM	15	0	20.80	20.58	20.65	
3	64QAM	1	0	20.65	20.76	20.82	22
3	64QAM	1	8	20.99	20.89	20.87	
3	64QAM	1	14	21.00	20.75	20.81	
3	64QAM	8	0	19.78	19.69	19.63	21
3	64QAM	8	4	19.75	19.75	19.89	
3	64QAM	8	7	19.84	19.65	19.62	
3	64QAM	15	0	19.91	19.62	19.68	
3	256QAM	1	0	17.87	17.79	17.55	19
3	256QAM	1	8	17.79	17.43	17.38	
3	256QAM	1	14	17.48	17.87	17.98	
3	256QAM	8	0	18.05	18.06	17.36	19
3	256QAM	8	4	17.77	17.90	17.75	
3	256QAM	8	7	17.87	17.86	17.41	
3	256QAM	15	0	17.91	17.88	17.69	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	22.68	22.44	22.45	24
1.4	QPSK	1	3	22.76	22.63	22.57	
1.4	QPSK	1	5	22.64	22.52	22.46	
1.4	QPSK	3	0	22.66	22.58	22.47	
1.4	QPSK	3	1	22.67	22.56	22.54	
1.4	QPSK	3	3	22.79	22.54	22.58	
1.4	QPSK	6	0	21.82	21.61	21.52	23
1.4	16QAM	1	0	21.68	21.59	21.78	23
1.4	16QAM	1	3	21.67	21.68	21.92	
1.4	16QAM	1	5	21.66	22.08	21.91	
1.4	16QAM	3	0	21.80	21.55	21.68	
1.4	16QAM	3	1	21.86	21.71	21.73	



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1.4	16QAM	3	3	21.53	21.67	21.65	
1.4	16QAM	6	0	20.79	20.62	20.68	22
1.4	64QAM	1	0	21.00	20.39	20.68	22
1.4	64QAM	1	3	21.14	21.00	20.77	
1.4	64QAM	1	5	21.19	20.84	20.43	
1.4	64QAM	3	0	20.99	20.81	20.80	
1.4	64QAM	3	1	20.97	20.88	20.53	
1.4	64QAM	3	3	20.95	20.84	20.68	
1.4	64QAM	6	0	19.80	19.66	19.66	21
1.4	256QAM	1	0	18.08	17.86	17.87	19
1.4	256QAM	1	3	18.16	17.39	17.81	
1.4	256QAM	1	5	17.94	17.71	17.93	
1.4	256QAM	3	0	18.09	17.70	17.44	
1.4	256QAM	3	1	18.05	18.02	17.36	
1.4	256QAM	3	3	17.58	17.46	17.31	
1.4	256QAM	6	0	17.91	17.75	17.70	19

<LTE Band 5 Ant 1>							
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	22.82	22.87	22.52	24
10	QPSK	1	25	22.57	22.53	22.23	
10	QPSK	1	49	22.51	22.30	22.31	
10	QPSK	25	0	21.87	21.90	21.52	23
10	QPSK	25	12	21.85	21.78	21.48	
10	QPSK	25	25	21.73	21.69	21.50	
10	QPSK	50	0	21.83	21.84	21.43	
10	16QAM	1	0	21.97	21.69	21.58	23
10	16QAM	1	25	22.09	21.74	21.41	
10	16QAM	1	49	21.95	21.67	21.78	
10	16QAM	25	0	20.82	20.67	20.59	22
10	16QAM	25	12	20.76	20.71	20.51	
10	16QAM	25	25	20.90	20.57	20.50	
10	16QAM	50	0	20.75	20.71	20.44	
10	64QAM	1	0	20.57	21.13	20.61	22
10	64QAM	1	25	20.96	20.78	20.45	
10	64QAM	1	49	20.27	20.78	20.22	
10	64QAM	25	0	19.77	19.66	19.46	21
10	64QAM	25	12	19.76	19.58	19.40	
10	64QAM	25	25	19.66	19.57	19.33	
10	64QAM	50	0	19.81	19.62	19.42	
10	256QAM	1	0	18.04	18.13	17.95	19
10	256QAM	1	25	17.89	17.95	17.81	
10	256QAM	1	49	17.92	17.75	17.63	
10	256QAM	25	0	18.09	17.93	17.75	19
10	256QAM	25	12	17.89	17.92	17.71	
10	256QAM	25	25	17.87	17.76	17.69	
10	256QAM	50	0	17.93	17.89	17.71	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	22.86	22.78	22.40	24
5	QPSK	1	12	22.55	22.56	22.38	
5	QPSK	1	24	22.70	22.53	22.23	
5	QPSK	12	0	21.92	21.71	21.49	23



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5	QPSK	12	7	21.91	21.69	21.43	
5	QPSK	12	13	21.74	21.54	21.32	
5	QPSK	25	0	21.82	21.69	21.47	
5	16QAM	1	0	22.29	22.26	21.38	23
5	16QAM	1	12	22.10	21.85	21.83	
5	16QAM	1	24	22.00	22.08	21.36	
5	16QAM	12	0	20.85	20.68	20.52	22
5	16QAM	12	7	20.90	20.80	20.57	
5	16QAM	12	13	20.85	20.62	20.37	
5	16QAM	25	0	20.88	20.76	20.45	22
5	64QAM	1	0	20.93	20.71	20.72	
5	64QAM	1	12	21.12	20.54	20.00	
5	64QAM	1	24	21.13	20.83	20.10	21
5	64QAM	12	0	20.04	19.72	19.56	
5	64QAM	12	7	19.93	19.73	19.22	
5	64QAM	12	13	19.86	19.59	19.19	19
5	64QAM	25	0	19.77	19.54	19.41	
5	256QAM	1	0	18.30	18.10	17.98	
5	256QAM	1	12	17.76	17.69	17.91	19
5	256QAM	1	24	17.90	17.54	17.36	
5	256QAM	12	0	18.17	18.17	17.79	
5	256QAM	12	7	17.98	18.14	17.68	19
5	256QAM	12	13	17.73	17.59	17.74	
5	256QAM	25	0	17.89	18.01	17.84	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	22.77	22.78	22.38	24
3	QPSK	1	8	22.80	22.63	22.32	
3	QPSK	1	14	22.69	22.54	22.18	
3	QPSK	8	0	21.87	21.64	21.41	23
3	QPSK	8	4	21.83	21.58	21.43	
3	QPSK	8	7	21.81	21.60	21.45	
3	QPSK	15	0	21.79	21.58	21.48	23
3	16QAM	1	0	22.07	21.54	22.03	
3	16QAM	1	8	22.07	21.55	21.52	
3	16QAM	1	14	22.05	21.55	21.56	22
3	16QAM	8	0	20.79	20.75	20.43	
3	16QAM	8	4	21.02	20.78	20.40	
3	16QAM	8	7	20.96	20.72	20.39	22
3	16QAM	15	0	20.81	20.79	20.42	
3	64QAM	1	0	20.98	20.71	20.17	
3	64QAM	1	8	20.99	20.73	20.03	21
3	64QAM	1	14	20.88	20.60	20.15	
3	64QAM	8	0	19.85	19.61	19.16	
3	64QAM	8	4	19.87	19.56	19.10	19
3	64QAM	8	7	19.77	19.53	19.04	
3	64QAM	15	0	19.79	19.54	19.06	
3	256QAM	1	0	18.07	18.33	18.08	19
3	256QAM	1	8	17.90	18.04	17.55	
3	256QAM	1	14	17.77	17.49	17.39	
3	256QAM	8	0	18.34	18.20	17.51	19
3	256QAM	8	4	17.96	17.87	17.86	
3	256QAM	8	7	17.77	17.91	17.97	
3	256QAM	15	0	18.23	18.11	17.77	Tune-up limit (dBm)
Channel				20407	20525	20643	
Frequency (MHz)				824.7	836.5	848.3	



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1.4	QPSK	1	0	22.74	22.52	22.23	24
1.4	QPSK	1	3	22.81	22.54	22.31	
1.4	QPSK	1	5	22.62	22.34	22.12	
1.4	QPSK	3	0	22.75	22.51	22.18	
1.4	QPSK	3	1	22.82	22.59	22.27	
1.4	QPSK	3	3	22.68	22.48	22.21	23
1.4	QPSK	6	0	21.73	21.51	21.24	
1.4	16QAM	1	0	21.86	22.03	21.74	
1.4	16QAM	1	3	21.99	22.17	21.80	
1.4	16QAM	1	5	21.89	21.79	21.51	
1.4	16QAM	3	0	21.91	21.67	21.32	22
1.4	16QAM	3	1	21.92	21.46	21.31	
1.4	16QAM	3	3	21.76	21.61	21.10	
1.4	16QAM	6	0	20.82	20.67	20.34	
1.4	64QAM	1	0	20.86	20.61	20.19	
1.4	64QAM	1	3	20.92	20.60	20.27	21
1.4	64QAM	1	5	20.83	20.49	20.18	
1.4	64QAM	3	0	20.81	20.57	20.04	
1.4	64QAM	3	1	20.89	20.60	20.09	
1.4	64QAM	3	3	20.80	20.52	20.14	
1.4	64QAM	6	0	19.75	19.43	19.03	19
1.4	256QAM	1	0	17.99	17.87	17.99	
1.4	256QAM	1	3	17.69	17.77	18.05	
1.4	256QAM	1	5	17.75	17.98	17.55	
1.4	256QAM	3	0	17.92	17.97	17.66	
1.4	256QAM	3	1	18.04	17.81	17.78	19
1.4	256QAM	3	3	17.63	17.55	17.44	
1.4	256QAM	6	0	17.73	17.67	17.70	19

<LTE Band 5 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	22.74	22.84	22.49	24
10	QPSK	1	25	22.47	22.44	22.22	
10	QPSK	1	49	22.41	22.25	22.31	
10	QPSK	25	0	21.85	21.86	21.49	23
10	QPSK	25	12	21.84	21.78	21.43	
10	QPSK	25	25	21.65	21.61	21.43	
10	QPSK	50	0	21.83	21.79	21.35	
10	16QAM	1	0	21.92	21.59	21.53	23
10	16QAM	1	25	22.03	21.67	21.32	
10	16QAM	1	49	21.95	21.66	21.76	
10	16QAM	25	0	20.75	20.66	20.59	22
10	16QAM	25	12	20.67	20.67	20.45	
10	16QAM	25	25	20.81	20.54	20.41	
10	16QAM	50	0	20.68	20.64	20.42	
10	64QAM	1	0	20.52	21.11	20.51	22
10	64QAM	1	25	20.96	20.73	20.39	
10	64QAM	1	49	20.21	20.69	20.20	
10	64QAM	25	0	19.76	19.56	19.36	21
10	64QAM	25	12	19.76	19.54	19.32	
10	64QAM	25	25	19.57	19.51	19.25	
10	64QAM	50	0	19.81	19.53	19.33	
10	256QAM	1	0	18.01	18.10	17.92	19



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10	256QAM	1	25	17.82	17.94	17.71	19
10	256QAM	1	49	17.89	17.67	17.60	
10	256QAM	25	0	18.08	17.88	17.65	
10	256QAM	25	12	17.87	17.87	17.63	
10	256QAM	25	25	17.77	17.71	17.69	
10	256QAM	50	0	17.85	17.84	17.64	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	22.82	22.72	22.36	24
5	QPSK	1	12	22.53	22.54	22.31	
5	QPSK	1	24	22.63	22.51	22.19	
5	QPSK	12	0	21.85	21.62	21.41	23
5	QPSK	12	7	21.91	21.62	21.40	
5	QPSK	12	13	21.69	21.47	21.22	
5	QPSK	25	0	21.81	21.59	21.44	
5	16QAM	1	0	22.22	22.18	21.34	23
5	16QAM	1	12	22.01	21.78	21.82	
5	16QAM	1	24	21.94	21.98	21.26	
5	16QAM	12	0	20.76	20.63	20.50	22
5	16QAM	12	7	20.89	20.77	20.57	
5	16QAM	12	13	20.80	20.53	20.32	
5	16QAM	25	0	20.87	20.72	20.38	
5	64QAM	1	0	20.89	20.64	20.69	22
5	64QAM	1	12	21.11	20.45	20.15	
5	64QAM	1	24	21.05	20.76	20.01	
5	64QAM	12	0	20.03	19.67	19.49	21
5	64QAM	12	7	19.91	19.65	19.12	
5	64QAM	12	13	19.80	19.49	19.12	
5	64QAM	25	0	19.71	19.53	19.40	
5	256QAM	1	0	18.24	18.07	17.89	19
5	256QAM	1	12	17.71	17.64	17.85	
5	256QAM	1	24	17.87	17.49	17.35	
5	256QAM	12	0	18.15	18.07	17.73	19
5	256QAM	12	7	17.90	18.04	17.62	
5	256QAM	12	13	17.69	17.59	17.69	
5	256QAM	25	0	17.87	17.92	17.75	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	22.70	22.68	22.28	24
3	QPSK	1	8	22.73	22.54	22.26	
3	QPSK	1	14	22.69	22.50	22.12	
3	QPSK	8	0	21.79	21.58	21.32	23
3	QPSK	8	4	21.83	21.52	21.35	
3	QPSK	8	7	21.81	21.57	21.40	
3	QPSK	15	0	21.79	21.57	21.40	
3	16QAM	1	0	22.03	21.46	21.95	23
3	16QAM	1	8	22.01	21.49	21.46	
3	16QAM	1	14	21.99	21.47	21.53	
3	16QAM	8	0	20.71	20.68	20.39	22
3	16QAM	8	4	21.00	20.73	20.34	
3	16QAM	8	7	20.90	20.68	20.31	
3	16QAM	15	0	20.71	20.79	20.39	
3	64QAM	1	0	20.92	20.71	20.13	22
3	64QAM	1	8	20.96	20.63	20.05	
3	64QAM	1	14	20.80	20.51	20.09	
3	64QAM	8	0	19.83	19.58	19.16	21



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3	64QAM	8	4	19.83	19.53	19.06	
3	64QAM	8	7	19.67	19.48	19.02	
3	64QAM	15	0	19.69	19.48	19.06	
3	256QAM	1	0	18.05	18.28	17.98	19
3	256QAM	1	8	17.88	17.95	17.50	
3	256QAM	1	14	17.69	17.49	17.31	
3	256QAM	8	0	18.34	18.14	17.51	19
3	256QAM	8	4	17.93	17.86	17.84	
3	256QAM	8	7	17.69	17.91	17.88	
3	256QAM	15	0	18.23	18.11	17.71	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	22.69	22.42	22.20	24
1.4	QPSK	1	3	22.71	22.52	22.25	
1.4	QPSK	1	5	22.55	22.27	22.08	
1.4	QPSK	3	0	22.66	22.43	22.10	
1.4	QPSK	3	1	22.72	22.58	22.19	
1.4	QPSK	3	3	22.63	22.47	22.21	
1.4	QPSK	6	0	21.72	21.44	21.23	23
1.4	16QAM	1	0	21.84	22.01	21.65	23
1.4	16QAM	1	3	21.90	22.13	21.71	
1.4	16QAM	1	5	21.80	21.77	21.49	
1.4	16QAM	3	0	21.84	21.60	21.32	
1.4	16QAM	3	1	21.84	21.43	21.22	
1.4	16QAM	3	3	21.68	21.52	21.04	
1.4	16QAM	6	0	20.75	20.66	20.31	22
1.4	64QAM	1	0	20.78	20.61	20.09	22
1.4	64QAM	1	3	20.82	20.58	20.21	
1.4	64QAM	1	5	20.79	20.45	20.11	
1.4	64QAM	3	0	20.74	20.57	20.10	
1.4	64QAM	3	1	20.88	20.50	20.08	
1.4	64QAM	3	3	20.77	20.49	20.11	
1.4	64QAM	6	0	19.67	19.35	19.00	21
1.4	256QAM	1	0	17.95	17.82	17.95	19
1.4	256QAM	1	3	17.66	17.77	18.03	
1.4	256QAM	1	5	17.72	17.92	17.45	
1.4	256QAM	3	0	17.84	17.88	17.64	
1.4	256QAM	3	1	18.04	17.77	17.78	
1.4	256QAM	3	3	17.60	17.50	17.37	
1.4	256QAM	6	0	17.66	17.57	17.64	19

<LTE Band 7 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.97	23.23	23.10	24.8
20	QPSK	1	49	22.87	23.17	23.00	
20	QPSK	1	99	22.96	23.20	23.09	
20	QPSK	50	0	22.14	22.35	22.26	23.8
20	QPSK	50	24	22.07	22.26	22.24	
20	QPSK	50	50	22.09	22.34	22.23	
20	QPSK	100	0	21.94	22.33	22.29	
20	16QAM	1	0	22.00	22.57	22.50	23.8
20	16QAM	1	49	22.24	22.34	22.51	
20	16QAM	1	99	22.50	22.42	22.38	



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20	16QAM	50	0	20.82	21.14	21.24	22.8
20	16QAM	50	24	21.06	21.26	21.28	
20	16QAM	50	50	20.97	21.32	21.23	
20	16QAM	100	0	20.99	21.22	21.33	
20	64QAM	1	0	21.17	21.40	21.53	22.8
20	64QAM	1	49	21.29	21.11	21.38	
20	64QAM	1	99	20.80	21.23	21.25	
20	64QAM	50	0	19.84	20.16	20.23	21.8
20	64QAM	50	24	20.14	20.37	20.30	
20	64QAM	50	50	20.01	20.38	20.20	
20	64QAM	100	0	20.08	20.24	20.23	
20	256QAM	1	0	18.33	18.20	18.21	19.8
20	256QAM	1	49	18.38	18.27	18.21	
20	256QAM	1	99	18.31	18.13	18.17	
20	256QAM	50	0	18.20	18.19	18.10	19.8
20	256QAM	50	24	18.30	18.07	18.14	
20	256QAM	50	50	18.21	18.08	18.11	
20	256QAM	100	0	18.27	18.13	18.17	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.82	23.18	23.05	24.8
15	QPSK	1	37	22.80	23.12	23.10	
15	QPSK	1	74	22.94	23.17	23.11	
15	QPSK	36	0	21.80	22.16	22.22	23.8
15	QPSK	36	20	22.05	22.28	22.29	
15	QPSK	36	39	21.96	22.27	22.23	
15	QPSK	75	0	22.13	22.24	22.22	
15	16QAM	1	0	22.40	22.16	22.18	23.8
15	16QAM	1	37	21.85	22.21	22.25	
15	16QAM	1	74	22.48	22.17	22.11	
15	16QAM	36	0	20.91	21.28	21.19	22.8
15	16QAM	36	20	21.07	21.14	21.20	
15	16QAM	36	39	20.99	21.33	21.23	
15	16QAM	75	0	21.03	21.29	21.19	
15	64QAM	1	0	21.11	21.32	21.47	22.8
15	64QAM	1	37	21.35	21.61	21.20	
15	64QAM	1	74	21.28	21.57	21.51	
15	64QAM	36	0	19.93	20.27	20.30	21.8
15	64QAM	36	20	20.06	20.21	20.26	
15	64QAM	36	39	20.06	20.36	20.26	
15	64QAM	75	0	19.96	20.24	20.28	
15	256QAM	1	0	18.07	17.92	18.10	19.8
15	256QAM	1	37	18.54	18.06	18.24	
15	256QAM	1	74	18.26	18.26	18.20	
15	256QAM	36	0	18.29	18.26	17.97	19.8
15	256QAM	36	20	18.23	18.04	18.41	
15	256QAM	36	39	18.26	18.14	18.24	
15	256QAM	75	0	18.09	18.20	18.43	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	22.81	23.15	23.17	24.8
10	QPSK	1	25	22.80	23.01	23.08	
10	QPSK	1	49	22.80	23.08	23.22	
10	QPSK	25	0	21.97	22.11	22.17	23.8
10	QPSK	25	12	22.00	22.23	22.24	
10	QPSK	25	25	21.97	22.29	22.15	



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10	QPSK	50	0	21.93	22.29	22.20	
10	16QAM	1	0	21.88	22.39	22.44	
10	16QAM	1	25	21.82	22.70	22.48	23.8
10	16QAM	1	49	22.44	22.41	22.48	
10	16QAM	25	0	20.90	21.25	21.13	
10	16QAM	25	12	20.97	21.24	21.16	22.8
10	16QAM	25	25	21.04	21.27	21.11	
10	16QAM	50	0	21.00	21.33	21.18	
10	64QAM	1	0	21.03	21.15	21.19	22.8
10	64QAM	1	25	21.04	21.42	21.17	
10	64QAM	1	49	20.96	21.16	21.20	
10	64QAM	25	0	20.01	20.21	20.18	
10	64QAM	25	12	20.04	20.25	20.24	21.8
10	64QAM	25	25	20.11	20.28	20.24	
10	64QAM	50	0	20.14	20.27	20.25	
10	256QAM	1	0	18.56	18.43	18.09	19.8
10	256QAM	1	25	18.68	18.50	18.05	
10	256QAM	1	49	18.35	18.16	18.40	
10	256QAM	25	0	18.33	18.31	18.13	
10	256QAM	25	12	18.21	18.02	18.31	19.8
10	256QAM	25	25	18.20	17.98	17.95	
10	256QAM	50	0	18.30	18.22	18.15	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	22.80	23.00	23.03	
5	QPSK	1	12	22.81	23.17	23.20	24.8
5	QPSK	1	24	22.87	23.11	23.05	
5	QPSK	12	0	21.92	22.22	22.15	
5	QPSK	12	7	21.92	22.25	22.12	23.8
5	QPSK	12	13	21.90	22.25	22.18	
5	QPSK	25	0	21.91	22.20	22.15	
5	16QAM	1	0	22.38	22.36	22.58	
5	16QAM	1	12	22.41	22.41	22.57	23.8
5	16QAM	1	24	22.09	22.78	22.60	
5	16QAM	12	0	21.00	21.15	21.21	
5	16QAM	12	7	21.00	21.18	21.18	22.8
5	16QAM	12	13	21.00	21.24	21.17	
5	16QAM	25	0	21.05	21.26	21.23	
5	64QAM	1	0	21.14	21.15	21.40	
5	64QAM	1	12	21.16	21.59	21.41	22.8
5	64QAM	1	24	21.02	21.31	21.28	
5	64QAM	12	0	20.06	20.25	20.20	
5	64QAM	12	7	20.02	20.29	20.28	21.8
5	64QAM	12	13	19.95	20.25	20.29	
5	64QAM	25	0	19.93	20.17	20.23	
5	256QAM	1	0	18.43	18.03	18.39	
5	256QAM	1	12	18.11	18.54	18.18	19.8
5	256QAM	1	24	18.07	18.07	18.18	
5	256QAM	12	0	18.13	17.93	18.32	
5	256QAM	12	7	18.56	18.09	18.28	19.8
5	256QAM	12	13	18.35	18.03	17.99	
5	256QAM	25	0	18.21	18.17	18.03	



<LTE Band 7 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.95	23.28	23.09	24.8
20	QPSK	1	49	22.87	23.10	23.02	
20	QPSK	1	99	22.94	23.18	23.10	
20	QPSK	50	0	22.15	22.38	22.25	23.8
20	QPSK	50	24	22.02	22.27	22.23	
20	QPSK	50	50	22.13	22.37	22.20	
20	QPSK	100	0	21.91	22.28	22.24	23.8
20	16QAM	1	0	22.00	22.53	22.45	
20	16QAM	1	49	22.26	22.31	22.51	
20	16QAM	1	99	22.54	22.46	22.35	22.8
20	16QAM	50	0	20.83	21.11	21.20	
20	16QAM	50	24	21.04	21.29	21.25	
20	16QAM	50	50	21.01	21.37	21.23	22.8
20	16QAM	100	0	20.98	21.23	21.29	
20	64QAM	1	0	21.12	21.35	21.56	
20	64QAM	1	49	21.34	21.13	21.33	21.8
20	64QAM	1	99	20.80	21.26	21.20	
20	64QAM	50	0	19.89	20.17	20.25	
20	64QAM	50	24	20.09	20.41	20.31	19.8
20	64QAM	50	50	20.03	20.36	20.17	
20	64QAM	100	0	20.11	20.21	20.26	
20	256QAM	1	0	18.31	18.23	18.21	19.8
20	256QAM	1	49	18.37	18.26	18.18	
20	256QAM	1	99	18.32	18.10	18.15	
20	256QAM	50	0	18.20	18.24	18.05	19.8
20	256QAM	50	24	18.34	18.09	18.19	
20	256QAM	50	50	18.26	18.10	18.11	
20	256QAM	100	0	18.22	18.11	18.17	Tune-up limit (dBm)
Channel				20825	21100	21375	
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.82	23.22	23.08	24.8
15	QPSK	1	37	22.84	23.16	23.09	
15	QPSK	1	74	22.90	23.15	23.08	
15	QPSK	36	0	21.80	22.14	22.18	23.8
15	QPSK	36	20	22.00	22.30	22.29	
15	QPSK	36	39	21.93	22.32	22.26	
15	QPSK	75	0	22.11	22.21	22.21	23.8
15	16QAM	1	0	22.44	22.14	22.19	
15	16QAM	1	37	21.89	22.17	22.22	
15	16QAM	1	74	22.44	22.13	22.12	22.8
15	16QAM	36	0	20.94	21.33	21.17	
15	16QAM	36	20	21.08	21.16	21.21	
15	16QAM	36	39	21.04	21.33	21.18	22.8
15	16QAM	75	0	21.00	21.29	21.21	
15	64QAM	1	0	21.09	21.28	21.48	
15	64QAM	1	37	21.30	21.57	21.21	21.8
15	64QAM	1	74	21.25	21.58	21.46	
15	64QAM	36	0	19.90	20.24	20.26	
15	64QAM	36	20	20.06	20.25	20.29	21.8
15	64QAM	36	39	20.03	20.35	20.28	



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15	64QAM	75	0	19.98	20.22	20.30	
15	256QAM	1	0	18.02	17.90	18.06	
15	256QAM	1	37	18.50	18.02	18.24	19.8
15	256QAM	1	74	18.22	18.25	18.22	
15	256QAM	36	0	18.26	18.24	17.99	
15	256QAM	36	20	18.19	18.04	18.43	19.8
15	256QAM	36	39	18.26	18.13	18.20	
15	256QAM	75	0	18.11	18.22	18.40	
Channel				20800	21100	21400	Tune-up limit
Frequency (MHz)				2505	2535	2565	(dBm)
10	QPSK	1	0	22.81	23.16	23.15	
10	QPSK	1	25	22.80	22.97	23.11	24.8
10	QPSK	1	49	22.80	23.04	23.26	
10	QPSK	25	0	22.02	22.10	22.12	
10	QPSK	25	12	21.98	22.24	22.28	23.8
10	QPSK	25	25	21.94	22.24	22.17	
10	QPSK	50	0	21.94	22.27	22.22	
10	16QAM	1	0	21.88	22.36	22.46	
10	16QAM	1	25	21.84	22.73	22.46	23.8
10	16QAM	1	49	22.42	22.36	22.49	
10	16QAM	25	0	20.93	21.27	21.15	
10	16QAM	25	12	20.96	21.22	21.19	22.8
10	16QAM	25	25	21.09	21.32	21.11	
10	16QAM	50	0	21.03	21.28	21.23	
10	64QAM	1	0	21.07	21.18	21.21	
10	64QAM	1	25	20.99	21.37	21.19	22.8
10	64QAM	1	49	20.93	21.11	21.23	
10	64QAM	25	0	19.99	20.23	20.22	
10	64QAM	25	12	20.08	20.29	20.20	21.8
10	64QAM	25	25	20.14	20.32	20.24	
10	64QAM	50	0	20.15	20.27	20.23	
10	256QAM	1	0	18.52	18.44	18.10	
10	256QAM	1	25	18.69	18.53	18.06	19.8
10	256QAM	1	49	18.37	18.12	18.39	
10	256QAM	25	0	18.32	18.26	18.10	
10	256QAM	25	12	18.24	18.06	18.27	19.8
10	256QAM	25	25	18.25	17.96	17.99	
10	256QAM	50	0	18.31	18.27	18.14	
Channel				20775	21100	21425	Tune-up limit
Frequency (MHz)				2502.5	2535	2567.5	(dBm)
5	QPSK	1	0	22.81	23.05	23.07	
5	QPSK	1	12	22.80	23.19	23.17	24.8
5	QPSK	1	24	22.86	23.09	23.04	
5	QPSK	12	0	21.91	22.22	22.16	
5	QPSK	12	7	21.96	22.23	22.15	23.8
5	QPSK	12	13	21.89	22.22	22.20	
5	QPSK	25	0	21.87	22.22	22.10	
5	16QAM	1	0	22.41	22.36	22.54	
5	16QAM	1	12	22.41	22.45	22.60	23.8
5	16QAM	1	24	22.07	22.75	22.55	
5	16QAM	12	0	21.04	21.20	21.22	
5	16QAM	12	7	20.98	21.18	21.16	22.8
5	16QAM	12	13	21.02	21.23	21.20	
5	16QAM	25	0	21.06	21.21	21.28	
5	64QAM	1	0	21.14	21.15	21.39	22.8
5	64QAM	1	12	21.21	21.55	21.36	



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5	64QAM	1	24	21.06	21.30	21.29	21.8
5	64QAM	12	0	20.06	20.24	20.18	
5	64QAM	12	7	20.00	20.30	20.30	
5	64QAM	12	13	19.96	20.22	20.28	
5	64QAM	25	0	19.90	20.14	20.28	19.8
5	256QAM	1	0	18.42	18.02	18.43	
5	256QAM	1	12	18.08	18.56	18.13	
5	256QAM	1	24	18.04	18.07	18.15	
5	256QAM	12	0	18.11	17.95	18.29	19.8
5	256QAM	12	7	18.61	18.11	18.23	
5	256QAM	12	13	18.36	18.03	17.98	
5	256QAM	25	0	18.26	18.13	18.08	

<LTE Band 12_Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	22.75	22.87	22.80	24
10	QPSK	1	25	22.50	22.47	22.72	
10	QPSK	1	49	22.74	22.82	22.77	
10	QPSK	25	0	21.75	21.88	21.84	23
10	QPSK	25	12	21.70	21.79	21.81	
10	QPSK	25	25	21.74	21.86	21.82	
10	QPSK	50	0	21.68	21.89	21.88	
10	16QAM	1	0	21.43	21.76	22.15	23
10	16QAM	1	25	21.85	22.02	22.14	
10	16QAM	1	49	22.14	22.12	22.10	
10	16QAM	25	0	20.60	20.65	20.76	22
10	16QAM	25	12	20.62	20.77	20.76	
10	16QAM	25	25	20.69	20.73	20.85	
10	16QAM	50	0	20.70	20.87	20.89	
10	64QAM	1	0	20.56	20.77	20.84	22
10	64QAM	1	25	20.83	21.08	21.29	
10	64QAM	1	49	21.06	21.09	21.27	
10	64QAM	25	0	19.64	19.69	19.66	21
10	64QAM	25	12	19.81	19.91	19.87	
10	64QAM	25	25	19.74	19.85	19.91	
10	64QAM	50	0	19.65	19.84	19.94	
10	256QAM	1	0	17.59	17.77	17.72	19
10	256QAM	1	25	17.62	17.70	17.87	
10	256QAM	1	49	17.92	17.09	18.25	
10	256QAM	25	0	17.52	17.76	17.73	19
10	256QAM	25	12	17.77	17.83	17.87	
10	256QAM	25	25	17.73	17.82	17.96	
10	256QAM	50	0	17.74	17.75	17.83	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	22.49	22.49	22.63	24
5	QPSK	1	12	22.45	22.61	22.83	
5	QPSK	1	24	22.58	22.63	22.86	
5	QPSK	12	0	21.50	21.63	21.89	23
5	QPSK	12	7	21.56	21.73	21.96	
5	QPSK	12	13	21.59	21.72	21.97	
5	QPSK	25	0	21.55	21.66	21.94	
5	16QAM	1	0	22.02	22.13	21.97	23



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5	16QAM	1	12	22.13	22.24	22.41	
5	16QAM	1	24	22.14	22.01	22.41	
5	16QAM	12	0	20.56	20.77	20.81	
5	16QAM	12	7	20.66	20.70	21.04	22
5	16QAM	12	13	20.62	20.74	20.89	
5	16QAM	25	0	20.69	20.74	20.98	
5	64QAM	1	0	20.66	20.91	20.85	22
5	64QAM	1	12	20.85	20.76	21.00	
5	64QAM	1	24	20.93	20.93	21.02	
5	64QAM	12	0	19.61	19.74	19.94	21
5	64QAM	12	7	19.65	19.81	20.06	
5	64QAM	12	13	19.64	19.84	20.05	
5	64QAM	25	0	19.67	19.79	20.02	19
5	256QAM	1	0	17.63	17.78	17.84	
5	256QAM	1	12	17.33	17.74	17.93	
5	256QAM	1	24	18.22	17.16	18.33	19
5	256QAM	12	0	17.42	17.69	17.75	
5	256QAM	12	7	17.96	17.76	17.85	
5	256QAM	12	13	17.68	17.94	18.20	
5	256QAM	25	0	17.98	18.00	17.76	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	22.41	22.62	22.71	24
3	QPSK	1	8	22.49	22.73	22.76	
3	QPSK	1	14	22.49	22.68	22.86	
3	QPSK	8	0	21.53	21.70	21.90	23
3	QPSK	8	4	21.61	21.74	21.92	
3	QPSK	8	7	21.55	21.66	21.93	
3	QPSK	15	0	21.53	21.68	21.92	23
3	16QAM	1	0	21.56	22.21	22.03	
3	16QAM	1	8	22.10	22.32	22.39	
3	16QAM	1	14	22.04	22.27	22.21	22
3	16QAM	8	0	20.59	20.64	21.02	
3	16QAM	8	4	20.61	20.84	20.84	
3	16QAM	8	7	20.58	20.74	21.02	22
3	16QAM	15	0	20.58	20.78	20.84	
3	64QAM	1	0	20.79	20.78	21.20	
3	64QAM	1	8	20.95	21.17	21.11	21
3	64QAM	1	14	20.99	20.84	21.19	
3	64QAM	8	0	19.49	19.67	19.95	
3	64QAM	8	4	19.69	19.70	20.18	19
3	64QAM	8	7	19.46	19.76	20.08	
3	64QAM	15	0	19.65	19.66	19.99	
3	256QAM	1	0	17.69	17.57	17.60	19
3	256QAM	1	8	17.57	17.98	17.93	
3	256QAM	1	14	17.66	17.63	18.19	
3	256QAM	8	0	17.79	17.61	17.59	19
3	256QAM	8	4	17.85	17.71	18.09	
3	256QAM	8	7	17.69	17.84	18.16	
3	256QAM	15	0	17.66	17.53	17.85	Tune-up limit (dBm)
Channel				23017	23095	23173	
Frequency (MHz)				699.7	707.5	715.3	24
1.4	QPSK	1	0	22.26	22.45	22.70	
1.4	QPSK	1	3	22.43	22.59	22.79	
1.4	QPSK	1	5	22.35	22.46	22.70	
1.4	QPSK	3	0	22.32	22.46	22.64	



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1.4	QPSK	3	1	22.40	22.48	22.75	23
1.4	QPSK	3	3	22.35	22.53	22.75	
1.4	QPSK	6	0	21.45	21.60	21.81	
1.4	16QAM	1	0	21.62	21.92	21.63	23
1.4	16QAM	1	3	22.01	21.58	21.91	
1.4	16QAM	1	5	21.60	21.73	21.82	
1.4	16QAM	3	0	21.43	21.67	21.77	
1.4	16QAM	3	1	21.60	21.65	21.92	
1.4	16QAM	3	3	21.46	21.55	21.95	
1.4	16QAM	6	0	20.53	20.69	20.90	22
1.4	64QAM	1	0	20.55	20.77	20.98	22
1.4	64QAM	1	3	20.70	20.88	21.05	
1.4	64QAM	1	5	20.60	20.80	20.99	
1.4	64QAM	3	0	20.49	20.72	20.93	
1.4	64QAM	3	1	20.58	20.80	20.98	
1.4	64QAM	3	3	20.56	20.77	20.96	
1.4	64QAM	6	0	19.45	19.66	19.91	21
1.4	256QAM	1	0	17.36	17.69	17.93	19
1.4	256QAM	1	3	17.47	17.66	17.91	
1.4	256QAM	1	5	18.18	17.19	18.20	
1.4	256QAM	3	0	17.41	17.79	17.93	
1.4	256QAM	3	1	17.69	17.65	17.65	
1.4	256QAM	3	3	17.61	17.95	17.73	
1.4	256QAM	6	0	17.68	17.57	18.13	19

<LTE Band 12 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	22.69	22.83	22.73	24
10	QPSK	1	25	22.46	22.39	22.64	
10	QPSK	1	49	22.67	22.73	22.69	
10	QPSK	25	0	21.74	21.85	21.80	23
10	QPSK	25	12	21.63	21.73	21.74	
10	QPSK	25	25	21.67	21.84	21.79	
10	QPSK	50	0	21.58	21.88	21.84	
10	16QAM	1	0	21.36	21.69	22.06	23
10	16QAM	1	25	21.84	21.92	22.06	
10	16QAM	1	49	22.14	22.03	22.01	
10	16QAM	25	0	20.59	20.55	20.70	22
10	16QAM	25	12	20.57	20.68	20.66	
10	16QAM	25	25	20.68	20.68	20.84	
10	16QAM	50	0	20.70	20.83	20.87	
10	64QAM	1	0	20.49	20.77	20.83	22
10	64QAM	1	25	20.80	21.07	21.25	
10	64QAM	1	49	20.97	21.07	21.17	
10	64QAM	25	0	19.55	19.61	19.64	
10	64QAM	25	12	19.71	19.91	19.80	21
10	64QAM	25	25	19.64	19.83	19.81	
10	64QAM	50	0	19.56	19.76	19.84	
10	256QAM	1	0	17.57	17.68	17.65	
10	256QAM	1	25	17.62	17.60	17.82	19
10	256QAM	1	49	17.83	17.04	18.24	
10	256QAM	25	0	17.43	17.74	17.73	
10	256QAM	25	12	17.72	17.75	17.78	19



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10	256QAM	25	25	17.70	17.72	17.89	
10	256QAM	50	0	17.65	17.68	17.75	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	22.41	22.46	22.59	24
5	QPSK	1	12	22.38	22.60	22.81	
5	QPSK	1	24	22.49	22.55	22.78	
5	QPSK	12	0	21.40	21.63	21.84	23
5	QPSK	12	7	21.52	21.68	21.94	
5	QPSK	12	13	21.50	21.68	21.89	
5	QPSK	25	0	21.52	21.60	21.84	
5	16QAM	1	0	21.99	22.07	21.92	23
5	16QAM	1	12	22.05	22.17	22.38	
5	16QAM	1	24	22.11	21.96	22.37	
5	16QAM	12	0	20.52	20.68	20.75	22
5	16QAM	12	7	20.63	20.64	20.96	
5	16QAM	12	13	20.57	20.67	20.81	
5	16QAM	25	0	20.65	20.69	20.94	
5	64QAM	1	0	20.60	20.81	20.81	22
5	64QAM	1	12	20.75	20.75	21.00	
5	64QAM	1	24	20.93	20.89	20.95	
5	64QAM	12	0	19.59	19.72	19.91	21
5	64QAM	12	7	19.58	19.76	20.00	
5	64QAM	12	13	19.58	19.84	19.96	
5	64QAM	25	0	19.64	19.73	19.98	
5	256QAM	1	0	17.61	17.69	17.79	19
5	256QAM	1	12	17.32	17.70	17.90	
5	256QAM	1	24	18.15	17.14	18.33	
5	256QAM	12	0	17.36	17.60	17.72	19
5	256QAM	12	7	17.94	17.68	17.79	
5	256QAM	12	13	17.60	17.92	18.16	
5	256QAM	25	0	17.97	17.94	17.70	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	22.36	22.52	22.67	24
3	QPSK	1	8	22.48	22.66	22.76	
3	QPSK	1	14	22.42	22.63	22.80	
3	QPSK	8	0	21.51	21.63	21.89	23
3	QPSK	8	4	21.56	21.73	21.87	
3	QPSK	8	7	21.53	21.57	21.91	
3	QPSK	15	0	21.53	21.67	21.83	
3	16QAM	1	0	21.49	22.21	21.96	23
3	16QAM	1	8	22.00	22.31	22.39	
3	16QAM	1	14	21.94	22.21	22.11	
3	16QAM	8	0	20.51	20.57	20.96	22
3	16QAM	8	4	20.58	20.82	20.83	
3	16QAM	8	7	20.51	20.74	21.01	
3	16QAM	15	0	20.50	20.71	20.82	
3	64QAM	1	0	20.71	20.70	21.20	22
3	64QAM	1	8	20.88	21.14	21.07	
3	64QAM	1	14	20.98	20.82	21.16	
3	64QAM	8	0	19.43	19.63	19.95	21
3	64QAM	8	4	19.62	19.63	20.11	
3	64QAM	8	7	19.37	19.70	20.01	
3	64QAM	15	0	19.58	19.64	19.93	
3	256QAM	1	0	17.63	17.54	17.51	19



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3	256QAM	1	8	17.51	17.91	17.83	19
3	256QAM	1	14	17.63	17.57	18.17	
3	256QAM	8	0	17.78	17.58	17.49	
3	256QAM	8	4	17.79	17.69	18.09	
3	256QAM	8	7	17.64	17.74	18.12	
3	256QAM	15	0	17.59	17.47	17.84	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	22.18	22.43	22.60	24
1.4	QPSK	1	3	22.34	22.58	22.70	
1.4	QPSK	1	5	22.34	22.39	22.65	
1.4	QPSK	3	0	22.25	22.43	22.58	
1.4	QPSK	3	1	22.30	22.45	22.74	
1.4	QPSK	3	3	22.28	22.46	22.70	
1.4	QPSK	6	0	21.40	21.52	21.79	23
1.4	16QAM	1	0	21.54	21.82	21.54	23
1.4	16QAM	1	3	21.97	21.49	21.90	
1.4	16QAM	1	5	21.59	21.64	21.81	
1.4	16QAM	3	0	21.37	21.61	21.67	
1.4	16QAM	3	1	21.59	21.59	21.84	
1.4	16QAM	3	3	21.37	21.48	21.85	
1.4	16QAM	6	0	20.50	20.67	20.89	22
1.4	64QAM	1	0	20.49	20.74	20.90	22
1.4	64QAM	1	3	20.65	20.80	20.95	
1.4	64QAM	1	5	20.55	20.77	20.96	
1.4	64QAM	3	0	20.46	20.69	20.86	
1.4	64QAM	3	1	20.58	20.79	20.88	
1.4	64QAM	3	3	20.56	20.68	20.86	
1.4	64QAM	6	0	19.37	19.61	19.89	21
1.4	256QAM	1	0	17.33	17.63	17.87	19
1.4	256QAM	1	3	17.40	17.64	17.90	
1.4	256QAM	1	5	18.12	17.10	18.12	
1.4	256QAM	3	0	17.31	17.70	17.84	
1.4	256QAM	3	1	17.60	17.63	17.55	
1.4	256QAM	3	3	17.60	17.93	17.72	
1.4	256QAM	6	0	17.68	17.52	18.07	19

<LTE Band 13 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23230			
Frequency (MHz)				782			
10	QPSK	1	0		22.42		24
10	QPSK	1	25		22.24		
10	QPSK	1	49		22.29		
10	QPSK	25	0		21.60		23
10	QPSK	25	12		21.45		
10	QPSK	25	25		21.37		
10	QPSK	50	0		21.50		23
10	16QAM	1	0		21.82		
10	16QAM	1	25		21.75		
10	16QAM	1	49		21.46		22
10	16QAM	25	0		20.28		
10	16QAM	25	12		20.55		
10	16QAM	25	25		20.41		
10	16QAM	50	0		20.51		

10	64QAM	1	0		20.54		22
10	64QAM	1	25		20.88		
10	64QAM	1	49		21.13		
10	64QAM	25	0		19.56		21
10	64QAM	25	12		19.84		
10	64QAM	25	25		19.90		
10	64QAM	50	0		19.82		19
10	256QAM	1	0		17.55		
10	256QAM	1	25		17.61		
10	256QAM	1	49		17.75		19
10	256QAM	25	0		17.59		
10	256QAM	25	12		17.54		
10	256QAM	25	25		17.56		19
10	256QAM	50	0		17.62		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	22.24	22.41	22.33	24
5	QPSK	1	12	22.31	22.40	22.33	
5	QPSK	1	24	22.36	22.38	22.31	
5	QPSK	12	0	21.71	21.42	21.53	23
5	QPSK	12	7	21.62	21.45	21.44	
5	QPSK	12	13	21.57	21.46	21.42	
5	QPSK	25	0	21.59	21.53	21.46	23
5	16QAM	1	0	21.67	21.69	21.63	
5	16QAM	1	12	21.91	21.77	21.51	
5	16QAM	1	24	21.78	21.94	21.45	22
5	16QAM	12	0	20.64	20.59	20.50	
5	16QAM	12	7	20.59	20.42	20.58	
5	16QAM	12	13	20.54	20.52	20.59	22
5	16QAM	25	0	20.51	20.40	20.47	
5	64QAM	1	0	20.57	20.81	20.41	22
5	64QAM	1	12	20.84	20.51	20.71	
5	64QAM	1	24	20.57	20.76	20.75	
5	64QAM	12	0	19.74	19.52	19.59	21
5	64QAM	12	7	19.67	19.48	19.58	
5	64QAM	12	13	19.61	19.48	19.50	
5	64QAM	25	0	19.62	19.45	19.53	19
5	256QAM	1	0	17.78	17.72	17.71	
5	256QAM	1	12	17.70	17.63	17.63	
5	256QAM	1	24	17.74	17.73	17.68	19
5	256QAM	12	0	17.59	17.56	17.56	
5	256QAM	12	7	17.64	17.63	17.55	
5	256QAM	12	13	17.61	17.51	17.57	19
5	256QAM	25	0	17.62	17.65	17.62	

<LTE Band 13 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23230			
Frequency (MHz)				782			
10	QPSK	1	0		22.41		24
10	QPSK	1	25		22.17		
10	QPSK	1	49		22.21		
10	QPSK	25	0		21.50		23
10	QPSK	25	12		21.36		
10	QPSK	25	25		21.37		



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10	QPSK	50	0		21.46		
10	16QAM	1	0		21.72		
10	16QAM	1	25		21.66		23
10	16QAM	1	49		21.39		
10	16QAM	25	0		20.26		
10	16QAM	25	12		20.48		22
10	16QAM	25	25		20.31		
10	16QAM	50	0		20.49		
10	64QAM	1	0		20.49		22
10	64QAM	1	25		20.85		
10	64QAM	1	49		21.07		
10	64QAM	25	0		19.52		
10	64QAM	25	12		19.75		21
10	64QAM	25	25		19.87		
10	64QAM	50	0		19.73		
10	256QAM	1	0		17.50		19
10	256QAM	1	25		17.57		
10	256QAM	1	49		17.75		
10	256QAM	25	0		17.51		
10	256QAM	25	12		17.50		19
10	256QAM	25	25		17.49		
10	256QAM	50	0		17.54		
Channel				23205	23230	23255	Tune-up limit
Frequency (MHz)				779.5	782	784.5	(dBm)
5	QPSK	1	0	22.21	22.40	22.32	
5	QPSK	1	12	22.31	22.39	22.33	24
5	QPSK	1	24	22.34	22.28	22.27	
5	QPSK	12	0	21.69	21.34	21.50	
5	QPSK	12	7	21.56	21.41	21.42	23
5	QPSK	12	13	21.56	21.44	21.38	
5	QPSK	25	0	21.57	21.52	21.44	
5	16QAM	1	0	21.65	21.64	21.55	
5	16QAM	1	12	21.91	21.77	21.48	23
5	16QAM	1	24	21.74	21.90	21.38	
5	16QAM	12	0	20.63	20.52	20.50	
5	16QAM	12	7	20.54	20.41	20.54	22
5	16QAM	12	13	20.44	20.50	20.55	
5	16QAM	25	0	20.51	20.35	20.42	
5	64QAM	1	0	20.51	20.78	20.38	
5	64QAM	1	12	20.78	20.50	20.70	22
5	64QAM	1	24	20.57	20.66	20.71	
5	64QAM	12	0	19.65	19.43	19.57	
5	64QAM	12	7	19.64	19.43	19.48	21
5	64QAM	12	13	19.52	19.45	19.42	
5	64QAM	25	0	19.58	19.41	19.48	
5	256QAM	1	0	17.77	17.72	17.66	
5	256QAM	1	12	17.68	17.58	17.59	19
5	256QAM	1	24	17.74	17.69	17.63	
5	256QAM	12	0	17.54	17.54	17.54	
5	256QAM	12	7	17.56	17.56	17.48	19
5	256QAM	12	13	17.54	17.41	17.57	
5	256QAM	25	0	17.60	17.65	17.59	



<LTE Band 14 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23330			
Frequency (MHz)				793			
10	QPSK	1	0		22.41		24
10	QPSK	1	25		22.36		
10	QPSK	1	49		22.16		
10	QPSK	25	0		21.46		23
10	QPSK	25	12		21.34		
10	QPSK	25	25		21.36		
10	QPSK	50	0		21.30		23
10	16QAM	1	0		21.64		
10	16QAM	1	25		21.59		
10	16QAM	1	49		21.66		22
10	16QAM	25	0		20.30		
10	16QAM	25	12		20.42		
10	16QAM	25	25		20.42		22
10	16QAM	50	0		20.36		
10	64QAM	1	0		20.67		
10	64QAM	1	25		20.56		22
10	64QAM	1	49		20.35		
10	64QAM	25	0		19.45		
10	64QAM	25	12		19.47		21
10	64QAM	25	25		19.48		
10	64QAM	50	0		19.41		
10	256QAM	1	0		17.59		19
10	256QAM	1	25		17.52		
10	256QAM	1	49		17.65		
10	256QAM	25	0		17.45		19
10	256QAM	25	12		17.41		
10	256QAM	25	25		17.46		
10	256QAM	50	0		17.36		Tune-up limit (dBm)
Channel				23305	23330	23355	
Frequency (MHz)				790.5	793	795.5	
5	QPSK	1	0	22.29	22.33	22.21	24
5	QPSK	1	12	22.33	22.33	22.25	
5	QPSK	1	24	22.31	22.32	22.29	
5	QPSK	12	0	21.40	21.39	21.33	23
5	QPSK	12	7	21.44	21.35	21.33	
5	QPSK	12	13	21.43	21.33	21.35	
5	QPSK	25	0	21.46	21.32	21.32	23
5	16QAM	1	0	21.56	21.35	21.89	
5	16QAM	1	12	21.47	21.41	21.89	
5	16QAM	1	24	21.33	21.55	21.60	22
5	16QAM	12	0	20.48	20.34	20.22	
5	16QAM	12	7	20.46	20.37	20.40	
5	16QAM	12	13	20.53	20.35	20.42	22
5	16QAM	25	0	20.35	20.30	20.35	
5	64QAM	1	0	20.69	20.59	20.13	
5	64QAM	1	12	20.74	20.48	20.51	22
5	64QAM	1	24	20.67	20.58	20.72	
5	64QAM	12	0	19.41	19.42	19.36	
5	64QAM	12	7	19.46	19.53	19.36	21
5	64QAM	12	13	19.35	19.40	19.35	



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5	64QAM	25	0	19.41	19.48	19.37	19
5	256QAM	1	0	17.41	17.76	17.80	
5	256QAM	1	12	17.25	17.53	17.43	
5	256QAM	1	24	17.48	17.60	17.93	
5	256QAM	12	0	17.63	17.65	17.20	19
5	256QAM	12	7	17.60	17.32	17.56	
5	256QAM	12	13	17.49	17.47	17.22	
5	256QAM	25	0	17.48	17.14	17.40	

<LTE Band 14 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23330			
Frequency (MHz)				793			
10	QPSK	1	0		22.36		24
10	QPSK	1	25		22.28		
10	QPSK	1	49		22.09		
10	QPSK	25	0		21.36		23
10	QPSK	25	12		21.32		
10	QPSK	25	25		21.28		
10	QPSK	50	0		21.29		23
10	16QAM	1	0		21.60		
10	16QAM	1	25		21.51		
10	16QAM	1	49		21.56		22
10	16QAM	25	0		20.30		
10	16QAM	25	12		20.38		
10	16QAM	25	25		20.36		22
10	16QAM	50	0		20.36		
10	64QAM	1	0		20.63		
10	64QAM	1	25		20.50		21
10	64QAM	1	49		20.32		
10	64QAM	25	0		19.42		
10	64QAM	25	12		19.41		19
10	64QAM	25	25		19.47		
10	64QAM	50	0		19.34		
10	256QAM	1	0		17.54		19
10	256QAM	1	25		17.52		
10	256QAM	1	49		17.58		
10	256QAM	25	0		17.37		19
10	256QAM	25	12		17.35		
10	256QAM	25	25		17.43		
10	256QAM	50	0		17.33		24
Channel				23305	23330	23355	
Frequency (MHz)				790.5	793	795.5	Tune-up limit (dBm)
5	QPSK	1	0	22.20	22.27	22.19	24
5	QPSK	1	12	22.30	22.28	22.18	
5	QPSK	1	24	22.23	22.32	22.26	
5	QPSK	12	0	21.38	21.34	21.33	23
5	QPSK	12	7	21.35	21.26	21.32	
5	QPSK	12	13	21.41	21.29	21.34	
5	QPSK	25	0	21.44	21.26	21.28	23
5	16QAM	1	0	21.49	21.25	21.85	
5	16QAM	1	12	21.39	21.36	21.86	
5	16QAM	1	24	21.25	21.45	21.59	22
5	16QAM	12	0	20.44	20.28	20.22	
5	16QAM	12	7	20.45	20.32	20.39	



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5	16QAM	12	13	20.46	20.33	20.41	
5	16QAM	25	0	20.33	20.22	20.31	
5	64QAM	1	0	20.66	20.52	20.10	
5	64QAM	1	12	20.74	20.43	20.43	22
5	64QAM	1	24	20.65	20.49	20.62	
5	64QAM	12	0	19.36	19.41	19.31	
5	64QAM	12	7	19.37	19.46	19.27	21
5	64QAM	12	13	19.27	19.31	19.26	
5	64QAM	25	0	19.32	19.42	19.36	
5	256QAM	1	0	17.37	17.72	17.77	19
5	256QAM	1	12	17.15	17.46	17.40	
5	256QAM	1	24	17.48	17.50	17.83	
5	256QAM	12	0	17.55	17.65	17.19	19
5	256QAM	12	7	17.52	17.25	17.53	
5	256QAM	12	13	17.41	17.38	17.19	
5	256QAM	25	0	17.43	17.09	17.39	

<LTE Band 17 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	22.69	22.87	22.82	24
10	QPSK	1	25	22.42	22.46	22.74	
10	QPSK	1	49	22.68	22.82	22.76	
10	QPSK	25	0	21.89	21.94	21.91	23
10	QPSK	25	12	21.78	21.76	21.86	
10	QPSK	25	25	21.88	21.89	21.90	
10	QPSK	50	0	21.66	21.83	21.77	23
10	16QAM	1	0	21.99	21.76	21.99	
10	16QAM	1	25	22.14	22.01	22.15	
10	16QAM	1	49	22.10	22.36	21.77	22
10	16QAM	25	0	20.59	20.69	20.61	
10	16QAM	25	12	20.79	20.78	20.76	
10	16QAM	25	25	21.02	20.97	20.95	22
10	16QAM	50	0	20.78	20.82	20.86	
10	64QAM	1	0	20.51	20.54	20.76	
10	64QAM	1	25	20.92	21.18	21.06	21
10	64QAM	1	49	20.87	20.94	20.89	
10	64QAM	25	0	19.63	19.69	19.73	
10	64QAM	25	12	19.83	19.88	19.84	19
10	64QAM	25	25	19.79	20.03	20.03	
10	64QAM	50	0	19.82	19.86	19.80	
10	256QAM	1	0	17.59	17.61	17.74	19
10	256QAM	1	25	17.98	17.89	18.02	
10	256QAM	1	49	18.11	18.14	18.02	
10	256QAM	25	0	17.69	17.64	17.77	19
10	256QAM	25	12	17.72	17.76	17.79	
10	256QAM	25	25	17.87	17.98	18.00	
10	256QAM	50	0	17.77	17.78	17.78	24
Channel				23755	23790	23825	
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	22.44	22.55	22.66	24
5	QPSK	1	12	22.45	22.67	22.77	
5	QPSK	1	24	22.73	22.84	22.86	
5	QPSK	12	0	21.54	21.74	21.86	23



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5	QPSK	12	7	21.68	21.84	21.92	
5	QPSK	12	13	21.74	21.89	21.89	
5	QPSK	25	0	21.66	21.74	21.90	
5	16QAM	1	0	21.64	21.77	21.78	23
5	16QAM	1	12	21.90	21.62	21.98	
5	16QAM	1	24	21.99	21.96	22.04	
5	16QAM	12	0	20.53	20.73	20.79	22
5	16QAM	12	7	20.71	20.89	20.97	
5	16QAM	12	13	20.68	20.99	20.93	
5	16QAM	25	0	20.65	20.78	20.82	22
5	64QAM	1	0	20.57	20.95	20.77	
5	64QAM	1	12	21.06	21.17	20.86	
5	64QAM	1	24	21.17	21.33	21.24	21
5	64QAM	12	0	19.65	19.68	19.89	
5	64QAM	12	7	19.84	19.98	20.10	
5	64QAM	12	13	19.75	19.98	19.87	19
5	64QAM	25	0	19.71	19.73	19.94	
5	256QAM	1	0	17.76	17.51	17.73	
5	256QAM	1	12	18.06	17.89	18.14	19
5	256QAM	1	24	18.22	17.94	18.13	
5	256QAM	12	0	17.95	17.71	18.03	
5	256QAM	12	7	17.94	18.06	17.84	19
5	256QAM	12	13	17.94	18.20	18.35	
5	256QAM	25	0	17.68	17.93	17.64	

<LTE Band 17 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	22.68	22.81	22.77	24
10	QPSK	1	25	22.36	22.39	22.70	
10	QPSK	1	49	22.67	22.80	22.76	
10	QPSK	25	0	21.87	21.92	21.84	23
10	QPSK	25	12	21.71	21.66	21.80	
10	QPSK	25	25	21.84	21.83	21.81	
10	QPSK	50	0	21.65	21.73	21.72	23
10	16QAM	1	0	21.96	21.72	21.99	
10	16QAM	1	25	22.10	21.99	22.06	
10	16QAM	1	49	22.06	22.28	21.75	22
10	16QAM	25	0	20.53	20.66	20.58	
10	16QAM	25	12	20.75	20.71	20.72	
10	16QAM	25	25	20.98	20.97	20.95	22
10	16QAM	50	0	20.75	20.82	20.79	
10	64QAM	1	0	20.48	20.46	20.74	
10	64QAM	1	25	20.82	21.13	21.05	21
10	64QAM	1	49	20.79	20.89	20.89	
10	64QAM	25	0	19.53	19.67	19.65	
10	64QAM	25	12	19.79	19.83	19.83	19
10	64QAM	25	25	19.79	20.03	20.03	
10	64QAM	50	0	19.72	19.76	19.74	
10	256QAM	1	0	17.55	17.52	17.73	19
10	256QAM	1	25	17.88	17.79	18.02	
10	256QAM	1	49	18.08	18.09	17.95	
10	256QAM	25	0	17.69	17.63	17.68	19
10	256QAM	25	12	17.69	17.66	17.79	

10	256QAM	25	25	17.87	17.98	17.94	
10	256QAM	50	0	17.72	17.71	17.70	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	22.38	22.53	22.64	24
5	QPSK	1	12	22.42	22.65	22.70	
5	QPSK	1	24	22.64	22.79	22.80	
5	QPSK	12	0	21.51	21.72	21.76	23
5	QPSK	12	7	21.65	21.78	21.84	
5	QPSK	12	13	21.68	21.83	21.82	
5	QPSK	25	0	21.63	21.70	21.83	23
5	16QAM	1	0	21.55	21.69	21.68	
5	16QAM	1	12	21.88	21.59	21.92	
5	16QAM	1	24	21.98	21.88	21.96	22
5	16QAM	12	0	20.52	20.69	20.69	
5	16QAM	12	7	20.66	20.85	20.97	
5	16QAM	12	13	20.65	20.96	20.92	22
5	16QAM	25	0	20.58	20.71	20.76	
5	64QAM	1	0	20.52	20.91	20.74	22
5	64QAM	1	12	21.01	21.13	20.82	
5	64QAM	1	24	21.14	21.32	21.20	
5	64QAM	12	0	19.58	19.58	19.80	21
5	64QAM	12	7	19.82	19.95	20.02	
5	64QAM	12	13	19.73	19.93	19.79	
5	64QAM	25	0	19.62	19.65	19.89	19
5	256QAM	1	0	17.69	17.43	17.73	
5	256QAM	1	12	18.06	17.85	18.08	
5	256QAM	1	24	18.22	17.85	18.10	19
5	256QAM	12	0	17.85	17.62	17.98	
5	256QAM	12	7	17.90	18.04	17.77	
5	256QAM	12	13	17.91	18.10	18.26	19
5	256QAM	25	0	17.68	17.90	17.56	

<LTE Band 25 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	22.69	22.79	22.63	24
20	QPSK	1	49	22.56	22.64	22.62	
20	QPSK	1	99	22.68	22.68	22.57	
20	QPSK	50	0	21.77	21.78	21.74	23
20	QPSK	50	24	21.75	21.72	21.72	
20	QPSK	50	50	21.74	21.76	21.71	
20	QPSK	100	0	21.69	21.78	21.63	23
20	16QAM	1	0	22.12	22.31	21.86	
20	16QAM	1	49	21.88	22.25	21.90	
20	16QAM	1	99	21.48	22.29	22.15	22
20	16QAM	50	0	20.79	20.79	20.66	
20	16QAM	50	24	20.89	20.86	20.70	
20	16QAM	50	50	20.77	20.87	20.81	22
20	16QAM	100	0	20.80	20.73	20.74	
20	64QAM	1	0	21.10	20.76	20.76	
20	64QAM	1	49	20.95	21.07	20.42	22
20	64QAM	1	99	21.01	20.75	20.46	
20	64QAM	50	0	19.71	19.87	19.76	21



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20	64QAM	50	24	19.83	19.93	19.74	
20	64QAM	50	50	19.78	19.90	19.78	
20	64QAM	100	0	19.85	19.86	19.80	
20	256QAM	1	0	17.72	17.79	17.70	19
20	256QAM	1	49	17.73	17.70	17.73	
20	256QAM	1	99	17.62	17.79	17.58	
20	256QAM	50	0	17.60	17.59	17.53	19
20	256QAM	50	24	17.66	17.67	17.54	
20	256QAM	50	50	17.61	17.66	17.32	
20	256QAM	100	0	17.66	17.64	17.49	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	22.63	22.76	22.71	24
15	QPSK	1	37	22.66	22.75	22.68	
15	QPSK	1	74	22.61	22.63	22.60	
15	QPSK	36	0	21.82	21.90	21.82	23
15	QPSK	36	20	21.81	21.88	21.75	
15	QPSK	36	39	21.76	21.78	21.69	
15	QPSK	75	0	21.76	21.80	21.62	
15	16QAM	1	0	21.97	22.06	21.89	23
15	16QAM	1	37	22.06	21.96	22.01	
15	16QAM	1	74	21.80	22.07	21.72	
15	16QAM	36	0	20.73	20.93	20.72	22
15	16QAM	36	20	20.82	20.90	20.77	
15	16QAM	36	39	20.75	20.79	20.74	
15	16QAM	75	0	20.79	20.90	20.72	
15	64QAM	1	0	21.04	21.23	20.88	22
15	64QAM	1	37	21.05	21.13	20.77	
15	64QAM	1	74	20.91	21.25	20.93	
15	64QAM	36	0	19.82	19.82	19.65	21
15	64QAM	36	20	19.82	19.96	19.82	
15	64QAM	36	39	19.84	19.86	19.71	
15	64QAM	75	0	19.76	19.90	19.72	
15	256QAM	1	0	17.70	17.92	18.00	19
15	256QAM	1	37	17.65	17.67	17.79	
15	256QAM	1	74	17.77	17.61	17.54	
15	256QAM	36	0	17.71	17.62	17.85	19
15	256QAM	36	20	17.83	17.71	17.65	
15	256QAM	36	39	17.97	18.01	17.53	
15	256QAM	75	0	17.65	18.02	17.54	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	22.67	22.67	22.66	24
10	QPSK	1	25	22.46	22.62	22.62	
10	QPSK	1	49	22.55	22.68	22.45	
10	QPSK	25	0	21.77	21.71	21.60	23
10	QPSK	25	12	21.87	21.92	21.68	
10	QPSK	25	25	22.15	21.84	21.79	
10	QPSK	50	0	21.77	21.91	21.63	
10	16QAM	1	0	22.10	22.41	21.99	23
10	16QAM	1	25	21.96	22.21	22.13	
10	16QAM	1	49	21.85	22.12	21.95	
10	16QAM	25	0	20.88	20.78	20.58	22
10	16QAM	25	12	20.89	20.88	20.70	
10	16QAM	25	25	20.81	20.87	20.77	
10	16QAM	50	0	20.83	20.86	20.70	



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10	64QAM	1	0	20.76	20.74	20.77	22
10	64QAM	1	25	20.86	21.15	20.95	
10	64QAM	1	49	21.00	21.18	21.00	
10	64QAM	25	0	19.81	19.79	19.58	21
10	64QAM	25	12	19.93	19.92	19.75	
10	64QAM	25	25	19.74	19.92	19.72	
10	64QAM	50	0	19.87	19.96	19.75	
10	256QAM	1	0	17.74	17.78	17.94	19
10	256QAM	1	25	17.80	17.69	17.87	
10	256QAM	1	49	17.60	17.78	17.66	
10	256QAM	25	0	17.59	17.96	17.75	19
10	256QAM	25	12	17.79	17.98	17.71	
10	256QAM	25	25	18.01	17.83	17.53	
10	256QAM	50	0	17.59	17.58	17.74	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	22.63	22.71	22.65	24
5	QPSK	1	12	22.68	22.68	22.60	
5	QPSK	1	24	22.65	22.67	22.61	
5	QPSK	12	0	21.73	21.77	21.65	23
5	QPSK	12	7	21.79	21.87	21.75	
5	QPSK	12	13	21.86	21.86	21.70	
5	QPSK	25	0	21.77	21.84	21.69	
5	16QAM	1	0	21.82	22.16	21.60	23
5	16QAM	1	12	22.26	21.97	21.84	
5	16QAM	1	24	22.05	21.84	21.57	
5	16QAM	12	0	20.76	20.76	20.72	22
5	16QAM	12	7	20.70	20.99	20.66	
5	16QAM	12	13	20.84	21.00	20.82	
5	16QAM	25	0	20.76	20.79	20.72	
5	64QAM	1	0	20.90	20.79	20.67	22
5	64QAM	1	12	20.98	21.16	21.01	
5	64QAM	1	24	20.94	21.24	20.94	
5	64QAM	12	0	19.82	19.87	19.73	21
5	64QAM	12	7	19.81	19.96	19.88	
5	64QAM	12	13	19.98	19.96	19.69	
5	64QAM	25	0	19.79	19.85	19.77	
5	256QAM	1	0	17.54	17.89	18.03	19
5	256QAM	1	12	17.57	17.92	18.04	
5	256QAM	1	24	17.59	17.91	17.51	
5	256QAM	12	0	17.58	17.75	17.86	
5	256QAM	12	7	17.89	17.92	17.41	19
5	256QAM	12	13	17.70	17.73	17.63	
5	256QAM	25	0	17.78	17.90	17.86	
Channel				26055	26340	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	22.76	22.67	22.47	24
3	QPSK	1	8	22.77	22.77	22.66	
3	QPSK	1	14	22.78	22.73	22.71	
3	QPSK	8	0	21.74	21.81	21.72	23
3	QPSK	8	4	21.80	21.87	21.72	
3	QPSK	8	7	21.88	21.90	21.72	
3	QPSK	15	0	21.77	21.87	21.72	
3	16QAM	1	0	21.76	21.76	21.68	23
3	16QAM	1	8	22.32	22.08	21.84	
3	16QAM	1	14	21.71	21.94	22.15	



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3	16QAM	8	0	20.85	20.86	20.70	22
3	16QAM	8	4	20.93	21.08	20.72	
3	16QAM	8	7	20.91	20.91	20.83	
3	16QAM	15	0	20.84	21.02	20.74	
3	64QAM	1	0	20.85	21.11	20.85	22
3	64QAM	1	8	21.17	20.91	21.00	
3	64QAM	1	14	20.85	21.11	20.78	
3	64QAM	8	0	19.80	19.78	19.67	21
3	64QAM	8	4	19.93	20.05	19.78	
3	64QAM	8	7	19.85	19.94	19.80	
3	64QAM	15	0	19.80	19.85	19.79	
3	256QAM	1	0	17.72	17.87	17.75	19
3	256QAM	1	8	17.91	17.51	17.63	
3	256QAM	1	14	17.90	18.14	17.87	
3	256QAM	8	0	17.94	17.42	17.36	19
3	256QAM	8	4	18.02	17.68	17.87	
3	256QAM	8	7	17.71	17.49	17.48	
3	256QAM	15	0	17.47	17.83	17.58	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	22.61	22.63	22.51	24
1.4	QPSK	1	3	22.76	22.73	22.54	
1.4	QPSK	1	5	22.71	22.74	22.54	
1.4	QPSK	3	0	22.60	22.77	22.48	
1.4	QPSK	3	1	22.77	22.67	22.59	
1.4	QPSK	3	3	22.63	22.76	22.57	
1.4	QPSK	6	0	21.83	21.85	21.57	23
1.4	16QAM	1	0	22.15	21.93	22.08	23
1.4	16QAM	1	3	22.28	22.39	22.14	
1.4	16QAM	1	5	22.01	22.20	22.11	
1.4	16QAM	3	0	21.66	21.81	21.54	
1.4	16QAM	3	1	21.72	21.97	21.69	
1.4	16QAM	3	3	21.73	21.50	21.52	
1.4	16QAM	6	0	20.79	20.81	20.61	22
1.4	64QAM	1	0	20.51	21.04	20.57	22
1.4	64QAM	1	3	20.66	20.22	20.72	
1.4	64QAM	1	5	20.61	21.07	20.41	
1.4	64QAM	3	0	20.91	20.99	20.84	
1.4	64QAM	3	1	20.97	21.07	20.76	
1.4	64QAM	3	3	20.95	21.05	20.72	
1.4	64QAM	6	0	19.82	19.80	19.56	21
1.4	256QAM	1	0	17.82	18.17	17.65	19
1.4	256QAM	1	3	18.02	17.96	17.56	
1.4	256QAM	1	5	17.52	17.63	17.60	
1.4	256QAM	3	0	17.94	17.74	17.64	
1.4	256QAM	3	1	17.72	17.91	17.37	
1.4	256QAM	3	3	17.89	17.97	17.68	
1.4	256QAM	6	0	17.90	17.58	17.50	19



<LTE Band 25 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	22.63	22.73	22.57	24
20	QPSK	1	49	22.55	22.64	22.56	
20	QPSK	1	99	22.60	22.59	22.55	
20	QPSK	50	0	21.73	21.74	21.70	23
20	QPSK	50	24	21.72	21.65	21.66	
20	QPSK	50	50	21.68	21.72	21.68	
20	QPSK	100	0	21.66	21.74	21.54	23
20	16QAM	1	0	22.06	22.23	21.81	
20	16QAM	1	49	21.80	22.15	21.86	
20	16QAM	1	99	21.45	22.21	22.15	22
20	16QAM	50	0	20.77	20.75	20.58	
20	16QAM	50	24	20.88	20.79	20.67	
20	16QAM	50	50	20.69	20.81	20.74	22
20	16QAM	100	0	20.75	20.73	20.73	
20	64QAM	1	0	21.04	20.66	20.71	
20	64QAM	1	49	20.90	21.02	20.41	21
20	64QAM	1	99	20.97	20.67	20.40	
20	64QAM	50	0	19.69	19.82	19.69	
20	64QAM	50	24	19.81	19.85	19.67	19
20	64QAM	50	50	19.76	19.89	19.71	
20	64QAM	100	0	19.83	19.79	19.76	
20	256QAM	1	0	17.67	17.73	17.65	19
20	256QAM	1	49	17.68	17.61	17.65	
20	256QAM	1	99	17.54	17.75	17.53	
20	256QAM	50	0	17.56	17.49	17.46	19
20	256QAM	50	24	17.66	17.61	17.46	
20	256QAM	50	50	17.57	17.62	17.28	
20	256QAM	100	0	17.58	17.61	17.45	Tune-up limit (dBm)
Channel				26115	26340	26615	
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	22.64	22.66	22.49	24
15	QPSK	1	37	22.46	22.52	22.57	
15	QPSK	1	74	22.62	22.55	22.43	
15	QPSK	36	0	21.62	21.69	21.62	23
15	QPSK	36	20	21.60	21.66	21.64	
15	QPSK	36	39	21.64	21.61	21.58	
15	QPSK	75	0	21.56	21.71	21.56	23
15	16QAM	1	0	21.97	22.22	21.80	
15	16QAM	1	37	21.73	22.16	21.82	
15	16QAM	1	74	21.41	22.20	22.07	22
15	16QAM	36	0	20.70	20.67	20.55	
15	16QAM	36	20	20.74	20.80	20.59	
15	16QAM	36	39	20.72	20.73	20.66	22
15	16QAM	75	0	20.74	20.64	20.62	
15	64QAM	1	0	21.05	20.61	20.71	
15	64QAM	1	37	20.88	20.99	20.36	21
15	64QAM	1	74	20.94	20.64	20.39	
15	64QAM	36	0	19.59	19.82	19.69	
15	64QAM	36	20	19.74	19.84	19.59	21
15	64QAM	36	39	19.66	19.78	19.64	



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15	64QAM	75	0	19.76	19.79	19.70	
15	256QAM	1	0	17.65	17.70	17.57	
15	256QAM	1	37	17.61	17.62	17.62	19
15	256QAM	1	74	17.56	17.72	17.47	
15	256QAM	36	0	17.53	17.54	17.48	
15	256QAM	36	20	17.55	17.57	17.45	19
15	256QAM	36	39	17.48	17.59	17.18	
15	256QAM	75	0	17.56	17.55	17.41	
Channel				26090	26340	26640	Tune-up limit
Frequency (MHz)				1855	1880	1910	(dBm)
10	QPSK	1	0	22.55	22.71	22.56	
10	QPSK	1	25	22.44	22.50	22.55	24
10	QPSK	1	49	22.62	22.57	22.49	
10	QPSK	25	0	21.67	21.63	21.65	
10	QPSK	25	12	21.61	21.64	21.62	23
10	QPSK	25	25	21.69	21.71	21.58	
10	QPSK	50	0	21.54	21.63	21.51	
10	16QAM	1	0	21.99	22.22	21.77	
10	16QAM	1	25	21.77	22.18	21.80	23
10	16QAM	1	49	21.40	22.14	22.00	
10	16QAM	25	0	20.68	20.74	20.56	
10	16QAM	25	12	20.80	20.76	20.62	22
10	16QAM	25	25	20.63	20.78	20.75	
10	16QAM	50	0	20.67	20.67	20.67	
10	64QAM	1	0	20.96	20.67	20.69	
10	64QAM	1	25	20.90	20.98	20.30	22
10	64QAM	1	49	20.92	20.65	20.35	
10	64QAM	25	0	19.60	19.73	19.64	
10	64QAM	25	12	19.78	19.78	19.60	21
10	64QAM	25	25	19.69	19.81	19.73	
10	64QAM	50	0	19.70	19.78	19.73	
10	256QAM	1	0	17.60	17.73	17.64	
10	256QAM	1	25	17.65	17.57	17.61	19
10	256QAM	1	49	17.56	17.66	17.45	
10	256QAM	25	0	17.46	17.48	17.43	
10	256QAM	25	12	17.57	17.59	17.43	19
10	256QAM	25	25	17.51	17.60	17.20	
10	256QAM	50	0	17.59	17.55	17.43	
Channel				26065	26340	26665	Tune-up limit
Frequency (MHz)				1852.5	1880	1912.5	(dBm)
5	QPSK	1	0	22.62	22.70	22.56	
5	QPSK	1	12	22.41	22.59	22.56	24
5	QPSK	1	24	22.55	22.59	22.50	
5	QPSK	12	0	21.65	21.67	21.64	
5	QPSK	12	7	21.68	21.57	21.60	23
5	QPSK	12	13	21.65	21.70	21.61	
5	QPSK	25	0	21.60	21.71	21.49	
5	16QAM	1	0	22.00	22.25	21.74	
5	16QAM	1	12	21.76	22.15	21.85	23
5	16QAM	1	24	21.43	22.15	22.06	
5	16QAM	12	0	20.71	20.67	20.53	
5	16QAM	12	7	20.76	20.71	20.59	22
5	16QAM	12	13	20.69	20.72	20.67	
5	16QAM	25	0	20.71	20.63	20.60	
5	64QAM	1	0	20.97	20.62	20.61	22
5	64QAM	1	12	20.87	20.98	20.34	



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5	64QAM	1	24	20.88	20.66	20.34	21
5	64QAM	12	0	19.60	19.74	19.61	
5	64QAM	12	7	19.68	19.84	19.68	
5	64QAM	12	13	19.67	19.76	19.72	
5	64QAM	25	0	19.77	19.71	19.70	19
5	256QAM	1	0	17.60	17.71	17.62	
5	256QAM	1	12	17.58	17.55	17.68	
5	256QAM	1	24	17.57	17.70	17.45	
5	256QAM	12	0	17.49	17.47	17.47	19
5	256QAM	12	7	17.54	17.61	17.44	
5	256QAM	12	13	17.46	17.58	17.18	
5	256QAM	25	0	17.51	17.55	17.41	
Channel				26055	26340	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	22.57	22.72	22.51	24
3	QPSK	1	8	22.42	22.55	22.53	
3	QPSK	1	14	22.55	22.62	22.45	
3	QPSK	8	0	21.67	21.69	21.62	23
3	QPSK	8	4	21.61	21.65	21.62	
3	QPSK	8	7	21.65	21.66	21.59	
3	QPSK	15	0	21.54	21.65	21.57	
3	16QAM	1	0	21.99	22.17	21.74	23
3	16QAM	1	8	21.80	22.16	21.80	
3	16QAM	1	14	21.39	22.20	22.09	
3	16QAM	8	0	20.70	20.70	20.51	22
3	16QAM	8	4	20.75	20.77	20.63	
3	16QAM	8	7	20.62	20.75	20.67	
3	16QAM	15	0	20.75	20.60	20.66	
3	64QAM	1	0	21.01	20.66	20.70	22
3	64QAM	1	8	20.86	21.01	20.35	
3	64QAM	1	14	20.94	20.63	20.36	
3	64QAM	8	0	19.65	19.77	19.67	21
3	64QAM	8	4	19.70	19.83	19.65	
3	64QAM	8	7	19.72	19.84	19.70	
3	64QAM	15	0	19.72	19.79	19.71	
3	256QAM	1	0	17.57	17.69	17.65	19
3	256QAM	1	8	17.68	17.59	17.61	
3	256QAM	1	14	17.50	17.66	17.48	
3	256QAM	8	0	17.55	17.45	17.42	19
3	256QAM	8	4	17.54	17.57	17.41	
3	256QAM	8	7	17.46	17.52	17.27	
3	256QAM	15	0	17.56	17.58	17.35	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	22.50	22.47	22.41	24
1.4	QPSK	1	3	22.56	22.56	22.34	
1.4	QPSK	1	5	22.51	22.63	22.37	
1.4	QPSK	3	0	22.42	22.62	22.25	
1.4	QPSK	3	1	22.70	22.51	22.46	
1.4	QPSK	3	3	22.57	22.64	22.39	
1.4	QPSK	6	0	21.60	21.69	21.44	23
1.4	16QAM	1	0	22.01	21.87	21.92	23
1.4	16QAM	1	3	22.18	22.26	21.99	
1.4	16QAM	1	5	21.93	22.00	21.93	
1.4	16QAM	3	0	21.45	21.69	21.40	
1.4	16QAM	3	1	21.56	21.86	21.54	



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1.4	16QAM	3	3	21.56	21.39	21.34	
1.4	16QAM	6	0	20.71	20.69	20.54	22
1.4	64QAM	1	0	20.32	20.90	20.37	22
1.4	64QAM	1	3	20.56	20.00	20.48	
1.4	64QAM	1	5	20.43	20.93	20.27	
1.4	64QAM	3	0	20.79	20.82	20.70	
1.4	64QAM	3	1	20.79	20.86	20.59	
1.4	64QAM	3	3	20.78	20.91	20.53	
1.4	64QAM	6	0	19.62	19.60	19.40	21
1.4	256QAM	1	0	17.75	18.03	17.59	19
1.4	256QAM	1	3	17.92	17.84	17.42	
1.4	256QAM	1	5	17.40	17.40	17.47	
1.4	256QAM	3	0	17.76	17.56	17.53	
1.4	256QAM	3	1	17.55	17.80	17.29	
1.4	256QAM	3	3	17.74	17.83	17.55	
1.4	256QAM	6	0	17.81	17.42	17.34	19

<LTE Band 26 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	22.82	22.84	22.36	24
15	QPSK	1	37	22.74	22.74	22.33	
15	QPSK	1	74	22.73	22.57	22.26	
15	QPSK	36	0	21.80	21.82	21.53	23
15	QPSK	36	20	21.79	21.69	21.48	
15	QPSK	36	39	21.77	21.68	21.45	
15	QPSK	75	0	21.86	21.87	21.44	
15	16QAM	1	0	22.24	21.87	21.55	23
15	16QAM	1	37	21.81	22.05	21.62	
15	16QAM	1	74	21.86	21.82	21.43	
15	16QAM	36	0	20.77	20.74	20.46	22
15	16QAM	36	20	20.89	20.66	20.47	
15	16QAM	36	39	20.68	20.73	20.38	
15	16QAM	75	0	20.86	20.78	20.44	
15	64QAM	1	0	20.67	21.02	20.46	22
15	64QAM	1	37	20.85	20.84	20.82	
15	64QAM	1	74	20.83	20.80	20.12	
15	64QAM	36	0	19.56	19.55	19.60	21
15	64QAM	36	20	19.69	19.70	19.48	
15	64QAM	36	39	19.86	19.69	19.17	
15	64QAM	75	0	19.57	19.70	19.52	
15	256QAM	1	0	18.04	17.88	17.79	19
15	256QAM	1	37	17.95	17.90	17.55	
15	256QAM	1	74	17.85	17.58	17.42	
15	256QAM	36	0	17.94	17.78	17.56	19
15	256QAM	36	20	17.90	17.72	17.51	
15	256QAM	36	39	17.89	17.63	17.46	
15	256QAM	75	0	17.92	17.73	17.53	
Channel				26740	26865	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	22.68	22.59	22.50	24
10	QPSK	1	25	22.50	22.52	22.28	
10	QPSK	1	49	22.48	22.37	22.19	
10	QPSK	25	0	21.74	21.67	21.52	23



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10	QPSK	25	12	21.79	21.63	21.50	
10	QPSK	25	25	21.70	21.55	21.34	
10	QPSK	50	0	21.83	21.55	21.60	
10	16QAM	1	0	21.82	21.58	21.82	23
10	16QAM	1	25	21.77	21.72	21.63	
10	16QAM	1	49	21.48	21.48	21.33	
10	16QAM	25	0	20.75	20.77	20.53	22
10	16QAM	25	12	20.82	20.62	20.56	
10	16QAM	25	25	20.67	20.66	20.40	
10	16QAM	50	0	20.81	20.68	20.62	22
10	64QAM	1	0	21.21	20.67	20.55	
10	64QAM	1	25	21.16	20.97	20.45	
10	64QAM	1	49	20.74	20.64	20.68	21
10	64QAM	25	0	19.90	19.78	19.51	
10	64QAM	25	12	20.01	19.64	19.53	
10	64QAM	25	25	19.73	19.63	19.34	19
10	64QAM	50	0	19.94	19.70	19.42	
10	256QAM	1	0	18.18	17.80	17.97	
10	256QAM	1	25	17.99	17.77	17.71	19
10	256QAM	1	49	18.12	17.48	17.32	
10	256QAM	25	0	18.03	17.85	17.52	
10	256QAM	25	12	18.05	17.68	17.64	19
10	256QAM	25	25	18.20	17.56	17.39	
10	256QAM	50	0	17.82	17.72	17.42	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	22.66	22.67	22.43	24
5	QPSK	1	12	22.79	22.68	22.32	
5	QPSK	1	24	22.72	22.68	22.21	
5	QPSK	12	0	21.83	21.70	21.47	23
5	QPSK	12	7	21.93	21.65	21.41	
5	QPSK	12	13	21.85	21.61	21.30	
5	QPSK	25	0	21.81	21.62	21.43	23
5	16QAM	1	0	21.93	22.26	21.41	
5	16QAM	1	12	21.98	21.78	21.46	
5	16QAM	1	24	21.88	22.27	21.45	22
5	16QAM	12	0	20.96	20.85	20.44	
5	16QAM	12	7	20.92	20.80	20.46	
5	16QAM	12	13	20.85	20.72	20.33	22
5	16QAM	25	0	20.80	20.71	20.38	
5	64QAM	1	0	20.55	21.00	20.27	
5	64QAM	1	12	20.92	21.10	20.14	21
5	64QAM	1	24	20.74	21.02	20.00	
5	64QAM	12	0	19.61	19.78	19.25	
5	64QAM	12	7	19.73	19.75	19.05	19
5	64QAM	12	13	19.63	19.71	18.80	
5	64QAM	25	0	19.51	19.65	18.99	
5	256QAM	1	0	18.27	18.05	17.93	19
5	256QAM	1	12	17.80	18.19	17.63	
5	256QAM	1	24	17.89	17.57	17.57	
5	256QAM	12	0	18.30	17.86	17.62	19
5	256QAM	12	7	18.20	17.77	17.58	
5	256QAM	12	13	18.16	17.93	17.26	
5	256QAM	25	0	18.26	17.86	17.47	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	



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3	QPSK	1	0	22.81	22.68	22.46	24
3	QPSK	1	8	22.81	22.76	22.33	
3	QPSK	1	14	22.73	22.76	22.27	
3	QPSK	8	0	21.87	21.69	21.37	23
3	QPSK	8	4	21.85	21.72	21.41	
3	QPSK	8	7	21.83	21.71	21.34	
3	QPSK	15	0	21.78	21.65	21.39	23
3	16QAM	1	0	22.14	22.07	21.83	
3	16QAM	1	8	22.40	22.24	21.85	
3	16QAM	1	14	22.23	22.08	21.84	22
3	16QAM	8	0	20.93	20.74	20.56	
3	16QAM	8	4	20.95	20.77	20.49	
3	16QAM	8	7	20.97	20.79	20.44	22
3	16QAM	15	0	20.89	20.83	20.44	
3	64QAM	1	0	20.97	20.80	20.42	
3	64QAM	1	8	21.10	20.89	20.43	21
3	64QAM	1	14	20.93	20.82	20.36	
3	64QAM	8	0	19.93	19.66	19.33	
3	64QAM	8	4	19.93	19.71	19.30	19
3	64QAM	8	7	19.91	19.67	19.23	
3	64QAM	15	0	19.86	19.61	19.29	
3	256QAM	1	0	17.99	18.03	17.73	19
3	256QAM	1	8	18.03	17.95	17.95	
3	256QAM	1	14	17.95	17.39	17.77	
3	256QAM	8	0	18.33	17.97	17.90	19
3	256QAM	8	4	18.18	17.56	17.59	
3	256QAM	8	7	18.08	17.89	17.57	
3	256QAM	15	0	17.72	17.85	17.89	Tune-up limit (dBm)
Channel				26697	26865	27033	
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	22.63	22.51	22.19	24
1.4	QPSK	1	3	22.79	22.62	22.20	
1.4	QPSK	1	5	22.64	22.56	22.12	
1.4	QPSK	3	0	22.69	22.61	22.16	23
1.4	QPSK	3	1	22.73	22.58	22.21	
1.4	QPSK	3	3	22.76	22.54	22.19	
1.4	QPSK	6	0	21.78	21.51	21.24	23
1.4	16QAM	1	0	22.17	21.89	21.34	
1.4	16QAM	1	3	22.29	21.99	21.76	
1.4	16QAM	1	5	21.95	21.77	21.23	22
1.4	16QAM	3	0	21.93	21.75	21.33	
1.4	16QAM	3	1	21.94	21.70	21.27	
1.4	16QAM	3	3	21.86	21.69	21.19	22
1.4	16QAM	6	0	20.90	20.73	20.33	
1.4	64QAM	1	0	20.89	20.75	20.32	
1.4	64QAM	1	3	21.01	20.84	20.33	21
1.4	64QAM	1	5	20.93	20.72	20.27	
1.4	64QAM	3	0	20.95	20.66	20.29	
1.4	64QAM	3	1	21.00	20.80	20.32	19
1.4	64QAM	3	3	20.90	20.73	20.26	
1.4	64QAM	6	0	19.81	19.55	19.18	
1.4	256QAM	1	0	18.13	18.19	17.65	19
1.4	256QAM	1	3	18.30	18.26	17.42	
1.4	256QAM	1	5	18.21	17.42	17.23	
1.4	256QAM	3	0	17.94	17.71	17.66	19
1.4	256QAM	3	1	18.04	18.11	17.51	



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1.4	256QAM	3	3	17.97	17.81	17.73	
1.4	256QAM	6	0	18.02	17.93	17.50	19

<LTE Band 26 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	22.73	22.80	22.27	24
15	QPSK	1	37	22.65	22.68	22.32	
15	QPSK	1	74	22.63	22.48	22.17	
15	QPSK	36	0	21.74	21.78	21.51	23
15	QPSK	36	20	21.73	21.64	21.43	
15	QPSK	36	39	21.77	21.58	21.37	
15	QPSK	75	0	21.85	21.86	21.41	23
15	16QAM	1	0	22.23	21.86	21.53	
15	16QAM	1	37	21.76	21.99	21.52	
15	16QAM	1	74	21.84	21.72	21.37	22
15	16QAM	36	0	20.76	20.70	20.46	
15	16QAM	36	20	20.87	20.59	20.42	
15	16QAM	36	39	20.68	20.73	20.33	22
15	16QAM	75	0	20.80	20.76	20.42	
15	64QAM	1	0	20.65	20.94	20.36	
15	64QAM	1	37	20.75	20.80	20.77	21
15	64QAM	1	74	20.77	20.75	20.03	
15	64QAM	36	0	19.50	19.54	19.56	
15	64QAM	36	20	19.62	19.67	19.41	19
15	64QAM	36	39	19.76	19.66	19.13	
15	64QAM	75	0	19.53	19.66	19.45	
15	256QAM	1	0	17.99	17.78	17.72	19
15	256QAM	1	37	17.94	17.87	17.52	
15	256QAM	1	74	17.82	17.56	17.33	
15	256QAM	36	0	17.94	17.77	17.51	19
15	256QAM	36	20	17.82	17.70	17.46	
15	256QAM	36	39	17.79	17.57	17.43	
15	256QAM	75	0	17.90	17.72	17.48	Tune-up limit (dBm)
Channel				26740	26865	26990	
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	22.62	22.49	22.44	24
10	QPSK	1	25	22.49	22.43	22.26	
10	QPSK	1	49	22.38	22.30	22.11	
10	QPSK	25	0	21.74	21.65	21.43	23
10	QPSK	25	12	21.75	21.58	21.47	
10	QPSK	25	25	21.66	21.51	21.25	
10	QPSK	50	0	21.81	21.53	21.55	23
10	16QAM	1	0	21.80	21.55	21.75	
10	16QAM	1	25	21.70	21.62	21.62	
10	16QAM	1	49	21.38	21.48	21.29	22
10	16QAM	25	0	20.71	20.70	20.49	
10	16QAM	25	12	20.77	20.58	20.47	
10	16QAM	25	25	20.65	20.56	20.40	22
10	16QAM	50	0	20.76	20.63	20.53	
10	64QAM	1	0	21.18	20.66	20.53	
10	64QAM	1	25	21.14	20.91	20.43	21
10	64QAM	1	49	20.69	20.58	20.59	
10	64QAM	25	0	19.88	19.73	19.51	



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10	64QAM	25	12	19.95	19.62	19.53	
10	64QAM	25	25	19.65	19.56	19.30	
10	64QAM	50	0	19.89	19.63	19.39	
10	256QAM	1	0	18.15	17.74	17.97	19
10	256QAM	1	25	17.91	17.76	17.61	
10	256QAM	1	49	18.03	17.39	17.30	
10	256QAM	25	0	17.97	17.77	17.47	19
10	256QAM	25	12	17.96	17.61	17.57	
10	256QAM	25	25	18.20	17.50	17.31	
10	256QAM	50	0	17.82	17.66	17.35	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	22.61	22.66	22.37	24
5	QPSK	1	12	22.70	22.60	22.31	
5	QPSK	1	24	22.62	22.58	22.14	
5	QPSK	12	0	21.82	21.69	21.44	23
5	QPSK	12	7	21.83	21.56	21.32	
5	QPSK	12	13	21.78	21.58	21.26	
5	QPSK	25	0	21.75	21.56	21.35	
5	16QAM	1	0	21.92	22.21	21.36	23
5	16QAM	1	12	21.89	21.68	21.43	
5	16QAM	1	24	21.78	22.22	21.35	
5	16QAM	12	0	20.93	20.83	20.35	22
5	16QAM	12	7	20.82	20.74	20.42	
5	16QAM	12	13	20.75	20.71	20.28	
5	16QAM	25	0	20.70	20.64	20.37	
5	64QAM	1	0	20.55	20.93	20.18	22
5	64QAM	1	12	20.92	21.08	20.09	
5	64QAM	1	24	20.66	20.99	20.05	
5	64QAM	12	0	19.53	19.74	19.22	21
5	64QAM	12	7	19.65	19.74	18.95	
5	64QAM	12	13	19.61	19.63	18.74	
5	64QAM	25	0	19.50	19.60	18.92	
5	256QAM	1	0	18.26	17.97	17.88	19
5	256QAM	1	12	17.78	18.19	17.61	
5	256QAM	1	24	17.85	17.47	17.47	
5	256QAM	12	0	18.27	17.77	17.54	19
5	256QAM	12	7	18.19	17.75	17.49	
5	256QAM	12	13	18.11	17.86	17.16	
5	256QAM	25	0	18.26	17.81	17.37	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	22.78	22.67	22.43	24
3	QPSK	1	8	22.76	22.67	22.28	
3	QPSK	1	14	22.65	22.74	22.18	
3	QPSK	8	0	21.84	21.64	21.32	23
3	QPSK	8	4	21.82	21.63	21.40	
3	QPSK	8	7	21.75	21.70	21.24	
3	QPSK	15	0	21.78	21.59	21.35	
3	16QAM	1	0	22.11	21.98	21.73	23
3	16QAM	1	8	22.30	22.21	21.78	
3	16QAM	1	14	22.19	22.00	21.79	
3	16QAM	8	0	20.86	20.69	20.52	22
3	16QAM	8	4	20.89	20.76	20.40	
3	16QAM	8	7	20.95	20.77	20.35	
3	16QAM	15	0	20.81	20.80	20.42	



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3	64QAM	1	0	20.94	20.80	20.39	22
3	64QAM	1	8	21.05	20.84	20.38	
3	64QAM	1	14	20.83	20.77	20.35	
3	64QAM	8	0	19.84	19.62	19.24	21
3	64QAM	8	4	19.88	19.68	19.27	
3	64QAM	8	7	19.87	19.67	19.23	
3	64QAM	15	0	19.79	19.56	19.28	19
3	256QAM	1	0	17.92	17.98	17.73	
3	256QAM	1	8	17.97	17.85	17.91	
3	256QAM	1	14	17.95	17.30	17.75	19
3	256QAM	8	0	18.25	17.97	17.80	
3	256QAM	8	4	18.16	17.50	17.51	
3	256QAM	8	7	18.03	17.89	17.47	19
3	256QAM	15	0	17.65	17.79	17.82	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	22.59	22.45	22.15	24
1.4	QPSK	1	3	22.71	22.59	22.10	
1.4	QPSK	1	5	22.56	22.51	22.02	
1.4	QPSK	3	0	22.66	22.60	22.14	
1.4	QPSK	3	1	22.67	22.50	22.14	
1.4	QPSK	3	3	22.71	22.52	22.10	
1.4	QPSK	6	0	21.73	21.42	21.17	23
1.4	16QAM	1	0	22.15	21.82	21.34	23
1.4	16QAM	1	3	22.29	21.99	21.68	
1.4	16QAM	1	5	21.90	21.73	21.17	
1.4	16QAM	3	0	21.92	21.70	21.27	
1.4	16QAM	3	1	21.87	21.67	21.18	
1.4	16QAM	3	3	21.80	21.64	21.16	
1.4	16QAM	6	0	20.84	20.64	20.29	22
1.4	64QAM	1	0	20.88	20.72	20.32	22
1.4	64QAM	1	3	20.91	20.83	20.26	
1.4	64QAM	1	5	20.86	20.62	20.22	
1.4	64QAM	3	0	20.90	20.57	20.23	
1.4	64QAM	3	1	20.99	20.71	20.22	
1.4	64QAM	3	3	20.86	20.71	20.25	
1.4	64QAM	6	0	19.76	19.46	19.18	21
1.4	256QAM	1	0	18.05	18.10	17.57	19
1.4	256QAM	1	3	18.26	18.18	17.38	
1.4	256QAM	1	5	18.17	17.37	17.20	
1.4	256QAM	3	0	17.89	17.69	17.56	
1.4	256QAM	3	1	17.99	18.10	17.48	
1.4	256QAM	3	3	17.89	17.74	17.70	
1.4	256QAM	6	0	17.95	17.83	17.44	19

<LTE Band 66 Ant 1>							
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	24
20	QPSK	1	0	22.84	22.86	22.81	
20	QPSK	1	49	22.82	22.59	22.65	
20	QPSK	1	99	22.61	22.70	22.66	23
20	QPSK	50	0	21.89	21.90	21.89	
20	QPSK	50	24	21.85	21.75	21.74	
20	QPSK	50	50	21.80	21.65	21.80	



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20	QPSK	100	0	21.87	21.88	21.77	23
20	16QAM	1	0	22.41	22.32	21.74	
20	16QAM	1	49	22.07	22.10	21.95	
20	16QAM	1	99	22.14	22.24	21.86	
20	16QAM	50	0	21.01	20.76	20.78	22
20	16QAM	50	24	21.03	20.72	20.82	
20	16QAM	50	50	20.87	20.78	20.78	
20	16QAM	100	0	20.84	20.81	20.75	
20	64QAM	1	0	21.26	21.04	20.90	22
20	64QAM	1	49	21.16	20.81	20.88	
20	64QAM	1	99	21.20	20.99	20.90	
20	64QAM	50	0	19.94	19.82	19.83	21
20	64QAM	50	24	19.97	19.90	19.92	
20	64QAM	50	50	19.82	19.75	19.78	
20	64QAM	100	0	19.87	19.78	19.94	
20	256QAM	1	0	18.16	17.86	18.09	19
20	256QAM	1	49	17.91	17.75	17.92	
20	256QAM	1	99	17.93	17.86	17.94	
20	256QAM	50	0	17.87	17.71	17.93	19
20	256QAM	50	24	17.95	17.73	17.89	
20	256QAM	50	50	17.89	17.83	17.85	
20	256QAM	100	0	17.94	17.70	17.88	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.75	22.63	22.70	24
15	QPSK	1	37	22.71	22.66	22.73	
15	QPSK	1	74	22.75	22.56	22.63	
15	QPSK	36	0	21.91	21.75	21.88	23
15	QPSK	36	20	21.86	21.75	21.91	
15	QPSK	36	39	21.82	21.77	21.79	
15	QPSK	75	0	21.78	21.77	21.80	
15	16QAM	1	0	21.79	22.29	22.07	23
15	16QAM	1	37	22.23	21.96	22.29	
15	16QAM	1	74	22.29	21.80	22.00	
15	16QAM	36	0	20.83	20.84	20.84	22
15	16QAM	36	20	20.94	20.72	20.79	
15	16QAM	36	39	20.82	20.72	20.74	
15	16QAM	75	0	20.89	20.76	20.75	
15	64QAM	1	0	21.26	20.76	20.84	22
15	64QAM	1	37	20.65	20.81	20.86	
15	64QAM	1	74	20.98	20.81	20.85	
15	64QAM	36	0	19.95	19.84	19.92	
15	64QAM	36	20	19.90	19.66	19.90	21
15	64QAM	36	39	19.85	19.81	19.76	
15	64QAM	75	0	19.90	19.79	19.81	
15	256QAM	1	0	17.96	18.12	18.24	19
15	256QAM	1	37	17.90	17.86	18.24	
15	256QAM	1	74	18.17	18.04	18.03	
15	256QAM	36	0	18.05	17.62	17.83	19
15	256QAM	36	20	17.86	17.56	17.73	
15	256QAM	36	39	18.27	17.92	18.08	
15	256QAM	75	0	17.84	17.68	17.97	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.78	22.47	22.82	24
10	QPSK	1	25	22.81	22.50	22.82	



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10	QPSK	1	49	22.57	22.54	22.73	23
10	QPSK	25	0	21.87	21.71	21.77	
10	QPSK	25	12	21.91	21.68	21.78	
10	QPSK	25	25	21.80	21.65	21.78	
10	QPSK	50	0	21.88	21.72	21.77	
10	16QAM	1	0	22.41	22.16	22.36	23
10	16QAM	1	25	21.98	21.98	22.01	
10	16QAM	1	49	22.34	21.83	22.12	
10	16QAM	25	0	20.97	20.79	20.90	22
10	16QAM	25	12	20.86	20.82	20.77	
10	16QAM	25	25	20.85	20.75	20.78	
10	16QAM	50	0	20.86	20.87	20.90	
10	64QAM	1	0	21.13	20.75	20.99	22
10	64QAM	1	25	21.17	21.12	21.08	
10	64QAM	1	49	21.15	20.61	20.98	
10	64QAM	25	0	19.87	19.71	19.82	21
10	64QAM	25	12	19.99	19.75	19.81	
10	64QAM	25	25	19.75	19.79	19.80	
10	64QAM	50	0	19.97	19.79	19.82	
10	256QAM	1	0	18.21	17.98	18.16	19
10	256QAM	1	25	17.93	18.08	18.20	
10	256QAM	1	49	18.18	18.25	18.00	
10	256QAM	25	0	17.86	17.73	17.79	19
10	256QAM	25	12	17.96	17.83	18.27	
10	256QAM	25	25	17.83	17.75	18.15	
10	256QAM	50	0	17.76	17.57	17.84	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.85	22.69	22.73	24
5	QPSK	1	12	22.84	22.71	22.76	
5	QPSK	1	24	22.80	22.59	22.66	
5	QPSK	12	0	21.94	21.69	21.85	23
5	QPSK	12	7	21.95	21.71	21.80	
5	QPSK	12	13	21.86	21.69	21.78	
5	QPSK	25	0	21.82	21.71	21.83	
5	16QAM	1	0	22.44	22.19	22.01	23
5	16QAM	1	12	22.06	21.88	22.07	
5	16QAM	1	24	22.36	21.86	22.27	
5	16QAM	12	0	20.91	20.76	20.92	22
5	16QAM	12	7	21.04	20.74	20.90	
5	16QAM	12	13	20.87	20.70	20.90	
5	16QAM	25	0	21.02	20.73	20.85	
5	64QAM	1	0	21.21	20.97	21.11	22
5	64QAM	1	12	21.16	21.00	20.94	
5	64QAM	1	24	21.24	20.98	20.78	
5	64QAM	12	0	20.07	19.76	20.00	21
5	64QAM	12	7	20.09	19.84	19.91	
5	64QAM	12	13	20.00	19.71	19.87	
5	64QAM	25	0	19.81	19.75	19.86	
5	256QAM	1	0	17.97	17.84	18.16	19
5	256QAM	1	12	18.04	17.72	17.86	
5	256QAM	1	24	18.23	17.72	17.94	
5	256QAM	12	0	18.00	17.81	17.83	19
5	256QAM	12	7	18.07	17.63	18.09	
5	256QAM	12	13	18.14	18.00	17.67	
5	256QAM	25	0	18.12	17.51	18.15	



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Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.84	22.74	22.77	24
3	QPSK	1	8	22.85	22.70	22.76	
3	QPSK	1	14	22.79	22.65	22.77	
3	QPSK	8	0	21.89	21.75	21.82	23
3	QPSK	8	4	21.91	21.79	21.81	
3	QPSK	8	7	21.84	21.71	21.84	
3	QPSK	15	0	21.91	21.66	21.82	
3	16QAM	1	0	21.97	21.91	21.93	23
3	16QAM	1	8	22.01	21.76	21.97	
3	16QAM	1	14	21.90	21.63	21.89	
3	16QAM	8	0	20.95	20.78	20.87	22
3	16QAM	8	4	20.88	20.81	20.91	
3	16QAM	8	7	20.92	20.73	20.90	
3	16QAM	15	0	20.84	20.74	20.94	
3	64QAM	1	0	21.18	21.08	21.12	22
3	64QAM	1	8	21.06	21.14	21.01	
3	64QAM	1	14	21.19	20.92	20.85	
3	64QAM	8	0	20.04	19.79	19.84	21
3	64QAM	8	4	20.05	19.79	19.88	
3	64QAM	8	7	19.93	19.71	19.81	
3	64QAM	15	0	19.94	19.76	19.81	
3	256QAM	1	0	18.31	17.85	18.48	19
3	256QAM	1	8	18.11	17.81	18.14	
3	256QAM	1	14	18.15	18.20	17.77	
3	256QAM	8	0	18.21	17.92	17.89	19
3	256QAM	8	4	18.23	18.12	17.95	
3	256QAM	8	7	18.27	17.93	17.67	
3	256QAM	15	0	17.80	17.59	17.89	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.69	22.59	22.74	24
1.4	QPSK	1	3	22.74	22.68	22.76	
1.4	QPSK	1	5	22.74	22.61	22.67	
1.4	QPSK	3	0	22.72	22.51	22.73	
1.4	QPSK	3	1	22.76	22.65	22.78	
1.4	QPSK	3	3	22.74	22.66	22.71	
1.4	QPSK	6	0	21.84	21.65	21.82	23
1.4	16QAM	1	0	21.92	22.10	22.26	23
1.4	16QAM	1	3	22.00	22.09	21.90	
1.4	16QAM	1	5	21.70	21.98	21.88	
1.4	16QAM	3	0	21.95	21.52	21.82	
1.4	16QAM	3	1	21.97	21.75	21.70	
1.4	16QAM	3	3	21.85	21.67	21.68	
1.4	16QAM	6	0	21.04	20.60	20.81	22
1.4	64QAM	1	0	21.11	21.07	20.80	22
1.4	64QAM	1	3	20.96	20.99	20.96	
1.4	64QAM	1	5	20.90	20.88	21.06	
1.4	64QAM	3	0	21.15	20.83	20.87	
1.4	64QAM	3	1	21.19	20.97	20.85	
1.4	64QAM	3	3	21.09	20.77	20.99	
1.4	64QAM	6	0	19.83	19.64	19.75	21
1.4	256QAM	1	0	17.96	17.95	18.12	19
1.4	256QAM	1	3	18.06	17.80	18.20	
1.4	256QAM	1	5	17.82	17.81	18.25	



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1.4	256QAM	3	0	17.83	17.93	17.84	19
1.4	256QAM	3	1	18.32	17.58	18.06	
1.4	256QAM	3	3	17.76	18.06	17.81	
1.4	256QAM	6	0	17.94	18.07	17.91	

<LTE Band 66 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.74	22.86	22.80	24
20	QPSK	1	49	22.75	22.52	22.56	
20	QPSK	1	99	22.56	22.64	22.61	
20	QPSK	50	0	21.86	21.87	21.86	23
20	QPSK	50	24	21.82	21.67	21.72	
20	QPSK	50	50	21.72	21.58	21.74	
20	QPSK	100	0	21.83	21.79	21.70	23
20	16QAM	1	0	22.33	22.27	21.64	
20	16QAM	1	49	22.03	22.07	21.86	
20	16QAM	1	99	22.07	22.21	21.77	22
20	16QAM	50	0	21.01	20.73	20.72	
20	16QAM	50	24	20.94	20.69	20.75	
20	16QAM	50	50	20.86	20.72	20.77	22
20	16QAM	100	0	20.80	20.81	20.74	
20	64QAM	1	0	21.24	21.00	20.89	
20	64QAM	1	49	21.14	20.79	20.88	22
20	64QAM	1	99	21.11	20.90	20.83	
20	64QAM	50	0	19.93	19.79	19.83	21
20	64QAM	50	24	19.96	19.89	19.85	
20	64QAM	50	50	19.74	19.73	19.77	
20	64QAM	100	0	19.83	19.74	19.85	19
20	256QAM	1	0	18.07	17.84	18.06	
20	256QAM	1	49	17.91	17.72	17.92	
20	256QAM	1	99	17.89	17.83	17.87	19
20	256QAM	50	0	17.80	17.70	17.93	
20	256QAM	50	24	17.89	17.67	17.82	
20	256QAM	50	50	17.79	17.77	17.76	19
20	256QAM	100	0	17.88	17.67	17.85	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.65	22.63	22.65	
15	QPSK	1	37	22.62	22.58	22.67	24
15	QPSK	1	74	22.68	22.49	22.58	
15	QPSK	36	0	21.87	21.70	21.79	23
15	QPSK	36	20	21.84	21.65	21.89	
15	QPSK	36	39	21.73	21.70	21.72	
15	QPSK	75	0	21.70	21.69	21.72	23
15	16QAM	1	0	21.71	22.24	22.00	
15	16QAM	1	37	22.14	21.95	22.28	
15	16QAM	1	74	22.28	21.70	21.94	22
15	16QAM	36	0	20.83	20.80	20.84	
15	16QAM	36	20	20.94	20.72	20.71	
15	16QAM	36	39	20.79	20.71	20.71	22
15	16QAM	75	0	20.88	20.70	20.69	
15	64QAM	1	0	21.26	20.71	20.79	
15	64QAM	1	37	20.56	20.81	20.80	22



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15	64QAM	1	74	20.95	20.81	20.76	21
15	64QAM	36	0	19.87	19.80	19.91	
15	64QAM	36	20	19.87	19.62	19.85	
15	64QAM	36	39	19.80	19.74	19.70	
15	64QAM	75	0	19.81	19.76	19.81	19
15	256QAM	1	0	17.89	18.08	18.15	
15	256QAM	1	37	17.84	17.82	18.21	
15	256QAM	1	74	18.13	18.04	17.99	
15	256QAM	36	0	17.95	17.61	17.79	19
15	256QAM	36	20	17.76	17.53	17.66	
15	256QAM	36	39	18.21	17.90	17.99	
15	256QAM	75	0	17.79	17.59	17.90	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.69	22.37	22.79	24
10	QPSK	1	25	22.77	22.44	22.76	
10	QPSK	1	49	22.57	22.48	22.63	
10	QPSK	25	0	21.80	21.66	21.76	23
10	QPSK	25	12	21.91	21.66	21.78	
10	QPSK	25	25	21.77	21.63	21.77	
10	QPSK	50	0	21.85	21.70	21.68	
10	16QAM	1	0	22.35	22.14	22.27	23
10	16QAM	1	25	21.92	21.90	21.97	
10	16QAM	1	49	22.24	21.80	22.08	
10	16QAM	25	0	20.97	20.69	20.86	22
10	16QAM	25	12	20.85	20.80	20.72	
10	16QAM	25	25	20.75	20.74	20.74	
10	16QAM	50	0	20.78	20.79	20.89	
10	64QAM	1	0	21.12	20.69	20.96	22
10	64QAM	1	25	21.13	21.03	21.00	
10	64QAM	1	49	21.14	20.61	20.89	
10	64QAM	25	0	19.83	19.61	19.78	21
10	64QAM	25	12	19.91	19.65	19.74	
10	64QAM	25	25	19.69	19.79	19.74	
10	64QAM	50	0	19.93	19.73	19.79	
10	256QAM	1	0	18.16	17.98	18.07	19
10	256QAM	1	25	17.88	18.08	18.13	
10	256QAM	1	49	18.11	18.19	17.90	
10	256QAM	25	0	17.85	17.67	17.69	19
10	256QAM	25	12	17.92	17.74	18.22	
10	256QAM	25	25	17.82	17.75	18.12	
10	256QAM	50	0	17.76	17.57	17.77	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.80	22.62	22.73	24
5	QPSK	1	12	22.78	22.66	22.71	
5	QPSK	1	24	22.72	22.56	22.64	
5	QPSK	12	0	21.92	21.62	21.78	23
5	QPSK	12	7	21.88	21.63	21.76	
5	QPSK	12	13	21.82	21.68	21.71	
5	QPSK	25	0	21.77	21.67	21.81	
5	16QAM	1	0	22.35	22.14	21.95	23
5	16QAM	1	12	22.02	21.88	22.00	
5	16QAM	1	24	22.35	21.82	22.27	
5	16QAM	12	0	20.84	20.74	20.89	22
5	16QAM	12	7	20.98	20.72	20.82	



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5	16QAM	12	13	20.83	20.67	20.81	
5	16QAM	25	0	21.01	20.71	20.80	
5	64QAM	1	0	21.12	20.96	21.04	
5	64QAM	1	12	21.07	20.90	20.94	22
5	64QAM	1	24	21.18	20.88	20.72	
5	64QAM	12	0	19.97	19.72	19.97	
5	64QAM	12	7	20.07	19.79	19.85	21
5	64QAM	12	13	19.99	19.61	19.80	
5	64QAM	25	0	19.73	19.66	19.84	
5	256QAM	1	0	17.94	17.74	18.11	19
5	256QAM	1	12	17.97	17.66	17.86	
5	256QAM	1	24	18.13	17.66	17.87	
5	256QAM	12	0	17.97	17.73	17.81	19
5	256QAM	12	7	18.00	17.62	18.07	
5	256QAM	12	13	18.11	17.95	17.67	
5	256QAM	25	0	18.10	17.42	18.08	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.84	22.74	22.77	24
3	QPSK	1	8	22.85	22.70	22.76	
3	QPSK	1	14	22.79	22.65	22.77	
3	QPSK	8	0	21.89	21.75	21.82	23
3	QPSK	8	4	21.91	21.79	21.81	
3	QPSK	8	7	21.84	21.71	21.84	
3	QPSK	15	0	21.91	21.66	21.82	23
3	16QAM	1	0	21.97	21.91	21.93	
3	16QAM	1	8	22.01	21.76	21.97	
3	16QAM	1	14	21.90	21.63	21.89	22
3	16QAM	8	0	20.95	20.78	20.87	
3	16QAM	8	4	20.88	20.81	20.91	
3	16QAM	8	7	20.92	20.73	20.90	22
3	16QAM	15	0	20.84	20.74	20.94	
3	64QAM	1	0	21.18	21.08	21.12	
3	64QAM	1	8	21.06	21.14	21.01	21
3	64QAM	1	14	21.19	20.92	20.85	
3	64QAM	8	0	20.04	19.79	19.84	
3	64QAM	8	4	20.05	19.79	19.88	19
3	64QAM	8	7	19.93	19.71	19.81	
3	64QAM	15	0	19.94	19.76	19.81	
3	256QAM	1	0	18.31	17.85	18.48	19
3	256QAM	1	8	18.11	17.81	18.14	
3	256QAM	1	14	18.15	18.20	17.77	
3	256QAM	8	0	18.21	17.92	17.89	19
3	256QAM	8	4	18.23	18.12	17.95	
3	256QAM	8	7	18.27	17.93	17.67	
3	256QAM	15	0	17.80	17.59	17.89	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.75	22.68	22.68	24
1.4	QPSK	1	3	22.80	22.65	22.76	
1.4	QPSK	1	5	22.74	22.57	22.68	
1.4	QPSK	3	0	22.03	22.03	22.06	
1.4	QPSK	3	1	22.07	22.02	22.06	
1.4	QPSK	3	3	22.02	22.01	22.01	
1.4	QPSK	6	0	21.82	21.63	21.79	23
1.4	16QAM	1	0	21.90	21.91	21.88	23



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1.4	16QAM	1	3	21.99	21.68	21.95	
1.4	16QAM	1	5	21.81	21.60	21.89	
1.4	16QAM	3	0	21.06	21.06	21.09	
1.4	16QAM	3	1	21.06	21.05	21.11	
1.4	16QAM	3	3	21.03	21.01	21.05	
1.4	16QAM	6	0	20.77	20.70	20.86	22
1.4	64QAM	1	0	21.15	21.01	21.05	22
1.4	64QAM	1	3	21.05	21.08	20.95	
1.4	64QAM	1	5	21.12	20.91	20.80	
1.4	64QAM	3	0	20.06	20.09	20.11	
1.4	64QAM	3	1	20.03	20.04	20.10	
1.4	64QAM	3	3	20.01	20.10	20.03	21
1.4	64QAM	6	0	19.85	19.71	19.80	
1.4	256QAM	1	0	18.21	17.85	18.47	19
1.4	256QAM	1	3	18.06	17.79	18.05	
1.4	256QAM	1	5	18.05	18.15	17.70	
1.4	256QAM	3	0	18.17	17.86	17.88	
1.4	256QAM	3	1	18.14	18.11	17.85	
1.4	256QAM	3	3	18.21	17.83	17.67	19
1.4	256QAM	6	0	17.78	17.49	17.83	

<LTE Band 71 Ant 1>							
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	22.81	22.83	22.51	24
20	QPSK	1	49	22.64	22.49	22.50	
20	QPSK	1	99	22.55	22.43	22.42	
20	QPSK	50	0	21.79	21.81	21.56	23
20	QPSK	50	24	21.70	21.57	21.55	
20	QPSK	50	50	21.59	21.59	21.52	
20	QPSK	100	0	21.71	21.72	21.35	
20	16QAM	1	0	21.81	21.58	22.11	23
20	16QAM	1	49	22.03	21.50	21.97	
20	16QAM	1	99	21.74	21.57	21.88	
20	16QAM	50	0	20.75	20.71	20.40	22
20	16QAM	50	24	20.71	20.48	20.41	
20	16QAM	50	50	20.70	20.45	20.40	
20	16QAM	100	0	20.72	20.54	20.34	
20	64QAM	1	0	20.97	20.59	20.61	22
20	64QAM	1	49	20.82	20.70	20.51	
20	64QAM	1	99	20.64	20.73	20.27	
20	64QAM	50	0	19.38	19.72	19.63	21
20	64QAM	50	24	19.71	19.57	19.48	
20	64QAM	50	50	19.65	19.60	19.58	
20	64QAM	100	0	19.68	19.65	19.48	
20	256QAM	1	0	17.81	17.65	17.60	19
20	256QAM	1	49	17.63	17.54	17.56	
20	256QAM	1	99	17.57	17.39	17.49	
20	256QAM	50	0	17.69	17.54	17.53	19
20	256QAM	50	24	17.64	17.53	17.47	
20	256QAM	50	50	17.47	17.39	17.41	
20	256QAM	100	0	17.61	17.56	17.52	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	



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15	QPSK	1	0	22.75	22.49	22.41	24
15	QPSK	1	37	22.60	22.42	22.30	
15	QPSK	1	74	22.59	22.44	22.36	
15	QPSK	36	0	21.70	21.57	21.49	23
15	QPSK	36	20	21.75	21.58	21.45	
15	QPSK	36	39	21.57	21.56	21.41	
15	QPSK	75	0	21.66	21.63	21.49	23
15	16QAM	1	0	22.07	21.72	21.60	
15	16QAM	1	37	21.96	21.67	21.91	
15	16QAM	1	74	22.08	21.57	21.59	22
15	16QAM	36	0	20.75	20.55	20.49	
15	16QAM	36	20	20.78	20.54	20.44	
15	16QAM	36	39	20.60	20.47	20.55	22
15	16QAM	75	0	20.67	20.60	20.47	
15	64QAM	1	0	20.76	20.97	20.78	
15	64QAM	1	37	20.58	20.87	20.55	21
15	64QAM	1	74	20.88	20.32	20.24	
15	64QAM	36	0	19.52	19.59	19.56	
15	64QAM	36	20	19.51	19.69	19.55	19
15	64QAM	36	39	19.70	19.62	19.50	
15	64QAM	75	0	19.71	19.57	19.52	
15	256QAM	1	0	18.09	17.78	17.41	19
15	256QAM	1	37	17.99	17.63	17.38	
15	256QAM	1	74	17.60	17.55	17.80	
15	256QAM	36	0	17.79	17.64	17.59	19
15	256QAM	36	20	17.48	17.80	17.36	
15	256QAM	36	39	17.84	17.34	17.52	
15	256QAM	75	0	18.00	17.43	17.75	Tune-up limit (dBm)
Channel				133172	133297	133422	
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	22.64	22.55	22.44	24
10	QPSK	1	25	22.66	22.30	22.40	
10	QPSK	1	49	22.56	22.43	22.21	
10	QPSK	25	0	21.78	21.51	21.48	23
10	QPSK	25	12	21.86	21.69	21.52	
10	QPSK	25	25	21.80	21.54	21.45	
10	QPSK	50	0	21.92	21.71	21.55	23
10	16QAM	1	0	21.90	21.82	21.68	
10	16QAM	1	25	21.78	22.05	21.65	
10	16QAM	1	49	21.91	21.51	22.01	22
10	16QAM	25	0	20.77	20.51	20.53	
10	16QAM	25	12	20.80	20.62	20.48	
10	16QAM	25	25	20.74	20.44	20.51	22
10	16QAM	50	0	20.91	20.70	20.49	
10	64QAM	1	0	20.68	20.80	20.51	
10	64QAM	1	25	20.57	20.56	20.37	21
10	64QAM	1	49	21.03	20.60	20.74	
10	64QAM	25	0	19.32	19.52	19.53	
10	64QAM	25	12	19.25	19.72	19.51	19
10	64QAM	25	25	19.32	19.59	19.69	
10	64QAM	50	0	19.36	19.75	19.54	
10	256QAM	1	0	17.81	17.98	17.89	19
10	256QAM	1	25	17.89	17.63	17.90	
10	256QAM	1	49	17.85	17.65	17.74	
10	256QAM	25	0	18.09	17.53	17.36	19
10	256QAM	25	12	17.68	17.33	17.28	

10	256QAM	25	25	17.39	17.26	17.42	
10	256QAM	50	0	17.98	17.57	17.32	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	22.82	22.56	22.48	24
5	QPSK	1	12	22.74	22.64	22.53	
5	QPSK	1	24	22.73	22.53	22.27	
5	QPSK	12	0	21.95	21.60	21.50	23
5	QPSK	12	7	21.82	21.64	21.51	
5	QPSK	12	13	21.76	21.51	21.51	
5	QPSK	25	0	21.78	21.66	21.51	23
5	16QAM	1	0	22.37	22.11	21.94	
5	16QAM	1	12	21.94	22.19	21.70	
5	16QAM	1	24	21.97	22.09	21.62	22
5	16QAM	12	0	20.90	20.56	20.45	
5	16QAM	12	7	20.95	20.70	20.65	
5	16QAM	12	13	20.80	20.49	20.52	22
5	16QAM	25	0	20.88	20.59	20.45	
5	64QAM	1	0	20.33	21.11	21.00	
5	64QAM	1	12	20.25	20.47	20.41	22
5	64QAM	1	24	20.55	20.32	20.53	
5	64QAM	12	0	19.48	19.69	19.47	
5	64QAM	12	7	19.44	19.73	19.64	21
5	64QAM	12	13	19.34	19.65	19.51	
5	64QAM	25	0	19.41	19.65	19.43	
5	256QAM	1	0	17.78	17.82	17.79	19
5	256QAM	1	12	17.90	17.71	17.89	
5	256QAM	1	24	17.59	17.37	17.83	
5	256QAM	12	0	17.56	17.34	17.93	19
5	256QAM	12	7	17.97	17.59	17.69	
5	256QAM	12	13	17.27	17.32	17.38	
5	256QAM	25	0	17.43	17.84	17.36	

<LTE Band 71 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	22.76	22.81	22.46	24
20	QPSK	1	49	22.54	22.42	22.43	
20	QPSK	1	99	22.48	22.35	22.39	
20	QPSK	50	0	21.70	21.80	21.50	23
20	QPSK	50	24	21.64	21.56	21.45	
20	QPSK	50	50	21.55	21.52	21.49	
20	QPSK	100	0	21.71	21.72	21.30	23
20	16QAM	1	0	21.75	21.56	22.09	
20	16QAM	1	49	21.94	21.41	21.88	
20	16QAM	1	99	21.72	21.54	21.85	22
20	16QAM	50	0	20.66	20.67	20.36	
20	16QAM	50	24	20.68	20.38	20.31	
20	16QAM	50	50	20.69	20.37	20.39	22
20	16QAM	100	0	20.68	20.48	20.28	
20	64QAM	1	0	20.92	20.57	20.52	
20	64QAM	1	49	20.82	20.64	20.48	22
20	64QAM	1	99	20.58	20.63	20.26	
20	64QAM	50	0	19.28	19.68	19.61	21



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20	64QAM	50	24	19.65	19.56	19.39	
20	64QAM	50	50	19.59	19.52	19.55	
20	64QAM	100	0	19.60	19.60	19.40	
20	256QAM	1	0	17.80	17.55	17.54	19
20	256QAM	1	49	17.62	17.46	17.53	
20	256QAM	1	99	17.50	17.37	17.45	
20	256QAM	50	0	17.65	17.49	17.49	19
20	256QAM	50	24	17.55	17.45	17.44	
20	256QAM	50	50	17.40	17.38	17.31	
20	256QAM	100	0	17.54	17.52	17.44	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	22.72	22.40	22.32	24
15	QPSK	1	37	22.60	22.36	22.24	
15	QPSK	1	74	22.51	22.41	22.36	
15	QPSK	36	0	21.69	21.50	21.46	23
15	QPSK	36	20	21.66	21.52	21.36	
15	QPSK	36	39	21.47	21.46	21.40	
15	QPSK	75	0	21.56	21.55	21.49	
15	16QAM	1	0	22.00	21.62	21.56	23
15	16QAM	1	37	21.87	21.65	21.90	
15	16QAM	1	74	22.03	21.51	21.49	
15	16QAM	36	0	20.68	20.49	20.49	22
15	16QAM	36	20	20.76	20.51	20.42	
15	16QAM	36	39	20.59	20.46	20.51	
15	16QAM	75	0	20.64	20.55	20.40	
15	64QAM	1	0	20.73	20.95	20.77	22
15	64QAM	1	37	20.52	20.86	20.46	
15	64QAM	1	74	20.86	20.30	20.17	
15	64QAM	36	0	19.42	19.55	19.56	21
15	64QAM	36	20	19.42	19.62	19.45	
15	64QAM	36	39	19.70	19.54	19.41	
15	64QAM	75	0	19.71	19.47	19.50	
15	256QAM	1	0	18.01	17.69	17.34	19
15	256QAM	1	37	17.90	17.59	17.32	
15	256QAM	1	74	17.57	17.54	17.72	
15	256QAM	36	0	17.73	17.55	17.55	19
15	256QAM	36	20	17.47	17.79	17.30	
15	256QAM	36	39	17.80	17.27	17.45	
15	256QAM	75	0	17.97	17.42	17.65	
Channel				133172	133297	133422	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	22.63	22.47	22.39	24
10	QPSK	1	25	22.63	22.29	22.33	
10	QPSK	1	49	22.51	22.38	22.18	
10	QPSK	25	0	21.74	21.45	21.40	23
10	QPSK	25	12	21.79	21.60	21.42	
10	QPSK	25	25	21.71	21.49	21.40	
10	QPSK	50	0	21.83	21.64	21.54	
10	16QAM	1	0	21.90	21.77	21.66	23
10	16QAM	1	25	21.70	22.01	21.65	
10	16QAM	1	49	21.90	21.47	21.96	
10	16QAM	25	0	20.70	20.42	20.43	22
10	16QAM	25	12	20.75	20.61	20.39	
10	16QAM	25	25	20.70	20.36	20.51	
10	16QAM	50	0	20.83	20.66	20.42	



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10	64QAM	1	0	20.62	20.76	20.49	22
10	64QAM	1	25	20.52	20.51	20.35	
10	64QAM	1	49	21.03	20.51	20.71	
10	64QAM	25	0	19.27	19.46	19.52	21
10	64QAM	25	12	19.20	19.65	19.45	
10	64QAM	25	25	19.24	19.58	19.66	
10	64QAM	50	0	19.27	19.73	19.44	
10	256QAM	1	0	17.80	17.96	17.89	19
10	256QAM	1	25	17.79	17.57	17.88	
10	256QAM	1	49	17.83	17.59	17.65	
10	256QAM	25	0	18.05	17.46	17.32	19
10	256QAM	25	12	17.68	17.32	17.23	
10	256QAM	25	25	17.36	17.26	17.37	
10	256QAM	50	0	17.91	17.56	17.22	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	22.80	22.49	22.45	24
5	QPSK	1	12	22.72	22.58	22.51	
5	QPSK	1	24	22.70	22.44	22.26	
5	QPSK	12	0	21.86	21.57	21.48	23
5	QPSK	12	7	21.77	21.58	21.47	
5	QPSK	12	13	21.71	21.48	21.45	
5	QPSK	25	0	21.71	21.60	21.43	
5	16QAM	1	0	22.36	22.11	21.94	23
5	16QAM	1	12	21.86	22.14	21.61	
5	16QAM	1	24	21.94	22.01	21.57	
5	16QAM	12	0	20.86	20.50	20.37	22
5	16QAM	12	7	20.93	20.62	20.62	
5	16QAM	12	13	20.72	20.44	20.45	
5	16QAM	25	0	20.87	20.55	20.38	
5	64QAM	1	0	20.32	21.02	20.93	22
5	64QAM	1	12	20.20	20.44	20.32	
5	64QAM	1	24	20.54	20.25	20.51	
5	64QAM	12	0	19.46	19.62	19.47	21
5	64QAM	12	7	19.40	19.73	19.58	
5	64QAM	12	13	19.24	19.62	19.46	
5	64QAM	25	0	19.38	19.57	19.34	
5	256QAM	1	0	17.68	17.72	17.77	19
5	256QAM	1	12	17.88	17.65	17.83	
5	256QAM	1	24	17.55	17.27	17.78	
5	256QAM	12	0	17.52	17.28	17.86	19
5	256QAM	12	7	17.91	17.56	17.65	
5	256QAM	12	13	17.27	17.27	17.35	
5	256QAM	25	0	17.36	17.83	17.36	

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<LTE Band 2 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	22.47	22.66	22.65	24
20	QPSK	1	49	22.28	22.31	22.45	
20	QPSK	1	99	22.25	22.25	22.53	
20	QPSK	50	0	21.41	21.61	21.58	23
20	QPSK	50	24	21.33	21.40	21.52	
20	QPSK	50	50	21.26	21.41	21.55	
20	QPSK	100	0	21.34	21.64	21.63	23
20	16QAM	1	0	21.75	21.76	22.09	
20	16QAM	1	49	21.61	21.58	21.77	
20	16QAM	1	99	21.49	21.56	21.82	22
20	16QAM	50	0	20.45	20.40	20.59	
20	16QAM	50	24	20.35	20.31	20.52	
20	16QAM	50	50	20.27	20.39	20.59	22
20	16QAM	100	0	20.34	20.31	20.66	
20	64QAM	1	0	20.65	20.60	20.95	
20	64QAM	1	49	20.48	20.42	20.65	22
20	64QAM	1	99	20.37	20.41	20.76	
20	64QAM	50	0	19.45	19.39	19.63	
20	64QAM	50	24	19.34	19.31	19.55	21
20	64QAM	50	50	19.27	19.37	19.58	
20	64QAM	100	0	19.37	19.32	19.66	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.49	22.43	22.64	24
15	QPSK	1	37	22.31	22.28	22.48	
15	QPSK	1	74	22.27	22.34	22.59	
15	QPSK	36	0	21.43	21.35	21.57	23
15	QPSK	36	20	21.33	21.30	21.57	
15	QPSK	36	39	21.30	21.38	21.61	
15	QPSK	75	0	21.36	21.29	21.54	23
15	16QAM	1	0	21.77	21.77	21.98	
15	16QAM	1	37	21.63	21.59	21.81	
15	16QAM	1	74	21.59	21.65	21.87	22
15	16QAM	36	0	20.40	20.37	20.59	
15	16QAM	36	20	20.36	20.35	20.55	
15	16QAM	36	39	20.27	20.36	20.60	22
15	16QAM	75	0	20.37	20.34	20.52	
15	64QAM	1	0	20.69	20.70	20.88	
15	64QAM	1	37	20.50	20.49	20.68	22
15	64QAM	1	74	20.45	20.54	20.79	
15	64QAM	36	0	19.43	19.37	19.62	
15	64QAM	36	20	19.40	19.33	19.55	21
15	64QAM	36	39	19.31	19.40	19.63	
15	64QAM	75	0	19.35	19.30	19.55	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	22.39	22.35	22.42	24
10	QPSK	1	25	22.30	22.26	22.47	



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10	QPSK	1	49	22.25	22.31	22.46	
10	QPSK	25	0	21.34	21.29	21.45	
10	QPSK	25	12	21.31	21.26	21.50	
10	QPSK	25	25	21.27	21.35	21.48	23
10	QPSK	50	0	21.32	21.26	21.50	
10	16QAM	1	0	21.70	21.66	21.73	
10	16QAM	1	25	21.57	21.58	21.78	23
10	16QAM	1	49	21.57	21.62	21.75	
10	16QAM	25	0	20.34	20.32	20.42	
10	16QAM	25	12	20.35	20.32	20.53	
10	16QAM	25	25	20.28	20.35	20.45	22
10	16QAM	50	0	20.34	20.28	20.51	
10	64QAM	1	0	20.54	20.52	20.59	
10	64QAM	1	25	20.46	20.45	20.67	22
10	64QAM	1	49	20.41	20.51	20.64	
10	64QAM	25	0	19.36	19.33	19.46	
10	64QAM	25	12	19.35	19.31	19.52	21
10	64QAM	25	25	19.30	19.37	19.48	
10	64QAM	50	0	19.34	19.28	19.53	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	22.28	22.25	22.50	
5	QPSK	1	12	22.29	22.30	22.42	24
5	QPSK	1	24	22.25	22.29	22.43	
5	QPSK	12	0	21.28	21.25	21.48	
5	QPSK	12	7	21.28	21.25	21.50	23
5	QPSK	12	13	21.28	21.26	21.45	
5	QPSK	25	0	21.26	21.25	21.46	
5	16QAM	1	0	21.61	21.62	21.83	
5	16QAM	1	12	21.59	21.58	21.78	23
5	16QAM	1	24	21.55	21.65	21.75	
5	16QAM	12	0	20.33	20.29	20.49	
5	16QAM	12	7	20.30	20.30	20.51	22
5	16QAM	12	13	20.26	20.26	20.48	
5	16QAM	25	0	20.28	20.25	20.47	
5	64QAM	1	0	20.49	20.49	20.71	
5	64QAM	1	12	20.43	20.41	20.65	22
5	64QAM	1	24	20.42	20.48	20.63	
5	64QAM	12	0	19.36	19.31	19.53	
5	64QAM	12	7	19.35	19.32	19.54	21
5	64QAM	12	13	19.32	19.27	19.52	
5	64QAM	25	0	19.30	19.27	19.46	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.31	22.26	22.46	
3	QPSK	1	8	22.29	22.28	22.45	24
3	QPSK	1	14	22.26	22.26	22.42	
3	QPSK	8	0	21.32	21.26	21.44	
3	QPSK	8	4	21.30	21.26	21.45	23
3	QPSK	8	7	21.29	21.28	21.45	
3	QPSK	15	0	21.31	21.25	21.47	
3	16QAM	1	0	21.62	21.58	21.77	
3	16QAM	1	8	21.60	21.58	21.76	23
3	16QAM	1	14	21.56	21.52	21.72	
3	16QAM	8	0	20.37	20.31	20.51	
3	16QAM	8	4	20.36	20.33	20.55	22



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3	16QAM	8	7	20.34	20.29	20.50	
3	16QAM	15	0	20.32	20.27	20.48	
3	64QAM	1	0	20.49	20.41	20.69	
3	64QAM	1	8	20.44	20.40	20.68	22
3	64QAM	1	14	20.44	20.44	20.65	
3	64QAM	8	0	19.37	19.29	19.51	
3	64QAM	8	4	19.34	19.33	19.53	21
3	64QAM	8	7	19.33	19.29	19.48	
3	64QAM	15	0	19.31	19.27	19.45	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.29	22.25	22.39	24
1.4	QPSK	1	3	22.26	22.28	22.45	
1.4	QPSK	1	5	22.28	22.29	22.34	
1.4	QPSK	3	0	22.25	22.28	22.41	
1.4	QPSK	3	1	22.26	22.26	22.47	
1.4	QPSK	3	3	22.27	22.26	22.43	
1.4	QPSK	6	0	21.26	21.25	21.39	23
1.4	16QAM	1	0	21.54	21.49	21.67	23
1.4	16QAM	1	3	21.60	21.59	21.77	
1.4	16QAM	1	5	21.49	21.52	21.70	
1.4	16QAM	3	0	21.27	21.25	21.44	
1.4	16QAM	3	1	21.31	21.30	21.50	
1.4	16QAM	3	3	21.25	21.31	21.42	
1.4	16QAM	6	0	20.28	20.38	20.44	22
1.4	64QAM	1	0	20.36	20.33	20.56	22
1.4	64QAM	1	3	20.43	20.36	20.60	
1.4	64QAM	1	5	20.34	20.32	20.53	
1.4	64QAM	3	0	20.39	20.36	20.56	
1.4	64QAM	3	1	20.43	20.40	20.63	
1.4	64QAM	3	3	20.39	20.37	20.55	
1.4	64QAM	6	0	19.25	19.26	19.40	21

<LTE Band 2 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	22.15	22.12	22.47	24
20	QPSK	1	49	22.05	22.08	22.27	
20	QPSK	1	99	22.03	22.06	22.24	
20	QPSK	50	0	21.18	21.14	21.47	23
20	QPSK	50	24	21.09	21.16	21.43	
20	QPSK	50	50	21.02	21.10	21.40	
20	QPSK	100	0	21.09	21.19	21.44	23
20	16QAM	1	0	21.48	21.46	21.78	
20	16QAM	1	49	21.31	21.39	21.63	
20	16QAM	1	99	21.22	21.25	21.55	22
20	16QAM	50	0	20.17	20.16	20.51	
20	16QAM	50	24	20.08	20.18	20.41	
20	16QAM	50	50	20.01	20.12	20.37	22
20	16QAM	100	0	20.09	20.17	20.42	
20	64QAM	1	0	20.35	20.34	20.66	
20	64QAM	1	49	20.16	20.26	20.47	22
20	64QAM	1	99	20.04	20.17	20.45	
20	64QAM	50	0	19.10	19.16	19.51	21



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20	64QAM	50	24	19.01	19.20	19.41	
20	64QAM	50	50	19.04	19.14	19.37	
20	64QAM	100	0	19.02	19.17	19.42	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.14	22.07	22.41	24
15	QPSK	1	37	22.04	22.08	22.17	
15	QPSK	1	74	22.01	22.00	22.17	
15	QPSK	36	0	21.10	21.10	21.40	23
15	QPSK	36	20	21.01	21.13	21.43	
15	QPSK	36	39	21.01	21.04	21.37	
15	QPSK	75	0	21.03	21.19	21.44	23
15	16QAM	1	0	21.42	21.36	21.74	
15	16QAM	1	37	21.21	21.30	21.54	
15	16QAM	1	74	21.22	21.18	21.53	22
15	16QAM	36	0	20.17	20.07	20.48	
15	16QAM	36	20	20.02	20.15	20.31	
15	16QAM	36	39	20.01	20.10	20.27	22
15	16QAM	75	0	20.02	20.08	20.42	
15	64QAM	1	0	20.29	20.32	20.56	
15	64QAM	1	37	20.07	20.19	20.43	21
15	64QAM	1	74	20.03	20.14	20.42	
15	64QAM	36	0	19.02	19.07	19.48	
15	64QAM	36	20	19.04	19.12	19.33	21
15	64QAM	36	39	19.00	19.07	19.37	
15	64QAM	75	0	19.00	19.12	19.42	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	22.05	22.04	22.43	24
10	QPSK	1	25	22.08	22.01	22.26	
10	QPSK	1	49	22.01	22.03	22.17	
10	QPSK	25	0	21.10	21.08	21.45	23
10	QPSK	25	12	21.04	21.12	21.39	
10	QPSK	25	25	21.04	21.03	21.35	
10	QPSK	50	0	21.02	21.11	21.43	23
10	16QAM	1	0	21.43	21.41	21.78	
10	16QAM	1	25	21.22	21.36	21.55	
10	16QAM	1	49	21.17	21.17	21.55	22
10	16QAM	25	0	20.12	20.12	20.44	
10	16QAM	25	12	20.02	20.16	20.32	
10	16QAM	25	25	20.04	20.12	20.36	22
10	16QAM	50	0	20.02	20.09	20.37	
10	64QAM	1	0	20.34	20.28	20.64	
10	64QAM	1	25	20.09	20.22	20.44	21
10	64QAM	1	49	20.06	20.09	20.38	
10	64QAM	25	0	19.01	19.10	19.45	
10	64QAM	25	12	19.01	19.12	19.38	21
10	64QAM	25	25	19.05	19.04	19.34	
10	64QAM	50	0	19.03	19.07	19.38	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	22.06	22.10	22.41	24
5	QPSK	1	12	22.04	22.03	22.17	
5	QPSK	1	24	22.00	22.03	22.21	
5	QPSK	12	0	21.15	21.11	21.42	23
5	QPSK	12	7	21.04	21.12	21.41	



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5	QPSK	12	13	21.02	21.06	21.35	
5	QPSK	25	0	21.05	21.19	21.39	
5	16QAM	1	0	21.48	21.45	21.74	
5	16QAM	1	12	21.29	21.34	21.63	23
5	16QAM	1	24	21.22	21.19	21.47	
5	16QAM	12	0	20.08	20.14	20.44	
5	16QAM	12	7	20.02	20.12	20.41	22
5	16QAM	12	13	20.01	20.11	20.36	
5	16QAM	25	0	20.06	20.08	20.41	
5	64QAM	1	0	20.32	20.30	20.64	22
5	64QAM	1	12	20.16	20.19	20.43	
5	64QAM	1	24	20.03	20.16	20.39	
5	64QAM	12	0	19.08	19.12	19.44	21
5	64QAM	12	7	19.00	19.18	19.41	
5	64QAM	12	13	19.01	19.07	19.31	
5	64QAM	25	0	19.05	19.08	19.39	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.11	22.02	22.46	24
3	QPSK	1	8	22.09	22.05	22.27	
3	QPSK	1	14	22.04	22.02	22.17	
3	QPSK	8	0	21.16	21.14	21.37	23
3	QPSK	8	4	21.02	21.08	21.37	
3	QPSK	8	7	21.04	21.02	21.31	
3	QPSK	15	0	21.05	21.19	21.40	23
3	16QAM	1	0	21.44	21.38	21.77	
3	16QAM	1	8	21.24	21.36	21.55	
3	16QAM	1	14	21.17	21.19	21.46	22
3	16QAM	8	0	20.17	20.09	20.49	
3	16QAM	8	4	20.04	20.16	20.34	
3	16QAM	8	7	20.04	20.12	20.30	22
3	16QAM	15	0	20.05	20.17	20.37	
3	64QAM	1	0	20.28	20.30	20.64	
3	64QAM	1	8	20.15	20.16	20.41	22
3	64QAM	1	14	20.09	20.15	20.43	
3	64QAM	8	0	19.04	19.06	19.41	
3	64QAM	8	4	19.05	19.12	19.34	21
3	64QAM	8	7	19.02	19.08	19.28	
3	64QAM	15	0	19.00	19.10	19.33	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	22.23	22.20	22.34	24
1.4	QPSK	1	3	22.11	22.20	22.33	
1.4	QPSK	1	5	22.20	22.23	22.22	
1.4	QPSK	3	0	22.17	22.19	22.29	
1.4	QPSK	3	1	22.13	22.11	22.41	
1.4	QPSK	3	3	22.16	22.18	22.30	
1.4	QPSK	6	0	21.17	21.13	21.26	23
1.4	16QAM	1	0	21.42	21.40	21.62	23
1.4	16QAM	1	3	21.54	21.49	21.70	
1.4	16QAM	1	5	21.43	21.38	21.61	
1.4	16QAM	3	0	21.22	21.11	21.39	
1.4	16QAM	3	1	21.23	21.23	21.39	
1.4	16QAM	3	3	21.20	21.26	21.36	
1.4	16QAM	6	0	20.20	20.28	20.38	22
1.4	64QAM	1	0	20.22	20.27	20.49	22



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1.4	64QAM	1	3	20.29	20.22	20.54	
1.4	64QAM	1	5	20.22	20.17	20.43	
1.4	64QAM	3	0	20.30	20.25	20.42	
1.4	64QAM	3	1	20.31	20.29	20.58	
1.4	64QAM	3	3	20.25	20.24	20.50	
1.4	64QAM	6	0	19.19	19.19	19.29	21

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	22.65	22.66	22.62	24
20	QPSK	1	49	22.37	22.48	22.38	
20	QPSK	1	99	22.34	22.41	22.26	
20	QPSK	50	0	21.58	21.62	21.53	23
20	QPSK	50	24	21.53	21.60	21.45	
20	QPSK	50	50	21.43	21.53	21.38	
20	QPSK	100	0	21.51	21.61	21.52	23
20	16QAM	1	0	21.94	21.94	21.90	
20	16QAM	1	49	21.69	21.77	21.65	
20	16QAM	1	99	21.69	21.72	21.59	22
20	16QAM	50	0	20.60	20.59	20.58	
20	16QAM	50	24	20.53	20.62	20.48	
20	16QAM	50	50	20.44	20.55	20.43	22
20	16QAM	100	0	20.50	20.62	20.50	
20	64QAM	1	0	20.83	20.84	20.81	
20	64QAM	1	49	20.58	20.68	20.56	22
20	64QAM	1	99	20.52	20.61	20.50	
20	64QAM	50	0	19.60	19.58	19.60	21
20	64QAM	50	24	19.52	19.62	19.51	
20	64QAM	50	50	19.47	19.56	19.43	
20	64QAM	100	0	19.51	19.62	19.51	21
Channel				20025	20175	20325	
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	22.64	22.62	22.61	24
15	QPSK	1	37	22.43	22.49	22.38	
15	QPSK	1	74	22.43	22.50	22.36	
15	QPSK	36	0	21.58	21.58	21.52	23
15	QPSK	36	20	21.52	21.64	21.50	
15	QPSK	36	39	21.48	21.56	21.44	
15	QPSK	75	0	21.54	21.63	21.47	23
15	16QAM	1	0	21.93	21.91	21.93	
15	16QAM	1	37	21.75	21.82	21.71	
15	16QAM	1	74	21.73	21.80	21.67	22
15	16QAM	36	0	20.59	20.59	20.58	
15	16QAM	36	20	20.52	20.63	20.49	
15	16QAM	36	39	20.46	20.55	20.42	22
15	16QAM	75	0	20.52	20.61	20.47	
15	64QAM	1	0	20.87	20.83	20.81	
15	64QAM	1	37	20.65	20.66	20.57	22
15	64QAM	1	74	20.59	20.69	20.54	
15	64QAM	36	0	19.61	19.60	19.58	21
15	64QAM	36	20	19.56	19.66	19.50	
15	64QAM	36	39	19.50	19.57	19.43	
15	64QAM	75	0	19.52	19.61	19.47	21

Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	22.58	22.51	22.49	24
10	QPSK	1	25	22.46	22.50	22.37	
10	QPSK	1	49	22.42	22.45	22.33	
10	QPSK	25	0	21.56	21.62	21.50	23
10	QPSK	25	12	21.49	21.58	21.45	
10	QPSK	25	25	21.50	21.56	21.40	
10	QPSK	50	0	21.53	21.59	21.44	
10	16QAM	1	0	21.83	21.80	21.79	23
10	16QAM	1	25	21.75	21.81	21.69	
10	16QAM	1	49	21.74	21.77	21.65	
10	16QAM	25	0	20.54	20.61	20.48	22
10	16QAM	25	12	20.52	20.58	20.46	
10	16QAM	25	25	20.48	20.55	20.40	
10	16QAM	50	0	20.52	20.60	20.46	
10	64QAM	1	0	20.73	20.69	20.66	22
10	64QAM	1	25	20.63	20.70	20.56	
10	64QAM	1	49	20.60	20.65	20.52	
10	64QAM	25	0	19.54	19.63	19.50	21
10	64QAM	25	12	19.53	19.60	19.49	
10	64QAM	25	25	19.48	19.56	19.42	
10	64QAM	50	0	19.54	19.59	19.45	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	22.48	22.55	22.40	24
5	QPSK	1	12	22.42	22.48	22.33	
5	QPSK	1	24	22.44	22.45	22.32	
5	QPSK	12	0	21.51	21.58	21.40	23
5	QPSK	12	7	21.53	21.57	21.40	
5	QPSK	12	13	21.49	21.52	21.34	
5	QPSK	25	0	21.48	21.56	21.40	
5	16QAM	1	0	21.79	21.84	21.73	23
5	16QAM	1	12	21.77	21.80	21.67	
5	16QAM	1	24	21.74	21.77	21.63	
5	16QAM	12	0	20.50	20.60	20.43	22
5	16QAM	12	7	20.51	20.58	20.41	
5	16QAM	12	13	20.48	20.53	20.35	
5	16QAM	25	0	20.51	20.57	20.41	
5	64QAM	1	0	20.69	20.73	20.56	22
5	64QAM	1	12	20.63	20.67	20.51	
5	64QAM	1	24	20.64	20.66	20.49	
5	64QAM	12	0	19.56	19.61	19.46	21
5	64QAM	12	7	19.53	19.62	19.45	
5	64QAM	12	13	19.51	19.57	19.41	
5	64QAM	25	0	19.50	19.57	19.40	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	22.46	22.49	22.37	24
3	QPSK	1	8	22.42	22.49	22.33	
3	QPSK	1	14	22.41	22.46	22.29	
3	QPSK	8	0	21.52	21.55	21.38	23
3	QPSK	8	4	21.48	21.57	21.41	
3	QPSK	8	7	21.44	21.53	21.37	
3	QPSK	15	0	21.50	21.52	21.36	
3	16QAM	1	0	21.76	21.81	21.65	23



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3	16QAM	1	8	21.74	21.78	21.65	
3	16QAM	1	14	21.70	21.74	21.59	
3	16QAM	8	0	20.54	20.60	20.44	
3	16QAM	8	4	20.59	20.61	20.47	22
3	16QAM	8	7	20.53	20.59	20.43	
3	16QAM	15	0	20.50	20.55	20.39	
3	64QAM	1	0	20.64	20.71	20.53	22
3	64QAM	1	8	20.63	20.67	20.51	
3	64QAM	1	14	20.62	20.64	20.50	
3	64QAM	8	0	19.53	19.58	19.42	21
3	64QAM	8	4	19.56	19.60	19.45	
3	64QAM	8	7	19.53	19.57	19.42	
3	64QAM	15	0	19.49	19.54	19.39	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	22.34	22.40	22.27	24
1.4	QPSK	1	3	22.43	22.49	22.34	
1.4	QPSK	1	5	22.33	22.42	22.25	
1.4	QPSK	3	0	22.43	22.46	22.30	
1.4	QPSK	3	1	22.48	22.50	22.37	
1.4	QPSK	3	3	22.43	22.47	22.29	
1.4	QPSK	6	0	21.42	21.47	21.30	23
1.4	16QAM	1	0	21.69	21.70	21.56	23
1.4	16QAM	1	3	21.74	21.76	21.64	
1.4	16QAM	1	5	21.65	21.69	21.56	
1.4	16QAM	3	0	21.43	21.47	21.33	
1.4	16QAM	3	1	21.47	21.52	21.38	
1.4	16QAM	3	3	21.42	21.47	21.32	
1.4	16QAM	6	0	20.48	20.54	20.38	22
1.4	64QAM	1	0	20.56	20.61	20.44	22
1.4	64QAM	1	3	20.60	20.64	20.48	
1.4	64QAM	1	5	20.55	20.60	20.43	
1.4	64QAM	3	0	20.55	20.59	20.45	
1.4	64QAM	3	1	20.60	20.64	20.51	
1.4	64QAM	3	3	20.54	20.59	20.45	
1.4	64QAM	6	0	19.41	19.46	19.31	21

<LTE Band 4 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	22.43	22.53	22.52	24
20	QPSK	1	49	22.29	22.25	22.26	
20	QPSK	1	99	22.23	22.19	22.19	
20	QPSK	50	0	21.40	21.49	21.44	23
20	QPSK	50	24	21.39	21.38	21.35	
20	QPSK	50	50	21.35	21.33	21.29	
20	QPSK	100	0	21.41	21.42	21.37	
20	16QAM	1	0	21.75	21.84	21.84	23
20	16QAM	1	49	21.62	21.60	21.61	
20	16QAM	1	99	21.57	21.54	21.53	
20	16QAM	50	0	20.36	20.49	20.49	22
20	16QAM	50	24	20.43	20.39	20.37	
20	16QAM	50	50	20.34	20.32	20.30	
20	16QAM	100	0	20.40	20.41	20.37	



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20	64QAM	1	0	20.61	20.68	20.71	22
20	64QAM	1	49	20.45	20.48	20.46	
20	64QAM	1	99	20.46	20.39	20.37	
20	64QAM	50	0	19.37	19.49	19.49	21
20	64QAM	50	24	19.42	19.38	19.39	
20	64QAM	50	50	19.35	19.35	19.29	
20	64QAM	100	0	19.41	19.42	19.39	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	22.36	22.46	22.43	24
15	QPSK	1	37	22.29	22.22	22.18	
15	QPSK	1	74	22.15	22.12	22.14	
15	QPSK	36	0	21.29	21.46	21.44	23
15	QPSK	36	20	21.38	21.29	21.29	
15	QPSK	36	39	21.31	21.30	21.25	
15	QPSK	75	0	21.37	21.31	21.30	
15	16QAM	1	0	21.74	21.81	21.80	23
15	16QAM	1	37	21.59	21.59	21.54	
15	16QAM	1	74	21.54	21.44	21.53	
15	16QAM	36	0	20.33	20.46	20.42	22
15	16QAM	36	20	20.33	20.31	20.33	
15	16QAM	36	39	20.28	20.22	20.30	
15	16QAM	75	0	20.37	20.38	20.28	
15	64QAM	1	0	20.51	20.67	20.69	22
15	64QAM	1	37	20.44	20.41	20.44	
15	64QAM	1	74	20.45	20.38	20.33	
15	64QAM	36	0	19.35	19.41	19.44	21
15	64QAM	36	20	19.40	19.30	19.39	
15	64QAM	36	39	19.27	19.26	19.27	
15	64QAM	75	0	19.31	19.42	19.37	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	22.38	22.43	22.51	24
10	QPSK	1	25	22.23	22.23	22.20	
10	QPSK	1	49	22.20	22.19	22.14	
10	QPSK	25	0	21.34	21.39	21.35	23
10	QPSK	25	12	21.31	21.38	21.28	
10	QPSK	25	25	21.28	21.28	21.19	
10	QPSK	50	0	21.33	21.40	21.37	
10	16QAM	1	0	21.72	21.80	21.81	23
10	16QAM	1	25	21.56	21.50	21.51	
10	16QAM	1	49	21.54	21.54	21.45	
10	16QAM	25	0	20.36	20.39	20.47	22
10	16QAM	25	12	20.41	20.29	20.33	
10	16QAM	25	25	20.33	20.28	20.28	
10	16QAM	50	0	20.31	20.41	20.35	
10	64QAM	1	0	20.53	20.63	20.67	22
10	64QAM	1	25	20.39	20.48	20.45	
10	64QAM	1	49	20.38	20.30	20.32	
10	64QAM	25	0	19.27	19.40	19.46	21
10	64QAM	25	12	19.35	19.36	19.38	
10	64QAM	25	25	19.28	19.29	19.28	
10	64QAM	50	0	19.38	19.34	19.36	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	22.35	22.51	22.50	24



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5	QPSK	1	12	22.24	22.17	22.22	23
5	QPSK	1	24	22.20	22.11	22.09	
5	QPSK	12	0	21.32	21.44	21.36	
5	QPSK	12	7	21.37	21.36	21.29	
5	QPSK	12	13	21.30	21.29	21.25	23
5	QPSK	25	0	21.41	21.37	21.35	
5	16QAM	1	0	21.69	21.79	21.83	
5	16QAM	1	12	21.54	21.50	21.61	
5	16QAM	1	24	21.50	21.47	21.51	22
5	16QAM	12	0	20.30	20.44	20.49	
5	16QAM	12	7	20.43	20.34	20.33	
5	16QAM	12	13	20.33	20.23	20.27	
5	16QAM	25	0	20.36	20.38	20.31	22
5	64QAM	1	0	20.59	20.59	20.66	
5	64QAM	1	12	20.45	20.40	20.38	
5	64QAM	1	24	20.42	20.35	20.37	
5	64QAM	12	0	19.32	19.48	19.41	21
5	64QAM	12	7	19.41	19.35	19.38	
5	64QAM	12	13	19.29	19.31	19.25	
5	64QAM	25	0	19.39	19.39	19.36	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	22.33	22.50	22.49	24
3	QPSK	1	8	22.21	22.17	22.25	
3	QPSK	1	14	22.21	22.16	22.10	
3	QPSK	8	0	21.30	21.42	21.34	23
3	QPSK	8	4	21.37	21.28	21.25	
3	QPSK	8	7	21.25	21.31	21.23	
3	QPSK	15	0	21.31	21.32	21.36	
3	16QAM	1	0	21.66	21.81	21.81	23
3	16QAM	1	8	21.53	21.51	21.58	
3	16QAM	1	14	21.53	21.49	21.46	
3	16QAM	8	0	20.31	20.44	20.47	22
3	16QAM	8	4	20.39	20.39	20.30	
3	16QAM	8	7	20.28	20.25	20.25	
3	16QAM	15	0	20.31	20.39	20.28	
3	64QAM	1	0	20.53	20.60	20.65	22
3	64QAM	1	8	20.38	20.46	20.38	
3	64QAM	1	14	20.46	20.31	20.31	
3	64QAM	8	0	19.33	19.46	19.48	
3	64QAM	8	4	19.34	19.32	19.31	21
3	64QAM	8	7	19.26	19.34	19.19	
3	64QAM	15	0	19.34	19.36	19.29	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	22.33	22.39	22.22	24
1.4	QPSK	1	3	22.45	22.49	22.37	
1.4	QPSK	1	5	22.33	22.41	22.20	
1.4	QPSK	3	0	22.38	22.42	22.34	
1.4	QPSK	3	1	22.45	22.48	22.42	
1.4	QPSK	3	3	22.43	22.49	22.27	
1.4	QPSK	6	0	21.42	21.46	21.33	23
1.4	16QAM	1	0	21.67	21.73	21.57	23
1.4	16QAM	1	3	21.70	21.81	21.61	
1.4	16QAM	1	5	21.63	21.66	21.58	
1.4	16QAM	3	0	21.47	21.42	21.30	

1.4	16QAM	3	1	21.52	21.47	21.43	22
1.4	16QAM	3	3	21.44	21.50	21.27	
1.4	16QAM	6	0	20.49	20.59	20.39	
1.4	64QAM	1	0	20.59	20.63	20.44	22
1.4	64QAM	1	3	20.63	20.64	20.43	
1.4	64QAM	1	5	20.53	20.56	20.38	
1.4	64QAM	3	0	20.55	20.60	20.43	
1.4	64QAM	3	1	20.65	20.65	20.53	
1.4	64QAM	3	3	20.57	20.60	20.40	
1.4	64QAM	6	0	19.42	19.47	19.28	21

<LTE Band 5_Ant 1>							
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	24
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	22.60	22.64	22.48	
10	QPSK	1	25	22.59	22.63	22.39	23
10	QPSK	1	49	22.54	22.32	22.44	
10	QPSK	25	0	21.71	21.72	21.55	
10	QPSK	25	12	21.70	21.71	21.51	23
10	QPSK	25	25	21.61	21.50	21.54	
10	QPSK	50	0	21.64	21.65	21.46	
10	16QAM	1	0	21.89	21.90	21.79	23
10	16QAM	1	25	21.91	21.91	21.71	
10	16QAM	1	49	21.84	21.60	21.74	
10	16QAM	25	0	20.59	20.70	20.38	22
10	16QAM	25	12	20.67	20.67	20.47	
10	16QAM	25	25	20.60	20.50	20.51	
10	16QAM	50	0	20.66	20.65	20.47	22
10	64QAM	1	0	20.79	20.81	20.72	
10	64QAM	1	25	20.81	20.85	20.61	
10	64QAM	1	49	20.73	20.52	20.66	21
10	64QAM	25	0	19.60	19.69	19.39	
10	64QAM	25	12	19.70	19.69	19.49	
10	64QAM	25	25	19.63	19.51	19.53	21
10	64QAM	50	0	19.68	19.66	19.47	
Channel				20425	20525	20625	24
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	22.58	22.62	22.41	
5	QPSK	1	12	22.52	22.59	22.46	23
5	QPSK	1	24	22.57	22.46	22.45	
5	QPSK	12	0	21.57	21.65	21.41	
5	QPSK	12	7	21.58	21.68	21.52	23
5	QPSK	12	13	21.63	21.50	21.50	
5	QPSK	25	0	21.58	21.63	21.52	
5	16QAM	1	0	21.88	21.97	21.69	23
5	16QAM	1	12	21.85	21.92	21.79	
5	16QAM	1	24	21.86	21.76	21.75	
5	16QAM	12	0	20.59	20.70	20.45	22
5	16QAM	12	7	20.60	20.67	20.57	
5	16QAM	12	13	20.64	20.54	20.50	
5	16QAM	25	0	20.56	20.65	20.50	22
5	64QAM	1	0	20.77	20.90	20.62	
5	64QAM	1	12	20.73	20.79	20.68	
5	64QAM	1	24	20.76	20.64	20.64	



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5	64QAM	12	0	19.63	19.71	19.50	21
5	64QAM	12	7	19.64	19.71	19.58	
5	64QAM	12	13	19.70	19.57	19.53	
5	64QAM	25	0	19.58	19.64	19.51	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	22.57	22.61	22.37	24
3	QPSK	1	8	22.53	22.60	22.45	
3	QPSK	1	14	22.51	22.44	22.42	
3	QPSK	8	0	21.58	21.65	21.48	23
3	QPSK	8	4	21.61	21.68	21.53	
3	QPSK	8	7	21.55	21.62	21.47	
3	QPSK	15	0	21.58	21.64	21.51	
3	16QAM	1	0	21.85	21.94	21.67	23
3	16QAM	1	8	21.84	21.90	21.75	
3	16QAM	1	14	21.83	21.77	21.69	
3	16QAM	8	0	20.64	20.70	20.54	22
3	16QAM	8	4	20.65	20.72	20.57	
3	16QAM	8	7	20.64	20.66	20.53	
3	16QAM	15	0	20.60	20.65	20.52	
3	64QAM	1	0	20.73	20.81	20.55	22
3	64QAM	1	8	20.74	20.78	20.68	
3	64QAM	1	14	20.68	20.62	20.66	
3	64QAM	8	0	19.64	19.67	19.55	21
3	64QAM	8	4	19.65	19.68	19.55	
3	64QAM	8	7	19.60	19.65	19.52	
3	64QAM	15	0	19.60	19.65	19.50	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	22.48	22.55	22.27	24
1.4	QPSK	1	3	22.55	22.60	22.33	
1.4	QPSK	1	5	22.47	22.55	22.25	
1.4	QPSK	3	0	22.51	22.58	22.32	
1.4	QPSK	3	1	22.57	22.61	22.37	
1.4	QPSK	3	3	22.50	22.56	22.33	
1.4	QPSK	6	0	21.49	21.54	21.33	23
1.4	16QAM	1	0	21.76	21.85	21.56	23
1.4	16QAM	1	3	21.80	21.91	21.62	
1.4	16QAM	1	5	21.76	21.83	21.51	
1.4	16QAM	3	0	21.55	21.62	21.34	
1.4	16QAM	3	1	21.61	21.68	21.39	
1.4	16QAM	3	3	21.53	21.60	21.33	
1.4	16QAM	6	0	20.60	20.64	20.39	22
1.4	64QAM	1	0	20.66	20.74	20.45	22
1.4	64QAM	1	3	20.73	20.79	20.51	
1.4	64QAM	1	5	20.63	20.68	20.46	
1.4	64QAM	3	0	20.67	20.75	20.44	
1.4	64QAM	3	1	20.71	20.78	20.50	
1.4	64QAM	3	3	20.67	20.71	20.45	
1.4	64QAM	6	0	19.51	19.59	19.33	21

<LTE Band 5_Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	22.29	22.36	22.32	24
10	QPSK	1	25	22.22	22.30	22.19	
10	QPSK	1	49	22.14	22.03	22.30	
10	QPSK	25	0	21.35	21.44	21.42	23
10	QPSK	25	12	21.39	21.35	21.34	
10	QPSK	25	25	21.30	21.12	21.39	
10	QPSK	50	0	21.29	21.30	21.26	23
10	16QAM	1	0	21.51	21.52	21.66	
10	16QAM	1	25	21.58	21.52	21.52	
10	16QAM	1	49	21.54	21.25	21.62	22
10	16QAM	25	0	20.27	20.34	20.20	
10	16QAM	25	12	20.30	20.32	20.32	
10	16QAM	25	25	20.26	20.16	20.40	22
10	16QAM	50	0	20.36	20.28	20.34	
10	64QAM	1	0	20.39	20.46	20.58	
10	64QAM	1	25	20.50	20.48	20.51	22
10	64QAM	1	49	20.42	20.12	20.49	
10	64QAM	25	0	19.23	19.32	19.19	
10	64QAM	25	12	19.36	19.39	19.36	21
10	64QAM	25	25	19.31	19.20	19.35	
10	64QAM	50	0	19.36	19.35	19.33	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	22.20	22.15	22.35	24
5	QPSK	1	12	22.21	22.20	22.12	
5	QPSK	1	24	22.10	22.00	22.29	
5	QPSK	12	0	21.32	21.31	21.36	23
5	QPSK	12	7	21.37	21.29	21.34	
5	QPSK	12	13	21.29	21.05	21.41	
5	QPSK	25	0	21.28	21.27	21.22	23
5	16QAM	1	0	21.44	21.42	21.60	
5	16QAM	1	12	21.54	21.50	21.45	
5	16QAM	1	24	21.44	21.25	21.54	22
5	16QAM	12	0	20.20	20.32	20.17	
5	16QAM	12	7	20.29	20.27	20.26	
5	16QAM	12	13	20.22	20.14	20.33	22
5	16QAM	25	0	20.33	20.20	20.34	
5	64QAM	1	0	20.37	20.41	20.52	
5	64QAM	1	12	20.46	20.42	20.47	22
5	64QAM	1	24	20.36	20.08	20.46	
5	64QAM	12	0	19.19	19.27	19.17	
5	64QAM	12	7	19.35	19.32	19.26	21
5	64QAM	12	13	19.29	19.15	19.35	
5	64QAM	25	0	19.26	19.33	19.25	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	22.24	22.24	22.33	24
3	QPSK	1	8	22.19	22.28	22.14	
3	QPSK	1	14	22.08	22.04	22.25	
3	QPSK	8	0	21.29	21.30	21.41	23



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3	QPSK	8	4	21.37	21.30	21.31	
3	QPSK	8	7	21.28	21.07	21.36	
3	QPSK	15	0	21.28	21.28	21.17	
3	16QAM	1	0	21.46	21.49	21.56	23
3	16QAM	1	8	21.52	21.49	21.47	
3	16QAM	1	14	21.49	21.20	21.54	
3	16QAM	8	0	20.27	20.26	20.16	22
3	16QAM	8	4	20.20	20.28	20.27	
3	16QAM	8	7	20.24	20.11	20.37	
3	16QAM	15	0	20.30	20.22	20.30	22
3	64QAM	1	0	20.31	20.44	20.52	
3	64QAM	1	8	20.48	20.41	20.44	
3	64QAM	1	14	20.39	20.03	20.43	21
3	64QAM	8	0	19.17	19.26	19.12	
3	64QAM	8	4	19.30	19.36	19.34	
3	64QAM	8	7	19.23	19.15	19.33	
3	64QAM	15	0	19.28	19.25	19.25	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	22.08	22.19	22.17	24
1.4	QPSK	1	3	22.20	22.22	22.14	
1.4	QPSK	1	5	22.16	22.19	22.06	
1.4	QPSK	3	0	22.14	22.21	22.18	
1.4	QPSK	3	1	22.25	22.29	22.24	
1.4	QPSK	3	3	22.11	22.22	22.21	
1.4	QPSK	6	0	21.19	21.15	21.22	23
1.4	16QAM	1	0	21.41	21.49	21.36	23
1.4	16QAM	1	3	21.47	21.55	21.52	
1.4	16QAM	1	5	21.40	21.48	21.37	
1.4	16QAM	3	0	21.16	21.29	21.23	
1.4	16QAM	3	1	21.21	21.28	21.26	
1.4	16QAM	3	3	21.17	21.21	21.17	
1.4	16QAM	6	0	20.30	20.32	20.26	22
1.4	64QAM	1	0	20.28	20.42	20.25	22
1.4	64QAM	1	3	20.42	20.41	20.33	
1.4	64QAM	1	5	20.32	20.34	20.27	
1.4	64QAM	3	0	20.29	20.44	20.25	
1.4	64QAM	3	1	20.41	20.46	20.33	
1.4	64QAM	3	3	20.37	20.37	20.26	
1.4	64QAM	6	0	19.17	19.28	19.22	21

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.16	22.29	22.27	23.8
20	QPSK	1	49	22.05	22.17	22.12	
20	QPSK	1	99	22.09	22.22	22.16	
20	QPSK	50	0	21.12	21.23	21.22	22.8
20	QPSK	50	24	21.11	21.19	21.19	
20	QPSK	50	50	21.11	21.20	21.19	
20	QPSK	100	0	21.15	21.21	21.20	22.8
20	16QAM	1	0	21.51	21.56	21.62	
20	16QAM	1	49	21.39	21.50	21.42	
20	16QAM	1	99	21.41	21.54	21.52	



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20	16QAM	50	0	20.18	20.23	20.22	21.8
20	16QAM	50	24	20.14	20.22	20.21	
20	16QAM	50	50	20.12	20.21	20.19	
20	16QAM	100	0	20.13	20.20	20.21	
20	64QAM	1	0	20.37	20.47	20.53	21.8
20	64QAM	1	49	20.24	20.40	20.32	
20	64QAM	1	99	20.27	20.41	20.39	
20	64QAM	50	0	19.16	19.24	19.25	20.8
20	64QAM	50	24	19.16	19.22	19.24	
20	64QAM	50	50	19.15	19.22	19.19	
20	64QAM	100	0	19.14	19.22	19.24	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.15	22.22	22.23	23.8
15	QPSK	1	37	22.08	22.16	22.15	
15	QPSK	1	74	22.10	22.23	22.20	
15	QPSK	36	0	21.13	21.20	21.22	22.8
15	QPSK	36	20	21.14	21.25	21.24	
15	QPSK	36	39	21.11	21.20	21.21	
15	QPSK	75	0	21.12	21.23	21.21	
15	16QAM	1	0	21.53	21.57	21.52	22.8
15	16QAM	1	37	21.39	21.50	21.45	
15	16QAM	1	74	21.39	21.55	21.48	
15	16QAM	36	0	20.17	20.22	20.22	21.8
15	16QAM	36	20	20.15	20.26	20.22	
15	16QAM	36	39	20.14	20.21	20.19	
15	16QAM	75	0	20.13	20.23	20.23	
15	64QAM	1	0	20.40	20.48	20.41	21.8
15	64QAM	1	37	20.27	20.37	20.34	
15	64QAM	1	74	20.29	20.42	20.39	
15	64QAM	36	0	19.17	19.24	19.26	20.8
15	64QAM	36	20	19.17	19.27	19.25	
15	64QAM	36	39	19.12	19.21	19.23	
15	64QAM	75	0	19.13	19.21	19.20	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	22.05	22.15	22.16	23.8
10	QPSK	1	25	22.03	22.13	22.12	
10	QPSK	1	49	22.00	22.15	22.10	
10	QPSK	25	0	21.06	21.16	21.17	22.8
10	QPSK	25	12	21.08	21.19	21.17	
10	QPSK	25	25	21.01	21.14	21.15	
10	QPSK	50	0	21.07	21.16	21.18	
10	16QAM	1	0	21.41	21.47	21.46	22.8
10	16QAM	1	25	21.36	21.46	21.45	
10	16QAM	1	49	21.30	21.47	21.44	
10	16QAM	25	0	20.10	20.17	20.17	21.8
10	16QAM	25	12	20.08	20.20	20.19	
10	16QAM	25	25	20.05	20.15	20.15	
10	16QAM	50	0	20.09	20.18	20.16	
10	64QAM	1	0	20.27	20.38	20.34	21.8
10	64QAM	1	25	20.18	20.32	20.33	
10	64QAM	1	49	20.19	20.34	20.30	
10	64QAM	25	0	19.08	19.17	19.18	20.8
10	64QAM	25	12	19.10	19.21	19.20	
10	64QAM	25	25	19.05	19.16	19.17	



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10	64QAM	50	0	19.08	19.20	19.18	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	22.01	22.11	22.09	23.8
5	QPSK	1	12	22.02	22.14	22.12	
5	QPSK	1	24	21.97	22.14	22.11	
5	QPSK	12	0	21.07	21.13	21.15	22.8
5	QPSK	12	7	21.09	21.17	21.20	
5	QPSK	12	13	21.02	21.17	21.14	
5	QPSK	25	0	21.04	21.17	21.16	
5	16QAM	1	0	21.34	21.47	21.43	22.8
5	16QAM	1	12	21.36	21.47	21.45	
5	16QAM	1	24	21.33	21.45	21.39	
5	16QAM	12	0	20.10	20.16	20.17	21.8
5	16QAM	12	7	20.12	20.18	20.23	
5	16QAM	12	13	20.06	20.19	20.15	
5	16QAM	25	0	20.08	20.15	20.18	
5	64QAM	1	0	20.24	20.35	20.28	21.8
5	64QAM	1	12	20.24	20.35	20.33	
5	64QAM	1	24	20.17	20.33	20.30	
5	64QAM	12	0	19.11	19.19	19.23	20.8
5	64QAM	12	7	19.13	19.23	19.24	
5	64QAM	12	13	19.08	19.20	19.18	
5	64QAM	25	0	19.06	19.16	19.15	

<LTE Band 7 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.01	22.18	22.17	23.8
20	QPSK	1	49	21.91	22.10	22.09	
20	QPSK	1	99	21.96	22.16	22.04	
20	QPSK	50	0	21.05	21.22	21.21	22.8
20	QPSK	50	24	21.01	21.20	21.20	
20	QPSK	50	50	21.02	21.21	21.21	
20	QPSK	100	0	21.01	21.24	21.19	
20	16QAM	1	0	21.31	21.49	21.47	22.8
20	16QAM	1	49	21.21	21.44	21.39	
20	16QAM	1	99	21.27	21.44	21.33	
20	16QAM	50	0	20.06	20.26	20.23	21.8
20	16QAM	50	24	20.05	20.24	20.22	
20	16QAM	50	50	20.00	20.22	20.21	
20	16QAM	100	0	20.01	20.22	20.22	
20	64QAM	1	0	20.22	20.39	20.40	21.8
20	64QAM	1	49	20.12	20.34	20.27	
20	64QAM	1	99	20.15	20.37	20.24	
20	64QAM	50	0	19.07	19.23	19.27	20.8
20	64QAM	50	24	19.05	19.25	19.25	
20	64QAM	50	50	19.05	19.21	19.20	
20	64QAM	100	0	19.05	19.23	19.25	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	21.99	22.06	22.14	23.8
15	QPSK	1	37	21.89	22.04	22.04	
15	QPSK	1	74	21.94	22.09	21.99	



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15	QPSK	36	0	21.00	21.14	21.18	22.8
15	QPSK	36	20	20.98	21.17	21.16	
15	QPSK	36	39	20.94	21.14	21.21	
15	QPSK	75	0	20.93	21.20	21.17	
15	16QAM	1	0	21.24	21.45	21.42	22.8
15	16QAM	1	37	21.15	21.42	21.34	
15	16QAM	1	74	21.23	21.39	21.28	
15	16QAM	36	0	19.97	20.23	20.19	21.8
15	16QAM	36	20	20.01	20.14	20.18	
15	16QAM	36	39	19.90	20.13	20.11	
15	16QAM	75	0	20.01	20.14	20.21	
15	64QAM	1	0	20.21	20.39	20.37	21.8
15	64QAM	1	37	20.10	20.32	20.22	
15	64QAM	1	74	20.06	20.35	20.17	
15	64QAM	36	0	19.05	19.18	19.23	20.8
15	64QAM	36	20	18.96	19.16	19.15	
15	64QAM	36	39	18.96	19.21	19.15	
15	64QAM	75	0	19.03	19.17	19.22	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	21.91	22.13	22.08	23.8
10	QPSK	1	25	21.89	22.04	22.03	
10	QPSK	1	49	21.86	22.15	21.97	
10	QPSK	25	0	21.01	21.12	21.15	
10	QPSK	25	12	20.97	21.14	21.12	22.8
10	QPSK	25	25	20.96	21.13	21.21	
10	QPSK	50	0	20.95	21.22	21.09	
10	16QAM	1	0	21.24	21.48	21.37	
10	16QAM	1	25	21.20	21.42	21.39	22.8
10	16QAM	1	49	21.20	21.42	21.24	
10	16QAM	25	0	19.97	20.17	20.16	
10	16QAM	25	12	20.05	20.20	20.18	
10	16QAM	25	25	19.99	20.20	20.20	21.8
10	16QAM	50	0	19.92	20.19	20.12	
10	64QAM	1	0	20.20	20.37	20.33	
10	64QAM	1	25	20.02	20.33	20.21	
10	64QAM	1	49	20.11	20.36	20.20	21.8
10	64QAM	25	0	19.05	19.13	19.20	
10	64QAM	25	12	19.05	19.21	19.20	
10	64QAM	25	25	18.96	19.15	19.20	
10	64QAM	50	0	19.05	19.13	19.18	20.8
Channel				20775	21100	21425	
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	21.94	22.12	22.11	23.8
5	QPSK	1	12	21.91	22.08	22.05	
5	QPSK	1	24	21.89	22.10	21.97	
5	QPSK	12	0	21.01	21.11	21.19	
5	QPSK	12	7	20.92	21.10	21.20	22.8
5	QPSK	12	13	20.99	21.12	21.16	
5	QPSK	25	0	20.98	21.18	21.14	
5	16QAM	1	0	21.22	21.42	21.42	
5	16QAM	1	12	21.14	21.36	21.30	22.8
5	16QAM	1	24	21.20	21.43	21.33	
5	16QAM	12	0	19.96	20.23	20.18	
5	16QAM	12	7	19.96	20.23	20.22	
5	16QAM	12	13	19.96	20.17	20.13	21.8



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5	16QAM	25	0	19.94	20.19	20.15	21.8
5	64QAM	1	0	20.20	20.38	20.40	
5	64QAM	1	12	20.10	20.25	20.17	
5	64QAM	1	24	20.15	20.28	20.16	
5	64QAM	12	0	19.06	19.14	19.17	20.8
5	64QAM	12	7	19.05	19.24	19.22	
5	64QAM	12	13	19.00	19.12	19.20	
5	64QAM	25	0	18.99	19.16	19.19	

<LTE Band 12_Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	22.59	22.65	22.62	24
10	QPSK	1	25	22.56	22.53	22.57	
10	QPSK	1	49	22.57	22.61	22.59	
10	QPSK	25	0	21.62	21.66	21.65	23
10	QPSK	25	12	21.60	21.63	21.64	
10	QPSK	25	25	21.58	21.64	21.59	
10	QPSK	50	0	21.64	21.68	21.65	23
10	16QAM	1	0	21.73	21.80	21.77	
10	16QAM	1	25	21.84	21.83	21.85	
10	16QAM	1	49	21.82	21.85	21.92	22
10	16QAM	25	0	20.55	20.60	20.55	
10	16QAM	25	12	20.67	20.62	20.68	
10	16QAM	25	25	20.61	20.66	20.64	22
10	16QAM	50	0	20.68	20.59	20.66	
10	64QAM	1	0	20.73	20.75	20.71	
10	64QAM	1	25	20.79	20.73	20.80	21
10	64QAM	1	49	20.71	20.80	20.85	
10	64QAM	25	0	19.57	19.61	19.55	
10	64QAM	25	12	19.69	19.63	19.69	21
10	64QAM	25	25	19.63	19.68	19.64	
10	64QAM	50	0	19.68	19.61	19.65	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	22.49	22.54	22.55	24
5	QPSK	1	12	22.46	22.47	22.53	
5	QPSK	1	24	22.56	22.64	22.62	
5	QPSK	12	0	21.57	21.57	21.62	23
5	QPSK	12	7	21.59	21.61	21.64	
5	QPSK	12	13	21.65	21.60	21.69	
5	QPSK	25	0	21.53	21.61	21.58	23
5	16QAM	1	0	21.75	21.85	21.84	
5	16QAM	1	12	21.72	21.80	21.82	
5	16QAM	1	24	21.86	21.89	21.89	22
5	16QAM	12	0	20.63	20.59	20.67	
5	16QAM	12	7	20.59	20.60	20.67	
5	16QAM	12	13	20.68	20.56	20.70	22
5	16QAM	25	0	20.57	20.58	20.63	
5	64QAM	1	0	20.73	20.73	20.76	
5	64QAM	1	12	20.72	20.73	20.75	22
5	64QAM	1	24	20.77	20.80	20.80	
5	64QAM	12	0	19.59	19.67	19.66	
5	64QAM	12	7	19.61	19.68	19.68	21



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5	64QAM	12	13	19.70	19.63	19.73	
5	64QAM	25	0	19.55	19.59	19.62	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	22.49	22.50	22.53	24
3	QPSK	1	8	22.48	22.51	22.61	
3	QPSK	1	14	22.44	22.50	22.61	
3	QPSK	8	0	21.55	21.56	21.67	23
3	QPSK	8	4	21.54	21.61	21.69	
3	QPSK	8	7	21.53	21.55	21.69	
3	QPSK	15	0	21.53	21.57	21.65	
3	16QAM	1	0	21.74	21.81	21.74	23
3	16QAM	1	8	21.72	21.79	21.85	
3	16QAM	1	14	21.72	21.78	21.89	
3	16QAM	8	0	20.61	20.64	20.73	22
3	16QAM	8	4	20.63	20.65	20.75	
3	16QAM	8	7	20.55	20.63	20.74	
3	16QAM	15	0	20.58	20.59	20.70	
3	64QAM	1	0	20.70	20.70	20.73	22
3	64QAM	1	8	20.71	20.69	20.84	
3	64QAM	1	14	20.70	20.70	20.81	
3	64QAM	8	0	19.59	19.63	19.72	21
3	64QAM	8	4	19.59	19.65	19.74	
3	64QAM	8	7	19.57	19.61	19.70	
3	64QAM	15	0	19.54	19.60	19.69	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	22.43	22.43	22.52	24
1.4	QPSK	1	3	22.47	22.50	22.59	
1.4	QPSK	1	5	22.42	22.41	22.52	
1.4	QPSK	3	0	22.50	22.45	22.56	
1.4	QPSK	3	1	22.56	22.52	22.61	
1.4	QPSK	3	3	22.48	22.48	22.55	
1.4	QPSK	6	0	21.47	21.49	21.60	23
1.4	16QAM	1	0	21.66	21.72	21.79	23
1.4	16QAM	1	3	21.71	21.77	21.87	
1.4	16QAM	1	5	21.63	21.68	21.79	
1.4	16QAM	3	0	21.49	21.51	21.60	
1.4	16QAM	3	1	21.55	21.56	21.64	
1.4	16QAM	3	3	21.46	21.50	21.61	
1.4	16QAM	6	0	20.52	20.59	20.67	22
1.4	64QAM	1	0	20.64	20.64	20.74	22
1.4	64QAM	1	3	20.68	20.71	20.79	
1.4	64QAM	1	5	20.64	20.61	20.73	
1.4	64QAM	3	0	20.60	20.60	20.71	
1.4	64QAM	3	1	20.67	20.68	20.80	
1.4	64QAM	3	3	20.61	20.63	20.73	
1.4	64QAM	6	0	19.51	19.50	19.60	21

<LTE Band 12 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	24
10	QPSK	1	0	22.39	22.45	22.43	
10	QPSK	1	25	22.16	22.21	22.42	



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10	QPSK	1	49	22.23	22.29	22.38	23
10	QPSK	25	0	21.26	21.45	21.42	
10	QPSK	25	12	21.30	21.27	21.41	
10	QPSK	25	25	21.26	21.34	21.39	
10	QPSK	50	0	21.34	21.45	21.42	
10	16QAM	1	0	21.34	21.47	21.63	23
10	16QAM	1	25	21.49	21.47	21.68	
10	16QAM	1	49	21.44	21.49	21.73	
10	16QAM	25	0	20.23	20.26	20.36	22
10	16QAM	25	12	20.37	20.30	20.51	
10	16QAM	25	25	20.23	20.27	20.50	
10	16QAM	50	0	20.38	20.19	20.56	
10	64QAM	1	0	20.43	20.37	20.61	22
10	64QAM	1	25	20.48	20.35	20.61	
10	64QAM	1	49	20.38	20.50	20.68	
10	64QAM	25	0	19.17	19.22	19.43	21
10	64QAM	25	12	19.33	19.23	19.51	
10	64QAM	25	25	19.24	19.38	19.50	
10	64QAM	50	0	19.35	19.23	19.45	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	22.35	22.34	22.36	24
5	QPSK	1	12	22.15	22.13	22.35	
5	QPSK	1	24	22.22	22.19	22.38	
5	QPSK	12	0	21.17	21.23	21.50	23
5	QPSK	12	7	21.27	21.19	21.43	
5	QPSK	12	13	21.22	21.28	21.33	
5	QPSK	25	0	21.24	21.23	21.43	
5	16QAM	1	0	21.24	21.44	21.56	23
5	16QAM	1	12	21.46	21.38	21.58	
5	16QAM	1	24	21.44	21.41	21.71	
5	16QAM	12	0	20.17	20.25	20.36	22
5	16QAM	12	7	20.36	20.23	20.42	
5	16QAM	12	13	20.14	20.23	20.47	
5	16QAM	25	0	20.35	20.12	20.49	
5	64QAM	1	0	20.35	20.37	20.59	22
5	64QAM	1	12	20.39	20.29	20.51	
5	64QAM	1	24	20.32	20.47	20.62	
5	64QAM	12	0	19.08	19.15	19.41	
5	64QAM	12	7	19.28	19.15	19.48	21
5	64QAM	12	13	19.19	19.36	19.41	
5	64QAM	25	0	19.34	19.13	19.43	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	22.29	22.36	22.33	24
3	QPSK	1	8	22.06	22.15	22.33	
3	QPSK	1	14	22.17	22.23	22.28	
3	QPSK	8	0	21.22	21.25	21.50	23
3	QPSK	8	4	21.26	21.18	21.45	
3	QPSK	8	7	21.19	21.30	21.38	
3	QPSK	15	0	21.31	21.26	21.37	
3	16QAM	1	0	21.30	21.43	21.53	23
3	16QAM	1	8	21.46	21.46	21.66	
3	16QAM	1	14	21.44	21.42	21.73	
3	16QAM	8	0	20.19	20.20	20.31	22
3	16QAM	8	4	20.37	20.20	20.46	



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3	16QAM	8	7	20.16	20.23	20.42	
3	16QAM	15	0	20.33	20.14	20.55	
3	64QAM	1	0	20.40	20.29	20.58	
3	64QAM	1	8	20.45	20.35	20.52	22
3	64QAM	1	14	20.38	20.47	20.61	
3	64QAM	8	0	19.13	19.13	19.43	
3	64QAM	8	4	19.30	19.14	19.44	21
3	64QAM	8	7	19.20	19.33	19.42	
3	64QAM	15	0	19.28	19.22	19.41	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	22.21	22.15	22.42	24
1.4	QPSK	1	3	22.14	22.18	22.43	
1.4	QPSK	1	5	22.04	22.07	22.38	
1.4	QPSK	3	0	22.10	22.14	22.40	
1.4	QPSK	3	1	22.17	22.12	22.43	
1.4	QPSK	3	3	22.10	22.14	22.36	
1.4	QPSK	6	0	21.17	21.12	21.45	23
1.4	16QAM	1	0	21.26	21.40	21.62	23
1.4	16QAM	1	3	21.32	21.41	21.73	
1.4	16QAM	1	5	21.30	21.28	21.61	
1.4	16QAM	3	0	21.13	21.21	21.41	
1.4	16QAM	3	1	21.25	21.16	21.52	
1.4	16QAM	3	3	21.10	21.19	21.48	
1.4	16QAM	6	0	20.15	20.23	20.48	22
1.4	64QAM	1	0	20.31	20.28	20.64	22
1.4	64QAM	1	3	20.35	20.41	20.68	
1.4	64QAM	1	5	20.28	20.23	20.62	
1.4	64QAM	3	0	20.30	20.30	20.58	
1.4	64QAM	3	1	20.32	20.29	20.67	
1.4	64QAM	3	3	20.24	20.30	20.54	
1.4	64QAM	6	0	19.18	19.11	19.48	21

<LTE Band 13 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23230			
Frequency (MHz)				782			
10	QPSK	1	0		22.61		24
10	QPSK	1	25		22.58		
10	QPSK	1	49		22.53		
10	QPSK	25	0		21.66		23
10	QPSK	25	12		21.64		
10	QPSK	25	25		21.63		
10	QPSK	50	0		21.65		
10	16QAM	1	0		21.83		23
10	16QAM	1	25		21.91		
10	16QAM	1	49		21.84		
10	16QAM	25	0		20.60		22
10	16QAM	25	12		20.69		
10	16QAM	25	25		20.62		
10	16QAM	50	0		20.69		
10	64QAM	1	0		20.76		22
10	64QAM	1	25		20.79		
10	64QAM	1	49		20.75		
10	64QAM	25	0		19.58		21



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10	64QAM	25	12		19.70		
10	64QAM	25	25		19.62		
10	64QAM	50	0		19.67		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	22.57	22.52	22.58	24
5	QPSK	1	12	22.52	22.59	22.56	
5	QPSK	1	24	22.57	22.55	22.52	
5	QPSK	12	0	21.56	21.57	21.61	23
5	QPSK	12	7	21.60	21.65	21.60	
5	QPSK	12	13	21.57	21.60	21.55	
5	QPSK	25	0	21.55	21.60	21.61	23
5	16QAM	1	0	21.84	21.83	21.89	
5	16QAM	1	12	21.83	21.92	21.86	
5	16QAM	1	24	21.89	21.85	21.83	22
5	16QAM	12	0	20.60	20.61	20.62	
5	16QAM	12	7	20.66	20.68	20.62	
5	16QAM	12	13	20.62	20.61	20.55	22
5	16QAM	25	0	20.60	20.66	20.58	
5	64QAM	1	0	20.76	20.74	20.83	
5	64QAM	1	12	20.74	20.81	20.75	22
5	64QAM	1	24	20.80	20.71	20.73	
5	64QAM	12	0	19.64	19.60	19.65	21
5	64QAM	12	7	19.62	19.71	19.68	
5	64QAM	12	13	19.60	19.69	19.61	
5	64QAM	25	0	19.57	19.67	19.60	

<LTE Band 13 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23230			
Frequency (MHz)				782			
10	QPSK	1	0		22.39		24
10	QPSK	1	25		22.25		
10	QPSK	1	49		22.16		
10	QPSK	25	0		21.32		23
10	QPSK	25	12		21.24		
10	QPSK	25	25		21.31		
10	QPSK	50	0		21.26		23
10	16QAM	1	0		21.50		
10	16QAM	1	25		21.56		
10	16QAM	1	49		21.46		22
10	16QAM	25	0		20.21		
10	16QAM	25	12		20.34		
10	16QAM	25	25		20.24		22
10	16QAM	50	0		20.31		
10	64QAM	1	0		20.40		
10	64QAM	1	25		20.40		22
10	64QAM	1	49		20.41		
10	64QAM	25	0		19.21		
10	64QAM	25	12		19.32		21
10	64QAM	25	25		19.26		
10	64QAM	50	0		19.37		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	22.27	22.29	22.33	24

5	QPSK	1	12	22.12	22.28	22.27	23
5	QPSK	1	24	22.17	22.23	22.23	
5	QPSK	12	0	21.22	21.25	21.33	
5	QPSK	12	7	21.28	21.25	21.30	
5	QPSK	12	13	21.24	21.22	21.27	23
5	QPSK	25	0	21.21	21.21	21.33	
5	16QAM	1	0	21.53	21.46	21.68	
5	16QAM	1	12	21.53	21.61	21.58	
5	16QAM	1	24	21.55	21.45	21.56	22
5	16QAM	12	0	20.26	20.28	20.34	
5	16QAM	12	7	20.30	20.28	20.38	
5	16QAM	12	13	20.24	20.27	20.33	
5	16QAM	25	0	20.26	20.30	20.30	22
5	64QAM	1	0	20.36	20.42	20.57	
5	64QAM	1	12	20.36	20.51	20.45	
5	64QAM	1	24	20.40	20.39	20.48	
5	64QAM	12	0	19.26	19.24	19.43	21
5	64QAM	12	7	19.31	19.35	19.38	
5	64QAM	12	13	19.21	19.35	19.32	
5	64QAM	25	0	19.17	19.37	19.34	

<LTE Band 26 Ant 1>							
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	24
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	22.64	22.66	22.60	
15	QPSK	1	37	22.56	22.63	22.48	23
15	QPSK	1	74	22.62	22.51	22.35	
15	QPSK	36	0	21.62	21.73	21.58	
15	QPSK	36	20	21.59	21.66	21.57	
15	QPSK	36	39	21.61	21.58	21.47	23
15	QPSK	75	0	21.58	21.64	21.52	
15	16QAM	1	0	21.95	21.96	21.95	
15	16QAM	1	37	21.87	21.97	21.81	
15	16QAM	1	74	21.95	21.84	21.67	22
15	16QAM	36	0	20.64	20.74	20.58	
15	16QAM	36	20	20.61	20.70	20.57	
15	16QAM	36	39	20.61	20.61	20.44	
15	16QAM	75	0	20.58	20.64	20.52	22
15	64QAM	1	0	20.91	20.85	20.81	
15	64QAM	1	37	20.75	20.85	20.68	
15	64QAM	1	74	20.85	20.70	20.57	
15	64QAM	36	0	19.64	19.74	19.59	21
15	64QAM	36	20	19.63	19.73	19.58	
15	64QAM	36	39	19.65	19.61	19.48	
15	64QAM	75	0	19.58	19.66	19.51	
Channel				26740	26865	26990	24
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	22.59	22.57	22.49	
10	QPSK	1	25	22.53	22.60	22.40	23
10	QPSK	1	49	22.58	22.50	22.32	
10	QPSK	25	0	21.58	21.66	21.49	
10	QPSK	25	12	21.55	21.64	21.46	
10	QPSK	25	25	21.51	21.54	21.41	23
10	QPSK	50	0	21.57	21.59	21.46	



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10	16QAM	1	0	21.93	21.85	21.81	23
10	16QAM	1	25	21.82	21.87	21.73	
10	16QAM	1	49	21.88	21.85	21.63	
10	16QAM	25	0	20.58	20.64	20.48	22
10	16QAM	25	12	20.58	20.63	20.45	
10	16QAM	25	25	20.52	20.56	20.39	
10	16QAM	50	0	20.58	20.63	20.44	
10	64QAM	1	0	20.80	20.76	20.67	22
10	64QAM	1	25	20.72	20.78	20.62	
10	64QAM	1	49	20.77	20.71	20.56	
10	64QAM	25	0	19.59	19.67	19.49	21
10	64QAM	25	12	19.59	19.64	19.48	
10	64QAM	25	25	19.54	19.58	19.41	
10	64QAM	50	0	19.58	19.62	19.47	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	22.64	22.58	22.41	24
5	QPSK	1	12	22.60	22.53	22.34	
5	QPSK	1	24	22.60	22.49	22.33	
5	QPSK	12	0	21.61	21.58	21.39	23
5	QPSK	12	7	21.58	21.57	21.40	
5	QPSK	12	13	21.54	21.55	21.34	
5	QPSK	25	0	21.54	21.59	21.40	
5	16QAM	1	0	21.84	21.86	21.71	23
5	16QAM	1	12	21.87	21.89	21.67	
5	16QAM	1	24	21.80	21.81	21.64	
5	16QAM	12	0	20.63	20.61	20.41	22
5	16QAM	12	7	20.61	20.61	20.41	
5	16QAM	12	13	20.55	20.57	20.39	
5	16QAM	25	0	20.55	20.57	20.39	
5	64QAM	1	0	20.76	20.79	20.60	22
5	64QAM	1	12	20.75	20.74	20.56	
5	64QAM	1	24	20.65	20.67	20.50	
5	64QAM	12	0	19.59	19.64	19.46	21
5	64QAM	12	7	19.62	19.66	19.44	
5	64QAM	12	13	19.59	19.60	19.41	
5	64QAM	25	0	19.55	19.57	19.38	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	22.55	22.57	22.37	24
3	QPSK	1	8	22.54	22.56	22.35	
3	QPSK	1	14	22.52	22.53	22.34	
3	QPSK	8	0	21.60	21.57	21.40	23
3	QPSK	8	4	21.60	21.62	21.42	
3	QPSK	8	7	21.56	21.54	21.35	
3	QPSK	15	0	21.56	21.59	21.39	
3	16QAM	1	0	21.86	21.87	21.66	23
3	16QAM	1	8	21.86	21.90	21.67	
3	16QAM	1	14	21.82	21.80	21.62	
3	16QAM	8	0	20.64	20.62	20.43	22
3	16QAM	8	4	20.66	20.68	20.46	
3	16QAM	8	7	20.60	20.61	20.41	
3	16QAM	15	0	20.59	20.60	20.40	
3	64QAM	1	0	20.77	20.75	20.59	22
3	64QAM	1	8	20.76	20.74	20.57	
3	64QAM	1	14	20.77	20.76	20.50	



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3	64QAM	8	0	19.62	19.63	19.43	21
3	64QAM	8	4	19.63	19.64	19.43	
3	64QAM	8	7	19.58	19.61	19.41	
3	64QAM	15	0	19.59	19.60	19.39	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	22.51	22.52	22.30	24
1.4	QPSK	1	3	22.56	22.57	22.36	
1.4	QPSK	1	5	22.49	22.49	22.26	
1.4	QPSK	3	0	22.56	22.57	22.35	
1.4	QPSK	3	1	22.58	22.61	22.39	
1.4	QPSK	3	3	22.55	22.56	22.33	
1.4	QPSK	6	0	21.50	21.54	21.31	23
1.4	16QAM	1	0	21.80	21.82	21.58	23
1.4	16QAM	1	3	21.86	21.89	21.63	
1.4	16QAM	1	5	21.79	21.82	21.58	
1.4	16QAM	3	0	21.60	21.60	21.38	
1.4	16QAM	3	1	21.62	21.63	21.40	
1.4	16QAM	3	3	21.56	21.57	21.35	
1.4	16QAM	6	0	20.59	20.59	20.38	22
1.4	64QAM	1	0	20.66	20.73	20.48	22
1.4	64QAM	1	3	20.74	20.74	20.54	
1.4	64QAM	1	5	20.65	20.65	20.45	
1.4	64QAM	3	0	20.69	20.70	20.51	
1.4	64QAM	3	1	20.74	20.75	20.53	
1.4	64QAM	3	3	20.68	20.68	20.48	
1.4	64QAM	6	0	19.51	19.54	19.34	21

<LTE Band 26 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	22.27	22.39	22.34	24
15	QPSK	1	37	22.21	22.26	22.23	
15	QPSK	1	74	22.28	22.12	22.07	
15	QPSK	36	0	21.26	21.41	21.36	23
15	QPSK	36	20	21.29	21.30	21.31	
15	QPSK	36	39	21.27	21.28	21.22	
15	QPSK	75	0	21.20	21.28	21.27	
15	16QAM	1	0	21.60	21.60	21.73	23
15	16QAM	1	37	21.56	21.61	21.54	
15	16QAM	1	74	21.65	21.44	21.42	
15	16QAM	36	0	20.30	20.39	20.32	22
15	16QAM	36	20	20.28	20.30	20.29	
15	16QAM	36	39	20.22	20.22	20.18	
15	16QAM	75	0	20.27	20.29	20.28	
15	64QAM	1	0	20.52	20.48	20.54	22
15	64QAM	1	37	20.41	20.47	20.45	
15	64QAM	1	74	20.50	20.38	20.28	
15	64QAM	36	0	19.30	19.36	19.37	21
15	64QAM	36	20	19.24	19.38	19.29	
15	64QAM	36	39	19.26	19.22	19.27	
15	64QAM	75	0	19.20	19.26	19.31	
Channel				26740	26865	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	



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10	QPSK	1	0	22.17	22.18	22.29	24
10	QPSK	1	25	22.20	22.18	22.22	
10	QPSK	1	49	22.23	22.05	22.05	
10	QPSK	25	0	21.21	21.37	21.27	23
10	QPSK	25	12	21.26	21.25	21.22	
10	QPSK	25	25	21.23	21.24	21.17	
10	QPSK	50	0	21.11	21.19	21.21	23
10	16QAM	1	0	21.57	21.51	21.66	
10	16QAM	1	25	21.49	21.59	21.47	
10	16QAM	1	49	21.56	21.40	21.37	22
10	16QAM	25	0	20.25	20.29	20.22	
10	16QAM	25	12	20.25	20.21	20.26	
10	16QAM	25	25	20.20	20.19	20.14	22
10	16QAM	50	0	20.21	20.24	20.22	
10	64QAM	1	0	20.43	20.44	20.44	
10	64QAM	1	25	20.39	20.41	20.37	21
10	64QAM	1	49	20.41	20.35	20.24	
10	64QAM	25	0	19.27	19.31	19.30	
10	64QAM	25	12	19.22	19.28	19.23	21
10	64QAM	25	25	19.22	19.18	19.19	
10	64QAM	50	0	19.19	19.17	19.24	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	22.20	22.18	22.38	24
5	QPSK	1	12	22.15	22.23	22.14	
5	QPSK	1	24	22.18	22.10	22.04	
5	QPSK	12	0	21.20	21.36	21.36	23
5	QPSK	12	7	21.23	21.30	21.28	
5	QPSK	12	13	21.17	21.18	21.12	
5	QPSK	25	0	21.19	21.16	21.22	23
5	16QAM	1	0	21.56	21.58	21.66	
5	16QAM	1	12	21.55	21.51	21.52	
5	16QAM	1	24	21.64	21.44	21.42	22
5	16QAM	12	0	20.27	20.32	20.27	
5	16QAM	12	7	20.21	20.26	20.20	
5	16QAM	12	13	20.16	20.12	20.09	22
5	16QAM	25	0	20.17	20.19	20.19	
5	64QAM	1	0	20.46	20.42	20.54	
5	64QAM	1	12	20.38	20.39	20.39	21
5	64QAM	1	24	20.42	20.38	20.25	
5	64QAM	12	0	19.21	19.33	19.31	
5	64QAM	12	7	19.18	19.30	19.29	21
5	64QAM	12	13	19.18	19.22	19.19	
5	64QAM	25	0	19.10	19.21	19.23	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	22.21	22.22	22.32	24
3	QPSK	1	8	22.12	22.17	22.22	
3	QPSK	1	14	22.19	22.08	22.05	
3	QPSK	8	0	21.25	21.32	21.31	23
3	QPSK	8	4	21.24	21.30	21.30	
3	QPSK	8	7	21.25	21.24	21.12	
3	QPSK	15	0	21.14	21.17	21.26	23
3	16QAM	1	0	21.53	21.59	21.64	
3	16QAM	1	8	21.53	21.60	21.50	
3	16QAM	1	14	21.63	21.39	21.38	



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3	16QAM	8	0	20.26	20.32	20.28	22
3	16QAM	8	4	20.27	20.25	20.22	
3	16QAM	8	7	20.15	20.17	20.13	
3	16QAM	15	0	20.20	20.27	20.18	22
3	64QAM	1	0	20.52	20.46	20.52	
3	64QAM	1	8	20.32	20.41	20.35	
3	64QAM	1	14	20.49	20.38	20.20	21
3	64QAM	8	0	19.28	19.31	19.27	
3	64QAM	8	4	19.24	19.28	19.26	
3	64QAM	8	7	19.17	19.22	19.22	
3	64QAM	15	0	19.19	19.18	19.31	Tune-up limit (dBm)
Channel				26697	26865	27033	
Frequency (MHz)				814.7	831.5	848.3	24
1.4	QPSK	1	0	22.08	22.03	22.13	
1.4	QPSK	1	3	22.22	22.25	22.06	
1.4	QPSK	1	5	22.16	22.15	22.16	
1.4	QPSK	3	0	22.16	22.21	22.15	
1.4	QPSK	3	1	22.23	22.31	22.12	
1.4	QPSK	3	3	22.21	22.22	22.11	
1.4	QPSK	6	0	21.18	21.24	21.09	23
1.4	16QAM	1	0	21.45	21.50	21.36	23
1.4	16QAM	1	3	21.46	21.53	21.42	
1.4	16QAM	1	5	21.43	21.49	21.32	
1.4	16QAM	3	0	21.28	21.27	21.15	
1.4	16QAM	3	1	21.28	21.28	21.17	
1.4	16QAM	3	3	21.26	21.26	21.13	22
1.4	16QAM	6	0	20.23	20.21	20.12	
1.4	64QAM	1	0	20.35	20.36	20.26	22
1.4	64QAM	1	3	20.42	20.41	20.27	
1.4	64QAM	1	5	20.33	20.25	20.15	
1.4	64QAM	3	0	20.31	20.35	20.21	
1.4	64QAM	3	1	20.44	20.38	20.27	
1.4	64QAM	3	3	20.33	20.29	20.26	
1.4	64QAM	6	0	19.14	19.17	19.14	21

<LTE Band 66 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.58	22.75	22.68	24
20	QPSK	1	49	22.46	22.38	22.42	
20	QPSK	1	99	22.50	22.33	22.35	
20	QPSK	50	0	21.60	21.61	21.57	23
20	QPSK	50	24	21.53	21.52	21.52	
20	QPSK	50	50	21.58	21.44	21.43	
20	QPSK	100	0	21.57	21.58	21.50	
20	16QAM	1	0	21.87	22.05	22.00	23
20	16QAM	1	49	21.75	21.69	21.72	
20	16QAM	1	99	21.82	21.65	21.67	
20	16QAM	50	0	20.64	20.60	20.62	22
20	16QAM	50	24	20.58	20.52	20.54	
20	16QAM	50	50	20.58	20.44	20.45	
20	16QAM	100	0	20.55	20.49	20.51	
20	64QAM	1	0	20.79	20.95	20.88	22
20	64QAM	1	49	20.65	20.57	20.60	



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20	64QAM	1	99	20.69	20.50	20.55	21
20	64QAM	50	0	19.64	19.60	19.61	
20	64QAM	50	24	19.56	19.51	19.53	
20	64QAM	50	50	19.59	19.43	19.44	
20	64QAM	100	0	19.55	19.49	19.54	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.54	22.60	22.61	24
15	QPSK	1	37	22.44	22.37	22.39	
15	QPSK	1	74	22.54	22.37	22.38	
15	QPSK	36	0	21.57	21.52	21.57	23
15	QPSK	36	20	21.54	21.47	21.51	
15	QPSK	36	39	21.49	21.43	21.41	
15	QPSK	75	0	21.54	21.50	21.50	
15	16QAM	1	0	21.86	21.90	21.94	23
15	16QAM	1	37	21.75	21.69	21.70	
15	16QAM	1	74	21.84	21.66	21.65	
15	16QAM	36	0	20.59	20.56	20.57	22
15	16QAM	36	20	20.54	20.47	20.49	
15	16QAM	36	39	20.45	20.41	20.44	
15	16QAM	75	0	20.52	20.49	20.47	
15	64QAM	1	0	20.76	20.83	20.85	22
15	64QAM	1	37	20.63	20.57	20.59	
15	64QAM	1	74	20.72	20.56	20.59	
15	64QAM	36	0	19.61	19.57	19.59	21
15	64QAM	36	20	19.55	19.50	19.49	
15	64QAM	36	39	19.51	19.42	19.43	
15	64QAM	75	0	19.55	19.48	19.49	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.42	22.48	22.52	24
10	QPSK	1	25	22.39	22.37	22.38	
10	QPSK	1	49	22.37	22.34	22.32	
10	QPSK	25	0	21.39	21.49	21.46	23
10	QPSK	25	12	21.49	21.42	21.44	
10	QPSK	25	25	21.44	21.39	21.37	
10	QPSK	50	0	21.49	21.46	21.43	
10	16QAM	1	0	21.73	21.81	21.82	23
10	16QAM	1	25	21.72	21.66	21.69	
10	16QAM	1	49	21.70	21.62	21.62	
10	16QAM	25	0	20.43	20.48	20.46	22
10	16QAM	25	12	20.50	20.45	20.45	
10	16QAM	25	25	20.45	20.40	20.37	
10	16QAM	50	0	20.51	20.43	20.45	
10	64QAM	1	0	20.63	20.68	20.69	22
10	64QAM	1	25	20.62	20.57	20.58	
10	64QAM	1	49	20.56	20.54	20.53	
10	64QAM	25	0	19.43	19.50	19.46	21
10	64QAM	25	12	19.53	19.49	19.45	
10	64QAM	25	25	19.48	19.40	19.37	
10	64QAM	50	0	19.51	19.47	19.45	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.39	22.43	22.40	24
5	QPSK	1	12	22.32	22.36	22.34	
5	QPSK	1	24	22.41	22.34	22.32	



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5	QPSK	12	0	21.40	21.42	21.41	23
5	QPSK	12	7	21.40	21.40	21.36	
5	QPSK	12	13	21.47	21.38	21.33	
5	QPSK	25	0	21.33	21.39	21.36	
5	16QAM	1	0	21.68	21.71	21.72	23
5	16QAM	1	12	21.63	21.65	21.63	
5	16QAM	1	24	21.70	21.65	21.61	
5	16QAM	12	0	20.40	20.47	20.42	22
5	16QAM	12	7	20.37	20.45	20.39	
5	16QAM	12	13	20.43	20.38	20.37	
5	16QAM	25	0	20.37	20.43	20.40	
5	64QAM	1	0	20.56	20.63	20.62	22
5	64QAM	1	12	20.50	20.54	20.53	
5	64QAM	1	24	20.59	20.51	20.52	
5	64QAM	12	0	19.43	19.47	19.43	21
5	64QAM	12	7	19.44	19.48	19.45	
5	64QAM	12	13	19.51	19.42	19.41	
5	64QAM	25	0	19.38	19.44	19.39	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.32	22.36	22.38	24
3	QPSK	1	8	22.30	22.36	22.34	
3	QPSK	1	14	22.29	22.32	22.31	
3	QPSK	8	0	21.35	21.41	21.40	23
3	QPSK	8	4	21.40	21.42	21.40	
3	QPSK	8	7	21.35	21.40	21.33	
3	QPSK	15	0	21.33	21.41	21.34	
3	16QAM	1	0	21.67	21.68	21.68	23
3	16QAM	1	8	21.64	21.66	21.65	
3	16QAM	1	14	21.60	21.61	21.63	
3	16QAM	8	0	20.43	20.44	20.45	22
3	16QAM	8	4	20.44	20.50	20.47	
3	16QAM	8	7	20.38	20.47	20.40	
3	16QAM	15	0	20.39	20.45	20.39	
3	64QAM	1	0	20.55	20.59	20.55	22
3	64QAM	1	8	20.52	20.55	20.54	
3	64QAM	1	14	20.49	20.53	20.51	
3	64QAM	8	0	19.40	19.47	19.42	21
3	64QAM	8	4	19.43	19.48	19.45	
3	64QAM	8	7	19.40	19.44	19.39	
3	64QAM	15	0	19.38	19.43	19.40	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.24	22.32	22.29	24
1.4	QPSK	1	3	22.32	22.38	22.37	
1.4	QPSK	1	5	22.23	22.29	22.26	
1.4	QPSK	3	0	22.32	22.36	22.33	
1.4	QPSK	3	1	22.35	22.40	22.39	
1.4	QPSK	3	3	22.31	22.35	22.35	
1.4	QPSK	6	0	21.29	21.37	21.32	23
1.4	16QAM	1	0	21.56	21.58	21.60	23
1.4	16QAM	1	3	21.60	21.70	21.66	
1.4	16QAM	1	5	21.53	21.59	21.55	
1.4	16QAM	3	0	21.35	21.38	21.36	
1.4	16QAM	3	1	21.40	21.42	21.40	
1.4	16QAM	3	3	21.31	21.35	21.34	



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1.4	16QAM	6	0	20.36	20.44	20.41	22
1.4	64QAM	1	0	20.48	20.50	20.50	22
1.4	64QAM	1	3	20.54	20.53	20.56	
1.4	64QAM	1	5	20.44	20.48	20.48	
1.4	64QAM	3	0	20.46	20.49	20.51	
1.4	64QAM	3	1	20.51	20.55	20.55	
1.4	64QAM	3	3	20.46	20.47	20.48	
1.4	64QAM	6	0	19.31	19.36	19.31	21

<LTE Band 66 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.37	22.56	22.46	24
20	QPSK	1	49	22.23	22.28	22.20	
20	QPSK	1	99	22.28	22.20	22.21	
20	QPSK	50	0	21.38	21.50	21.36	23
20	QPSK	50	24	21.29	21.37	21.33	
20	QPSK	50	50	21.34	21.31	21.23	
20	QPSK	100	0	21.24	21.37	21.33	23
20	16QAM	1	0	21.59	21.87	21.79	
20	16QAM	1	49	21.46	21.59	21.53	
20	16QAM	1	99	21.51	21.54	21.50	22
20	16QAM	50	0	20.31	20.49	20.42	
20	16QAM	50	24	20.21	20.40	20.31	
20	16QAM	50	50	20.27	20.35	20.22	22
20	16QAM	100	0	20.22	20.40	20.32	
20	64QAM	1	0	20.46	20.74	20.65	
20	64QAM	1	49	20.31	20.51	20.39	21
20	64QAM	1	99	20.35	20.42	20.40	
20	64QAM	50	0	19.27	19.49	19.41	
20	64QAM	50	24	19.21	19.38	19.31	21
20	64QAM	50	50	19.26	19.31	19.24	
20	64QAM	100	0	19.23	19.37	19.33	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.28	22.50	22.46	24
15	QPSK	1	37	22.13	22.18	22.14	
15	QPSK	1	74	22.19	22.20	22.19	
15	QPSK	36	0	21.32	21.47	21.26	23
15	QPSK	36	20	21.23	21.31	21.26	
15	QPSK	36	39	21.24	21.29	21.19	
15	QPSK	75	0	21.23	21.36	21.23	23
15	16QAM	1	0	21.54	21.83	21.76	
15	16QAM	1	37	21.41	21.53	21.45	
15	16QAM	1	74	21.50	21.54	21.49	22
15	16QAM	36	0	20.26	20.43	20.37	
15	16QAM	36	20	20.18	20.33	20.28	
15	16QAM	36	39	20.20	20.32	20.12	22
15	16QAM	75	0	20.22	20.31	20.30	
15	64QAM	1	0	20.46	20.68	20.61	
15	64QAM	1	37	20.26	20.45	20.33	21
15	64QAM	1	74	20.32	20.42	20.31	
15	64QAM	36	0	19.24	19.48	19.39	
15	64QAM	36	20	19.16	19.30	19.25	21

15	64QAM	36	39	19.20	19.22	19.19	
15	64QAM	75	0	19.17	19.33	19.31	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.35	22.45	22.38	24
10	QPSK	1	25	22.15	22.19	22.20	
10	QPSK	1	49	22.24	22.11	22.11	
10	QPSK	25	0	21.31	21.42	21.36	23
10	QPSK	25	12	21.21	21.29	21.31	
10	QPSK	25	25	21.33	21.31	21.23	
10	QPSK	50	0	21.21	21.31	21.28	
10	16QAM	1	0	21.57	21.78	21.78	23
10	16QAM	1	25	21.37	21.49	21.48	
10	16QAM	1	49	21.45	21.44	21.48	
10	16QAM	25	0	20.22	20.40	20.38	22
10	16QAM	25	12	20.15	20.38	20.23	
10	16QAM	25	25	20.27	20.33	20.12	
10	16QAM	50	0	20.14	20.31	20.28	
10	64QAM	1	0	20.39	20.68	20.65	22
10	64QAM	1	25	20.23	20.45	20.29	
10	64QAM	1	49	20.27	20.38	20.38	
10	64QAM	25	0	19.20	19.48	19.32	21
10	64QAM	25	12	19.14	19.29	19.22	
10	64QAM	25	25	19.17	19.23	19.16	
10	64QAM	50	0	19.17	19.27	19.27	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.32	22.53	22.37	24
5	QPSK	1	12	22.22	22.23	22.12	
5	QPSK	1	24	22.19	22.19	22.15	
5	QPSK	12	0	21.31	21.47	21.33	23
5	QPSK	12	7	21.28	21.30	21.29	
5	QPSK	12	13	21.29	21.26	21.19	
5	QPSK	25	0	21.18	21.36	21.26	
5	16QAM	1	0	21.51	21.84	21.77	23
5	16QAM	1	12	21.42	21.57	21.48	
5	16QAM	1	24	21.45	21.53	21.50	
5	16QAM	12	0	20.24	20.39	20.34	22
5	16QAM	12	7	20.17	20.31	20.26	
5	16QAM	12	13	20.23	20.25	20.20	
5	16QAM	25	0	20.19	20.36	20.22	
5	64QAM	1	0	20.46	20.74	20.61	22
5	64QAM	1	12	20.30	20.42	20.33	
5	64QAM	1	24	20.28	20.41	20.37	
5	64QAM	12	0	19.27	19.49	19.41	21
5	64QAM	12	7	19.17	19.37	19.27	
5	64QAM	12	13	19.18	19.30	19.23	
5	64QAM	25	0	19.14	19.36	19.29	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.31	22.53	22.43	24
3	QPSK	1	8	22.17	22.23	22.20	
3	QPSK	1	14	22.27	22.17	22.13	
3	QPSK	8	0	21.32	21.40	21.28	23
3	QPSK	8	4	21.22	21.37	21.24	
3	QPSK	8	7	21.27	21.24	21.16	



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3	QPSK	15	0	21.24	21.35	21.24	
3	16QAM	1	0	21.50	21.81	21.72	23
3	16QAM	1	8	21.43	21.52	21.52	
3	16QAM	1	14	21.49	21.48	21.40	
3	16QAM	8	0	20.21	20.48	20.36	22
3	16QAM	8	4	20.11	20.37	20.24	
3	16QAM	8	7	20.20	20.25	20.12	
3	16QAM	15	0	20.16	20.33	20.23	22
3	64QAM	1	0	20.36	20.74	20.55	
3	64QAM	1	8	20.28	20.50	20.30	
3	64QAM	1	14	20.31	20.41	20.34	21
3	64QAM	8	0	19.22	19.49	19.35	
3	64QAM	8	4	19.17	19.37	19.23	
3	64QAM	8	7	19.16	19.22	19.22	
3	64QAM	15	0	19.18	19.28	19.32	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.24	22.37	22.25	24
1.4	QPSK	1	3	22.29	22.38	22.39	
1.4	QPSK	1	5	22.19	22.28	22.25	
1.4	QPSK	3	0	22.29	22.38	22.37	
1.4	QPSK	3	1	22.36	22.42	22.43	
1.4	QPSK	3	3	22.26	22.39	22.33	
1.4	QPSK	6	0	21.34	21.39	21.29	23
1.4	16QAM	1	0	21.59	21.56	21.60	23
1.4	16QAM	1	3	21.57	21.70	21.61	
1.4	16QAM	1	5	21.55	21.60	21.52	
1.4	16QAM	3	0	21.31	21.42	21.40	
1.4	16QAM	3	1	21.36	21.45	21.37	
1.4	16QAM	3	3	21.36	21.31	21.36	
1.4	16QAM	6	0	20.38	20.47	20.46	22
1.4	64QAM	1	0	20.46	20.48	20.52	22
1.4	64QAM	1	3	20.58	20.51	20.55	
1.4	64QAM	1	5	20.40	20.44	20.47	
1.4	64QAM	3	0	20.42	20.52	20.48	
1.4	64QAM	3	1	20.54	20.50	20.59	
1.4	64QAM	3	3	20.47	20.43	20.47	
1.4	64QAM	6	0	19.31	19.32	19.28	21

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

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

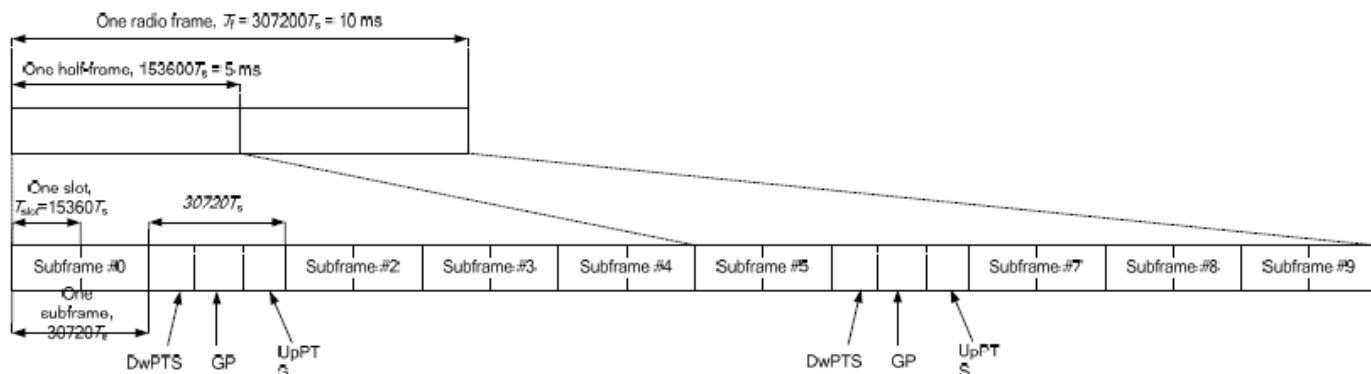


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

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

EM9191

<LTE Band 38 Ant 1>							
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	23.23	23.19	23.08	24.8
20	QPSK	1	49	23.09	23.10	23.11	
20	QPSK	1	99	23.18	23.02	23.10	
20	QPSK	50	0	22.26	22.30	22.25	23.8
20	QPSK	50	24	22.41	22.32	22.32	
20	QPSK	50	50	22.28	22.38	22.29	
20	QPSK	100	0	22.32	22.40	22.31	23.8
20	16QAM	1	0	22.32	22.30	22.21	
20	16QAM	1	49	22.29	22.38	22.24	
20	16QAM	1	99	22.30	22.21	22.09	22.8
20	16QAM	50	0	21.31	21.29	21.22	
20	16QAM	50	24	21.38	21.34	21.31	
20	16QAM	50	50	21.42	21.28	21.31	22.8
20	16QAM	100	0	21.36	21.39	21.21	
20	64QAM	1	0	21.07	20.93	20.86	
20	64QAM	1	49	20.99	20.94	20.91	21.8
20	64QAM	1	99	21.09	20.89	20.84	
20	64QAM	50	0	20.36	20.29	20.19	
20	64QAM	50	24	20.36	20.31	20.30	19.8
20	64QAM	50	50	20.28	20.37	20.26	
20	64QAM	100	0	20.41	20.35	20.19	
20	256QAM	1	0	18.12	18.20	18.29	19.8
20	256QAM	1	49	18.04	18.14	18.18	
20	256QAM	1	99	18.10	18.12	18.13	
20	256QAM	50	0	18.30	17.80	18.47	19.8
20	256QAM	50	24	18.38	18.40	18.51	
20	256QAM	50	50	18.36	18.44	18.46	
20	256QAM	100	0	18.38	18.46	18.40	Tune-up limit (dBm)
Channel				37825	38000	38175	
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	23.10	23.15	23.18	24.8
15	QPSK	1	37	23.03	23.14	23.18	
15	QPSK	1	74	23.16	23.08	23.11	
15	QPSK	36	0	22.21	22.25	22.22	23.8
15	QPSK	36	20	22.36	22.33	22.15	
15	QPSK	36	39	22.22	22.27	22.26	
15	QPSK	75	0	22.29	22.31	22.16	23.8
15	16QAM	1	0	22.25	22.25	22.23	
15	16QAM	1	37	22.02	22.21	22.20	
15	16QAM	1	74	22.25	22.29	22.16	22.8
15	16QAM	36	0	21.23	21.25	21.25	
15	16QAM	36	20	21.26	21.31	21.16	
15	16QAM	36	39	21.21	21.29	21.21	22.8
15	16QAM	75	0	21.35	21.28	21.26	
15	64QAM	1	0	21.05	20.99	20.84	
15	64QAM	1	37	20.97	21.03	20.95	21.8
15	64QAM	1	74	21.09	20.92	20.99	
15	64QAM	36	0	20.19	20.31	20.24	



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15	64QAM	36	20	20.29	20.39	20.19	
15	64QAM	36	39	20.26	20.27	20.21	
15	64QAM	75	0	20.38	20.38	20.24	
15	256QAM	1	0	18.45	18.11	18.53	19.8
15	256QAM	1	37	18.40	18.26	17.98	
15	256QAM	1	74	18.08	18.50	18.41	
15	256QAM	36	0	18.45	17.80	18.43	19.8
15	256QAM	36	20	18.46	18.64	18.46	
15	256QAM	36	39	18.28	18.84	18.58	
15	256QAM	75	0	18.27	18.46	18.38	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	23.02	23.12	23.11	24.8
10	QPSK	1	25	22.98	23.09	23.10	
10	QPSK	1	49	23.13	22.98	23.03	
10	QPSK	25	0	22.18	22.17	22.16	23.8
10	QPSK	25	12	22.30	22.29	22.06	
10	QPSK	25	25	22.12	22.27	22.16	
10	QPSK	50	0	22.20	22.24	22.08	23.8
10	16QAM	1	0	22.22	22.16	22.22	
10	16QAM	1	25	21.95	22.20	22.12	
10	16QAM	1	49	22.20	22.23	22.11	22.8
10	16QAM	25	0	21.13	21.23	21.16	
10	16QAM	25	12	21.21	21.22	21.11	
10	16QAM	25	25	21.13	21.27	21.20	22.8
10	16QAM	50	0	21.32	21.25	21.20	
10	64QAM	1	0	21.05	20.94	20.81	
10	64QAM	1	25	20.97	21.02	20.92	21.8
10	64QAM	1	49	21.07	20.84	20.91	
10	64QAM	25	0	20.09	20.29	20.15	
10	64QAM	25	12	20.21	20.35	20.16	19.8
10	64QAM	25	25	20.26	20.22	20.21	
10	64QAM	50	0	20.35	20.34	20.16	
10	256QAM	1	0	18.06	18.59	18.41	19.8
10	256QAM	1	25	18.40	18.17	18.11	
10	256QAM	1	49	18.13	18.29	18.41	
10	256QAM	25	0	18.12	17.80	18.44	19.8
10	256QAM	25	12	18.35	18.25	18.58	
10	256QAM	25	25	18.24	18.81	18.52	
10	256QAM	50	0	18.27	18.85	18.69	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	23.20	23.11	23.15	24.8
5	QPSK	1	12	23.17	23.21	23.09	
5	QPSK	1	24	23.17	23.17	23.05	
5	QPSK	12	0	22.29	22.30	22.22	23.8
5	QPSK	12	7	22.33	22.40	22.27	
5	QPSK	12	13	22.31	22.31	22.28	
5	QPSK	25	0	22.28	22.31	22.30	23.8
5	16QAM	1	0	22.33	22.29	22.30	
5	16QAM	1	12	22.33	22.32	22.29	
5	16QAM	1	24	22.37	22.43	22.31	22.8
5	16QAM	12	0	21.31	21.30	21.28	
5	16QAM	12	7	21.30	21.35	21.25	
5	16QAM	12	13	21.23	21.33	21.26	22.8
5	16QAM	25	0	21.35	21.38	21.35	



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5	64QAM	1	0	21.10	21.08	21.08	22.8
5	64QAM	1	12	21.08	21.05	21.02	
5	64QAM	1	24	21.13	21.06	21.05	
5	64QAM	12	0	20.40	20.26	20.34	21.8
5	64QAM	12	7	20.37	20.45	20.31	
5	64QAM	12	13	20.30	20.40	20.32	
5	64QAM	25	0	20.42	20.43	20.40	19.8
5	256QAM	1	0	18.36	18.06	18.63	
5	256QAM	1	12	18.39	18.23	18.04	
5	256QAM	1	24	18.01	18.31	18.40	19.8
5	256QAM	12	0	18.55	17.81	18.50	
5	256QAM	12	7	18.52	18.40	18.51	
5	256QAM	12	13	18.71	18.66	18.77	
5	256QAM	25	0	18.31	18.57	18.57	

<LTE Band 38 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	23.16	23.18	23.04	24.8
20	QPSK	1	49	23.04	23.10	23.08	
20	QPSK	1	99	23.09	22.96	23.00	
20	QPSK	50	0	22.22	22.23	22.21	23.8
20	QPSK	50	24	22.33	22.34	22.27	
20	QPSK	50	50	22.25	22.30	22.26	
20	QPSK	100	0	22.23	22.31	22.22	23.8
20	16QAM	1	0	22.30	22.29	22.20	
20	16QAM	1	49	22.20	22.28	22.20	
20	16QAM	1	99	22.20	22.20	22.03	22.8
20	16QAM	50	0	21.28	21.23	21.22	
20	16QAM	50	24	21.38	21.30	21.24	
20	16QAM	50	50	21.41	21.22	21.25	22.8
20	16QAM	100	0	21.28	21.32	21.18	
20	64QAM	1	0	21.00	20.83	20.86	22.8
20	64QAM	1	49	20.93	20.89	20.85	
20	64QAM	1	99	21.01	20.85	20.81	
20	64QAM	50	0	20.36	20.25	20.12	21.8
20	64QAM	50	24	20.36	20.25	20.23	
20	64QAM	50	50	20.18	20.29	20.20	
20	64QAM	100	0	20.41	20.31	20.19	19.8
20	256QAM	1	0	18.02	18.11	18.20	
20	256QAM	1	49	17.95	18.05	18.13	
20	256QAM	1	99	18.08	18.12	18.11	19.8
20	256QAM	50	0	18.25	17.80	18.45	
20	256QAM	50	24	18.35	18.37	18.42	
20	256QAM	50	50	18.30	18.44	18.45	19.8
20	256QAM	100	0	18.35	18.42	18.31	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	23.09	23.14	23.16	24.8
15	QPSK	1	37	22.93	23.13	23.08	
15	QPSK	1	74	23.10	23.01	23.04	
15	QPSK	36	0	22.15	22.20	22.15	23.8
15	QPSK	36	20	22.28	22.28	22.10	
15	QPSK	36	39	22.12	22.24	22.26	



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15	QPSK	75	0	22.19	22.25	22.07	23.8
15	16QAM	1	0	22.23	22.15	22.16	
15	16QAM	1	37	21.96	22.18	22.18	
15	16QAM	1	74	22.24	22.24	22.16	
15	16QAM	36	0	21.20	21.24	21.15	22.8
15	16QAM	36	20	21.20	21.23	21.13	
15	16QAM	36	39	21.17	21.23	21.19	
15	16QAM	75	0	21.26	21.26	21.19	
15	64QAM	1	0	21.03	20.98	20.82	22.8
15	64QAM	1	37	20.97	20.97	20.93	
15	64QAM	1	74	21.09	20.87	20.96	
15	64QAM	36	0	20.11	20.22	20.19	21.8
15	64QAM	36	20	20.20	20.31	20.19	
15	64QAM	36	39	20.22	20.24	20.12	
15	64QAM	75	0	20.33	20.35	20.14	
15	256QAM	1	0	18.39	18.09	18.46	19.8
15	256QAM	1	37	18.40	18.16	17.93	
15	256QAM	1	74	17.99	18.42	18.38	
15	256QAM	36	0	18.41	17.83	18.37	19.8
15	256QAM	36	20	18.46	18.61	18.41	
15	256QAM	36	39	18.23	18.83	18.50	
15	256QAM	75	0	18.25	18.36	18.29	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	22.97	23.04	23.03	24.8
10	QPSK	1	25	22.98	23.09	23.09	
10	QPSK	1	49	23.13	22.89	22.96	
10	QPSK	25	0	22.16	22.14	22.10	23.8
10	QPSK	25	12	22.26	22.26	21.99	
10	QPSK	25	25	22.08	22.20	22.15	
10	QPSK	50	0	22.17	22.20	22.03	
10	16QAM	1	0	22.14	22.12	22.14	23.8
10	16QAM	1	25	21.92	22.19	22.08	
10	16QAM	1	49	22.16	22.16	22.09	
10	16QAM	25	0	21.12	21.20	21.07	22.8
10	16QAM	25	12	21.14	21.19	21.01	
10	16QAM	25	25	21.04	21.23	21.17	
10	16QAM	50	0	21.31	21.17	21.12	
10	64QAM	1	0	21.05	20.88	20.82	22.8
10	64QAM	1	25	20.88	21.00	20.86	
10	64QAM	1	49	21.00	20.81	20.87	
10	64QAM	25	0	20.04	20.27	20.05	
10	64QAM	25	12	20.11	20.30	20.14	21.8
10	64QAM	25	25	20.23	20.17	20.11	
10	64QAM	50	0	20.32	20.28	20.16	
10	256QAM	1	0	18.01	18.54	18.37	
10	256QAM	1	25	18.39	18.07	18.06	19.8
10	256QAM	1	49	18.08	18.20	18.36	
10	256QAM	25	0	18.09	17.82	18.43	
10	256QAM	25	12	18.31	18.23	18.54	19.8
10	256QAM	25	25	18.17	18.81	18.45	
10	256QAM	50	0	18.26	18.82	18.68	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	23.10	23.11	23.05	24.8
5	QPSK	1	12	23.16	23.16	22.99	

5	QPSK	1	24	23.11	23.15	22.97	23.8
5	QPSK	12	0	22.28	22.22	22.12	
5	QPSK	12	7	22.23	22.39	22.26	
5	QPSK	12	13	22.28	22.30	22.21	
5	QPSK	25	0	22.18	22.21	22.24	23.8
5	16QAM	1	0	22.27	22.28	22.21	
5	16QAM	1	12	22.32	22.23	22.28	
5	16QAM	1	24	22.28	22.42	22.23	
5	16QAM	12	0	21.31	21.20	21.22	22.8
5	16QAM	12	7	21.27	21.34	21.15	
5	16QAM	12	13	21.20	21.25	21.17	
5	16QAM	25	0	21.29	21.28	21.27	
5	64QAM	1	0	21.09	21.04	20.98	22.8
5	64QAM	1	12	21.00	20.99	20.97	
5	64QAM	1	24	21.05	20.97	20.95	
5	64QAM	12	0	20.32	20.21	20.30	
5	64QAM	12	7	20.32	20.45	20.27	21.8
5	64QAM	12	13	20.21	20.40	20.27	
5	64QAM	25	0	20.40	20.37	20.32	
5	256QAM	1	0	18.28	17.99	18.57	
5	256QAM	1	12	18.39	18.14	18.01	19.8
5	256QAM	1	24	17.95	18.23	18.30	
5	256QAM	12	0	18.51	17.82	18.42	
5	256QAM	12	7	18.52	18.39	18.51	
5	256QAM	12	13	18.61	18.56	18.72	19.8
5	256QAM	25	0	18.22	18.49	18.56	

<LTE Band 41 Ant 1>									
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	23.04	23.14	23.28	23.03	23.06	24.8
20	QPSK	1	49	22.98	23.09	23.22	23.00	22.95	
20	QPSK	1	99	22.94	23.05	23.14	23.11	23.01	
20	QPSK	50	0	22.13	22.20	22.32	22.14	22.11	23.8
20	QPSK	50	24	22.17	22.37	22.40	22.22	22.18	
20	QPSK	50	50	22.07	22.34	22.33	22.14	22.17	
20	QPSK	100	0	22.18	22.45	22.35	22.26	22.13	
20	16QAM	1	0	22.14	22.40	22.41	22.15	22.26	23.8
20	16QAM	1	49	22.03	22.26	22.24	22.14	22.12	
20	16QAM	1	99	22.01	22.27	22.23	22.16	22.05	
20	16QAM	50	0	21.16	21.30	21.25	21.24	21.25	22.8
20	16QAM	50	24	21.15	21.38	21.44	21.21	21.16	
20	16QAM	50	50	21.17	21.32	21.37	21.24	21.22	
20	16QAM	100	0	21.10	21.33	21.39	21.21	21.25	
20	64QAM	1	0	20.88	21.00	21.04	20.88	20.95	22.8
20	64QAM	1	49	20.80	20.93	21.11	20.84	20.80	
20	64QAM	1	99	20.85	20.91	21.12	20.95	20.80	
20	64QAM	50	0	20.19	20.34	20.28	20.22	20.26	21.8
20	64QAM	50	24	20.25	20.40	20.40	20.25	20.21	
20	64QAM	50	50	20.20	20.36	20.46	20.21	20.16	
20	64QAM	100	0	20.16	20.34	20.35	20.25	20.22	
20	256QAM	1	0	18.37	18.03	18.33	18.27	18.20	19.8
20	256QAM	1	49	18.64	18.24	18.27	18.16	18.08	
20	256QAM	1	99	18.57	18.04	18.30	18.19	18.08	



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20	256QAM	50	0	18.42	18.11	18.49	18.27	18.17	19.8
20	256QAM	50	24	18.69	18.69	18.59	18.66	18.39	
20	256QAM	50	50	18.89	18.28	18.52	18.42	18.26	
20	256QAM	100	0	18.92	18.34	18.53	18.50	18.73	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	22.97	23.07	23.16	23.03	23.08	24.80
15	QPSK	1	37	22.95	23.15	23.19	23.03	22.86	
15	QPSK	1	74	22.94	23.19	23.21	23.07	22.98	
15	QPSK	36	0	22.11	22.20	22.40	22.02	22.14	23.8
15	QPSK	36	20	22.10	22.29	22.34	22.19	22.20	
15	QPSK	36	39	22.03	22.34	22.40	22.18	22.13	
15	QPSK	75	0	22.19	22.34	22.39	22.21	22.18	
15	16QAM	1	0	22.16	22.25	22.27	22.10	22.16	23.8
15	16QAM	1	37	21.99	22.27	22.22	22.00	22.04	
15	16QAM	1	74	22.01	22.47	22.38	22.26	22.17	
15	16QAM	36	0	21.11	21.19	21.21	21.06	21.08	22.8
15	16QAM	36	20	21.05	21.30	21.25	21.09	21.06	
15	16QAM	36	39	21.18	21.23	21.30	21.18	21.11	
15	16QAM	75	0	21.21	21.44	21.35	21.20	21.24	
15	64QAM	1	0	20.94	21.07	21.02	20.80	20.92	22.8
15	64QAM	1	37	20.80	20.95	20.99	20.89	20.80	
15	64QAM	1	74	20.83	21.05	21.18	20.99	20.83	
15	64QAM	36	0	20.07	20.35	20.35	20.15	20.20	21.8
15	64QAM	36	20	20.24	20.38	20.35	20.19	20.11	
15	64QAM	36	39	20.22	20.33	20.33	20.09	20.11	
15	64QAM	75	0	20.19	20.28	20.33	20.27	20.17	
15	256QAM	1	0	18.37	18.01	18.27	18.27	18.17	19.8
15	256QAM	1	37	18.57	18.16	18.20	18.15	18.01	
15	256QAM	1	74	18.52	17.97	18.20	18.19	18.08	
15	256QAM	36	0	18.32	18.01	18.45	18.25	18.08	19.8
15	256QAM	36	20	18.68	18.68	18.56	18.57	18.34	
15	256QAM	36	39	18.89	18.21	18.49	18.39	18.19	
15	256QAM	75	0	18.85	18.28	18.49	18.48	18.71	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	22.92	23.05	23.10	23.03	23.05	24.80
10	QPSK	1	25	22.85	23.15	23.14	23.01	22.80	
10	QPSK	1	49	22.94	23.11	23.20	23.02	22.96	
10	QPSK	25	0	22.02	22.20	22.38	21.96	22.12	23.8
10	QPSK	25	12	22.02	22.28	22.30	22.11	22.15	
10	QPSK	25	25	22.03	22.29	22.33	22.18	22.13	
10	QPSK	50	0	22.10	22.25	22.36	22.12	22.12	
10	16QAM	1	0	22.16	22.16	22.25	22.02	22.11	23.8
10	16QAM	1	25	21.97	22.23	22.16	21.94	21.95	
10	16QAM	1	49	21.91	22.46	22.32	22.25	22.13	
10	16QAM	25	0	21.02	21.16	21.21	21.03	21.00	22.8
10	16QAM	25	12	21.00	21.26	21.21	21.00	21.04	
10	16QAM	25	25	21.16	21.14	21.22	21.17	21.08	
10	16QAM	50	0	21.15	21.37	21.35	21.10	21.14	
10	64QAM	1	0	20.91	21.05	21.02	20.82	20.84	22.8
10	64QAM	1	25	20.82	20.90	20.99	20.89	20.80	
10	64QAM	1	49	20.84	20.99	21.14	20.89	20.82	
10	64QAM	25	0	19.97	20.35	20.28	20.08	20.12	21.8
10	64QAM	25	12	20.16	20.37	20.34	20.12	20.03	
10	64QAM	25	25	20.21	20.23	20.32	20.02	20.06	



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10	64QAM	50	0	20.15	20.27	20.32	20.18	20.15	19.8
10	256QAM	1	0	18.37	17.95	18.18	18.27	18.17	
10	256QAM	1	25	18.50	18.13	18.12	18.05	17.98	
10	256QAM	1	49	18.51	17.89	18.11	18.13	18.08	
10	256QAM	25	0	18.27	17.91	18.42	18.23	18.07	19.8
10	256QAM	25	12	18.62	18.62	18.54	18.53	18.30	
10	256QAM	25	25	18.84	18.19	18.40	18.30	18.13	
10	256QAM	50	0	18.78	18.20	18.48	18.46	18.61	
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	23.12	23.14	23.13	23.01	23.12	24.80
5	QPSK	1	12	22.95	23.18	23.26	23.03	23.12	
5	QPSK	1	24	22.94	23.24	23.16	23.08	23.05	
5	QPSK	12	0	22.19	22.34	22.30	22.17	22.15	23.8
5	QPSK	12	7	22.19	22.27	22.40	22.25	22.15	
5	QPSK	12	13	22.10	22.30	22.41	22.30	22.09	
5	QPSK	25	0	22.08	22.32	22.44	22.19	22.13	
5	16QAM	1	0	22.17	22.20	22.30	22.26	22.15	23.8
5	16QAM	1	12	22.13	22.27	22.36	22.19	22.22	
5	16QAM	1	24	22.18	22.46	22.48	22.22	22.16	
5	16QAM	12	0	21.16	21.31	21.21	21.24	21.10	22.8
5	16QAM	12	7	21.28	21.33	21.40	21.27	21.20	
5	16QAM	12	13	20.96	21.30	21.33	21.20	21.15	
5	16QAM	25	0	21.19	21.38	21.44	21.21	21.19	
5	64QAM	1	0	21.03	21.06	21.05	20.84	20.96	22.8
5	64QAM	1	12	20.84	21.10	21.13	20.87	20.97	
5	64QAM	1	24	20.93	21.06	21.16	20.97	20.98	
5	64QAM	12	0	20.17	20.32	20.41	20.20	20.24	21.8
5	64QAM	12	7	20.17	20.43	20.46	20.24	20.15	
5	64QAM	12	13	20.18	20.36	20.40	20.29	20.17	
5	64QAM	25	0	20.18	20.41	20.49	20.23	20.22	
5	256QAM	1	0	18.31	17.89	18.10	18.25	18.12	19.8
5	256QAM	1	12	18.44	18.10	18.04	18.00	17.90	
5	256QAM	1	24	18.49	17.84	18.07	18.11	18.05	
5	256QAM	12	0	18.22	17.84	18.41	18.18	18.00	19.8
5	256QAM	12	7	18.59	18.58	18.47	18.46	18.21	
5	256QAM	12	13	18.74	18.12	18.38	18.20	18.06	
5	256QAM	25	0	18.71	18.18	18.44	18.41	18.57	

<LTE Band 41_Ant 2>									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	23.01	23.14	23.27	22.94	22.99	24.8
20	QPSK	1	49	22.89	23.03	23.19	22.93	22.95	
20	QPSK	1	99	22.90	23.03	23.11	23.11	22.98	
20	QPSK	50	0	22.09	22.10	22.27	22.05	22.05	23.8
20	QPSK	50	24	22.14	22.30	22.33	22.18	22.17	
20	QPSK	50	50	22.04	22.28	22.32	22.10	22.16	
20	QPSK	100	0	22.13	22.37	22.38	22.18	22.12	
20	16QAM	1	0	22.06	22.35	22.37	22.11	22.24	23.8
20	16QAM	1	49	22.00	22.20	22.18	22.13	22.11	
20	16QAM	1	99	21.91	22.27	22.21	22.13	22.05	
20	16QAM	50	0	21.15	21.30	21.15	21.24	21.23	22.8
20	16QAM	50	24	21.12	21.37	21.40	21.13	21.16	



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20	16QAM	50	50	21.12	21.28	21.27	21.17	21.18	
20	16QAM	100	0	21.00	21.28	21.34	21.19	21.15	
20	64QAM	1	0	20.82	20.92	20.94	20.87	20.86	
20	64QAM	1	49	20.80	20.84	21.04	20.81	20.80	22.8
20	64QAM	1	99	20.83	20.88	21.04	20.94	20.80	
20	64QAM	50	0	20.13	20.24	20.21	20.21	20.17	
20	64QAM	50	24	20.19	20.32	20.30	20.25	20.13	21.8
20	64QAM	50	50	20.18	20.32	20.45	20.20	20.14	
20	64QAM	100	0	20.10	20.31	20.28	20.15	20.12	
20	256QAM	1	0	18.29	17.94	18.26	18.23	18.20	19.8
20	256QAM	1	49	18.59	18.17	18.19	18.15	18.00	
20	256QAM	1	99	18.52	18.01	18.24	18.13	18.03	
20	256QAM	50	0	18.41	18.07	18.49	18.24	18.17	19.8
20	256QAM	50	24	18.62	18.68	18.53	18.65	18.29	
20	256QAM	50	50	18.86	18.18	18.50	18.34	18.23	
20	256QAM	100	0	18.83	18.26	18.51	18.44	18.65	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	22.91	23.02	23.12	22.99	22.98	24.80
15	QPSK	1	37	22.93	23.10	23.15	23.01	22.80	
15	QPSK	1	74	22.93	23.10	23.13	23.05	22.92	
15	QPSK	36	0	22.06	22.11	22.35	22.01	22.05	23.8
15	QPSK	36	20	22.10	22.19	22.31	22.12	22.20	
15	QPSK	36	39	21.96	22.32	22.34	22.08	22.09	
15	QPSK	75	0	22.16	22.30	22.31	22.21	22.15	23.8
15	16QAM	1	0	22.15	22.15	22.17	22.06	22.08	
15	16QAM	1	37	21.91	22.26	22.20	21.94	21.94	
15	16QAM	1	74	21.92	22.43	22.38	22.20	22.13	22.8
15	16QAM	36	0	21.05	21.11	21.20	20.96	21.01	
15	16QAM	36	20	20.97	21.20	21.16	21.04	21.02	
15	16QAM	36	39	21.14	21.22	21.21	21.10	21.09	22.8
15	16QAM	75	0	21.20	21.34	21.26	21.19	21.21	
15	64QAM	1	0	20.89	21.04	21.02	20.81	20.86	
15	64QAM	1	37	20.82	20.91	20.95	20.82	20.82	21.8
15	64QAM	1	74	20.83	21.05	21.12	20.89	20.81	
15	64QAM	36	0	20.07	20.32	20.31	20.09	20.16	
15	64QAM	36	20	20.14	20.35	20.29	20.14	20.02	19.8
15	64QAM	36	39	20.15	20.26	20.30	19.99	20.09	
15	64QAM	75	0	20.09	20.20	20.30	20.21	20.17	
15	256QAM	1	0	18.30	17.98	18.20	18.22	18.15	19.8
15	256QAM	1	37	18.47	18.11	18.19	18.14	17.98	
15	256QAM	1	74	18.44	17.97	18.12	18.12	17.98	
15	256QAM	36	0	18.27	17.91	18.35	18.21	18.02	19.8
15	256QAM	36	20	18.63	18.58	18.48	18.54	18.33	
15	256QAM	36	39	18.82	18.21	18.42	18.35	18.16	
15	256QAM	75	0	18.81	18.18	18.44	18.40	18.71	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	22.84	22.96	23.04	22.93	22.97	24.80
10	QPSK	1	25	22.81	23.15	23.13	22.99	22.81	
10	QPSK	1	49	22.94	23.10	23.14	23.00	22.87	
10	QPSK	25	0	21.97	22.13	22.28	21.96	22.05	23.8
10	QPSK	25	12	21.96	22.19	22.26	22.07	22.14	
10	QPSK	25	25	21.95	22.28	22.25	22.08	22.08	
10	QPSK	50	0	22.09	22.24	22.30	22.05	22.07	23.8
10	16QAM	1	0	22.11	22.15	22.18	21.97	22.04	



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10	16QAM	1	25	21.96	22.22	22.12	21.85	21.87	
10	16QAM	1	49	21.90	22.42	22.23	22.23	22.12	
10	16QAM	25	0	20.98	21.14	21.21	20.96	21.00	
10	16QAM	25	12	20.91	21.21	21.18	20.97	20.99	22.8
10	16QAM	25	25	21.06	21.07	21.14	21.11	21.07	
10	16QAM	50	0	21.09	21.34	21.25	21.08	21.11	
10	64QAM	1	0	20.85	20.95	21.02	20.83	20.81	22.8
10	64QAM	1	25	20.82	20.82	20.89	20.85	20.83	
10	64QAM	1	49	20.80	20.99	21.11	20.86	20.80	
10	64QAM	25	0	19.95	20.34	20.18	20.08	20.07	21.8
10	64QAM	25	12	20.11	20.36	20.25	20.02	19.96	
10	64QAM	25	25	20.15	20.18	20.29	19.94	19.98	
10	64QAM	50	0	20.14	20.20	20.26	20.14	20.15	19.8
10	256QAM	1	0	18.34	17.88	18.17	18.18	18.13	
10	256QAM	1	25	18.48	18.10	18.10	18.04	17.91	
10	256QAM	1	49	18.50	17.80	18.05	18.11	18.06	19.8
10	256QAM	25	0	18.22	17.84	18.41	18.21	17.97	
10	256QAM	25	12	18.61	18.55	18.50	18.47	18.23	
10	256QAM	25	25	18.82	18.17	18.30	18.30	18.10	19.8
10	256QAM	50	0	18.77	18.11	18.44	18.43	18.56	
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	23.12	23.14	23.13	23.01	23.12	24.80
5	QPSK	1	12	22.95	23.18	23.20	23.03	23.12	
5	QPSK	1	24	22.94	23.24	23.16	23.08	23.05	
5	QPSK	12	0	22.19	22.34	22.30	22.17	22.15	23.8
5	QPSK	12	7	22.19	22.27	22.40	22.25	22.15	
5	QPSK	12	13	22.10	22.30	22.41	22.30	22.09	
5	QPSK	25	0	22.08	22.32	22.44	22.19	22.13	23.8
5	16QAM	1	0	22.17	22.20	22.30	22.26	22.15	
5	16QAM	1	12	22.13	22.27	22.36	22.19	22.22	
5	16QAM	1	24	22.18	22.46	22.48	22.22	22.16	22.8
5	16QAM	12	0	21.16	21.31	21.21	21.24	21.10	
5	16QAM	12	7	21.28	21.33	21.40	21.27	21.20	
5	16QAM	12	13	20.96	21.30	21.33	21.20	21.15	22.8
5	16QAM	25	0	21.19	21.38	21.44	21.21	21.19	
5	64QAM	1	0	21.03	21.06	21.05	20.84	20.96	
5	64QAM	1	12	20.84	21.10	21.13	20.87	20.97	22.8
5	64QAM	1	24	20.93	21.06	21.16	20.97	20.98	
5	64QAM	12	0	20.17	20.32	20.41	20.20	20.24	
5	64QAM	12	7	20.17	20.43	20.46	20.24	20.15	21.8
5	64QAM	12	13	20.18	20.36	20.40	20.29	20.17	
5	64QAM	25	0	20.18	20.41	20.49	20.23	20.22	
5	256QAM	1	0	18.31	17.89	18.10	18.25	18.12	19.8
5	256QAM	1	12	18.44	18.10	18.04	18.00	17.90	
5	256QAM	1	24	18.49	17.84	18.07	18.11	18.05	
5	256QAM	12	0	18.22	17.84	18.41	18.18	18.00	19.8
5	256QAM	12	7	18.59	18.58	18.47	18.46	18.21	
5	256QAM	12	13	18.74	18.12	18.38	18.20	18.06	
5	256QAM	25	0	18.71	18.18	18.44	18.41	18.57	

**EM7565**

<LTE Band 41 Ant 1>									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	22.17	22.40	22.42	22.15	22.10	23.8
20	QPSK	1	49	22.00	22.18	22.12	22.02	21.86	
20	QPSK	1	99	22.01	22.22	22.13	21.88	21.86	
20	QPSK	50	0	21.19	21.27	21.29	21.09	20.94	22.8
20	QPSK	50	24	21.11	21.26	21.20	21.06	20.93	
20	QPSK	50	50	21.09	21.23	21.16	20.99	20.87	
20	QPSK	100	0	21.11	21.22	21.25	21.07	20.93	
20	16QAM	1	0	21.33	21.55	21.61	21.25	21.33	22.8
20	16QAM	1	49	21.18	21.31	21.31	21.06	21.01	
20	16QAM	1	99	21.13	21.33	21.31	20.99	21.01	
20	16QAM	50	0	20.19	20.32	20.23	20.13	19.97	21.8
20	16QAM	50	24	20.17	20.32	20.24	20.10	19.95	
20	16QAM	50	50	20.10	20.26	20.20	20.03	19.90	
20	16QAM	100	0	20.13	20.28	20.22	20.08	19.94	
20	64QAM	1	0	19.99	20.10	20.12	19.85	19.85	21.8
20	64QAM	1	49	19.81	19.93	19.81	19.82	19.82	
20	64QAM	1	99	19.81	19.93	19.85	19.83	19.81	
20	64QAM	50	0	19.15	19.29	19.19	19.11	18.98	20.8
20	64QAM	50	24	19.13	19.30	19.22	19.05	18.96	
20	64QAM	50	50	19.09	19.25	19.17	19.06	18.92	
20	64QAM	100	0	19.13	19.30	19.23	19.08	18.98	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	22.16	22.41	22.21	22.14	21.97	23.80
15	QPSK	1	37	22.04	22.22	22.14	22.03	21.87	
15	QPSK	1	74	22.07	22.22	22.17	21.93	21.88	
15	QPSK	36	0	21.12	21.37	21.17	21.06	20.93	22.8
15	QPSK	36	20	21.12	21.27	21.19	21.04	20.92	
15	QPSK	36	39	21.08	21.21	21.16	20.90	20.89	
15	QPSK	75	0	21.09	21.26	21.18	21.04	20.93	
15	16QAM	1	0	21.26	21.46	21.37	21.19	21.10	22.8
15	16QAM	1	37	21.18	21.30	21.26	21.12	20.99	
15	16QAM	1	74	21.15	21.30	21.28	20.96	21.01	
15	16QAM	36	0	20.14	20.35	20.17	20.05	19.92	21.8
15	16QAM	36	20	20.07	20.23	20.16	20.01	19.91	
15	16QAM	36	39	20.02	20.21	20.09	19.87	19.86	
15	16QAM	75	0	20.15	20.26	20.18	20.06	19.94	
15	64QAM	1	0	19.97	20.20	19.93	19.88	19.83	21.8
15	64QAM	1	37	19.87	19.98	19.87	19.84	20.74	
15	64QAM	1	74	19.81	19.98	19.93	20.74	21.20	
15	64QAM	36	0	19.11	19.33	19.16	19.05	18.92	20.8
15	64QAM	36	20	19.07	19.21	19.14	19.03	18.92	
15	64QAM	36	39	19.04	19.17	19.11	18.87	18.86	
15	64QAM	75	0	19.11	19.24	19.19	19.06	18.93	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	22.09	22.36	22.19	22.11	21.98	23.80
10	QPSK	1	25	22.04	22.21	22.14	22.07	21.90	

10	QPSK	1	49	22.03	22.22	22.13	21.93	21.91	
10	QPSK	25	0	21.11	21.37	21.22	21.06	20.96	22.8
10	QPSK	25	12	21.09	21.28	21.21	21.06	20.95	
10	QPSK	25	25	21.08	21.24	21.21	20.92	20.94	
10	QPSK	50	0	21.09	21.23	21.21	21.06	20.95	
10	16QAM	1	0	21.24	21.52	21.39	21.22	21.12	22.8
10	16QAM	1	25	21.17	21.29	21.30	21.15	21.06	
10	16QAM	1	49	21.16	21.28	21.30	20.95	21.06	
10	16QAM	25	0	20.12	20.39	20.23	20.08	20.00	21.8
10	16QAM	25	12	20.15	20.30	20.25	20.08	19.99	
10	16QAM	25	25	20.06	20.26	20.17	19.94	19.94	
10	16QAM	50	0	20.15	20.28	20.24	20.10	19.99	
10	64QAM	1	0	19.93	20.04	19.94	19.83	19.83	21.8
10	64QAM	1	25	19.83	19.89	19.87	19.86	19.88	
10	64QAM	1	49	19.83	19.91	19.86	19.81	19.85	
10	64QAM	25	0	19.15	19.41	19.24	19.14	19.04	20.8
10	64QAM	25	12	19.16	19.34	19.30	19.13	19.04	
10	64QAM	25	25	19.14	19.24	19.19	18.94	18.98	
10	64QAM	50	0	19.07	19.25	19.20	19.06	18.94	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	22.05	22.28	22.16	22.07	21.91	23.80
5	QPSK	1	12	22.04	22.19	22.14	22.02	21.90	
5	QPSK	1	24	21.94	22.14	22.08	21.88	21.82	
5	QPSK	12	0	21.08	21.33	21.19	21.02	20.90	22.8
5	QPSK	12	7	21.10	21.27	21.19	21.07	20.93	
5	QPSK	12	13	21.07	21.20	21.14	20.89	20.91	
5	QPSK	25	0	21.07	21.24	21.18	21.06	20.93	
5	16QAM	1	0	21.19	21.40	21.25	21.15	21.09	22.8
5	16QAM	1	12	21.16	21.38	21.31	21.13	20.92	
5	16QAM	1	24	21.18	21.30	21.26	21.01	21.04	
5	16QAM	12	0	20.08	20.35	20.23	20.04	19.92	21.8
5	16QAM	12	7	20.14	20.25	20.21	20.04	19.93	
5	16QAM	12	13	20.05	20.21	20.16	19.88	19.93	
5	16QAM	25	0	20.14	20.27	20.19	20.04	19.97	
5	64QAM	1	0	19.84	20.03	19.80	19.82	19.84	21.8
5	64QAM	1	12	19.84	19.99	19.83	19.83	19.86	
5	64QAM	1	24	19.81	19.94	19.82	19.86	19.82	
5	64QAM	12	0	19.13	19.34	19.21	19.05	18.97	20.8
5	64QAM	12	7	19.09	19.27	19.25	19.10	19.00	
5	64QAM	12	13	19.03	19.22	19.19	18.93	18.96	
5	64QAM	25	0	19.09	19.26	19.20	19.10	18.97	

<LTE Band 41 Ant 2>									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	22.18	22.37	22.38	22.31	22.18	23.8
20	QPSK	1	49	21.92	22.09	22.07	22.02	21.81	
20	QPSK	1	99	21.92	22.15	22.04	21.84	21.83	
20	QPSK	50	0	21.14	21.26	21.27	21.07	20.87	22.8
20	QPSK	50	24	21.08	21.25	21.16	21.05	20.86	
20	QPSK	50	50	21.04	21.19	21.12	20.91	20.81	
20	QPSK	100	0	21.05	21.21	21.26	21.07	20.84	
20	16QAM	1	0	21.33	21.47	21.61	21.16	21.33	22.8
20	16QAM	1	49	21.13	21.29	21.25	20.96	20.91	
20	16QAM	1	99	21.08	21.25	21.24	20.91	20.93	
20	16QAM	50	0	20.16	20.27	20.15	20.05	19.93	21.8
20	16QAM	50	24	20.11	20.32	20.19	20.08	19.94	
20	16QAM	50	50	20.04	20.16	20.17	19.95	19.89	
20	16QAM	100	0	20.08	20.28	20.17	20.04	19.87	
20	64QAM	1	0	19.89	20.01	20.11	19.85	19.85	21.8
20	64QAM	1	49	19.86	19.89	19.85	19.86	19.85	
20	64QAM	1	99	19.80	19.84	19.84	19.80	19.81	
20	64QAM	50	0	19.15	19.28	19.15	19.02	18.98	20.8
20	64QAM	50	24	19.13	19.27	19.18	18.99	18.87	
20	64QAM	50	50	19.04	19.16	19.08	19.05	18.85	
20	64QAM	100	0	19.08	19.22	19.14	19.06	18.93	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	22.17	22.33	22.32	22.11	22.06	23.80
15	QPSK	1	37	21.95	22.12	22.12	22.02	21.81	
15	QPSK	1	74	21.92	22.20	22.09	21.81	21.82	
15	QPSK	36	0	21.11	21.29	21.18	21.06	20.87	22.8
15	QPSK	36	20	21.06	21.21	21.14	20.96	20.84	
15	QPSK	36	39	21.09	21.23	21.14	20.93	20.80	
15	QPSK	75	0	21.07	21.23	21.09	21.01	20.91	
15	16QAM	1	0	21.27	21.50	21.60	21.16	21.30	22.8
15	16QAM	1	37	21.16	21.23	21.24	21.05	20.99	
15	16QAM	1	74	21.03	21.27	21.24	20.98	20.91	
15	16QAM	36	0	20.09	20.29	20.23	20.05	19.88	21.8
15	16QAM	36	20	20.13	20.32	20.14	20.03	19.88	
15	16QAM	36	39	20.07	20.26	20.18	20.01	19.81	
15	16QAM	75	0	20.03	20.19	20.12	20.07	19.93	
15	64QAM	1	0	19.93	20.01	20.07	19.85	19.84	21.8
15	64QAM	1	37	19.81	19.88	19.85	19.83	19.82	
15	64QAM	1	74	19.81	19.91	19.85	19.82	19.84	
15	64QAM	36	0	19.10	19.24	19.13	19.08	18.91	20.8
15	64QAM	36	20	19.09	19.29	19.15	18.97	18.87	
15	64QAM	36	39	19.09	19.23	19.07	19.04	18.87	
15	64QAM	75	0	19.12	19.21	19.18	18.98	18.94	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	22.12	22.33	22.26	22.11	22.04	23.80
10	QPSK	1	25	21.99	22.11	22.04	21.97	21.80	
10	QPSK	1	49	21.95	22.15	22.05	21.82	21.84	
10	QPSK	25	0	21.15	21.22	21.15	21.02	20.94	22.8



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10	QPSK	25	12	21.01	21.25	21.20	20.96	20.83	
10	QPSK	25	25	21.07	21.18	21.12	20.91	20.85	
10	QPSK	50	0	21.07	21.20	21.10	21.00	20.88	
10	16QAM	1	0	21.30	21.47	21.54	21.22	21.29	22.8
10	16QAM	1	25	21.18	21.24	21.30	21.05	20.93	
10	16QAM	1	49	21.05	21.27	21.27	20.92	20.97	
10	16QAM	25	0	20.15	20.31	20.18	20.11	19.93	21.8
10	16QAM	25	12	20.12	20.30	20.17	20.10	19.91	
10	16QAM	25	25	20.02	20.18	20.16	19.95	19.90	
10	16QAM	50	0	20.12	20.19	20.15	20.07	19.85	21.8
10	64QAM	1	0	19.91	20.10	20.05	19.84	19.86	
10	64QAM	1	25	19.81	19.88	19.82	19.80	19.88	
10	64QAM	1	49	19.82	19.89	19.81	19.84	19.85	20.8
10	64QAM	25	0	19.15	19.22	19.16	19.10	18.95	
10	64QAM	25	12	19.04	19.22	19.20	19.03	18.88	
10	64QAM	25	25	19.08	19.17	19.16	19.06	18.90	
10	64QAM	50	0	19.07	19.29	19.23	19.04	18.93	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	22.13	22.34	22.33	22.13	22.04	23.80
5	QPSK	1	12	21.90	22.12	22.05	21.96	21.81	
5	QPSK	1	24	21.99	22.12	22.06	21.81	21.85	
5	QPSK	12	0	21.11	21.31	21.20	21.09	20.93	22.8
5	QPSK	12	7	21.09	21.25	21.19	21.04	20.89	
5	QPSK	12	13	21.06	21.14	21.15	20.95	20.84	
5	QPSK	25	0	21.05	21.18	21.16	21.06	20.84	22.8
5	16QAM	1	0	21.32	21.53	21.61	21.23	21.27	
5	16QAM	1	12	21.17	21.24	21.31	20.96	20.99	
5	16QAM	1	24	21.03	21.28	21.30	20.92	20.97	21.8
5	16QAM	12	0	20.10	20.32	20.15	20.10	19.96	
5	16QAM	12	7	20.11	20.22	20.19	20.04	19.93	
5	16QAM	12	13	20.04	20.26	20.15	19.99	19.88	21.8
5	16QAM	25	0	20.04	20.25	20.16	20.04	19.91	
5	64QAM	1	0	19.94	20.03	20.08	19.86	19.84	
5	64QAM	1	12	19.85	19.89	19.81	19.84	19.88	20.8
5	64QAM	1	24	19.84	19.88	19.85	19.80	19.86	
5	64QAM	12	0	19.15	19.23	19.14	19.06	18.97	
5	64QAM	12	7	19.09	19.22	19.21	19.04	18.89	
5	64QAM	12	13	19.04	19.22	19.08	18.97	18.88	
5	64QAM	25	0	19.09	19.23	19.15	18.99	18.95	

<LTE Carrier Aggregation combinations>
General Note:

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. 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.

EM9191

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation			4CC Downlink Carrier Aggregation			5CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	CA_2C	349	63	CA_41D	309	180	CA_41E	309	292	CA_41C-41D	309
2	CA_5B	348	64	CA_66D	349	181	CA_41A-41A-41C	309	293	CA_2A-2A-46D	349
3	CA_7B	345	65	CA_25A-25A-25A	308	182	CA_41A-41D	309	294	CA_2A-2A-66A-66B	349
4	CA_7C	345	66	CA_41A-41A-41A	309	183	CA_41C-41C	309	295	CA_2A-2A-66A-66C	349
5	CA_12B	339	67	CA_41A-41C	309	184	CA_2A-2A-4A-4A	287	296	CA_2A-46A-46D	349
6	CA_38C	40	68	CA_66A-66A-66A	349	185	CA_2A-2A-5B	348	297	CA_2A-46E	349
7	CA_41C	309	69	CA_66A-66B	349	186	CA_2A-2A-12A-12A	339	298	CA_4A-46A-46D	299
8	CA_66B	349	70	CA_66A-66C	349	187	CA_2A-2A-12B	339	299	CA_4A-46C-46C	
9	CA_66C	349	71	CA_2A-2A-4A	287	188	CA_2A-2A-46C	349	300	CA_5A-46E	348
10	CA_2A-2A	349	72	CA_2A-2A-5A	348	189	CA_2A-2A-66A-66A	349	301	CA_5B-66A-66B	348
11	CA_4A-4A	299	73	CA_2A-2A-7A	345	190	CA_2A-2A-66B	349	302	CA_5B-66A-66C	348
12	CA_5A-5A	348	74	CA_2A-2A-12A	339	191	CA_2A-2A-66C	349	303	CA_7A-7A-46D	345
13	CA_7A-7A	345	75	CA_2A-2A-13A	349	192	CA_2A-46A-46C	349	304	CA_7A-46E	345
14	CA_12A-12A	339	76	CA_2A-2A-14A	330	193	CA_2A-46D	349	305	CA_7C-46D	345
15	CA_25A-25A	308	77	CA_2A-2A-29A	340	194	CA_2A-66A-66A-66A	349	306	CA_12A-46E	
16	CA_41A-41A	309	78	CA_2A-2A-46A	349	195	CA_2A-66A-66B	349	307	CA_13A-46E	349
17	CA_66A-66A	349	79	CA_2A-2A-66A	349	196	CA_2A-66A-66C	349	308	CA_25A-25A-41D	
18	CA_2A-4A	287	80	CA_2A-2A-71A	276	197	CA_2C-66A-66A	349	309	CA_41A-46E	
19	CA_2A-5A	348	81	CA_2A-4A-4A	287	198	CA_2A-66D	349	310	CA_46A-46D-66A	349
20	CA_2A-7A	345	82	CA_2A-5B	348	199	CA_4A-4A-5B	286	311	CA_46D-66A-66A	349
21	CA_2A-12A	339	83	CA_2C-5A	348	200	CA_4A-4A-12A-12A	287	312	CA_46E-66A	349
22	CA_2A-13A	349	84	CA_2A-7A-7A	345	201	CA_4A-4A-12B	287	313	CA_2A-2A-5A-66A-66A	348
23	CA_2A-14A	330	85	CA_2A-7C	345	202	CA_4A-46A-46C	299	314	CA_2A-2A-5A-66B	348
24	CA_2A-17A		86	CA_2A-12A-12A	339	203	CA_4A-46D	299	315	CA_2A-2A-5A-66C	348
25	CA_2A-29A	340	87	CA_2A-12B	339	204	CA_5A-5A-66A-66A	348	316	CA_2A-2A-12A-66A-66A	339
26	CA_2A-46A	349	88	CA_2C-12A	339	205	CA_5A-5A-66B	348	317	CA_2A-2A-12B-66A	339
27	CA_2A-66A	349	89	CA_2C-29A	340	206	CA_5A-5A-66C	348	318	CA_2A-2A-14A-66A-66A	330
28	CA_2A-71A	276	90	CA_2A-46A-46A	349	207	CA_5A-46D	348	319	CA_2A-5A-46D	348
29	CA_4A-5A	286	91	CA_2A-46C	349	208	CA_5A-66A-66B	348	320	CA_2A-5B-66A-66A	348
30	CA_4A-7A	287	92	CA_2A-66A-66A	349	209	CA_5A-66A-66C	348	321	CA_2A-5B-66B	348
31	CA_4A-12A	287	93	CA_2A-66B	349	210	CA_5B-66A-66A	348	322	CA_2A-5B-66C	348
32	CA_4A-13A	237	94	CA_2A-66C	349	211	CA_5A-66D	348	323	CA_2A-7A-7A-66A-66A	340
33	CA_4A-17A		95	CA_2C-66A	349	212	CA_5B-66B	348	324	CA_2A-7C-66A-66A	340
34	CA_4A-29A	155	96	CA_4A-4A-5A	286	213	CA_5B-66C	348	325	CA_2A-12B-66A-66A	339
35	CA_4A-46A	299	97	CA_4A-4A-7A	287	214	CA_7A-7A-46C	345	326	CA_2A-13A-46D	349
36	CA_4A-71A	238	98	CA_4A-4A-12A	287	215	CA_7A-7A-66A-66A	340	327	CA_2A-13A-66A-66B	349
37	CA_5A-7A	333	99	CA_4A-4A-13A	237	216	CA_7A-46D	345	328	CA_2A-13A-66A-66C	349
38	CA_5A-12A	336	100	CA_4A-4A-29A	155	217	CA_7C-46C	345	329	CA_2A-13A-66D	349
39	CA_5A-25A		101	CA_4A-4A-71A	238	218	CA_7C-66A-66A	340	330	CA_2A-14A-66A-66A-66A	
40	CA_5A-38A		102	CA_4A-5B	286	219	CA_12A-46D	306	331	CA_2A-46A-46C-66A	349
41	CA_5A-41A		103	CA_4A-7A-7A	287	220	CA_12B-66A-66A	339	332	CA_2A-46D-66A	349
42	CA_5A-46A	348	104	CA_4A-7C	287	221	CA_13A-46D	349	333	CA_5A-7A-46D	



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43	CA_5A-66A	348	105	CA_4A-12A-12A	287	222	CA_13A-66A-66A-66A	349	334	CA_5A-46D-66A	348
44	CA_7A-12A	339	106	CA_4A-12B	287	223	CA_13A-66A-66B	349	335	CA_13A-46D-66A	349
45	CA_7A-29A	340	107	CA_4A-46A-46A	299	224	CA_13A-66A-66C	349	336	CA_2A-2A-5A-12A-66A	
46	CA_7A-66A	340	108	CA_4A-46C	299	225	CA_13A-66D	349	337	CA_2A-2A-7A-12A-66A	339
47	CA_12A-25A		109	CA_5A-5A-66A	348	226	CA_14A-66A-66A-66A	330	338	CA_2A-7A-7A-29A-66A	340
48	CA_12A-46A	306	110	CA_5A-7A-7A	333	227	CA_25A-25A-41C	308	339	CA_2A-7A-12B-66A	
49	CA_12A-66A	339	111	CA_5A-7C	333	228	CA_25A-41D	308	340	CA_2A-7C-29A-66A	
50	CA_13A-46A	349	112	CA_5A-12B	336	229	CA_25A-46D				
51	CA_13A-66A	349	113	CA_5A-46C	348	230	CA_41A-46D	309			
52	CA_14A-66A	330	114	CA_5B-46A	348	231	CA_46A-46C-66A	349			
53	CA_25A-26A	285	115	CA_5A-66A-66A	348	232	CA_46A-66A-66A-66A	349	6CC Downlink Carrier Aggregation		
54	CA_25A-41A	308	116	CA_5A-66B	348	233	CA_46C-66A-66A	349	Number	Combination	Covered by Measurement Superset
55	CA_25A-46A	229	117	CA_5A-66C	348	234	CA_46D-66A	349			
56	CA_26A-41A	285	118	CA_5B-66A	348	235	CA_2A-2A-4A-5A	286	341	CA_7A-7A-46E	345
57	CA_26A-46A		119	CA_7A-7A-13A	260	236	CA_2A-2A-4A-12A	287	342	CA_2A-7A-7A-46D	345
58	CA_29A-66A	340	120	CA_7A-7A-29A	340	237	CA_2A-2A-4A-13A		343	CA_2A-7A-46E	345
59	CA_41A-46A	309	121	CA_7A-7A-46A	345	238	CA_2A-2A-4A-71A		344	CA_2A-46E-66A	349
60	CA_46A-66A	349	122	CA_7A-12B	339	239	CA_2A-2A-5A-12A	336			
61	CA_46A-71A	148	123	CA_7C-29A	340	240	CA_2A-2A-5A-66A	348			
62	CA_66A-71A	276	124	CA_7A-46C	345	241	CA_2A-2A-7A-12A	339			
			125	CA_7C-46A	345	242	CA_2A-2A-7A-66A	340	7CC Downlink Carrier Aggregation		
			126	CA_7A-66A-66A	340	243	CA_2A-2A-12A-66A	339	Number	Combination	Covered by Measurement Superset
			127	CA_7C-66A	340	244	CA_2A-2A-13A-66A	349			
			128	CA_12A-46C	306	245	CA_2A-2A-14A-66A	330	345	CA_2A-7A-7A-46E	
			129	CA_12A-66A-66A	339	246	CA_2A-2A-66A-71A	276	346	CA_5A-46E-66A-66A	348
			130	CA_12A-66C	339	247	CA_2A-4A-4A-5A	286	347	CA_2A-5A-46D-66A-66A	348
			131	CA_12B-66A	339	248	CA_2A-4A-4A-12A	287	348	CA_2A-5A-46E-66A	
			132	CA_13A-46C	349	249	CA_2A-4A-5B	286	349	CA_2A-13A-46D-66A-66A	
			133	CA_13A-66A-66A	349	250	CA_2A-4A-7A-7A	287			
			134	CA_13A-66B	349	251	CA_2A-4A-7C	287			
			135	CA_13A-66C	349	252	CA_2A-4A-12A-12A	287			
			136	CA_14A-66A-66A	330	253	CA_2A-4A-12B	287			
			137	CA_25A-25A-26A	285	254	CA_2A-5A-12B	336			
			138	CA_25A-25A-41A	308	255	CA_2A-5A-46C	348			
			139	CA_25A-41C	308	256	CA_2A-5A-66A-66A	348			
			140	CA_25A-46C	229	257	CA_2A-5A-66B	348			
			141	CA_26A-41C	285	258	CA_2A-5A-66C	348			
			142	CA_29A-66A-66A	340	259	CA_2A-5B-66A	348			
			143	CA_41A-46C	309	260	CA_2A-7A-7A-13A				
			144	CA_46A-46A-66A	349	261	CA_2A-7A-12B	339			
			145	CA_46A-66A-66A	349	262	CA_2A-7A-46C	345			
			146	CA_46A-66C	349	263	CA_2A-7A-66A-66A	340			
			147	CA_46C-66A	349	264	CA_2A-7C-66A	340			
			148	CA_46C-71A		265	CA_2A-12A-66A-66A	339			
			149	CA_66A-66A-71A	276	266	CA_2A-12A-66C	339			
			150	CA_66C-71A	276	267	CA_2A-12B-66A	339			
			151	CA_2A-4A-5A	286	268	CA_2A-13A-46C	349			
			152	CA_2A-4A-7A	287	269	CA_2A-13A-66A-66A	349			
			153	CA_2A-4A-12A	287	270	CA_2A-13A-66B	349			
			154	CA_2A-4A-13A	237	271	CA_2A-13A-66C	349			
			155	CA_2A-4A-29A		272	CA_2A-14A-66A-66A	330			
			156	CA_2A-4A-71A	238	273	CA_2A-46A-46A-66A	349			
			157	CA_2A-5A-7A		274	CA_2A-46C-66A	349			
			158	CA_2A-5A-12A	336	275	CA_2A-66A-66A-71A	276			
			159	CA_2A-5A-46A	348	276	CA_2A-66C-71A				
			160	CA_2A-5A-66A	348	277	CA_4A-4A-5A-12A	286			

			161	CA_2A-7A-12A	339	278	CA_4A-5A-12B	286			
			162	CA_2A-7A-66A	340	279	CA_5A-7A-46C	333			
			163	CA_2A-12A-66A	339	280	CA_5A-46C-66A	348			
			164	CA_2A-13A-46A	349	281	CA_7A-7A-29A-66A	340			
			165	CA_2A-13A-66A	349	282	CA_7A-12B-66A	339			
			166	CA_2A-14A-66A	330	283	CA_7C-29A-66A	340			
			167	CA_2A-29A-66A	340	284	CA_13A-46C-66A	349			
			168	CA_2A-46A-66A	349	285	CA_25A-26A-41C				
			169	CA_2A-66A-71A	276	286	CA_2A-4A-5A-12A				
			170	CA_4A-5A-12A	286	287	CA_2A-4A-7A-12A				
			171	CA_4A-7A-12A	287	288	CA_2A-5A-12A-66A	336			
			172	CA_5A-7A-46A	333	289	CA_2A-7A-12A-66A	339			
			173	CA_5A-12A-66A	336	290	CA_2A-7A-29A-66A	340			
			174	CA_5A-46A-66A	348	291	CA_2A-7A-46A-66A				
			175	CA_7A-12A-66A	339						
			176	CA_7A-29A-66A	340						
			177	CA_7A-46A-66A	291						
			178	CA_13A-46A-66A	349						
			179	CA_25A-26A-41A	285						

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2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation		
Number	Combination	Covered by	Number	Combination	Covered by
		Measurement Superset			Measurement Superset
1	CA_2C	52	25	CA_41D	
2	CA_5B	50	26	CA_66A-66B	52
3	CA_7B	53	27	CA_66A-66C	52
4	CA_7C	53	28	CA_2A-2A-5A	50
5	CA_41C	25	29	CA_2A-2A-12A	51
6	CA_2A-2A	52	30	CA_2A-2A-13A	52
7	CA_4A-4A	53	31	CA_2A-7A-7A	51
8	CA_7A-7A	53	32	CA_2A-66A-66A	52
9	CA_2A-4A	49	33	CA_2A-66B	52
10	CA_2A-5A	50	34	CA_2A-66C	52
11	CA_2A-12A	51	35	CA_4A-4A-5A	45
12	CA_2A-13A	52	36	CA_4A-4A-12A	53
13	CA_2A-29A	49	37	CA_4A-4A-13A	48
14	CA_2A-66A	52	38	CA_4A-7A-7A	53
15	CA_4A-5A	45	39	CA_5A-66A-66A	50
16	CA_4A-7A	53	40	CA_5A-66B	50
17	CA_4A-12A	53	41	CA_5A-66C	50
18	CA_4A-13A	48	42	CA_13A-66A-66A	52
19	CA_4A-29A	49	43	CA_13A-66B	52
20	CA_5A-7A		44	CA_13A-66C	52
21	CA_5A-66A	50	45	CA_2A-4A-5A	
22	CA_7A-12A	53	46	CA_2A-4A-7A	
23	CA_12A-66A		47	CA_2A-4A-12A	
24	CA_29A-66A		48	CA_2A-4A-13A	
			49	CA_2A-4A-29A	
			50	CA_2A-5A-66A	
			51	CA_2A-7A-12A	
			52	CA_2A-13A-66A	
			53	CA_4A-7A-12A	

<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.

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

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<Two Carrier power verification>

Configure	PCC							SCC				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1880	18900	QPSK	1	0	17	10	740	5790	22.75	22.82
	4	20	1732.5	20175	QPSK	1	0	17	10	740	5790	22.84	22.91
	5	10	836.5	20525	QPSK	1	0	25	20	1960	8340	22.69	22.87
	5	10	836.5	20525	QPSK	1	0	38	20	2595	38000	22.72	22.87
	5	10	836.5	20525	QPSK	1	0	41	20	2593	40620	22.77	22.87
	12	10	707.5	23095	QPSK	1	0	25	20	1960	8340	22.81	22.87
	26	15	831.5	26865	QPSK	1	0	46	10	5537.5	50665	22.73	22.84

<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	1880	18900	QPSK	1	0	4	20	2132.5	2175	29	10	722.5	9715	22.75	22.82
	2	20	1880	18900	QPSK	1	0	5	10	881.5	2525	7	20	2655	3100	22.68	22.82
	71	20	680.5	133297	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	22.69	22.83

<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	1880	18900	QPSK	1	0	2	5	1987.5	1175	4	20	2132.5	2175	13	10	751	5230	22.74	22.82
	2	20	1880	18900	QPSK	1	0	2	5	1987.5	1175	4	20	2132.5	2175	71	20	634.5	68761	22.76	22.82
	2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	12	10	737.5	5095	22.71	22.82
	2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	12	10	737.5	5095	22.70	22.82
	2	20	1880	18900	QPSK	1	0	7	20	2655	3100	7	5	2687.5	3425	13	10	751	5230	22.74	22.82
	2	20	1880	18900	QPSK	1	0	7	20	2655	3100	46	20	5537.5	50665	66	20	2145	66786	22.67	22.82
	2	20	1880	18900	QPSK	1	0	66	20	2145	66786	66	5	2177.5	67111	71	20	634.5	68761	22.72	22.82
	25	20	1880	26340	QPSK	1	0	26	15	876.5	8865	41	20	2593	40620	41	5	2498.5	39675	22.63	22.79
	25	20	1880	26340	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	22.65	22.79

<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	1880	18900	QPSK	1	0	2	5	1987.5	1175	5	10	881.5	2525	12	10	737.5	5095	66	20	2145	66786	22.74	22.82
	2	20	1880	18900	QPSK	1	0	7	20	2655	3100	12	10	735.1	5071	12	10	739.9	5119	66	20	2145	66786	22.68	22.82
	2	20	1880	18900	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	29	10	722.5	9715	66	20	2145	66786	22.77	22.82
	2	20	1880	18900	QPSK	1	0	14	10	5330	763	66	20	2145	66786	66	5	2177.5	67111	66	20	2120	66536	22.76	22.82
	4	20	1732.5	20175	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	10	5155	46840	46	10	5164.9	46939	22.83	22.91
	5	10	836.5	20525	QPSK	1	0	7	20	2655	3100	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	22.80	22.87
	12	10	707.5	23095	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	22.82	22.87
	25	20	1880	26340	QPSK	1	0	25	5	1992.5	8665	41	20	2593	40620	41	20	2612.8	40818	41	20	2632.6	41016	22.65	22.79
	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	23.15	23.28

<Seven Carrier power verification>

Configure	PCC							SCC1				SCC2				SCC3				SCC4				SCC5				SCC6				Power	
	LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2	20	1880	18900	QPSK	1	0	7	20	2655	3100	7	5	2687.5	3425	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	22.75	22.82
	2	20	1880	18900	QPSK	1	0	5	10	881.5	2525	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	66	20	2145	66786	22.69	22.82
	2	20	1880	18900	QPSK	1	0	13	10	751	5230	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	66	20	2145	66786	66	5	2177.5	67111	22.69	22.82

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<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	836.5	20525	QPSK	1	0	7	20	2655	3100	22.49	22.64
	12	10	707.5	23095	QPSK	1	0	66	20	2145	66786	22.52	22.65
	66	2	1745	132322	QPSK	1	0	29	10	722.5	9715	22.66	22.75

<Three Carrier power verification>

Configure		PCC							SCC1				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band		Band 2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	22.48	22.66
		Band 2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	22.51	22.66
		Band 2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	12	10	737.5	5095	22.45	22.66
		Band 2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	13	10	751	5230	22.53	22.66
		Band 2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	29	10	722.5	9715	22.47	22.66
		Band 2	20	1880	18900	QPSK	1	0	5	10	881.5	2525	66	20	2145	66786	22.53	22.66
		Band 2	20	1880	18900	QPSK	1	0	7	20	2655	3100	12	10	737.5	5095	22.51	22.66
		Band 2	20	1880	18900	QPSK	1	0	13	10	751	5230	66	20	2145	66786	22.48	22.66
		Band 4	20	1732.5	20175	QPSK	1	0	7	20	2655	3100	12	10	737.5	5095	22.59	22.66
Intra-Band	Contiguous	Band 41	20	2593	40620	QPSK	1	0	41	20	2612.8	40818	41	20	2632.6	41016	22.33	22.42

<LTE Uplink carrier aggregation>

2CC Uplink Carrier Aggregation	
Number	Combination
1	7C
2	41C

<Intra-band>

General Note:

- The device supports intra-band uplink carrier aggregation for LTE B66/B41/B48 with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
- 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.
- 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.
- Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

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CA_7C_Ant 1										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	22.84	24.80
21100	20902	QPSK	1	0	1	99	2	0	23.29	24.80
21350	21152	QPSK	1	0	1	99	2	0	23.99	24.80

CA_7C_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				
20850	21048	QPSK	1	0	0	0	1	0	22.86	24.80
21100	20902	QPSK	1	0	1	99	2	0	23.19	24.80
21350	21152	QPSK	1	0	1	99	2	0	24.00	24.80

CA_41C_Ant 1										
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	23.03	24.80
40185	39987	QPSK	1	0	1	99	2	0	24.02	24.80
40620	40422	QPSK	1	0	1	99	2	0	23.88	24.80
41055	40857	QPSK	1	0	1	99	2	0	23.99	24.80
41490	41292	QPSK	1	0	1	99	2	0	23.80	24.80

CA_41C_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				
39750	39948	QPSK	1	0	0	0	1	0	22.98	24.80
40185	39987	QPSK	1	0	1	99	2	0	24.05	24.80
40620	40422	QPSK	1	0	1	99	2	0	23.85	24.80
41055	40857	QPSK	1	0	1	99	2	0	23.94	24.80
41490	41292	QPSK	1	0	1	99	2	0	23.81	24.80

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CA_7C_Ant 1										
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	21.95	23.80
21100	20902	QPSK	1	0	1	99	2	0	22.31	23.80
21350	21152	QPSK	1	0	1	99	2	0	21.88	23.80

CA_7C_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				
20850	21048	QPSK	1	0	0	0	1	0	21.85	23.80
21100	20902	QPSK	1	0	1	99	2	0	22.13	23.80
21350	21152	QPSK	1	0	1	99	2	0	21.87	23.80

CA_41C_Ant 1										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	21.87	23.80
40185	39987	QPSK	1	0	1	99	2	0	22.02	23.80
40620	40422	QPSK	1	0	1	99	2	0	22.41	23.80
41055	40857	QPSK	1	0	1	99	2	0	22.07	23.80
41490	41292	QPSK	1	0	1	99	2	0	21.85	23.80

CA_41C_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				
39750	39948	QPSK	1	0	0	0	1	0	21.91	23.80
40185	39987	QPSK	1	0	1	99	2	0	21.99	23.80
40620	40422	QPSK	1	0	1	99	2	0	22.38	23.80
41055	40857	QPSK	1	0	1	99	2	0	22.06	23.80
41490	41292	QPSK	1	0	1	99	2	0	22.00	23.80

11. 5G NR Output Power (Unit: dBm)

General Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below
 - a. For DFT-OFDM output power measurement, full measurement was done for PI/2 BPSK and QPSK and for the largest supported bandwidth, repeat test for 16QAM/64QAM/256QAM under 1RB 1Offset configuration. For smaller bandwidth, measure conducted power for PI/2 BPSK and 1RB 1Offset configuration.
 - b. According to the tune-up, CP-OFDM output power is not ½ dB higher than DFT-OFDM mode, and the reported SAR of DFT-OFDM mode reported SAR is ≤ 1.45 W/kg, SAR test and thus conducted power for CP-OFDM mode is not required.
 - c. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
 - d. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - e. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not ½ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - f. Smaller bandwidth output power for each RB allocation configuration for this device is not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
2. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission
3. The device implanted DPS (Dynamic Power Share) function to achieve higher uplink data rate keeping the total power unchanged in 5G NR NSA EN-DC mode according to 3GPP 38.213, when the equipment has a dynamic power sharing capability, it adjusts the LTE or NR transmission power so that the instantaneous total power does not exceed the specified value, when the maximum transmission power of NR (P_{LTE}, P_{NR}) and the specified total power (P_{total}) have been set and the instantaneous calculated total transmission power exceeds P_{total}, the NR transmission power is reduced so that the actual transmission power of the user equipment will not exceed P_{total} power.

<3GPP 38.101 MPR for EN-DC>
Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

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

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

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

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

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

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≤FR1 n2 Ant 1>							
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	23.98	24.10	23.91	
20	PI/2 BPSK	1	53	23.68	24.00	23.75	24.5
20	PI/2 BPSK	1	104	23.57	24.02	23.63	
20	PI/2 BPSK	50	0	23.33	23.57	23.39	
20	PI/2 BPSK	50	28	23.79	24.00	23.88	24.0
20	PI/2 BPSK	50	56	23.38	23.52	23.39	24.0
20	PI/2 BPSK	100	0	23.42	23.63	23.40	
20	QPSK	1	1	23.89	24.08	23.83	
20	QPSK	1	53	23.84	23.99	23.80	24.5
20	QPSK	1	104	23.71	23.95	23.68	
20	QPSK	50	0	22.81	22.92	22.79	
20	QPSK	50	28	23.85	23.93	23.80	23.5
20	QPSK	50	56	22.94	23.01	22.86	24.5
20	QPSK	100	0	22.91	23.09	22.91	
20	16QAM	1	1	22.86	23.00	22.91	
20	64QAM	1	1	20.97	21.13	20.92	23.5
20	256QAM	1	1	19.24	19.39	19.22	22.0
Channel				371500	376000	380500	20.0
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	23.91	23.95	23.76	
Channel				371000	376000	381000	24.5
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	23.86	23.87	23.27	
Channel				370500	376000	381500	24.5
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	23.85	23.83	23.30	

<FR1 n2 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	23.89	24.06	23.81	
20	PI/2 BPSK	1	53	23.80	23.90	23.69	24.5
20	PI/2 BPSK	1	104	23.84	23.82	23.71	
20	PI/2 BPSK	50	0	23.86	23.83	23.70	
20	PI/2 BPSK	50	28	23.88	23.90	23.71	24.0
20	PI/2 BPSK	50	56	23.87	23.81	23.69	24.0
20	PI/2 BPSK	100	0	23.86	23.87	23.67	
20	QPSK	1	1	22.15	22.70	22.45	
20	QPSK	1	53	22.08	22.51	22.06	24.0
20	QPSK	1	104	22.14	22.38	22.21	
20	QPSK	50	0	22.21	22.71	21.99	
20	QPSK	50	28	22.09	22.13	22.17	23.5
20	QPSK	50	56	21.93	22.35	22.15	24.0
20	QPSK	100	0	22.36	22.18	22.30	
20	16QAM	1	1	21.62	21.52	21.76	
20	64QAM	1	1	20.25	20.64	20.48	23.5
20	256QAM	1	1	18.30	18.06	18.29	22.0
Channel				371500	376000	380500	20.0
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	23.81	23.86	23.71	
Channel				371000	376000	381000	24.5
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	23.70	23.71	23.65	
Channel				370500	376000	381500	24.5
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	23.66	23.79	23.73	

<FR1 n5 Ant 1>							
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	23.32	23.38	23.14	
20	PI/2 BPSK	1	53	23.11	23.05	22.92	24.5
20	PI/2 BPSK	1	104	22.81	22.92	22.69	
20	PI/2 BPSK	50	0	23.24	23.16	22.87	
20	PI/2 BPSK	50	28	23.25	23.29	22.89	24.0
20	PI/2 BPSK	50	56	22.95	23.06	22.86	24.0
20	PI/2 BPSK	100	0	23.08	22.23	22.80	
20	QPSK	1	1	23.21	22.91	23.19	
20	QPSK	1	53	22.80	22.71	22.71	24.0
20	QPSK	1	104	22.41	22.51	22.52	
20	QPSK	50	0	22.07	22.18	22.01	
20	QPSK	50	28	22.10	22.04	22.09	23.5
20	QPSK	50	56	21.84	21.73	22.08	24.0
20	QPSK	100	0	22.09	21.90	21.85	
20	16QAM	1	1	21.64	21.91	21.93	
20	64QAM	1	1	20.44	20.46	20.65	23.5
20	256QAM	1	1	18.92	18.98	18.73	22.0
Channel				166300	167300	168300	20.0



Frequency (MHz)				831.5	836.5	841.5	(dBm)
15	PI/2 BPSK	1	1	23.10	23.30	23.02	24.5
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	23.08	23.21	22.93	24.5
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	23.02	23.15	22.88	24.5

<FR1 n5 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	23.25	23.29	23.05	24.5
20	PI/2 BPSK	1	53	23.15	23.10	22.87	
20	PI/2 BPSK	1	104	22.90	22.91	22.70	
20	PI/2 BPSK	50	0	23.18	23.25	22.93	24.0
20	PI/2 BPSK	50	28	23.19	23.26	22.94	24.5
20	PI/2 BPSK	50	56	23.05	23.04	22.80	24.0
20	PI/2 BPSK	100	0	23.07	22.16	22.83	
20	QPSK	1	1	22.71	22.54	22.51	
20	QPSK	1	53	22.10	22.56	22.51	24.0
20	QPSK	1	104	22.03	22.17	22.35	
20	QPSK	50	0	22.26	22.55	22.33	23.5
20	QPSK	50	28	22.11	22.34	22.14	24.0
20	QPSK	50	56	21.83	22.31	21.87	23.5
20	QPSK	100	0	22.29	22.15	22.33	
20	16QAM	1	1	21.50	21.66	21.59	23.5
20	64QAM	1	1	20.84	21.17	20.82	22.0
20	256QAM	1	1	18.21	18.09	18.19	20.0
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	22.96	23.25	22.93	24.5
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	22.86	23.11	22.78	24.5
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	22.85	23.15	22.70	24.5

<FR1 n66 Ant 1>							
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	24.5
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	24.11	24.15	24.09	
40	PI/2 BPSK	1	108	23.88	24.02	23.95	24.0
40	PI/2 BPSK	1	214	23.77	24.14	23.81	24.5
40	PI/2 BPSK	108	0	23.52	23.65	23.57	24.0
40	PI/2 BPSK	108	54	23.99	24.12	24.08	24.5
40	PI/2 BPSK	108	108	23.58	23.68	23.59	24.0
40	PI/2 BPSK	216	0	23.62	23.63	23.60	
40	QPSK	1	1	24.09	24.11	24.03	
40	QPSK	1	108	24.00	24.03	23.98	24.5
40	QPSK	1	214	23.91	23.98	23.88	23.5
40	QPSK	108	0	22.98	23.04	22.99	24.5
40	QPSK	108	54	24.05	24.08	24.00	23.5
40	QPSK	108	108	23.01	23.10	23.06	
40	QPSK	216	0	23.11	23.17	23.11	
40	16QAM	1	1	23.06	23.18	23.11	23.5
40	64QAM	1	1	21.21	21.26	21.22	22.0
40	256QAM	1	1	19.48	19.55	19.50	20.0
Channel				345000	349000	353000	24.5
Frequency (MHz)				1725	1745	1765	
30	PI/2 BPSK	1	1	24.06	24.07	24.05	
Channel				344000	349000	354000	24.5
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	24.00	24.02	23.67	
Channel				343500	349000	354500	24.5
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	23.95	23.93	23.81	
Channel				343000	349000	355000	24.5
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	23.89	23.91	23.79	
Channel				342500	349000	355500	24.5
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	23.88	23.93	23.79	

<FR1 n66_Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				346000	349000	352000	24.5
Frequency (MHz)				1730	1745	1760	
40	PI/2 BPSK	1	1	23.74	23.75	23.73	
40	PI/2 BPSK	1	108	23.63	23.66	23.71	24.0
40	PI/2 BPSK	1	214	23.45	23.52	23.69	
40	PI/2 BPSK	108	0	23.69	23.70	23.70	
40	PI/2 BPSK	108	54	23.72	23.73	23.72	24.0
40	PI/2 BPSK	108	108	23.71	23.72	23.69	
40	PI/2 BPSK	216	0	23.69	23.71	23.69	
40	QPSK	1	1	22.41	22.55	22.54	23.5
40	QPSK	1	108	22.31	22.39	22.33	
40	QPSK	1	214	22.24	22.41	22.32	
40	QPSK	108	0	22.34	22.46	22.27	24.0
40	QPSK	108	54	22.21	22.36	22.22	
40	QPSK	108	108	21.99	22.11	22.04	
40	QPSK	216	0	22.37	22.38	22.21	23.5
40	16QAM	1	1	21.60	21.71	21.52	
40	64QAM	1	1	20.50	20.62	20.49	
40	256QAM	1	1	18.06	18.05	18.01	20.0
Channel				345000	349000	353000	24.5
Frequency (MHz)				1725	1745	1765	
30	PI/2 BPSK	1	1	23.73	23.68	23.72	
Channel				344000	349000	354000	24.5
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	23.66	23.63	23.29	
Channel				343500	349000	354500	24.5
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	23.60	23.61	23.45	
Channel				343000	349000	355000	24.5
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	23.50	23.66	23.44	
Channel				342500	349000	355500	24.5
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	23.54	23.56	23.44	

<FR1 n71 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	23.27	23.29	23.11	
20	PI/2 BPSK	1	53	22.86	22.86	22.81	24.5
20	PI/2 BPSK	1	104	22.81	22.69	22.82	
20	PI/2 BPSK	50	0	23.07	23.15	23.00	24.0
20	PI/2 BPSK	50	28	23.22	23.23	23.01	24.5
20	PI/2 BPSK	50	56	23.13	22.85	22.77	24.0
20	PI/2 BPSK	100	0	23.19	22.97	22.82	
20	QPSK	1	1	23.02	23.04	23.02	
20	QPSK	1	53	22.86	22.86	22.84	24.0
20	QPSK	1	104	22.46	22.50	22.41	
20	QPSK	50	0	22.01	22.08	22.01	23.5
20	QPSK	50	28	22.06	22.06	22.06	24.0
20	QPSK	50	56	21.82	21.89	21.88	23.5
20	QPSK	100	0	21.94	21.97	21.91	
20	16QAM	1	1	21.75	21.81	21.78	23.5
20	64QAM	1	1	20.59	20.64	20.64	22.0
20	256QAM	1	1	18.73	18.80	18.70	20.0
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	1	23.24	23.12	22.96	24.5
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	23.21	22.94	22.91	24.5
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	23.20	22.97	22.84	24.5

<FR1 n71 Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	23.21	23.22	23.10	
20	PI/2 BPSK	1	53	22.89	22.85	22.82	24.5
20	PI/2 BPSK	1	104	22.79	22.76	22.73	
20	PI/2 BPSK	50	0	23.10	23.08	22.98	24.0
20	PI/2 BPSK	50	28	23.17	23.19	23.01	24.5
20	PI/2 BPSK	50	56	23.09	22.91	22.86	24.0
20	PI/2 BPSK	100	0	23.16	23.06	22.89	
20	QPSK	1	1	22.48	22.64	22.53	
20	QPSK	1	53	22.31	22.46	22.26	24.0
20	QPSK	1	104	22.25	22.26	22.09	
20	QPSK	50	0	22.26	22.39	22.29	23.5
20	QPSK	50	28	22.03	22.14	22.09	24.0
20	QPSK	50	56	22.06	22.08	21.95	23.5
20	QPSK	100	0	22.07	22.25	22.11	
20	16QAM	1	1	21.59	21.74	21.64	23.5
20	64QAM	1	1	20.76	20.92	20.73	22.0
20	256QAM	1	1	18.08	18.11	18.06	20.0
Channel				134100	136100	138100	Tune-up limit

Frequency (MHz)				670.5	680.5	690.5	(dBm)
15	PI/2 BPSK	1	1	23.20	23.05	22.81	24.5
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	23.18	22.89	22.75	24.5
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	23.17	22.93	22.74	24.5

<FR1 n41 Ant 1>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	24.5
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	23.24	24.01	23.58	24.5
100	PI/2 BPSK	1	137	23.08	23.39	23.52	
100	PI/2 BPSK	1	271	23.19	23.65	23.66	
100	PI/2 BPSK	135	0	23.52	23.46	23.24	24.0
100	PI/2 BPSK	135	69	23.71	23.85	23.27	24.5
100	PI/2 BPSK	135	138	23.34	23.48	23.54	24.0
100	PI/2 BPSK	270	0	23.32	23.32	23.48	
100	QPSK	1	1	22.13	22.16	22.65	24.0
100	QPSK	1	137	22.01	22.15	22.42	
100	QPSK	1	271	22.25	22.06	22.32	
100	QPSK	135	0	22.69	22.08	22.67	24.0
100	QPSK	135	69	22.13	22.22	22.13	
100	QPSK	135	138	22.32	22.06	22.02	
100	QPSK	270	0	22.25	22.25	21.97	23.5
100	16QAM	1	1	21.64	21.69	21.78	23.5
100	64QAM	1	1	20.21	20.41	20.37	22.0
100	256QAM	1	1	18.10	18.09	18.21	20.0
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	23.34	23.49	23.07	24.5
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	23.26	23.18	23.35	24.5
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	23.19	23.14	23.28	24.5
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	23.45	23.47	23.34	24.5
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	23.13	23.46	23.46	24.5
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	23.35	23.45	23.16	24.5
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	23.32	23.48	22.96	24.5
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	23.36	23.48	22.85	24.5
Channel				500202	518598	537000	Tune-up limit



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Frequency (MHz)				2501.01	2592.99	2685	(dBm)
10	PI/2 BPSK	1	1	23.36	23.50	23.11	24.5

<FR1 n41_Ant 2>							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	24.5
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	23.63	23.96	23.95	
100	PI/2 BPSK	1	137	23.47	23.62	23.87	24.0
100	PI/2 BPSK	1	271	23.51	23.64	23.64	
100	PI/2 BPSK	135	0	23.61	23.69	23.41	
100	PI/2 BPSK	135	69	23.55	23.92	23.60	24.0
100	PI/2 BPSK	135	138	23.59	23.55	23.89	
100	PI/2 BPSK	270	0	23.45	23.70	23.69	
100	QPSK	1	1	22.11	22.38	22.55	24.0
100	QPSK	1	137	22.02	22.41	22.52	
100	QPSK	1	271	22.01	22.14	22.43	
100	QPSK	135	0	22.50	22.29	22.48	24.0
100	QPSK	135	69	22.04	22.45	22.23	
100	QPSK	135	138	22.21	22.30	22.13	
100	QPSK	270	0	22.44	22.58	21.99	23.5
100	16QAM	1	1	21.58	21.52	21.56	23.5
100	64QAM	1	1	20.29	20.38	20.49	22.0
100	256QAM	1	1	18.11	18.02	18.24	20.0
Channel				508200	518598	528996	24.5
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	23.31	23.46	23.18	
Channel				507204	518598	529998	24.5
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	23.26	23.33	23.21	
Channel				505200	518598	531996	24.5
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	23.28	23.25	23.26	
Channel				504204	518598	532998	24.5
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK		1	23.29	23.47	23.29	
Channel				503202	518598	534000	24.5
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	23.33	23.47	23.30	
Channel				502200	518598	534996	24.5
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	23.38	23.45	23.31	
Channel				501204	518598	535998	24.5
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	23.36	23.24	22.90	
Channel				500700	518598	536496	24.5
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	23.39	23.20	22.93	
Channel				500202	518598	537000	24.5
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	23.40	23.47	23.30	

12. WiFi/Bluetooth Output Power (Unit: dBm)

General Note:

1. For each antenna, transmit power in SISO operation is larger than (or equal to) the power in MIMO operation, RF exposure compliance of MIMO mode can be deduced from the compliance simultaneous transmission of antennas operating in SISO mode.
2. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is $< 1.6\text{W/kg}$ and SAR peak to location ratio ≤ 0.04 , no additional SAR measurements for MIMO.
3. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, additional output power measurements were not necessary.
4. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
5. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
6. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
7. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. 18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is $\leq 0.4\text{ W/kg}$, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is $> 0.4\text{ W/kg}$, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is $\leq 0.8\text{ W/kg}$ or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is $> 0.8\text{ W/kg}$, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is $\leq 1.2\text{ W/kg}$ or all required channels are tested.

<2.4GHz WLAN>										
				Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	13.50	14.00	13.70	14.00	16.61	17.00	90.73
		6	2437	13.40	14.00	13.50	14.00	16.46	17.00	
		11	2462	13.50	14.00	13.60	14.00	16.56	17.00	
	802.11g 6Mbps	1	2412	13.60	14.00	13.80	14.00	16.71	17.00	91.15
		6	2437	13.50	14.00	13.60	14.00	16.56	17.00	
		11	2462	13.50	14.00	13.60	14.00	16.56	17.00	
	802.11n-HT20 MCS0	1	2412	14.70	15.00	14.90	15.00	17.81	18.00	90.59
		6	2437	14.70	15.00	14.80	15.00	17.76	18.00	
		11	2462	14.70	15.00	14.80	15.00	17.76	18.00	
	802.11n-HT40 MCS0	3	2422	13.70	14.00	13.80	14.00	16.76	17.00	90.97
		6	2437	13.60	14.00	13.70	14.00	16.66	17.00	
9		2452	13.70	14.00	13.70	14.00	16.71	17.00		
<5.2GHz WLAN>										
				Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	36	5180	9.50	10.00	9.70	10.00	12.61	13.00	90.62
		40	5200	14.80	15.00	14.80	15.00	17.81	18.00	
		44	5220	14.80	15.00	14.90	15.00	17.86	18.00	
		48	5240	14.80	15.00	15.00	15.00	17.91	18.00	
	802.11n-HT20 MCS0	36	5180	Not Required	10.00	Not Required	10.00	Not Required	13.00	Not Required
		40	5200		15.50		15.50		18.50	
		44	5220		15.50		15.50		18.50	
		48	5240		15.50		15.50		18.50	
	802.11n-HT40 MCS0	38	5190	Not Required	10.00	Not Required	10.00	Not Required	13.00	Not Required
		46	5230		10.00		10.00		13.00	
	802.11ac-VHT20 MCS0	36	5180	9.70	10.00	9.90	10.00	12.81	13.00	90.61
		40	5200	14.90	15.50	15.00	15.50	17.96	18.50	
		44	5220	14.90	15.50	15.10	15.50	18.01	18.50	
		48	5240	14.90	15.50	15.20	15.50	18.06	18.50	
	802.11ac-VHT40 MCS0	38	5190	9.60	10.00	9.80	10.00	12.71	13.00	90.77
		46	5230	Not Required	10.00	Not Required	10.00	Not Required	13.00	
802.11ac-VHT80 MCS0	42	5210	5.30	6.00	5.60	6.00	8.46	9.00	90.50	

<5.3GHz WLAN>										
				Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	15.00	15.50	15.10	15.50	18.06	18.50	90.62
		56	5280	15.10	15.50	15.10	15.50	18.11	18.50	
		60	5300	15.00	15.50	15.20	15.50	18.11	18.50	
		64	5320	9.80	10.00	10.00	10.00	12.91	13.00	
	802.11n-HT20 MCS0	52	5260	Not Required	15.50	Not Required	15.50	Not Required	18.50	Not Required
		56	5280		15.50		15.50		18.50	
		60	5300		15.50		15.50		18.50	
		64	5320		10.50		10.50		13.50	
	802.11n-HT40 MCS0	54	5270	Not Required	10.50	Not Required	10.50	Not Required	13.50	Not Required
		62	5310		10.50		10.50		13.50	
	802.11ac-VHT20 MCS0	52	5260	15.10	15.50	15.30	15.50	18.21	18.50	90.61
		56	5280	15.20	15.50	15.30	15.50	18.26	18.50	
		60	5300	15.10	15.50	15.40	15.50	18.26	18.50	
		64	5320	10.00	10.50	10.20	10.50	13.11	13.50	
	802.11ac-VHT40 MCS0	54	5270	Not Required	10.50	Not Required	10.50	Not Required	13.50	90.77
		62	5310	9.90	10.50	10.10	10.50	13.01	13.50	
	802.11ac-VHT80 MCS0	58	5290	7.40	8.00	7.60	8.00	10.51	11.00	90.50
<5.5GHz WLAN>										
				Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	9.60	10.00	9.00	10.00	12.32	13.00	90.62
		116	5580	Not Required	10.00	Not Required	10.00	Not Required	13.00	
		124	5620		10.00		10.00		13.00	
		132	5660		10.00		10.00		13.00	
		140	5700		10.00		10.00		13.00	
	802.11n-HT20 MCS0	100	5500	Not Required	10.00	Not Required	10.00	Not Required	13.00	Not Required
		116	5580		10.00		10.00		13.00	
		124	5620		10.00		10.00		13.00	
		132	5660		10.00		10.00		13.00	
		140	5700		10.00		10.00		13.00	
	802.11n-HT40 MCS0	102	5510	9.80	10.00	9.20	10.00	12.52	13.00	91.19
		110	5550	9.60	10.00	9.40	10.00	12.51	13.00	
		126	5630	9.80	10.00	9.60	10.00	12.71	13.00	
		134	5670	10.00	10.00	9.90	10.00	12.96	13.00	
	802.11ac-VHT20 MCS0	100	5500	9.80	10.00	9.20	10.00	12.52	13.00	90.61
		116	5580	Not Required	10.00	Not Required	10.00	Not Required	13.00	
		124	5620		10.00		10.00		13.00	
		132	5660		10.00		10.00		13.00	
		140	5700		10.00		10.00		13.00	
	802.11ac-VHT40 MCS0	102	5510	9.80	10.00	9.20	10.00	12.52	13.00	90.77
		110	5550	9.60	10.00	9.40	10.00	12.51	13.00	
		126	5630	9.80	10.00	9.60	10.00	12.71	13.00	
		134	5670	10.10	10.00	9.90	10.00	13.01	13.00	
	802.11ac-VHT80 MCS0	106	5530	8.30	8.50	7.70	8.50	11.02	11.50	90.50
		122	5610	Not Required	8.50	Not Required	8.50	Not Required	11.50	

<5.8GHz WLAN>										
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Ant 1+2 (1)		Ant 1+2 (2)		Ant 1+2		
				Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	149	5745	17.00	17.50	16.90	17.50	19.96	20.50	90.62
		157	5785	17.10	17.50	16.90	17.50	20.01	20.50	
		165	5825	17.10	17.50	16.90	17.50	20.01	20.50	
	802.11n-HT20 MCS0	149	5745	Not Required	17.50	Not Required	17.50	Not Required	20.50	90.50
		157	5785	17.30	17.50	17.10	17.50	20.21	20.50	
		165	5825	Not Required	17.50	Not Required	17.50	Not Required	20.50	
	802.11n-HT40 MCS0	151	5755		16.50		16.50		19.50	Not Required
		159	5795		16.50		16.50		19.50	
	802.11ac-VHT20 MCS0	149	5745		17.50		17.50		20.50	
		157	5785		17.50		17.50		20.50	
		165	5825		17.50		17.50		20.50	
	802.11ac-VHT40 MCS0	151	5755		16.50		16.50		19.50	90.77
		159	5795	16.40	16.50	16.30	16.50	19.36	19.50	
	802.11ac-VHT80 MCS0	155	5775	15.00	15.00	14.90	15.00	17.96	18.00	90.50

13. Bluetooth Exclusions Applied

Mode Band	Max Average power(dBm)	
	BR/EDR	LE
2.4GHz Bluetooth	3.5	0.5

Note:

- Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

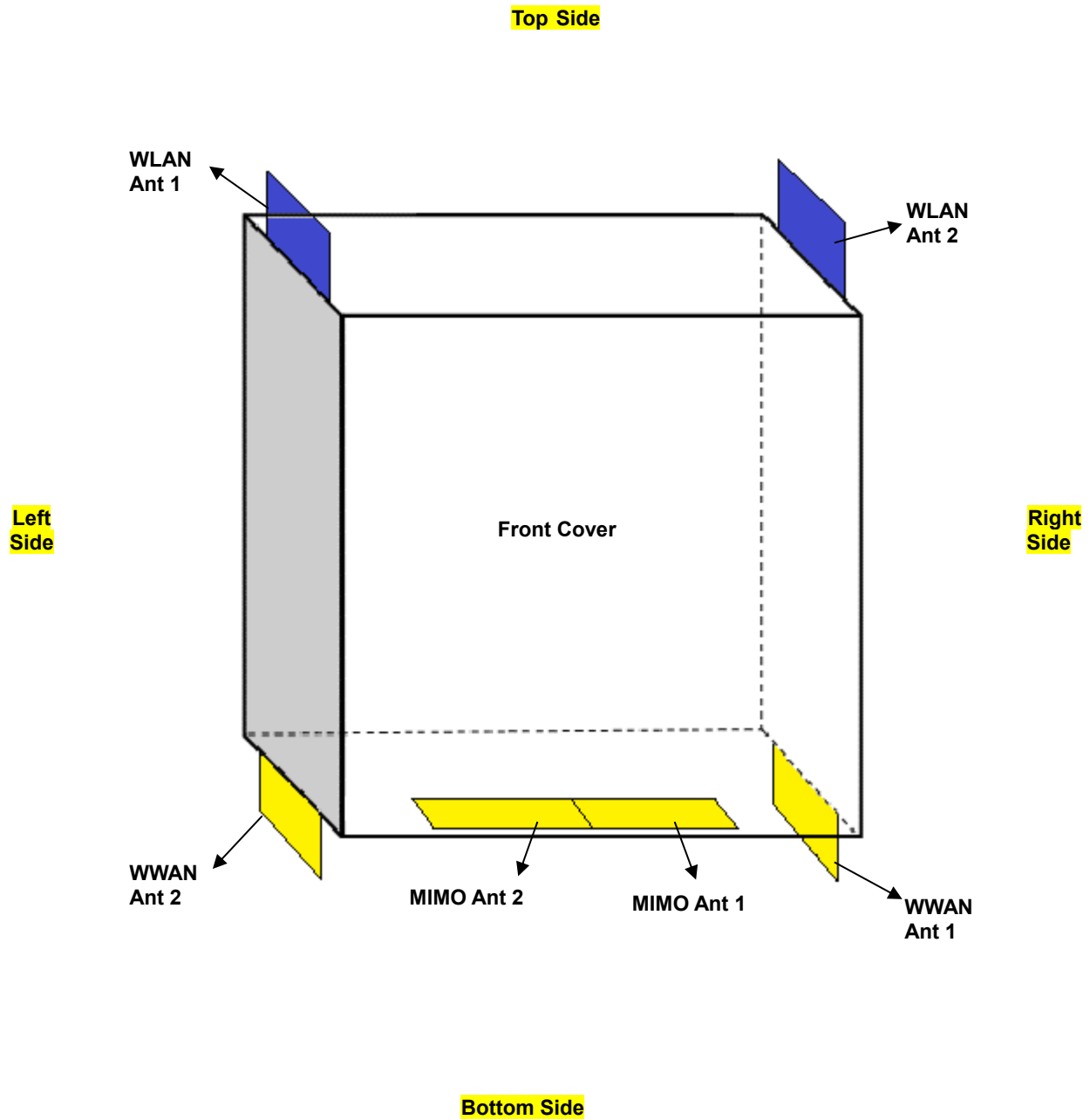
$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
 - f(GHz) is the RF channel transmit frequency in GHz
 - Power and distance are rounded to the nearest mW and mm before calculation
 - The result is rounded to one decimal place for comparison

Bluetooth Max Power (dBm)	Separation Distance (mm)	Frequency (GHz)	exclusion thresholds
3.5	< 5	2.48	0.71

Note:

Per KDB 447498 D01v06, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion. The test exclusion threshold is 0.71 which is ≤ 3 , SAR testing is not required.

14. Antenna Location



15. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
 - a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
 - b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.

UMTS Note:

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

LTE Note:

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

5G NR Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
 - a. To start SAR test for the largest channel bandwidth for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
 - b. For PI/2 BPSK with 100% RB allocation, SAR test is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not $\frac{1}{2}$ dB higher than the same configuration in PI/2 BPSK, also reported SAR for the PI/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - d. Smaller bandwidth output power for each RB allocation configuration for this device is not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
 - e. For 5G FR1 n5/n41/n71, the maximum channel bandwidth does not support three non-overlapping channels in the frequency band, the middle channel of the group of overlapping channels were selected for testing.
 - f. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, WLAN5.2GHz SAR testing is not required when the WLAN5.3GHz band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for WLAN5.2GHz band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. For WLAN SAR testing was performed on single antenna RF power in SISO mode is larger or equal to the single antenna RF power in MIMO mode, and for RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode.
6. Per KDB 248227 D01v02r02, the simultaneous SAR provisions in KDB publication 447498 should be applied to determine simultaneous transmission SAR test exclusion for WiFi MIMO. If the sum of 1g single transmission chain SAR measurements is < 1.6 W/kg and SAR peak to location ratio ≤ 0.04 , no additional SAR measurements for MIMO.
7. For determination of the scaling factor for report SAR of MIMO mode, if the hot spots are separated the scaling factors are individually determined from each transmit chain. If the hot spots are not spatially separated, the scaling factor is determined from the worst number of each transmit chain
8. During SAR testing the WLAN transmission was verified using a spectrum analyzer.

**15.1 Body SAR****EM9191****<WCDMA SAR>**

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Back	0mm	Ant 1	9400	1880	23.51	24.50	1.256	-0.08	0.136	0.171
01	WCDMA II	RMC 12.2Kbps	Back	0mm	Ant 2	9400	1880	23.45	24.50	1.274	-0.06	0.401	0.511
	WCDMA IV	RMC 12.2Kbps	Back	0mm	Ant 1	1413	1732.6	23.59	24.50	1.233	-0.09	0.139	0.171
02	WCDMA IV	RMC 12.2Kbps	Back	0mm	Ant 2	1413	1732.6	23.55	24.50	1.245	-0.03	0.441	0.549
03	WCDMA V	RMC 12.2Kbps	Back	0mm	Ant 1	4182	836.4	23.52	24.50	1.253	-0.04	0.230	0.288
	WCDMA V	RMC 12.2Kbps	Back	0mm	Ant 2	4182	836.4	23.45	24.50	1.274	-0.06	0.223	0.284

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant 1	21100	2535	23.23	24.80	1.435			-0.07	0.206	0.296
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant 1	21100	2535	22.35	23.80	1.396			0.12	0.175	0.244
	LTE Band 7C	20M	QPSK	1	0	Back	0mm	Ant 1	21350+21152	2560	23.99	24.80	1.205			0.07	0.221	0.266
04	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant 2	21100	2535	23.28	24.80	1.419			-0.05	0.331	0.470
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant 2	21100	2535	22.38	23.80	1.387			-0.13	0.265	0.367
	LTE Band 7C	20M	QPSK	1	0	Back	0mm	Ant 2	21350+21152	2560	24.00	24.80	1.202			-0.06	0.355	0.427
	LTE Band 12	10M	QPSK	1	0	Back	0mm	Ant 1	23095	707.5	22.87	24.00	1.297			-0.01	0.193	0.250
	LTE Band 12	10M	QPSK	25	0	Back	0mm	Ant 1	23095	707.5	21.88	23.00	1.294			0.11	0.162	0.210
05	LTE Band 12	10M	QPSK	1	0	Back	0mm	Ant 2	23095	707.5	22.83	24.00	1.309			-0.11	0.210	0.275
	LTE Band 12	10M	QPSK	25	0	Back	0mm	Ant 2	23095	707.5	21.85	23.00	1.303			0.06	0.169	0.220
	LTE Band 13	10M	QPSK	1	0	Back	0mm	Ant 1	23230	782	22.42	24.00	1.439			-0.01	0.259	0.373
	LTE Band 13	10M	QPSK	25	0	Back	0mm	Ant 1	23230	782	21.60	23.00	1.380			0.13	0.208	0.287
06	LTE Band 13	10M	QPSK	1	0	Back	0mm	Ant 2	23230	782	22.41	24.00	1.442			-0.1	0.277	0.399
	LTE Band 13	10M	QPSK	25	0	Back	0mm	Ant 2	23230	782	21.50	23.00	1.413			0.08	0.222	0.314
	LTE Band 14	10M	QPSK	1	0	Back	0mm	Ant 1	23330	793	22.41	24.00	1.442			-0.16	0.224	0.323
	LTE Band 14	10M	QPSK	25	0	Back	0mm	Ant 1	23330	793	21.46	23.00	1.426			-0.05	0.177	0.252
07	LTE Band 14	10M	QPSK	1	0	Back	0mm	Ant 2	23330	793	22.36	24.00	1.459			-0.12	0.261	0.381
	LTE Band 14	10M	QPSK	25	0	Back	0mm	Ant 2	23330	793	21.36	23.00	1.459			-0.08	0.211	0.308
	LTE Band 25	20M	QPSK	1	0	Back	0mm	Ant 1	26340	1880	22.79	24.00	1.321			0	0.131	0.173
	LTE Band 25	20M	QPSK	50	0	Back	0mm	Ant 1	26340	1880	21.78	23.00	1.324			0.06	0.114	0.151
08	LTE Band 25	20M	QPSK	1	0	Back	0mm	Ant 2	26340	1880	22.73	24.00	1.340			-0.03	0.350	0.469
	LTE Band 25	20M	QPSK	50	0	Back	0mm	Ant 2	26340	1880	21.74	23.00	1.337			-0.15	0.275	0.368
	LTE Band 26	15M	QPSK	1	0	Back	0mm	Ant 1	26865	831.5	22.84	24.00	1.306			-0.04	0.197	0.257
	LTE Band 26	15M	QPSK	36	0	Back	0mm	Ant 1	26865	831.5	21.82	23.00	1.312			0.04	0.153	0.201
09	LTE Band 26	15M	QPSK	1	0	Back	0mm	Ant 2	26865	831.5	22.80	24.00	1.318			-0.12	0.215	0.283
	LTE Band 26	15M	QPSK	36	0	Back	0mm	Ant 2	26865	831.5	21.78	23.00	1.324			-0.08	0.166	0.220
	LTE Band 41	20M	QPSK	1	0	Back	0mm	Ant 1	40620	2593	23.28	24.80	1.419	62.9	1.006	-0.02	0.150	0.214
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Ant 1	40620	2593	22.40	23.80	1.380	62.9	1.006	0.11	0.135	0.187
	LTE Band 41C	20M	QPSK	1	0	Back	0mm	Ant 1	40185+39987	2549.5	24.02	24.80	1.197	62.9	1.006	0.04	0.159	0.191
10	LTE Band 41	20M	QPSK	1	0	Back	0mm	Ant 2	40620	2593	23.27	24.80	1.422	62.9	1.006	0	0.196	0.280
	LTE Band 41	20M	QPSK	50	24	Back	0mm	Ant 2	40620	2593	22.33	23.80	1.403	62.9	1.006	0.13	0.133	0.188
	LTE Band 41C	20M	QPSK	1	0	Back	0mm	Ant 2	40185+39987	2549.5	24.05	24.80	1.189	62.9	1.006	0.08	0.204	0.244
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 1	132322	1745	22.86	24.00	1.300			-0.03	0.124	0.161
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 1	132322	1745	21.90	23.00	1.288			0.12	0.080	0.103
11	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 2	132322	1745	22.86	24.00	1.300			-0.05	0.398	0.517



FCC SAR TEST REPORT

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	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 2	132322	1745	21.87	23.00	1.297			0.17	0.306	0.397
12	LTE Band 71	20M	QPSK	1	0	Back	0mm	Ant 1	133297	680.5	22.83	24.00	1.309			-0.01	0.199	0.261
	LTE Band 71	20M	QPSK	50	0	Back	0mm	Ant 1	133297	680.5	21.81	23.00	1.315			-0.08	0.163	0.214
	LTE Band 71	20M	QPSK	1	0	Back	0mm	Ant 2	133297	680.5	22.81	24.00	1.315			-0.09	0.191	0.251
	LTE Band 71	20M	QPSK	50	0	Back	0mm	Ant 2	133297	680.5	21.80	23.00	1.318			0.18	0.159	0.210

<5G NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n2	20M	BPSK	1	1	Back	0mm	Ant 1	376000	1880	24.10	24.50	1.096	-0.03	0.146	0.160
	FR1 n2	20M	BPSK	50	28	Back	0mm	Ant 1	376000	1880	24.00	24.50	1.122	0.05	0.136	0.153
13	FR1 n2	20M	BPSK	1	1	Back	0mm	Ant 2	376000	1880	24.06	24.50	1.107	-0.1	0.391	0.433
	FR1 n2	20M	BPSK	50	28	Back	0mm	Ant 2	376000	1880	23.90	24.50	1.148	0.08	0.372	0.427
14	FR1 n5	20M	BPSK	1	1	Back	0mm	Ant 1	167300	836.5	23.38	24.50	1.294	-0.12	0.258	0.334
	FR1 n5	20M	BPSK	50	28	Back	0mm	Ant 1	167300	836.5	23.29	24.50	1.321	0.16	0.235	0.311
	FR1 n5	20M	BPSK	1	1	Back	0mm	Ant 2	167300	836.5	23.29	24.50	1.321	-0.13	0.241	0.318
	FR1 n5	20M	BPSK	50	28	Back	0mm	Ant 2	167300	836.5	23.26	24.50	1.330	-0.12	0.220	0.293
	FR1 n41	100M	BPSK	1	1	Back	0mm	MIMO Ant 1	518598	2592.99	24.01	24.50	1.119	-0.08	0.569	0.637
	FR1 n41	100M	BPSK	135	69	Back	0mm	MIMO Ant 1	518598	2592.99	23.85	24.50	1.161	-0.12	0.548	0.636
15	FR1 n41	100M	BPSK	1	1	Back	0mm	MIMO Ant 2	518598	2592.99	23.96	24.50	1.132	0.01	0.768	0.870
	FR1 n41	100M	BPSK	135	69	Back	0mm	MIMO Ant 2	518598	2592.99	23.92	24.50	1.143	0.06	0.760	0.869
	FR1 n41	100M	BPSK	270	0	Back	0mm	MIMO Ant 2	518598	2592.99	23.70	24.00	1.072	-0.03	0.721	0.773
	FR1 n66	40M	BPSK	1	1	Back	0mm	Ant 1	349000	1745	24.15	24.50	1.084	-0.04	0.156	0.169
	FR1 n66	40M	BPSK	108	54	Back	0mm	Ant 1	349000	1745	24.12	24.50	1.091	0.05	0.153	0.167
16	FR1 n66	40M	BPSK	1	1	Back	0mm	Ant 2	349000	1745	23.75	24.50	1.189	-0.07	0.464	0.551
	FR1 n66	40M	BPSK	108	54	Back	0mm	Ant 2	349000	1745	23.73	24.50	1.194	0.08	0.457	0.546
	FR1 n71	20M	BPSK	1	1	Back	0mm	Ant 1	136100	680.5	23.29	24.50	1.321	-0.14	0.258	0.341
	FR1 n71	20M	BPSK	50	28	Back	0mm	Ant 1	136100	680.5	23.23	24.50	1.340	0.08	0.246	0.330
17	FR1 n71	20M	BPSK	1	1	Back	0mm	Ant 2	136100	680.5	23.22	24.50	1.343	-0.09	0.274	0.368
	FR1 n71	20M	BPSK	50	28	Back	0mm	Ant 2	136100	680.5	23.19	24.50	1.352	0.1	0.254	0.343

EM7565

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Back	0mm	Ant 1	9400	1880	22.70	24.00	1.349	-0.03	0.179	0.241
18	WCDMA II	RMC 12.2Kbps	Back	0mm	Ant 2	9400	1880	22.69	24.00	1.352	-0.14	0.407	0.550
	WCDMA IV	RMC 12.2Kbps	Back	0mm	Ant 1	1413	1732.6	22.72	24.00	1.343	-0.02	0.180	0.242
19	WCDMA IV	RMC 12.2Kbps	Back	0mm	Ant 2	1413	1732.6	22.68	24.00	1.355	-0.09	0.352	0.477
20	WCDMA V	RMC 12.2Kbps	Back	0mm	Ant 1	4182	836.4	22.87	24.00	1.297	-0.02	0.218	0.283
	WCDMA V	RMC 12.2Kbps	Back	0mm	Ant 2	4182	836.4	22.83	24.00	1.309	-0.05	0.208	0.272

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 1	18900	1880	22.66	24.00	1.361			-0.06	0.168	0.229
	LTE Band 2	20M	QPSK	50	0	Back	0mm	Ant 1	18900	1880	21.61	23.00	1.377			0.05	0.117	0.161
21	LTE Band 2	20M	QPSK	1	0	Back	0mm	Ant 2	19100	1900	22.47	24.00	1.422			-0.11	0.380	0.540
	LTE Band 2	20M	QPSK	50	0	Back	0mm	Ant 2	19100	1900	21.47	23.00	1.422			0.05	0.280	0.398
	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant 1	21100	2535	22.29	23.80	1.416			-0.16	0.213	0.302
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant 1	21100	2535	21.23	22.80	1.435			0.09	0.178	0.256
	LTE Band 7C	20M	QPSK	1	0	Back	0mm	Ant 1	21100+20902	2535	22.31	23.80	1.409			0.07	0.210	0.296
22	LTE Band 7	20M	QPSK	1	0	Back	0mm	Ant 2	21100	2535	22.18	23.80	1.452			-0.13	0.247	0.359
	LTE Band 7	20M	QPSK	50	0	Back	0mm	Ant 2	21100	2535	21.22	22.80	1.439			0.12	0.191	0.275
	LTE Band 7C	20M	QPSK	1	0	Back	0mm	Ant 2	21100+20902	2535	22.13	23.80	1.469			-0.11	0.223	0.328
	LTE Band 12	10M	QPSK	1	0	Back	0mm	Ant 1	23095	707.5	22.65	24.00	1.365			-0.03	0.183	0.250
	LTE Band 12	10M	QPSK	25	0	Back	0mm	Ant 1	23095	707.5	21.66	23.00	1.361			0.03	0.146	0.199
23	LTE Band 12	10M	QPSK	1	0	Back	0mm	Ant 2	23095	707.5	22.45	24.00	1.429			-0.05	0.180	0.257
	LTE Band 12	10M	QPSK	25	0	Back	0mm	Ant 2	23095	707.5	21.45	23.00	1.429			-0.08	0.144	0.206
	LTE Band 13	10M	QPSK	1	0	Back	0mm	Ant 1	23230	782	22.61	24.00	1.377			-0.04	0.143	0.197
	LTE Band 13	10M	QPSK	25	0	Back	0mm	Ant 1	23230	782	21.66	23.00	1.361			0.07	0.112	0.152
24	LTE Band 13	10M	QPSK	1	0	Back	0mm	Ant 2	23230	782	22.39	24.00	1.449			-0.06	0.210	0.304
	LTE Band 13	10M	QPSK	25	0	Back	0mm	Ant 2	23230	782	21.32	23.00	1.472			0.12	0.160	0.236
	LTE Band 26	15M	QPSK	1	0	Back	0mm	Ant 1	26865	831.5	22.66	24.00	1.361			-0.07	0.196	0.267
	LTE Band 26	15M	QPSK	36	0	Back	0mm	Ant 1	26865	831.5	21.73	23.00	1.340			0.09	0.148	0.198
25	LTE Band 26	15M	QPSK	1	0	Back	0mm	Ant 2	26865	831.5	22.39	24.00	1.449			-0.1	0.187	0.271
	LTE Band 26	15M	QPSK	36	0	Back	0mm	Ant 2	26865	831.5	21.41	23.00	1.442			0.05	0.158	0.228
	LTE Band 41	20M	QPSK	1	0	Back	0mm	Ant 1	40620	2593	22.42	23.80	1.374	62.9	1.006	-0.1	0.121	0.167
	LTE Band 41	20M	QPSK	50	0	Back	0mm	Ant 1	40620	2593	21.29	22.80	1.416	62.9	1.006	-0.09	0.100	0.142
	LTE Band 41C	20M	QPSK	1	0	Back	0mm	Ant 1	40620+40422	2593	22.41	23.80	1.377	62.9	1.006	0.01	0.115	0.159
26	LTE Band 41	20M	QPSK	1	0	Back	0mm	Ant 2	40620	2593	22.38	23.80	1.387	62.9	1.006	-0.04	0.155	0.216
	LTE Band 41	20M	QPSK	50	0	Back	0mm	Ant 2	40620	2593	21.27	22.80	1.422	62.9	1.006	0.05	0.131	0.187
	LTE Band 41C	20M	QPSK	1	0	Back	0mm	Ant 2	40620+40422	2593	22.38	23.80	1.387	62.9	1.006	-0.02	0.139	0.194
	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 1	132322	1745	22.75	24.00	1.334			-0.05	0.180	0.240
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 1	132322	1745	21.61	23.00	1.377			0.02	0.141	0.194
27	LTE Band 66	20M	QPSK	1	0	Back	0mm	Ant 2	132322	1745	22.56	24.00	1.393			-0.1	0.351	0.489
	LTE Band 66	20M	QPSK	50	0	Back	0mm	Ant 2	132322	1745	21.50	23.00	1.413			0.12	0.276	0.390

AW-CM276NF
<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
28	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Ant 1+2(1)	1	2412	13.50	14.00	1.122	90.73	1.102	-0.05	0.014	0.017
	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Ant 1+2(2)	1	2412	13.70	14.00	1.072	90.73	1.102	-0.05	0.018	0.021
29	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 1+2(1)	60	5300	15.00	15.50	1.122	90.62	1.104	-0.14	0.024	0.030
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 1+2(2)	60	5300	15.20	15.50	1.072	90.62	1.104	-0.14	0.073	0.086
30	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 1+2(1)	134	5670	10.00	10.00	1.000	91.19	1.097	-0.1	0.001	0.001
	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 1+2(2)	134	5670	9.90	10.00	1.023	91.19	1.097	-0.1	0.025	0.028
31	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 1+2(1)	157	5785	17.10	17.50	1.096	90.62	1.104	-0.09	0.047	0.057
	WLAN5GHz	802.11a 6Mbps	Back	0mm	Ant 1+2(2)	157	5785	16.90	17.50	1.148	90.62	1.104	-0.09	0.154	0.195

16. Simultaneous Transmission Analysis

WWAN EM9191+ WLAN		
NO.	Simultaneous Transmission Configurations	Body
1.	WWAN Ant 2 + MIMO2 Ant 2 + WLAN2.4GHz Ant 1 + WLAN2.4GHz Ant 2 + Bluetooth Ant 2	Yes
2.	WWAN Ant 2 + MIMO2 Ant 2 + WLAN5GHz Ant 1 + WLAN5GHz Ant 2 + Bluetooth Ant 2	Yes
WWAN EM7565+ WLAN		
NO.	Simultaneous Transmission Configurations	Body
3.	WWAN Ant + WLAN2.4GHz Ant 1 + WLAN2.4GHz Ant 2+ Bluetooth Ant 2	Yes
4.	WWAN Ant + WLAN5GHz Ant 1 + WLAN5GHz Ant 2 + Bluetooth Ant 2	Yes

General Note:

- The worst case WLAN reported SAR for each configuration was used for SAR summation. Therefore, the following summations represent the absolute worst cases for simultaneous transmission with WLAN.
- WLAN RF exposure assessment of MIMO mode simultaneous transmission exclusion analysis was performed with SAR test results of each antenna in SISO mode. Therefore SPLSR calculation was choose worst case with SAR test results of each antenna in SISO mode perform evaluation.
- The Scaled SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - Scalar SAR summation < 1.6W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
 - The SPLSR calculated results please refer to section 16.2.
- For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01v06 based on the formula below.
 - $(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})} / x] \text{ W/kg}$ for test separation distances $\leq 50 \text{ mm}$; where $x = 7.5$ for 1-g SAR, and $x = 18.75$ for 10-g SAR.
 - When the minimum separation distance is < 5mm, the distance is used 5mm to determine SAR test exclusion.
 - 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm.

Bluetooth Max Power	Exposure Position	All Positions
3.5 dBm	Estimated SAR (W/kg)	0.094 W/kg

**16.1 Body Exposure Conditions****EM9191**

WWAN Band	FR1 Band	Exposure Position	1	2	3	4	5	1+2+3+5 Summed 1g SAR (W/kg)	1+2+4+5 Summed 1g SAR (W/kg)	SPLSR	Case No
			WWAN 1g SAR (W/kg)	FR1 1g SAR (W/kg)	WLAN2.4GHz Ant 1+2 1g SAR (W/kg)	WLAN5GHz Ant 1+2 1g SAR (W/kg)	Bluetooth Ant 2 Estimated 1g SAR (W/kg)				
WCDMA II Ant 1	FR1 n41 MIMO Ant 1	Back	0.171	0.637	0.021	0.195	0.094	0.923	1.097		
WCDMA II Ant 2	FR1 n41 MIMO Ant 2	Back	0.511	0.870	0.021	0.195	0.094	1.496	1.670	0.020	Case 1
WCDMA IV Ant 1	FR1 n41 MIMO Ant 1	Back	0.171	0.637	0.021	0.195	0.094	0.923	1.097		
WCDMA IV Ant 2	FR1 n41 MIMO Ant 2	Back	0.549	0.870	0.021	0.195	0.094	1.534	1.708	0.020	Case 2
WCDMA V Ant 1	FR1 n41 MIMO Ant 1	Back	0.288	0.637	0.021	0.195	0.094	1.040	1.214		
WCDMA V Ant 2	FR1 n41 MIMO Ant 2	Back	0.284	0.870	0.021	0.195	0.094	1.269	1.443		
LTE Band 7 Ant 1	FR1 n41 MIMO Ant 1	Back	0.296	0.637	0.021	0.195	0.094	1.048	1.222		
LTE Band 7 Ant 2	FR1 n41 MIMO Ant 2	Back	0.470	0.870	0.021	0.195	0.094	1.455	1.629	0.020	Case 3
LTE Band 12 Ant 1	FR1 n41 MIMO Ant 1	Back	0.250	0.637	0.021	0.195	0.094	1.002	1.176		
LTE Band 12 Ant 2	FR1 n41 MIMO Ant 2	Back	0.275	0.870	0.021	0.195	0.094	1.260	1.434		
LTE Band 13 Ant 1	FR1 n41 MIMO Ant 1	Back	0.373	0.637	0.021	0.195	0.094	1.125	1.299		
LTE Band 13 Ant 2	FR1 n41 MIMO Ant 2	Back	0.399	0.870	0.021	0.195	0.094	1.384	1.558		
LTE Band 14 Ant 1	FR1 n41 MIMO Ant 1	Back	0.323	0.637	0.021	0.195	0.094	1.075	1.249		
LTE Band 14 Ant 2	FR1 n41 MIMO Ant 2	Back	0.381	0.870	0.021	0.195	0.094	1.366	1.540		
LTE Band 25 Ant 1	FR1 n41 MIMO Ant 1	Back	0.173	0.637	0.021	0.195	0.094	0.925	1.099		
LTE Band 25 Ant 2	FR1 n41 MIMO Ant 2	Back	0.469	0.870	0.021	0.195	0.094	1.454	1.628	0.020	Case 4
LTE Band 26 Ant 1	FR1 n41 MIMO Ant 1	Back	0.257	0.637	0.021	0.195	0.094	1.009	1.183		
LTE Band 26 Ant 2	FR1 n41 MIMO Ant 2	Back	0.283	0.870	0.021	0.195	0.094	1.268	1.442		
LTE Band 41 Ant 1	FR1 n41 MIMO Ant 1	Back	0.214	0.637	0.021	0.195	0.094	0.966	1.140		
LTE Band 41 Ant 2	FR1 n41 MIMO Ant 2	Back	0.280	0.870	0.021	0.195	0.094	1.265	1.439		
LTE Band 66 Ant 1	FR1 n41 MIMO Ant 1	Back	0.161	0.637	0.021	0.195	0.094	0.913	1.087		
LTE Band 66 Ant 2	FR1 n41 MIMO Ant 2	Back	0.517	0.870	0.021	0.195	0.094	1.502	1.676	0.020	Case 5
LTE Band 71 Ant 1	FR1 n41 MIMO Ant 1	Back	0.261	0.637	0.021	0.195	0.094	1.013	1.187		
LTE Band 71 Ant 2	FR1 n41 MIMO Ant 2	Back	0.251	0.870	0.021	0.195	0.094	1.236	1.410		
FR1 n2 Ant 1	FR1 n41 MIMO Ant 1	Back	0.160	0.637	0.021	0.195	0.094	0.912	1.086		
FR1 n2 Ant 2	FR1 n41 MIMO Ant 2	Back	0.433	0.870	0.021	0.195	0.094	1.418	1.592		
FR1 n5 Ant 1	FR1 n41 MIMO Ant 1	Back	0.334	0.637	0.021	0.195	0.094	1.086	1.260		
FR1 n5 Ant 2	FR1 n41 MIMO Ant 2	Back	0.318	0.870	0.021	0.195	0.094	1.303	1.477		
FR1 n66 Ant 1	FR1 n41 MIMO Ant 1	Back	0.169	0.637	0.021	0.195	0.094	0.921	1.095		
FR1 n66 Ant 2	FR1 n41 MIMO Ant 2	Back	0.551	0.870	0.021	0.195	0.094	1.536	1.710	0.020	Case 6
FR1 n71 Ant 1	FR1 n41 MIMO Ant 1	Back	0.341	0.637	0.021	0.195	0.094	1.093	1.267		
FR1 n71 Ant 2	FR1 n41 MIMO Ant 2	Back	0.368	0.870	0.021	0.195	0.094	1.353	1.527		
WWAN Ant 1	WWAN MIMO Ant 1	Back	0.373	0.637	0.021	0.195	0.094	1.125	1.299		
WWAN Ant 2	WWAN MIMO Ant 2	Back	0.551	0.870	0.021	0.195	0.094	1.536	1.710	0.020	Case 6

**EM7565**

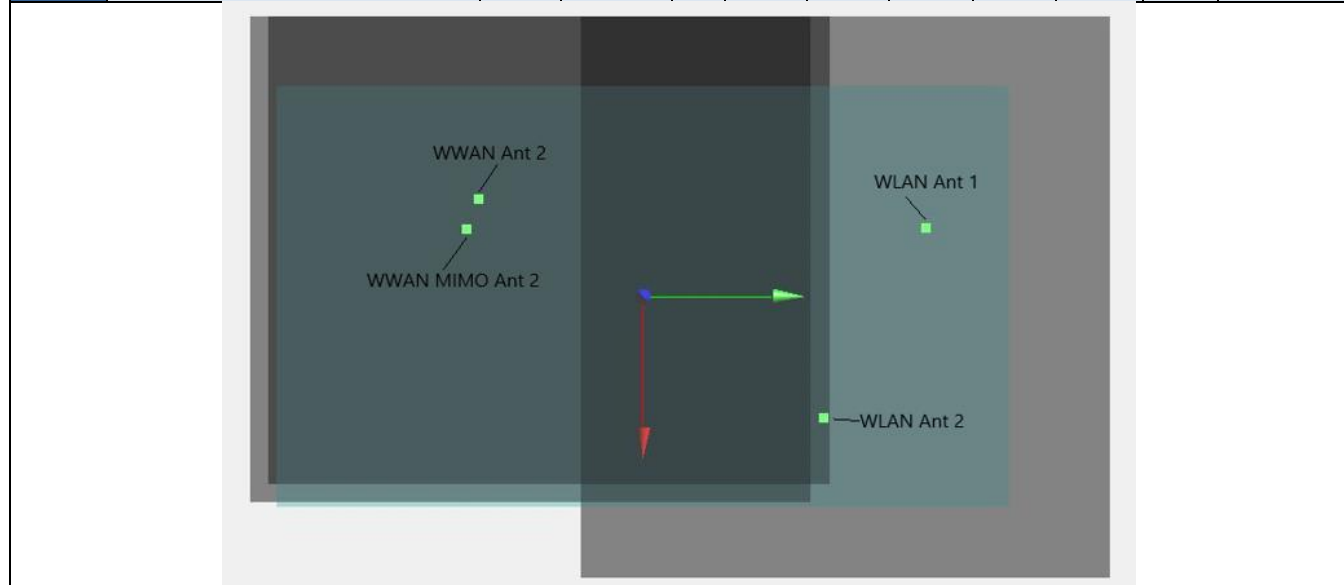
WWAN Band	Exposure Position	1	2	3	4	1+2+4 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)
		Maximum WWAN	WLAN2.4GHz Ant 1+2	WLAN5GHz Ant 1+2	Bluetooth Ant 2		
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	Estimated 1g SAR (W/kg)		
WCDMA II Ant 1	Back	0.241	0.021	0.195	0.094	0.356	0.530
WCDMA II Ant 2	Back	0.550	0.021	0.195	0.094	0.665	0.839
WCDMA IV Ant 1	Back	0.242	0.021	0.195	0.094	0.357	0.531
WCDMA IV Ant 2	Back	0.477	0.021	0.195	0.094	0.592	0.766
WCDMA V Ant 1	Back	0.283	0.021	0.195	0.094	0.398	0.572
WCDMA V Ant 2	Back	0.272	0.021	0.195	0.094	0.387	0.561
LTE Band 2 Ant 1	Back	0.229	0.021	0.195	0.094	0.344	0.518
LTE Band 2 Ant 2	Back	0.540	0.021	0.195	0.094	0.655	0.829
LTE Band 7 Ant 1	Back	0.302	0.021	0.195	0.094	0.417	0.591
LTE Band 7 Ant 2	Back	0.359	0.021	0.195	0.094	0.474	0.648
LTE Band 12 Ant 1	Back	0.250	0.021	0.195	0.094	0.365	0.539
LTE Band 12 Ant 2	Back	0.257	0.021	0.195	0.094	0.372	0.546
LTE Band 13 Ant 1	Back	0.197	0.021	0.195	0.094	0.312	0.486
LTE Band 13 Ant 2	Back	0.304	0.021	0.195	0.094	0.419	0.593
LTE Band 26 Ant 1	Back	0.267	0.021	0.195	0.094	0.382	0.556
LTE Band 26 Ant 2	Back	0.271	0.021	0.195	0.094	0.386	0.560
LTE Band 41 Ant 1	Back	0.167	0.021	0.195	0.094	0.282	0.456
LTE Band 41 Ant 2	Back	0.216	0.021	0.195	0.094	0.331	0.505
LTE Band 66 Ant 1	Back	0.240	0.021	0.195	0.094	0.355	0.529
LTE Band 66 Ant 2	Back	0.489	0.021	0.195	0.094	0.604	0.778

16.2 SPLSR Evaluation and Analysis

General Note:

1. Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration. Therefore, the adjacent transmit antennas will be summed first, and then the SPLSR calculation will be evaluated with the farther transmitted antennas.
2. $SPLSR = (SAR_1 + SAR_2)^{1.5} / (\text{min. separation distance, mm})$. If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary
3. The detail hotspot point for each transmitter in each exposure condition are showing as below figure and the minimum 3D distance for each sum combination is used for SPLSR analysis.

Case 1	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	WCDMA II_Ant 2 + FR1 n41_MIMO Ant 2	Back	1.381	0mm	-21.6	-56.4	2.31	129.6	1.67	0.02	Not required
	WLAN5GHz Ant 1+2 + Bluetooth Ant 2		0.289	0mm	39	58	-2.87				
Case 2	Band	Position	SAR (W/kg)	Gap	SAR peak location (mm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	WCDMA IV_Ant 2 + FR1 n41_MIMO Ant 2	Back	1.419	0mm	-21.6	-56.4	2.31	129.6	1.71	0.02	Not required
	WLAN5GHz Ant 1+2 + Bluetooth Ant 2		0.289	0mm	39	58	-2.87				
Case 3	Band	Position	SAR (W/kg)	Gap	SAR peak location (cm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	LTE Band 7_Ant 2 + FR1 n41_MIMO Ant 2	Back	1.34	0mm	-21.6	-56.4	2.31	129.6	1.63	0.02	Not required
	WLAN5GHz Ant 1+2 + Bluetooth Ant 2		0.289	0mm	39	58	-2.87				
Case 4	Band	Position	SAR (W/kg)	Gap	SAR peak location (cm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	LTE Band 25_Ant 2 + FR1 n41_MIMO Ant 2	Back	1.339	0mm	-21.6	-56.4	2.31	129.6	1.63	0.02	Not required
	WLAN5GHz Ant 1+2 + Bluetooth Ant 2		0.289	0mm	39	58	-2.87				
Case 5	Band	Position	SAR (W/kg)	Gap	SAR peak location (cm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	LTE Band 66_Ant 2 + FR1 n41_MIMO Ant 2	Back	1.387	0mm	-21.6	-56.4	2.31	129.6	1.68	0.02	Not required
	WLAN5GHz Ant 1+2 + Bluetooth Ant 2		0.289	0mm	39	58	-2.87				
Case 6	Band	Position	SAR (W/kg)	Gap	SAR peak location (cm)			3D distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)	X	Y	Z				
	FR1 n66_Ant 2 + FR1 n41_MIMO 2	Back	1.421	0mm	-21.6	-56.4	2.31	129.6	1.71	0.02	Not required
	WLAN5GHz Ant 1+2 + Bluetooth Ant 2		0.289	0mm	39	58	-2.87				



Test Engineer : Lu Chen, Kells Chen and White Huang

17. Uncertainty Assessment

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

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

18. References

- [1] FCC 47 CFR Part 2 "Frequency Allocations and Radio Treaty Matters; General Rules and Regulations"
- [2] ANSI/IEEE Std. C95.1-1992, "IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz", September 1992
- [3] IEEE Std. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013
- [4] SPEAG DASY System Handbook
- [5] FCC KDB 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [7] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [8] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [9] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [10] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [11] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.