

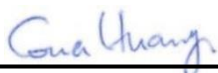


FCC SAR TEST REPORT

FCC ID : B94HNI42CTKR
Equipment : Notebook Computer
Brand Name : HP
Model Name : HSN-I42C
Applicant : HP Inc.
1501 Page Mill Road, Palo Alto CA
94304 USA
Standard : FCC 47 CFR Part 2 (2.1093)

The product was received on Sep. 17, 2020 and testing was started from Sep. 26, 2020 and completed on Oct. 08, 2020. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

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



Approved by: Cona Huang / Deputy Manager

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan

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History of this test report

Report No.	Version	Description	Issued Date
FA090426-01	01	Initial issue of report	Oct. 30, 2020

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for HP Inc., Notebook Computer, HSN-I42C, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary	Highest Simultaneous Transmission 1g SAR (W/kg)
		Body (Separation 0mm)	
		1g SAR (W/kg)	
Licensed	WCDMA II	1.20	1.38
	WCDMA IV	1.06	
	WCDMA V	1.19	
	LTE Band 2	1.19	
	LTE Band 5	1.19	
	LTE Band 7	1.05	
	LTE Band 12 / 17	1.19	
	LTE Band 13	1.19	
	LTE Band 14	1.18	
	LTE Band 25	0.88	
	LTE Band 26	1.18	
	LTE Band 30	1.05	
	LTE Band 38 / 41	1.10	
	LTE Band 42	0.97	
	LTE Band 48	1.05	
	LTE Band 4 / 66	1.17	
	FR1 n2	1.20	
	FR1 n5	1.03	
	FR1 n7	1.20	
	FR1 n12	1.03	
	FR1 n41	1.12	
	FR1 n66	1.19	
Date of Testing:		2020/9/26 ~ 2020/10/8	

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. (This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) 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 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Notebook Computer
Brand Name	HP
Model Name	HSN-I42C
FCC ID	B94HNI42CTKR
Integrated WWAN Module	Brand Name: Foxconn Model Name: T99W175
Integrated WLAN Module	Brand Name: Intel Model Name: AX201NGW
Integrated NFC Module	Brand Name: WNC Model Name: XR4V-1
Wireless Technology and Frequency Range	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3550 MHz ~ 3600 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n12 : 699 MHz ~ 716 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8GHz Band: 5725 MHz ~ 5825 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz NFC : 13.56 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM 5G NR: DFT-s-OFDM/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE NFC:ASK
EUT Stage	Production Unit
Remark: 1. The device implements the power management for SAR compliance at different exposure conditions (Notebook and Tablet mode) and the Qualcomm smart transmit will manage to ensure the averaged power level not exceeding the associated power table. G+H sensors are used to detect the lid angle to define the laptop and tablet exposure conditions. 2. For Intel AX201NGW, the 2.4GHz/5 GHz WLAN and Bluetooth SAR results are referenced from Intel SAR report, report number: 200904-01.TR01/TR02 (FCC ID: PD9AX201NG) and these SAR results are also used to perform simultaneous transmission analysis.	



Vendor	HONG-BO																
Mode	NB Mode																
Antenna	PIFA																
Part Number	6036B0293201 (00-2602746850) (Main)(TXS)																
Frequency	B2 1850-1910MHz	B4 1710-1755MHz	B5 824-849MHz	B7 2500-2570MHz	B12 699-716MHz	B13 777-787MHz	B14 788-798MHz	B17 704-716MHz	B25 1850-1915MHz	B26 814-849MHz	B30 2305-2315MHz	B38 2570-2620MHz	B41 2496-2690MHz	B42 3400-3600MHz	B48 3550-3700MHz	B66 1710-1780MHz	
Gain (dBi)	-0.51	0.78	-5.24	-0.17	-3.46	-3.81	-4.72	-3.46	-0.51	-5.24	0.70	-0.62	-0.17	-3.01	-3.01	0.78	
Vendor	HONG-BO																
Mode	NB Mode																
Antenna	PIFA																
Part Number	6036B0284301 (00-2602745650) (Aux)(Rx6)																
Frequency	B2 1930-1990MHz	B4 2110-2155MHz	B5 869-894MHz	B7 2620-2690MHz	B12 729-746MHz	B13 746-756MHz	B14 758-768MHz	B17 734-746MHz	B25 1930-1995MHz	B26 859-894MHz	B30 2350-2360MHz	B38 2570-2620MHz	B41 2496-2690MHz	B42 3400-3600MHz	B48 3550-3700MHz	B66 2110-2200MHz	
Gain (dBi)	-4.23	-3.13	-5.19	-4.19	-5.55	-5.62	-5.96	-5.55	-4.23	-5.19	-2.61	-1.05	-1.05	-3.45	-3.45	-3.13	
Vendor	HONG-BO																
Mode	TB Mode																
Antenna	PIFA																
Part Number	6036B0293201 (00-26027746850) (Main)(TXS)																
Frequency	B2 1850-1910MHz	B4 1710-1755MHz	B5 824-849MHz	B7 2500-2570MHz	B12 699-716MHz	B13 777-787MHz	B14 788-798MHz	B17 704-716MHz	B25 1850-1915MHz	B26 814-849MHz	B30 2305-2315MHz	B38 2570-2620MHz	B41 2496-2690MHz	B42 3400-3600MHz	B48 3550-3700MHz	B66 1710-1780MHz	
Gain (dBi)	-3.40	-2.54	-5.63	-3.75	-7.87	-6.16	N/A	-7.87	-3.40	-5.63	-3.21	-5.04	-3.75	-6.66	-9.88	-2.54	
Vendor	HONG-BO																
Mode	TB Mode																
Antenna	PIFA																
Part Number	6036B0284301 (00-2602745650) (Aux)(Rx6)																
Frequency	B2 1930-1990MHz	B4 2110-2155MHz	B5 869-894MHz	B7 2620-2690MHz	B12 729-746MHz	B13 746-756MHz	B14 758-768MHz	B17 734-746MHz	B25 1930-1995MHz	B26 859-894MHz	B30 2350-2360MHz	B38 2570-2620MHz	B41 2496-2690MHz	B42 3400-3600MHz	B48 3550-3700MHz	B66 2110-2200MHz	
Gain (dBi)	-7.10	-4.09	-9.33	-5.95	-11.98	-12.26	-12.26	-11.98	-7.10	-9.33	-5.57	-3.06	-3.06	-4.99	-4.76	-4.09	
Vendor	WNC																
Mode	NB Mode																
Antenna	PIFA																
Part Number	6036B0282901 (81EABD15.G55) (Main)(TXS)																
Frequency	B2 1850-1910MHz	B4 1710-1755MHz	B5 824-849MHz	B7 2500-2570MHz	B12 699-716MHz	B13 777-787MHz	B14 788-798MHz	B17 704-716MHz	B25 1850-1915MHz	B26 814-849MHz	B30 2305-2315MHz	B38 2570-2620MHz	B41 2496-2690MHz	B42 3400-3600MHz	B48 3550-3700MHz	B66 1710-1780MHz	
Gain (dBi)	2.55	1.73	-0.87	0.80	-3.30	-1.82	-1.92	-3.30	2.55	-0.87	-2.13	0.17	0.80	0.53	-1.29	1.73	
Vendor	WNC																
Mode	NB Mode																
Antenna	PIFA																
Part Number	6036B0283001 (81EABD15.G14) (Aux)(Rx6)																
Frequency	B2 1930-1990MHz	B4 2110-2155MHz	B5 869-894MHz	B7 2620-2690MHz	B12 729-746MHz	B13 746-756MHz	B14 758-768MHz	B17 734-746MHz	B25 1930-1995MHz	B26 859-894MHz	B30 2350-2360MHz	B38 2570-2620MHz	B41 2496-2690MHz	B42 3400-3600MHz	B48 3550-3700MHz	B66 2110-2200MHz	
Vendor	WNC																
Mode	TB Mode																
Antenna	PIFA																
Part Number	6036B0282901 (81EABD15.G55) (Main)(TXS)																
Frequency	B2 1850-1910MHz	B4 1710-1755MHz	B5 824-849MHz	B7 2500-2570MHz	B12 699-716MHz	B13 777-787MHz	B14 788-798MHz	B17 704-716MHz	B25 1850-1915MHz	B26 814-849MHz	B30 2305-2315MHz	B38 2570-2620MHz	B41 2496-2690MHz	B42 3400-3600MHz	B48 3550-3700MHz	B66 1710-1780MHz	
certificate	FCC	FCC	FCC	FCC.CE	FCC	FCC	FCC	FCC	FCC	FCC	FCC	FCC.CE	FCC	FCC.FCC	FCC	FCC	
Gain (dBi)	0.64	0.45	-2.35	-2.65	-4.87	-5.13	-5.14	-4.87	0.64	-2.35	-2.16	-2.42	-2.42	-2.97	-3.35	0.45	
Vendor	WNC																
Mode	TB Mode																
Antenna	PIFA																
Part Number	6036B0283001 (81EABD15.G14) (Aux)(Rx6)																
Frequency	B2 1930-1990MHz	B4 2110-2155MHz	B5 869-894MHz	B7 2620-2690MHz	B12 729-746MHz	B13 746-756MHz	B14 758-768MHz	B17 734-746MHz	B25 1930-1995MHz	B26 859-894MHz	B30 2350-2360MHz	B38 2570-2620MHz	B41 2496-2690MHz	B42 3400-3600MHz	B48 3550-3700MHz	B66 2110-2200MHz	
Gain (dBi)	-1.88	-0.23	-5.94	-4.37	-10.12	-10.38	-10.54	-10.12	-1.88	-5.94	-2.12	-4.23	-4.23	-1.77	-2.37	-0.23	

Vendor	HONG-BO					
Mode	NB Mode					
Antenna	PIFA					
Part Number	6036B0293201 (00-2602746850) (Main)(Tx5)					
Frequency	n2 1850-1910MHz	n5 824-849MHz	n7 2500-2570MHz	n12 699-716MHz	n41 2496-2690MHz	n66 1710-1780MHz
Gain (dBi)	-0.51	-5.24	-0.17	-3.46	-0.17	0.78
Vendor	HONG-BO					
Mode	NB Mode					
Antenna	PIFA					
Part Number	6036B0252601 (260-27362) (Aux)(Rx8)(Tx8)					
Frequency	n2 1930-1990MHz	n5 869-894MHz	n7 2620-2690MHz	n12 729-746MHz	n41 2496-2690MHz	n66 1710-1780MHz
Gain (dBi)	-6.17	-5.19	-3.42	-3.46	-3.42	-5.45
Vendor	HONG-BO					
Mode	TB Mode					
Antenna	PIFA					
Part Number	6036B0293201 (00-2602746850) (Main)(Tx5)					
Frequency	n2 1850-1910MHz	n5 824-849MHz	n7 2500-2570MHz	n12 699-716MHz	n41 2496-2690MHz	n66 1710-1780MHz
Gain (dBi)	-3.40	-5.63	-3.75	-7.87	-3.75	-2.54
Vendor	HONG-BO					
Mode	TB Mode					
Antenna	PIFA					
Part Number	6036B0252601 (260-27362) (Aux)(Rx8)(Tx8)					
Frequency	n2 1930-1990MHz	n5 869-894MHz	n7 2620-2690MHz	n12 729-746MHz	n41 2496-2690MHz	n66 1710-1780MHz
Gain (dBi)	-7.19	-5.14	-4.43	-5.14	-4.43	-4.56
Vendor	WNC					
Mode	NB Mode					
Antenna	PIFA					
Part Number	6036B0282901 (81EABD15.G55) (Main)(Tx5)					
Frequency	n2 1850-1910MHz	n5 824-849MHz	n7 2500-2570MHz	n12 699-716MHz	n41 2496-2690MHz	n66 1710-1780MHz
Gain (dBi)	2.55	-0.87	0.80	-3.30	0.80	1.73
Vendor	WNC					
Mode	NB Mode					
Antenna	PIFA					
Part Number	6036B0250101 (81EABB15.G57) (Aux)(Rx8)(Tx8)					
Frequency	n2 1930-1990MHz	n5 869-894MHz	n7 2620-2690MHz	n12 729-746MHz	n41 2496-2690MHz	n66 1710-1780MHz
Gain (dBi)	-4.39	-2.35	-4.73	-2.44	-4.73	-4.10
Vendor	WNC					
Mode	TB Mode					
Antenna	PIFA					
Part Number	6036B0282901 (81EABD15.G55) (Main)(Tx5)					
Frequency	n2 1850-1910MHz	n5 824-849MHz	n7 2500-2570MHz	n12 699-716MHz	n41 2496-2690MHz	n66 1710-1780MHz
Gain (dBi)	0.64	-2.35	-2.65	-4.87	-2.42	0.45
Vendor	WNC					
Mode	TB Mode					
Antenna	PIFA					
Part Number	6036B0250101 (81EABB15.G57) (Aux)(Rx8)(Tx8)					
Frequency	n2 1930-1990MHz	n5 869-894MHz	n7 2620-2690MHz	n12 729-746MHz	n41 2496-2690MHz	n66 1710-1780MHz
Gain (dBi)	-4.81	-1.39	-3.57	-1.39	-3.57	-2.08

3.2 General 5G FR1 and LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05								
FCC ID	B94HNI42CTKR							
Equipment Name	Notebook Computer							
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3550 MHz ~ 3600 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz							
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz							
uplink modulations used	QPSK / 16QAM / 64QAM							
LTE Voice / Data requirements	Data only							
LTE MPR permanently built-in by design	Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3							
	Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)
		1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2
	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2
	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3
	256 QAM	≥ 1						≤ 5
LTE A-MPR	In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)							
Spectrum plots for RB configuration	A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.							
Power reduction applied to satisfy SAR compliance	Yes, the device implements the power management for SAR compliance							
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 12							
LTE Carrier Aggregation Additional Information	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, eICl, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.							

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

LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905
LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5		
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5		
LTE Band 30												
	Bandwidth 5 MHz					Bandwidth 10 MHz						
	Channel #		Freq.(MHz)			Channel #			Freq.(MHz)			
L	27685		2307.5			27710			2310			
M	27710		2310									
H	27735		2312.5									
LTE Band 38												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580				
M	38000	2595	38000	2595	38000	2595	38000	2595				
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610				
LTE Band 41												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
L M	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
H M	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 42												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	43315	3552.5	43140	3555	43165	3557.5	43190	3560				
M	43340	3575	43340	3575	43340	3575	43340	3575				
H	43565	3597.5	43540	3595	43515	3592.5	43490	3590				
LTE Band 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 48												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560				
L M	55810	3607	55815	3607.5	55820	3608	55830	3609				
M H	56170	3643	56165	3642.5	56160	3642	56150	3641				
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690				

5G NR Information														
FCC	B94HNI42CTKR													
Equipment Name	Notebook Computer													
Operating Frequency Range of each 5G NR transmission band	5G NR n2 : 1850 MHz ~ 1910 MHz													
	5G NR n5 : 824 MHz ~ 849 MHz													
	5G NR n7 : 2500 MHz ~ 2570 MHz													
	5G NR n12 : 699 MHz ~ 716 MHz													
	5G NR n41 : 2496 MHz ~ 2690 MHz													
	5G NR n66 : 1710 MHz ~ 1780 MHz													
Channel Bandwidth	5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz													
	5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz													
	5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz													
	5G NR n12: 5MHz, 10MHz, 15MHz													
	5G NR n41: 20MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz													
	5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz													
SCS	FDD: SCS15KHz, TDD: SCS30KHz													
uplink modulations used	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM CP-OFDM QPSK / 16QAM / 64QAM / 256QAM													
A-MPR (Additional MPR) disabled for SAR Testing?	Yes													
LTE Anchor Bands for n2	LTE B5/12/13/30/48													
LTE Anchor Bands for n5	LTE B2/7/12/48/66													
LTE Anchor Bands for n7	LTE B5/12													
LTE Anchor Bands for n12	LTE B2/66													
LTE Anchor Bands for n41	LTE B2/25/26/41/66													
LTE Anchor Bands for n66	LTE B5/12/13/30/48													
Transmission (H, M, L) channel numbers and frequencies in each 5G NR band														
NR Band 2														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860						
M	376000	1880	376000	1880	376000	1880	376000	1880						
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900						
NR Band 5														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	165300	826.5	165800	829	166300	831.5	166800	834						
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5						
H	169300	846.5	168800	844	168300	841.5	167800	839						
NR Band 7														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510						
M	507000	2535	507000	2535	507000	2535	507000	2535						
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560						
NR Band 12														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 15MHz							
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)						
L	140300	701.5	140800	704	141300	704	141300	706.5						
M	141500	707.5	141500	707.5	141500	707.5	141500	707.5						
H	142700	713.5	142200	711	141700	711	141700	708.5						
NR Band 41														
	Bandwidth 20MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth 100MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	501204	2506.02	503202	2516.01	504204	2521.02	505200	2526	507204	2536.02	508200	2541	509202	2546.01
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99
H	535998	2679.99	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640
NR Band 66														
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 15MHz		Bandwidth 20MHz		Bandwidth 20MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	342500	1712.5	343000	1715	343500	1715	343500	1717.5	344000	1717.5	344000	1720	344000	1720
M	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745	349000	1745
H	355500	1777.5	355000	1775	354500	1775	354500	1772.5	354500	1772.5	354000	1770	354000	1770



4. Lid angle power verification

General Note:

1. This device is convertible type notebook PC, and there have Laptop and Tablet two usage way, when end user is used different mode which the device will according current mode to limit different maximum power, according to 201911 TCBC workshop Hall effect and Gravity sensor guidance to detect lid angle for the power verification in different usage mode was following below step:

Step 1: With the lid is in closed mode (0 degrees), open the screen in 10 degree steps until laptop mode is obtained
Step 2: Lower the screen 5 degrees. Closed mode should be reobtained. If not keep lowering in 5 degree steps.
Step 3: Open the screen in 1 degree steps until laptop mode is reobtained
Step 4: Continue opening the screen in 1 degree steps until at least 5 degrees past where laptop mode was obtained
Step 5: Then continue opening the screen in 10 degree steps until tablet mode is obtained
Step 6: Power measurements should be taken at each step
Step 7: Reverse this procedure going from tablet mode back down to closed mode

when the screen angle is from 0 degree to 360 degree																												
	Wireless		3G WCDMA_Ant 5			4G LTE_Ant 5									4G LTE_Ant 8					5G NR FR1_Ant 5				5G NR FR1_Ant 8				
	Band	B2	B4	B5	B2/25	B4/66	B5/26	B7	B12/17	B13	B14	B30	B38/41	B41 HPUE	B2	B7	B42	B48	B66	N2	N5	N12	N66	N2	N7	N41	N66	
Lid Close	0	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	
	10	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	
	20	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	
	30	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	
	31	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	
	32	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	
	33	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	
Notebook Mode	34	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	standby	
	35	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	36	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	37	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	38	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	39	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	40	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	50	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	60	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	70	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	80	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	90	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	100	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	110	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	120	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	125	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	126	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	127	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	128	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
	129	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9	
Tablet Mode	130	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	131	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	132	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	133	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	134	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	135	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	140	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	150	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	160	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	170	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	180	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	190	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	200	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	210	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	220	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	230	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	240	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	250	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	260	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	270	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
280	18.1	17.1	21.2	17.0	17.5	21.																						



	330	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	340	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	350	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	360	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
Stand mode (Screen orientation is set to 0° and base is horizontal)	195	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	196	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	197	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	198	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	199	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	200	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
	201	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9
	202	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9
	203	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9
	204	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9
	205	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9
	210	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.0	20.7	17.4	17.3	16.6	22.3	24.0	24.0	24.0	24.0	20.8	17.6	18.2	21.9
	220	24.5	24.5	24.5	24.0	24.0	24.5	24.0	24.5	24.5	24.5	23.0	24.0	27.													



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344	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
345	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
350	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9
360	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9

when the screen angle is from 0 degree to 360 degree																												
	Wireless	3G WCDMA_Ant 5				4G LTE_Ant 5								4G LTE_Ant 8						5G NR FR1_Ant 5				5G NR FR1_Ant 8				
	Band	B2	B4	B5	B2/25	B4/66	B5/26	B7	B12/17	B13	B14	B30	B38/41	B41 HPUE	B2	B7	B42	B48	B66	N2	N5	N12	N66	N2	N7	N41	N66	
Tablet Mode	360	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	350	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	340	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	330	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	320	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	310	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	300	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	290	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	280	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	270	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	260	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	250	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	240	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	230	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	220	18.1	17.1	21.2	17.0	17.5	21.7	14.3	19.2	19.7	20.0	15.6	16.5	18.1	20.7	17.4	17.3	16.6	22.3	18.4	20.6	19.1	17.2	20.8	17.6	18.2	21.9	
	210	18.1	17.1	21.2	17.0	17.5	21.7	14.																				



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Tent mode (Screen orientation is set to 180° and base is not horizontal)

5. Smart Transmit feature for RF Exposure compliance

The FCC RF exposure limit is defined based on time-averaged RF exposure. The product implements Qualcomm Smart Transmit feature which controls the instantaneous transmitting power for WWAN transmitter to ensure the product in compliance with FCC RF exposure limit over a defined time window, for SAR (transmit frequency ≤ 6 GHz). To control and manage transmitting power in real time and to ensure at all times the time-averaged RF exposure is compliant to the regulation requirement. Cannot operate without SAR characterization at the device level, beforehand.

This report describes the procedures for the SAR char generation, and the parameters obtained from SAR characterization (referred to as SAR char, respectively) will be used as input for Smart Transmit. SAR char will be entered via the Embedded File System (EFS) to enable the Smart Transmit Feature.

<Terminologies in this report>

P_{limit}	The time-averaged RF power which corresponds to SAR_design_target.
P_{max}	Maximum tune-up power level
SAR_design_target:	The design target for SAR compliance. It should be less than regulatory power density limit to account for all device design related uncertainties.
SAR char	P_{limit} for all the technologies/bands for all applicable DSI

<SAR Characterization>

SAR char must be generated to cover all radio configurations and usage scenarios that the wireless device supports for operating at 6 GHz or below. It will then be used as input for Smart Transmit to control and manage RF exposure for $f < 6$ GHz.

<SAR design target and uncertainty>

Exposure conditions	DSI	SAR design target	W/kg
Laptop Mode	1	1g SAR design target	0.95
Tablet Mode	2	1g SAR design target	0.95

	Uncertainty dB (k=2)
Total uncertainty	1.0

To account for total uncertainty, SAR_design_target should be determined as:

$$SAR_{\text{design_target}} < SAR_{\text{regulatory_limit}} \times 10^{\frac{-\text{total uncertainty}}{10}}$$

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit, for each characterized technology and band.

Smart Transmit allows the device to transmit at higher power instantaneously, as high as P_{max} , when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit} . Below table shows P_{limit} EFS settings and maximum tune up output power P_{max} configured for this EUT for various transmit conditions (Device State Index DSI).

< P_{limit} for supported technologies and bands (P_{limit} in EFS file)>

Band	Antenna	P_{limit}^*	P_{limit}^*	P_{max}^* (dBm)
		NB mode DSI:1 (dBm)	TB Mode DSI:2 (dBm)	
WCDMA II	5	29.3	17.1	23.5
WCDMA IV	5	26.9	16.1	23.5
WCDMA V	5	31.2	20.2	23.5
LTE B7	5	29.3	13.3	23.0
LTE B12/B17	5	34.2	18.2	23.5
LTE B13	5	31.0	18.7	23.5
LTE B14	5	31.5	19.0	23.5
LTE B25/2	5	28.7	16.0	23.0
LTE B26/5	5	31.5	20.7	23.5
LTE B30	5	31.8	14.6	22.0
LTE B41/38(PC3)	5	28.7	13.5	21.0
LTE B41 (PC2)	5			21.9
LTE B66/4	5	27.2	16.5	23.0
FR1 n2	5	28.8	17.4	23.0
FR1 n5	5	30.6	19.6	23.0
FR1 n12	5	34.4	18.1	23.0
FR1 n66	5	27.6	16.2	23.0
LTE B2	8	19.7	19.7	23.0
LTE B7	8	16.4	16.4	23.0
LTE B42	8	14.3	14.3	21.0
LTE B48	8	13.6	13.6	19.0
LTE B66	8	21.3	21.3	23.0
FR1 n2	8	19.8	19.8	23.0
FR1 n7	8	16.6	16.6	23.0
FR1 n41(PC3)	8	17.2	17.2	23.0
FR1 n66	8	20.9	20.9	23.0

* P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to $P_{max} + 1\text{dB}$ uncertainty.

**All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).

The max allowed output power is the $P_{limit} + 1\text{dB}$ device uncertainty, and if P_{limit} is higher than P_{max} , the device output power will be P_{max} instead.

6. RF Exposure Limits

6.1 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.

6.2 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.

7. Specific Absorption Rate (SAR)

7.1 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.

7.2 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:

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

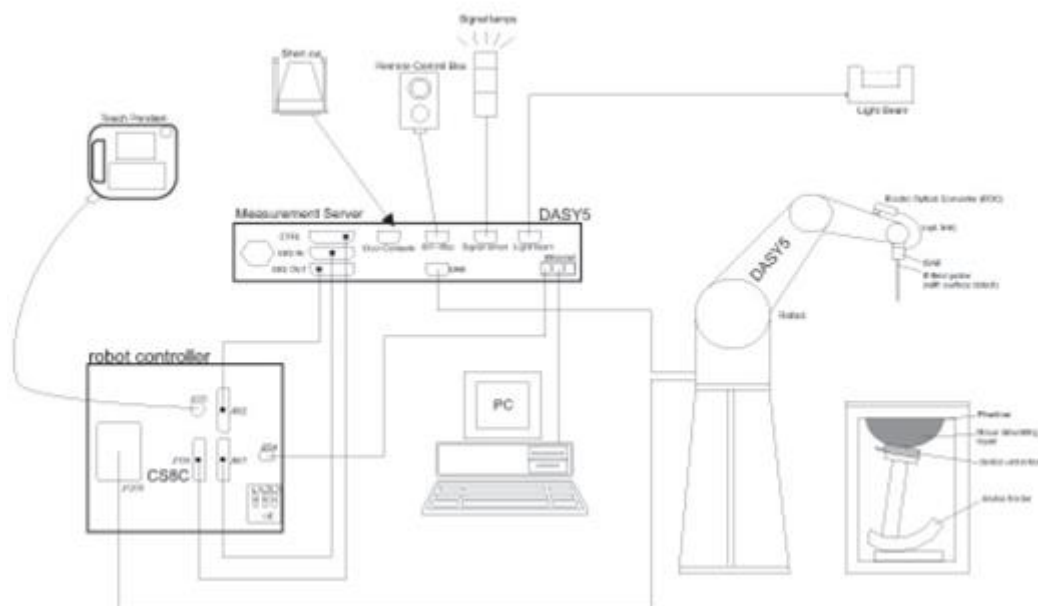
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



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

8.1 Test Site Location

The SAR measurement facilities used to collect data are within Sporton Lab and below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 0007) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

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

8.2 E-Field Probe

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

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – 4 GHz; Linearity: ± 0.2 dB (30 MHz – 4 GHz)	
Directivity	± 0.2 dB in TSL (rotation around probe axis) ± 0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 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	10 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 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	

8.3 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

8.4 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.

8.5 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

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

9.1 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

9.2 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.

9.3 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.	

9.4 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.				

9.5 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.

9.6 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.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1107	Mar. 08, 2019	Mar. 06, 2021
SPEAG	835MHz System Validation Kit	D835V2	4d167	Nov. 25, 2019	Nov. 24, 2020
SPEAG	1750MHz System Validation Kit	D1750V2	1112	Mar. 07, 2019	Mar. 05, 2021
SPEAG	1900MHz System Validation Kit	D1900V2	5d185	Mar. 07, 2019	Mar. 05, 2021
SPEAG	2300MHz System Validation Kit	D2300V2	1006	Jan. 28, 2019	Jan. 26, 2021
SPEAG	2600MHz System Validation Kit	D2600V2	1078	Mar. 06, 2019	Mar. 04, 2021
SPEAG	3500MHz System Validation Kit	D3500V2	1014	Jan. 29, 2019	Jan. 27, 2021
SPEAG	3700MHz System Validation Kit	D3700V2	1006	Mar. 05, 2019	Mar. 03, 2021
SPEAG	Data Acquisition Electronics	DAE4	376	Dec. 06, 2019	Dec. 05, 2020
SPEAG	Data Acquisition Electronics	DAE4	915	Jun. 22, 2020	Jun. 21, 2021
SPEAG	Data Acquisition Electronics	DAE4	916	Dec. 17, 2019	Dec. 16, 2020
SPEAG	Dosimetric E-Field Probe	ES3DV3	3071	Dec. 18, 2019	Dec. 17, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	3642	Apr. 29, 2020	Apr. 28, 2021
SPEAG	Dosimetric E-Field Probe	EX3DV4	7590	Apr. 14, 2020	Apr. 13, 2021
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2019	Nov. 11, 2020
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 12, 2019	Nov. 11, 2020
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Oct. 31, 2019	Oct. 30, 2020
Agilent	Wireless Communication Test Set	E5515C	MY50267236	Mar. 18, 2020	Mar. 17, 2021
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Nov. 20, 2019	Nov. 19, 2020
Agilent	ENA Network Analyzer	E5071C	MY46101588	Jun. 10, 2020	Jun. 09, 2021
SPEAG	Dielectric Probe Kit	DAK-3.5	1146	Jul. 22, 2020	Jul. 21, 2021
LINE SEIKI	Digital Thermometer	DTM3000-spezial	2942	Nov. 18, 2019	Nov. 17, 2020
Anritsu	Power Meter	ML2495A	1419002	Aug. 19, 2020	Aug. 18, 2021
Anritsu	Power Sensor	MA2411B	1911176	Aug. 18, 2020	Aug. 17, 2021
Anritsu	Power Meter	ML2495A	1240001	Sep. 01, 2020	Aug. 31, 2021
Anritsu	Power Sensor	MA2411B	1207349	Sep. 01, 2020	Aug. 31, 2021
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 30, 2020	Jun. 29, 2021
Anritsu	Spectrum Analyzer	N9010A	MY53470118	Mar. 12, 2020	Mar. 11, 2021
Mini-Circuits	Power Amplifier	ZHL-42W+	321501827	Aug. 06, 2020	Aug. 05, 2021
Mini-Circuits	Power Amplifier	ZHL-42W+	715701915	May. 07, 2020	May. 06, 2021
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

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

11. System Verification

11.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.

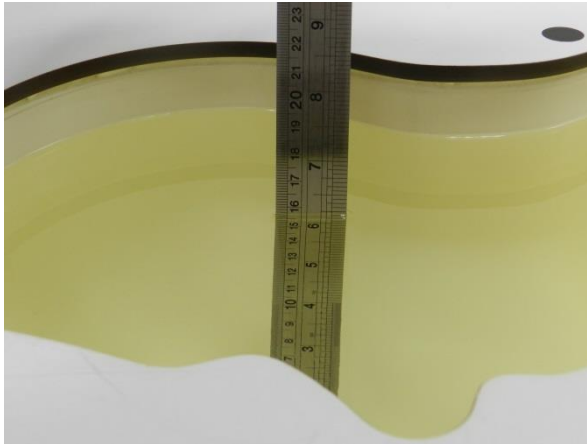


Fig 10.1Photo of Liquid Height for Head SAR

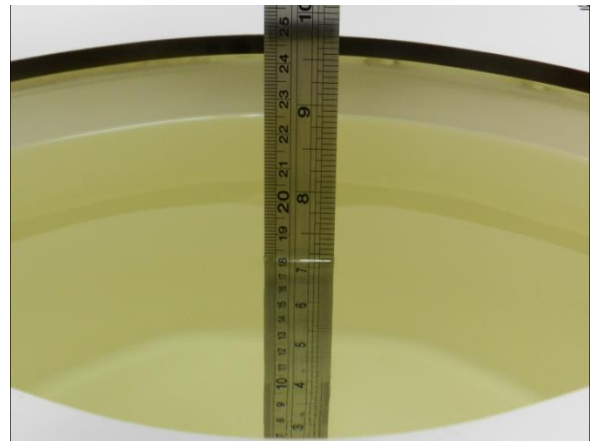


Fig 10.2 Photo of Liquid Height for Body SAR

11.2 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ϵ_r)
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<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	22.6	0.886	41.494	0.89	41.90	-0.45	-0.97	±5	2020/9/26
750	22.7	0.903	40.909	0.89	41.90	1.46	-2.37	±5	2020/10/8
835	22.6	0.879	42.584	0.90	41.50	-2.33	2.61	±5	2020/9/26
835	22.3	0.877	42.542	0.90	41.50	-2.56	2.51	±5	2020/9/30
1750	22.6	1.369	41.516	1.37	40.10	-0.07	3.53	±5	2020/9/26
1750	22.7	1.377	41.596	1.37	40.10	0.51	3.73	±5	2020/9/27
1750	22.3	1.376	39.653	1.37	40.10	0.44	-1.11	±5	2020/9/30
1750	22.2	1.368	39.813	1.37	40.10	-0.15	-0.72	±5	2020/10/2
1900	22.6	1.399	40.611	1.40	40.00	-0.07	1.53	±5	2020/9/26
1900	22.4	1.407	40.691	1.40	40.00	0.50	1.73	±5	2020/9/28
1900	22.3	1.450	39.752	1.40	40.00	3.57	-0.62	±5	2020/9/29
1900	22.3	1.456	40.203	1.40	40.00	4.00	0.51	±5	2020/9/30
1900	22.2	1.408	40.698	1.40	40.00	0.57	1.75	±5	2020/10/7
2300	22.2	1.659	39.761	1.67	39.50	-0.66	0.66	±5	2020/10/7
2600	22.7	1.996	38.047	1.96	39.00	1.84	-2.44	±5	2020/9/27
2600	22.4	2.007	38.127	1.96	39.00	2.40	-2.24	±5	2020/9/28
2600	22.3	2.015	38.179	1.96	39.00	2.81	-2.11	±5	2020/10/3
2600	22.2	2.005	38.525	1.96	39.00	2.30	-1.22	±5	2020/10/7
3500	22.6	2.914	37.923	2.91	37.90	0.14	0.06	±5	2020/9/26
3500	22.2	2.978	38.380	2.91	37.90	2.34	1.27	±5	2020/10/6
3500	22.4	2.941	38.193	2.91	37.90	1.07	0.77	±5	2020/10/7
3700	22.6	3.123	37.721	3.12	37.70	0.10	0.06	±5	2020/9/26
3700	22.2	3.130	38.114	3.12	37.70	0.32	1.10	±5	2020/10/6
3700	22.4	3.152	37.992	3.12	37.70	1.03	0.77	±5	2020/10/7

11.3 System Performance Check Results

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

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2020/9/26	750	250	D750V3-1107	ES3DV3 - SN3071	DAE4 Sn916	2.11	8.32	8.44	1.44
2020/10/8	750	250	D750V3-1107	ES3DV3 - SN3071	DAE4 Sn916	2.15	8.32	8.6	3.37
2020/9/26	835	250	D835V2-4d167	ES3DV3 - SN3071	DAE4 Sn916	2.32	9.55	9.28	-2.83
2020/9/30	835	250	D835V2-4d167	ES3DV3 - SN3071	DAE4 Sn916	2.31	9.55	9.24	-3.25
2020/9/26	1750	250	D1750V2-1112	ES3DV3 - SN3071	DAE4 Sn916	8.75	36.70	35	-4.63
2020/9/27	1750	250	D1750V2-1112	ES3DV3 - SN3071	DAE4 Sn916	8.80	36.70	35.2	-4.09
2020/9/30	1750	250	D1750V2-1112	ES3DV3 - SN3071	DAE4 Sn916	8.80	36.70	35.2	-4.09
2020/10/2	1750	250	D1750V2-1112	ES3DV3 - SN3071	DAE4 Sn916	8.75	36.70	35	-4.63
2020/9/26	1900	250	D1900V2-5d185	ES3DV3 - SN3071	DAE4 Sn916	9.61	39.40	38.44	-2.44
2020/9/28	1900	250	D1900V2-5d185	ES3DV3 - SN3071	DAE4 Sn916	9.67	39.40	38.68	-1.83
2020/9/29	1900	250	D1900V2-5d185	ES3DV3 - SN3071	DAE4 Sn916	9.96	39.40	39.84	1.12
2020/9/30	1900	250	D1900V2-5d185	ES3DV3 - SN3071	DAE4 Sn916	10.00	39.40	40	1.52
2020/10/7	1900	250	D1900V2-5d185	ES3DV3 - SN3071	DAE4 Sn916	9.30	39.40	37.2	-5.58
2020/10/7	2300	250	D2300V2-1006	ES3DV3 - SN3071	DAE4 Sn916	11.80	48.70	47.2	-3.08
2020/9/27	2600	250	D2600V2-1078	ES3DV3 - SN3071	DAE4 Sn916	15.60	57.60	62.4	8.33
2020/9/28	2600	250	D2600V2-1078	ES3DV3 - SN3071	DAE4 Sn916	15.70	57.60	62.8	9.03
2020/10/3	2600	250	D2600V2-1078	ES3DV3 - SN3071	DAE4 Sn916	15.20	57.60	60.8	5.56
2020/10/7	2600	250	D2600V2-1078	ES3DV3 - SN3071	DAE4 Sn916	15.10	57.60	60.4	4.86
2020/9/26	3500	100	D3500V2-1014	EX3DV4 - SN3642	DAE4 Sn376	6.40	67.90	64	-5.74
2020/10/6	3500	50	D3500V2-1014	EX3DV4 - SN7590	DAE4 Sn915	3.22	67.90	64.4	-5.15
2020/10/7	3500	50	D3500V2-1014	EX3DV4 - SN7590	DAE4 Sn915	3.18	67.90	63.6	-6.33
2020/9/26	3700	100	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn376	6.36	67.30	63.6	-5.50
2020/10/6	3700	50	D3700V2-1006	EX3DV4 - SN7590	DAE4 Sn915	3.18	67.30	63.6	-5.50
2020/10/7	3700	50	D3700V2-1006	EX3DV4 - SN7590	DAE4 Sn915	3.20	67.30	64	-4.90

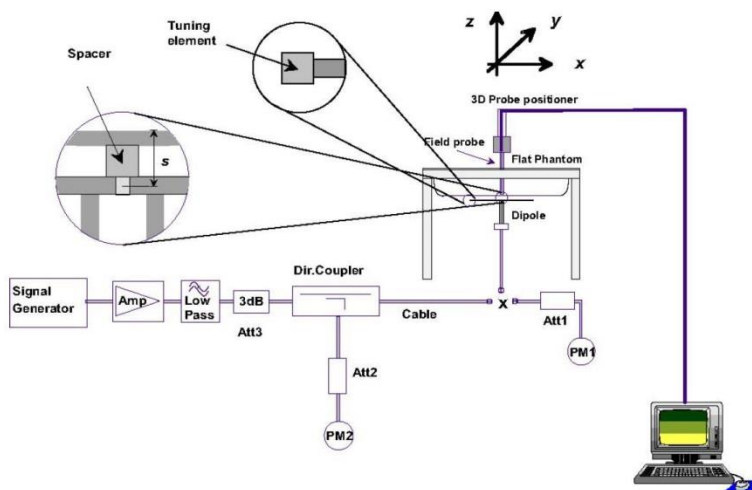


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

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

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

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

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

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

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

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

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

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

Setup Configuration

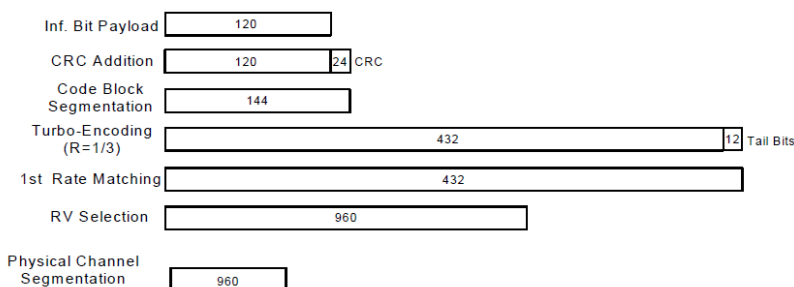
DC-HSDPA 3GPP release 8 Setup Configuration:

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

<Tablet Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	17.26	17.28	17.36	18.10	16.29	16.57	16.19	17.10	20.57	20.33	20.38	21.20
3GPP Rel 6	HSDPA Subtest-1	15.54	15.91	15.91	17.10	15.51	15.60	15.72	16.10	19.57	19.35	19.42	20.20
3GPP Rel 6	HSDPA Subtest-2	15.54	15.92	15.90	17.10	15.62	15.58	15.70	16.10	19.55	19.32	19.43	20.20
3GPP Rel 6	HSDPA Subtest-3	15.05	15.14	15.21	16.60	15.09	15.02	15.08	15.60	19.07	18.82	18.93	19.70
3GPP Rel 6	HSDPA Subtest-4	15.04	15.13	15.21	16.60	15.09	15.01	15.07	15.60	19.05	18.80	18.93	19.70
3GPP Rel 6	HSUPA Subtest-1	15.78	15.90	15.91	17.10	15.04	15.20	15.19	16.10	19.44	19.18	19.26	20.20
3GPP Rel 6	HSUPA Subtest-2	13.80	13.92	13.91	15.10	13.04	13.19	12.73	14.10	17.43	17.19	17.26	18.20
3GPP Rel 6	HSUPA Subtest-3	14.76	15.90	14.91	16.10	14.04	14.20	14.70	15.10	18.41	18.17	18.26	19.20
3GPP Rel 6	HSUPA Subtest-4	13.77	13.92	13.92	15.10	13.06	13.20	12.72	14.10	17.42	17.19	17.25	18.20
3GPP Rel 6	HSUPA Subtest-5	15.80	15.90	15.90	17.10	15.00	15.20	14.70	16.10	19.40	19.20	19.30	20.20

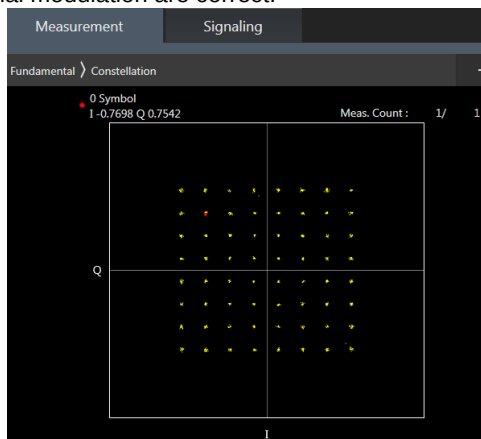
<Laptop Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	23.40	23.45	23.51	24.50	23.31	23.64	23.32	24.50	23.84	23.57	23.64	24.50
3GPP Rel 6	HSDPA Subtest-1	22.38	22.45	22.52	23.50	22.33	22.66	22.34	23.50	22.83	22.55	22.60	23.50
3GPP Rel 6	HSDPA Subtest-2	22.38	22.42	22.52	23.50	22.32	22.65	22.34	23.50	22.80	22.49	22.50	23.50
3GPP Rel 6	HSDPA Subtest-3	21.87	21.90	22.02	23.00	21.82	22.15	21.83	23.00	22.30	22.05	22.08	23.00
3GPP Rel 6	HSDPA Subtest-4	21.87	21.91	22.03	23.00	21.80	22.15	21.82	23.00	22.28	22.03	22.08	23.00
3GPP Rel 6	HSUPA Subtest-1	22.28	22.46	22.61	23.50	22.36	22.69	22.29	23.50	22.87	22.55	22.51	23.50
3GPP Rel 6	HSUPA Subtest-2	20.35	20.40	20.53	21.50	20.43	20.68	20.33	21.50	20.86	20.54	20.55	21.50
3GPP Rel 6	HSUPA Subtest-3	21.35	21.40	21.57	22.50	21.32	21.64	21.26	22.50	21.79	21.56	21.64	22.50
3GPP Rel 6	HSUPA Subtest-4	20.33	20.41	20.42	21.50	20.33	20.68	20.34	21.50	20.79	20.50	20.63	21.50
3GPP Rel 6	HSUPA Subtest-5	22.40	22.40	22.50	23.50	22.30	22.60	22.30	23.50	22.80	22.50	22.60	23.50

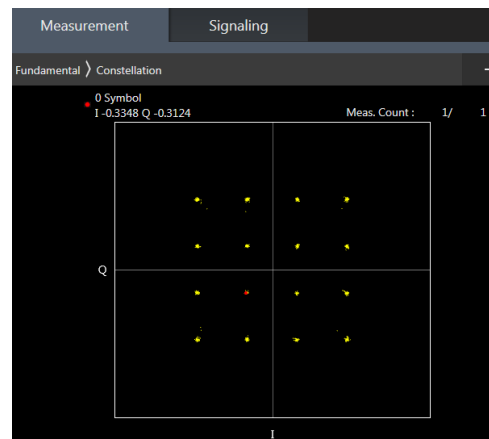
<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ 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 B5/B12/B26 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. If the LTE was not tested, 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
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM



16QAM



<Laptop Mode>

<LTE Band 2_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.02	23.12	23.06	24	0
20	QPSK	1	49	23.00	23.07	22.99		
20	QPSK	1	99	22.95	23.02	23.01		
20	QPSK	50	0	22.04	22.06	22.09	23	1
20	QPSK	50	24	22.14	22.10	22.13		
20	QPSK	50	50	22.14	22.19	22.19		
20	QPSK	100	0	22.13	22.10	22.09	23	1
20	16QAM	1	0	22.38	22.37	22.43		
20	16QAM	1	49	22.33	22.37	22.37		
20	16QAM	1	99	22.26	22.37	22.33	22	2
20	16QAM	50	0	21.06	21.09	21.11		
20	16QAM	50	24	21.15	21.12	21.12		
20	16QAM	50	50	21.14	21.18	21.21	22	2
20	16QAM	100	0	21.14	21.08	21.10		
20	64QAM	1	0	21.23	21.27	21.27		
20	64QAM	1	49	21.21	21.24	21.12	22	2
20	64QAM	1	99	21.22	21.26	21.27		
20	64QAM	50	0	20.08	20.10	20.00		
20	64QAM	50	24	20.17	20.15	20.15	21	3
20	64QAM	50	50	20.16	20.20	20.21		
20	64QAM	100	0	20.16	20.12	20.12		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.09	23.09	23.11	24	0
15	QPSK	1	37	23.07	23.10	23.11		
15	QPSK	1	74	23.09	23.11	23.08		
15	QPSK	36	0	22.10	22.13	22.14	23	1
15	QPSK	36	20	22.21	22.19	22.18		
15	QPSK	36	39	22.21	22.26	22.24		
15	QPSK	75	0	22.20	22.15	22.14	23	1
15	16QAM	1	0	22.37	22.40	22.41		
15	16QAM	1	37	22.35	22.44	22.46		
15	16QAM	1	74	22.36	22.43	22.41	22	2
15	16QAM	36	0	21.12	21.13	21.12		
15	16QAM	36	20	21.20	21.16	21.14		
15	16QAM	36	39	21.17	21.24	21.22	22	2
15	16QAM	75	0	21.19	21.17	21.16		
15	64QAM	1	0	21.22	21.28	20.95		
15	64QAM	1	37	21.33	21.36	21.32	21	3
15	64QAM	1	74	21.28	21.31	21.27		
15	64QAM	36	0	20.15	20.15	20.15		
15	64QAM	36	20	20.23	20.17	20.18	21	3
15	64QAM	36	39	20.24	20.26	20.28		
15	64QAM	75	0	20.20	20.16	20.17		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.91	22.93	22.89	24	0
10	QPSK	1	25	22.89	22.92	22.94		
10	QPSK	1	49	22.90	22.95	22.90		
10	QPSK	25	0	22.03	21.96	21.97	23	1



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10	QPSK	25	12	22.05	22.00	22.09		
10	QPSK	25	25	22.06	22.08	22.11		
10	QPSK	50	0	22.04	21.98	22.00		
10	16QAM	1	0	22.30	22.29	22.28	23	1
10	16QAM	1	25	22.28	22.28	22.31		
10	16QAM	1	49	22.26	22.31	22.32		
10	16QAM	25	0	21.00	20.95	20.96	22	2
10	16QAM	25	12	21.04	21.01	21.10		
10	16QAM	25	25	21.01	21.08	21.11		
10	16QAM	50	0	21.03	21.00	21.00	22	2
10	64QAM	1	0	21.17	21.13	21.16		
10	64QAM	1	25	21.20	21.22	21.27		
10	64QAM	1	49	21.12	21.25	21.21	21	3
10	64QAM	25	0	20.03	20.00	19.99		
10	64QAM	25	12	20.08	20.02	20.12		
10	64QAM	25	25	20.06	20.12	20.12	21	3
10	64QAM	50	0	20.05	20.01	20.05		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.96	22.90	22.95	24	0
5	QPSK	1	12	23.00	22.99	23.00		
5	QPSK	1	24	22.97	22.99	23.02		
5	QPSK	12	0	22.05	21.97	22.07	23	1
5	QPSK	12	7	22.06	22.05	22.10		
5	QPSK	12	13	22.05	22.06	22.07		
5	QPSK	25	0	22.05	22.01	22.07	23	1
5	16QAM	1	0	22.27	22.22	22.28		
5	16QAM	1	12	22.30	22.31	22.31		
5	16QAM	1	24	22.26	22.32	22.32	22	2
5	16QAM	12	0	21.04	21.01	21.07		
5	16QAM	12	7	21.06	21.07	21.12		
5	16QAM	12	13	21.05	21.11	21.08	22	2
5	16QAM	25	0	21.01	21.00	21.07		
5	64QAM	1	0	21.23	21.12	21.19		
5	64QAM	1	12	21.19	21.24	21.22	22	2
5	64QAM	1	24	21.20	21.24	21.24		
5	64QAM	12	0	20.08	20.05	20.09		
5	64QAM	12	7	20.12	20.08	20.15	21	3
5	64QAM	12	13	20.09	20.12	20.11		
5	64QAM	25	0	20.03	20.03	20.08		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.82	22.81	22.87	24	0
3	QPSK	1	8	22.90	22.92	22.92		
3	QPSK	1	14	22.83	22.87	22.91		
3	QPSK	8	0	21.90	21.87	21.96	23	1
3	QPSK	8	4	21.95	21.97	21.98		
3	QPSK	8	7	21.91	21.96	21.99		
3	QPSK	15	0	21.91	21.89	22.00	23	1
3	16QAM	1	0	22.15	22.12	22.22		
3	16QAM	1	8	22.26	22.32	22.29		
3	16QAM	1	14	22.17	22.20	22.25	22	2
3	16QAM	8	0	20.99	20.96	21.01		
3	16QAM	8	4	21.02	21.06	21.06		
3	16QAM	8	7	21.00	21.03	21.03	22	2
3	16QAM	15	0	20.96	20.94	20.99		



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3	64QAM	1	0	21.04	21.06	21.12	22	2
3	64QAM	1	8	21.16	21.17	21.19		
3	64QAM	1	14	21.12	21.12	21.15		
3	64QAM	8	0	19.96	19.94	20.00	21	3
3	64QAM	8	4	20.01	20.04	20.06		
3	64QAM	8	7	19.98	20.03	20.03		
3	64QAM	15	0	19.95	19.92	20.01		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.73	22.75	22.78	24	0
1.4	QPSK	1	3	22.78	22.85	22.83		
1.4	QPSK	1	5	22.75	22.77	22.77		
1.4	QPSK	3	0	22.78	22.82	22.79		
1.4	QPSK	3	1	22.81	22.85	22.84		
1.4	QPSK	3	3	22.78	22.82	22.79		
1.4	QPSK	6	0	21.81	21.88	21.86	23	1
1.4	16QAM	1	0	22.05	22.09	22.11	23	1
1.4	16QAM	1	3	22.13	22.17	22.14		
1.4	16QAM	1	5	22.06	22.09	22.07		
1.4	16QAM	3	0	21.85	21.91	21.89		
1.4	16QAM	3	1	21.91	21.96	21.94		
1.4	16QAM	3	3	21.86	21.91	21.90		
1.4	16QAM	6	0	20.91	20.95	20.95	22	2
1.4	64QAM	1	0	20.96	21.05	21.02	22	2
1.4	64QAM	1	3	21.06	21.11	21.09		
1.4	64QAM	1	5	21.02	21.04	21.05		
1.4	64QAM	3	0	20.96	21.00	21.02		
1.4	64QAM	3	1	21.03	21.07	21.04		
1.4	64QAM	3	3	20.97	21.01	20.99		
1.4	64QAM	6	0	19.82	19.88	19.89	21	3

<LTE Band 2_ Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	19.75	19.57	19.61	20.7	0
20	QPSK	1	49	19.65	19.48	19.58		
20	QPSK	1	99	19.54	19.64	19.60		
20	QPSK	50	0	19.74	19.69	19.73	20.7	0
20	QPSK	50	24	19.72	19.68	19.71		
20	QPSK	50	50	19.71	19.65	19.72		
20	QPSK	100	0	18.73	19.70	19.72		
20	16QAM	1	0	19.16	18.93	19.17	20.7	0
20	16QAM	1	49	19.21	19.03	19.13		
20	16QAM	1	99	19.08	19.18	19.32		
20	16QAM	50	0	19.66	19.56	19.74	20.7	0
20	16QAM	50	24	19.71	19.73	19.73		
20	16QAM	50	50	19.65	19.67	19.66		
20	16QAM	100	0	19.68	19.69	19.72		
20	64QAM	1	0	19.19	19.20	19.07	20.7	0
20	64QAM	1	49	19.13	19.07	19.33		
20	64QAM	1	99	19.24	19.09	19.07		
20	64QAM	50	0	19.71	19.71	19.72	20.7	0
20	64QAM	50	24	19.70	19.72	19.70		
20	64QAM	50	50	19.72	19.65	19.74		
20	64QAM	100	0	19.72	19.67	19.66		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	19.71	19.51	19.52	20.7	0
15	QPSK	1	37	19.61	19.47	19.49		
15	QPSK	1	74	19.50	19.56	19.50		
15	QPSK	36	0	19.65	19.64	19.71	20.7	0
15	QPSK	36	20	19.67	19.58	19.66		
15	QPSK	36	39	19.68	19.59	19.70		
15	QPSK	75	0	18.77	19.69	19.72		
15	16QAM	1	0	19.09	18.87	19.12	20.7	0
15	16QAM	1	37	19.19	18.99	19.05		
15	16QAM	1	74	19.07	19.12	19.24		
15	16QAM	36	0	19.62	19.56	19.74	20.7	0
15	16QAM	36	20	19.68	19.73	19.68		
15	16QAM	36	39	19.56	19.65	19.65		
15	16QAM	75	0	19.62	19.62	19.65		
15	64QAM	1	0	19.12	19.20	19.03	20.7	0
15	64QAM	1	37	19.07	19.02	19.27		
15	64QAM	1	74	19.19	19.09	19.02		
15	64QAM	36	0	19.69	19.61	19.65	20.7	0
15	64QAM	36	20	19.61	19.72	19.66		
15	64QAM	36	39	19.69	19.56	19.74		
15	64QAM	75	0	19.65	19.62	19.65		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	18.73	19.57	19.58	20.7	0
10	QPSK	1	25	19.55	19.39	19.48		
10	QPSK	1	49	19.51	19.58	19.55		
10	QPSK	25	0	19.73	19.68	19.68	20.7	0



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10	QPSK	25	12	19.65	19.63	19.65		
10	QPSK	25	25	19.61	19.61	19.72		
10	QPSK	50	0	18.73	19.61	19.68		
10	16QAM	1	0	19.11	18.91	19.17	20.7	0
10	16QAM	1	25	19.12	19.02	19.11		
10	16QAM	1	49	19.07	19.17	19.28		
10	16QAM	25	0	19.65	19.54	19.66	20.7	0
10	16QAM	25	12	19.63	19.73	19.67		
10	16QAM	25	25	19.57	19.65	19.64		
10	16QAM	50	0	19.58	19.67	19.68	20.7	0
10	64QAM	1	0	19.11	19.17	19.07		
10	64QAM	1	25	19.04	19.03	19.32		
10	64QAM	1	49	19.23	19.07	18.98	20.7	0
10	64QAM	25	0	19.71	19.71	19.71		
10	64QAM	25	12	19.67	19.62	19.69		
10	64QAM	25	25	19.64	19.63	19.68	20.7	0
10	64QAM	50	0	19.71	19.60	19.63		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	19.65	19.49	19.61	20.7	0
5	QPSK	1	12	19.61	19.38	19.55		
5	QPSK	1	24	19.53	19.59	19.55		
5	QPSK	12	0	19.69	19.68	19.71	20.7	0
5	QPSK	12	7	19.71	19.64	19.63		
5	QPSK	12	13	19.65	19.64	19.67		
5	QPSK	25	0	18.77	19.66	19.70	20.7	0
5	16QAM	1	0	19.08	18.92	19.07		
5	16QAM	1	12	19.19	19.01	19.07		
5	16QAM	1	24	19.06	19.15	19.23	20.7	0
5	16QAM	12	0	19.59	19.51	19.65		
5	16QAM	12	7	19.68	19.73	19.65		
5	16QAM	12	13	19.55	19.63	19.56	20.7	0
5	16QAM	25	0	19.60	19.69	19.66		
5	64QAM	1	0	19.11	19.11	19.03		
5	64QAM	1	12	19.03	19.00	19.25	20.7	0
5	64QAM	1	24	19.22	19.00	19.04		
5	64QAM	12	0	19.63	19.69	19.63		
5	64QAM	12	7	19.64	19.67	19.65	20.7	0
5	64QAM	12	13	19.66	19.56	19.74		
5	64QAM	25	0	19.67	19.65	19.58		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	19.65	19.51	19.56	20.7	0
3	QPSK	1	8	19.59	19.41	19.54		
3	QPSK	1	14	19.47	19.56	19.60		
3	QPSK	8	0	19.74	19.69	19.66	20.7	0
3	QPSK	8	4	19.64	19.61	19.71		
3	QPSK	8	7	19.69	19.59	19.71		
3	QPSK	15	0	18.72	19.70	19.69	20.7	0
3	16QAM	1	0	19.07	18.90	19.10		
3	16QAM	1	8	19.17	18.98	19.11		
3	16QAM	1	14	18.98	19.16	19.29	20.7	0
3	16QAM	8	0	19.65	19.51	19.65		
3	16QAM	8	4	19.66	19.73	19.72		
3	16QAM	8	7	19.56	19.61	19.63	20.7	0
3	16QAM	15	0	19.60	19.64	19.66		



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3	64QAM	1	0	19.15	19.12	19.00	20.7	0
3	64QAM	1	8	19.07	19.05	19.33		
3	64QAM	1	14	19.23	19.01	19.04		
3	64QAM	8	0	19.61	19.64	19.69	20.7	0
3	64QAM	8	4	19.60	19.67	19.65		
3	64QAM	8	7	19.71	19.56	19.66		
3	64QAM	15	0	19.66	19.66	19.60		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	19.65	19.51	19.60	20.7	0
1.4	QPSK	1	3	19.56	19.43	19.57		
1.4	QPSK	1	5	19.45	19.56	19.55		
1.4	QPSK	3	0	19.73	19.65	19.64		
1.4	QPSK	3	1	19.65	19.61	19.67		
1.4	QPSK	3	3	19.69	19.59	19.63		
1.4	QPSK	6	0	18.74	19.60	19.72	20.7	0
1.4	16QAM	1	0	19.12	18.84	19.14	20.7	0
1.4	16QAM	1	3	19.20	19.00	19.11		
1.4	16QAM	1	5	19.05	19.10	19.30		
1.4	16QAM	3	0	19.61	19.54	19.69		
1.4	16QAM	3	1	19.61	19.72	19.73		
1.4	16QAM	3	3	19.63	19.58	19.60		
1.4	16QAM	6	0	19.64	19.60	19.70	20.7	0
1.4	64QAM	1	0	19.17	19.16	19.04	20.7	0
1.4	64QAM	1	3	19.08	19.05	19.32		
1.4	64QAM	1	5	19.22	19.01	19.06		
1.4	64QAM	3	0	19.63	19.69	19.71		
1.4	64QAM	3	1	19.60	19.62	19.66		
1.4	64QAM	3	3	19.62	19.61	19.74		
1.4	64QAM	6	0	19.65	19.64	19.58	20.7	0

<LTE Band 4_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300	24	0
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.38	23.41	22.84	24	0
20	QPSK	1	49	23.24	22.97	23.04		
20	QPSK	1	99	23.33	23.02	22.86		
20	QPSK	50	0	22.46	22.52	22.43	23	1
20	QPSK	50	24	22.48	22.40	22.27		
20	QPSK	50	50	22.41	22.33	22.08		
20	QPSK	100	0	22.49	22.46	22.23		
20	16QAM	1	0	22.71	22.76	22.19	23	1
20	16QAM	1	49	22.64	22.16	22.43		
20	16QAM	1	99	22.67	22.20	22.23		
20	16QAM	50	0	21.46	21.56	21.46	22	2
20	16QAM	50	24	21.48	21.50	21.28		
20	16QAM	50	50	21.44	21.36	21.08		
20	16QAM	100	0	21.46	21.51	21.25		
20	64QAM	1	0	21.58	21.63	20.41	22	2
20	64QAM	1	49	21.47	20.28	21.23		
20	64QAM	1	99	21.45	20.29	21.11		
20	64QAM	50	0	20.47	20.20	20.08	21	3
20	64QAM	50	24	20.51	19.62	20.30		
20	64QAM	50	50	20.44	19.71	20.09		
20	64QAM	100	0	20.50	20.07	20.28		
Channel				20025	20175	20325	24	0
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.36	23.40	23.29	24	0
15	QPSK	1	37	23.26	22.84	22.99		
15	QPSK	1	74	23.28	22.72	22.92		
15	QPSK	36	0	22.40	22.58	22.31	23	1
15	QPSK	36	20	22.45	22.38	22.16		
15	QPSK	36	39	22.41	22.39	22.01		
15	QPSK	75	0	22.46	22.39	22.21		
15	16QAM	1	0	22.71	22.79	22.48	23	1
15	16QAM	1	37	22.57	22.05	22.33		
15	16QAM	1	74	22.62	21.96	22.28		
15	16QAM	36	0	21.43	21.57	21.31	22	2
15	16QAM	36	20	21.46	21.46	21.19		
15	16QAM	36	39	21.42	21.40	21.05		
15	16QAM	75	0	21.50	21.52	21.23		
15	64QAM	1	0	21.58	21.71	20.70	22	2
15	64QAM	1	37	21.52	20.20	21.30		
15	64QAM	1	74	21.47	20.02	21.09		
15	64QAM	36	0	20.46	20.05	20.32	21	3
15	64QAM	36	20	20.46	19.61	20.21		
15	64QAM	36	39	20.46	19.66	20.07		
15	64QAM	75	0	20.47	19.77	20.22		
Channel				20000	20175	20350	24	0
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.18	23.34	22.98	24	0
10	QPSK	1	25	23.10	23.22	22.83		
10	QPSK	1	49	23.20	22.83	22.85		
10	QPSK	25	0	22.25	22.37	22.01	23	1



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10	QPSK	25	12	22.27	22.37	22.02		
10	QPSK	25	25	22.30	22.36	22.00		
10	QPSK	50	0	22.31	22.38	22.05		
10	16QAM	1	0	22.55	22.68	22.35	23	1
10	16QAM	1	25	22.50	22.49	22.24		
10	16QAM	1	49	22.58	22.13	22.24		
10	16QAM	25	0	21.25	21.35	21.03	22	2
10	16QAM	25	12	21.30	21.40	21.04		
10	16QAM	25	25	21.30	21.35	21.02		
10	16QAM	50	0	21.31	21.35	21.05	22	2
10	64QAM	1	0	21.45	21.36	21.25		
10	64QAM	1	25	21.44	20.55	21.16		
10	64QAM	1	49	21.46	20.06	21.18	21	3
10	64QAM	25	0	20.28	19.79	20.05		
10	64QAM	25	12	20.33	19.61	20.07		
10	64QAM	25	25	20.35	19.60	20.02	21	3
10	64QAM	50	0	20.33	19.67	20.08		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.17	23.26	22.87	24	0
5	QPSK	1	12	23.23	23.21	22.91		
5	QPSK	1	24	23.21	23.02	22.91		
5	QPSK	12	0	22.27	22.39	21.97	23	1
5	QPSK	12	7	22.32	22.41	22.01		
5	QPSK	12	13	22.30	22.36	22.01		
5	QPSK	25	0	22.26	22.34	21.96	23	1
5	16QAM	1	0	22.54	22.57	22.25		
5	16QAM	1	12	22.53	22.51	22.21		
5	16QAM	1	24	22.57	22.34	22.27	22	2
5	16QAM	12	0	21.33	21.41	21.01		
5	16QAM	12	7	21.35	21.44	21.05		
5	16QAM	12	13	21.33	21.40	21.01	22	2
5	16QAM	25	0	21.33	21.40	21.02		
5	64QAM	1	0	21.50	21.01	21.16		
5	64QAM	1	12	21.50	20.66	21.17	22	2
5	64QAM	1	24	21.49	20.43	21.15		
5	64QAM	12	0	20.36	19.76	20.06		
5	64QAM	12	7	20.36	19.69	20.08	21	3
5	64QAM	12	13	20.35	19.63	20.06		
5	64QAM	25	0	20.30	19.61	20.00		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.08	23.20	22.78	24	0
3	QPSK	1	8	23.17	23.35	22.83		
3	QPSK	1	14	23.12	23.17	22.79		
3	QPSK	8	0	22.20	22.30	21.91	23	1
3	QPSK	8	4	22.25	22.33	21.91		
3	QPSK	8	7	22.19	22.31	21.88		
3	QPSK	15	0	22.20	22.31	21.89	23	1
3	16QAM	1	0	22.44	22.52	22.13		
3	16QAM	1	8	22.50	22.64	22.22		
3	16QAM	1	14	22.47	22.52	22.14	22	2
3	16QAM	8	0	21.27	21.34	20.97		
3	16QAM	8	4	21.30	21.41	20.97		
3	16QAM	8	7	21.28	21.39	20.97	22	2
3	16QAM	15	0	21.26	21.34	20.95		



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3	64QAM	1	0	21.34	20.85	21.08	22	2
3	64QAM	1	8	21.54	20.74	21.13		
3	64QAM	1	14	21.45	20.57	21.07		
3	64QAM	8	0	20.26	19.73	19.97	21	3
3	64QAM	8	4	20.32	19.73	19.99		
3	64QAM	8	7	20.31	19.69	19.97		
3	64QAM	15	0	20.26	19.66	19.92		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.00	23.13	22.69	24	0
1.4	QPSK	1	3	23.07	23.25	22.80		
1.4	QPSK	1	5	23.04	23.13	22.74		
1.4	QPSK	3	0	23.05	23.17	22.75		
1.4	QPSK	3	1	23.11	23.24	22.79		
1.4	QPSK	3	3	23.07	23.18	22.76		
1.4	QPSK	6	0	22.13	22.23	21.85	23	1
1.4	16QAM	1	0	22.34	22.44	22.07	23	1
1.4	16QAM	1	3	22.42	22.55	22.10		
1.4	16QAM	1	5	22.38	22.45	22.11		
1.4	16QAM	3	0	22.12	22.20	21.86		
1.4	16QAM	3	1	22.20	22.32	21.92		
1.4	16QAM	3	3	22.12	22.19	21.86		
1.4	16QAM	6	0	21.21	21.30	20.90	22	2
1.4	64QAM	1	0	21.25	20.65	20.99	22	2
1.4	64QAM	1	3	21.39	20.66	21.06		
1.4	64QAM	1	5	21.32	20.58	20.96		
1.4	64QAM	3	0	21.28	20.66	20.96		
1.4	64QAM	3	1	21.34	20.79	21.03		
1.4	64QAM	3	3	21.28	20.67	20.98		
1.4	64QAM	6	0	20.16	19.55	19.84	21	3

<LTE Band 5_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	23.67	23.53	23.51	24.5	0
10	QPSK	1	25	23.55	23.48	23.39		
10	QPSK	1	49	23.50	23.47	23.33		
10	QPSK	25	0	22.64	22.65	22.58	23.5	1
10	QPSK	25	12	22.72	22.64	22.57		
10	QPSK	25	25	22.69	22.66	22.58		
10	QPSK	50	0	22.74	22.62	22.55	23.5	1
10	16QAM	1	0	22.98	22.97	22.89		
10	16QAM	1	25	22.92	22.90	22.79		
10	16QAM	1	49	22.89	22.84	22.75	22.5	2
10	16QAM	25	0	21.63	21.62	21.56		
10	16QAM	25	12	21.74	21.62	21.54		
10	16QAM	25	25	21.68	21.62	21.55	22.5	2
10	16QAM	50	0	21.72	21.63	21.56		
10	64QAM	1	0	21.84	21.78	21.74		
10	64QAM	1	25	21.84	21.82	21.75	21.5	3
10	64QAM	1	49	21.77	21.74	21.65		
10	64QAM	25	0	20.68	20.67	20.60		
10	64QAM	25	12	20.76	20.67	20.61	21.5	3
10	64QAM	25	25	20.71	20.70	20.61		
10	64QAM	50	0	20.76	20.65	20.60		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	23.61	23.63	23.53	24.5	0
5	QPSK	1	12	23.65	23.66	23.50		
5	QPSK	1	24	23.59	23.56	23.38		
5	QPSK	12	0	22.81	22.72	22.60	23.5	1
5	QPSK	12	7	22.76	22.64	22.52		
5	QPSK	12	13	22.68	22.63	22.51		
5	QPSK	25	0	22.73	22.63	22.55	23.5	1
5	16QAM	1	0	23.08	22.97	22.86		
5	16QAM	1	12	22.91	22.90	22.81		
5	16QAM	1	24	22.94	22.89	22.73	22.5	2
5	16QAM	12	0	21.82	21.71	21.60		
5	16QAM	12	7	21.77	21.66	21.55		
5	16QAM	12	13	21.72	21.64	21.55	22.5	2
5	16QAM	25	0	21.75	21.62	21.54		
5	64QAM	1	0	21.95	21.84	21.81		
5	64QAM	1	12	21.89	21.85	21.70	22.5	2
5	64QAM	1	24	21.93	21.82	21.69		
5	64QAM	12	0	20.87	20.78	20.64		
5	64QAM	12	7	20.81	20.72	20.60	21.5	3
5	64QAM	12	13	20.75	20.72	20.58		
5	64QAM	25	0	20.76	20.67	20.56		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.66	23.49	23.43	24.5	0
3	QPSK	1	8	23.64	23.55	23.41		
3	QPSK	1	14	23.50	23.42	23.30		
3	QPSK	8	0	22.69	22.59	22.52	23.5	1



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3	QPSK	8	4	22.69	22.58	22.50		
3	QPSK	8	7	22.61	22.59	22.44		
3	QPSK	15	0	22.63	22.52	22.48		
3	16QAM	1	0	22.93	22.86	22.77	23.5	1
3	16QAM	1	8	22.87	22.89	22.78		
3	16QAM	1	14	22.82	22.77	22.60		
3	16QAM	8	0	21.78	21.66	21.60	22.5	2
3	16QAM	8	4	21.74	21.67	21.58		
3	16QAM	8	7	21.68	21.62	21.51		
3	16QAM	15	0	21.70	21.60	21.52	22.5	2
3	64QAM	1	0	21.86	21.79	21.70		
3	64QAM	1	8	21.89	21.83	21.67		
3	64QAM	1	14	21.83	21.71	21.63	21.5	3
3	64QAM	8	0	20.75	20.63	20.56		
3	64QAM	8	4	20.75	20.62	20.56		
3	64QAM	8	7	20.69	20.66	20.51	20.69	20.56
3	64QAM	15	0	20.69	20.56	20.49		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	23.53	23.37	23.29	24.5	0
1.4	QPSK	1	3	23.57	23.46	23.31		
1.4	QPSK	1	5	23.45	23.38	23.22		
1.4	QPSK	3	0	23.55	23.41	23.31		
1.4	QPSK	3	1	23.59	23.50	23.36		
1.4	QPSK	3	3	23.51	23.47	23.29		
1.4	QPSK	6	0	22.60	22.48	22.39	23.5	1
1.4	16QAM	1	0	22.84	22.72	22.63	23.5	1
1.4	16QAM	1	3	22.87	22.80	22.68		
1.4	16QAM	1	5	22.75	22.72	22.56		
1.4	16QAM	3	0	22.64	22.50	22.41		
1.4	16QAM	3	1	22.67	22.59	22.45		
1.4	16QAM	3	3	22.60	22.53	22.37		
1.4	16QAM	6	0	21.64	21.55	21.45	22.5	2
1.4	64QAM	1	0	21.78	21.66	21.56	22.5	2
1.4	64QAM	1	3	21.81	21.75	21.63		
1.4	64QAM	1	5	21.74	21.65	21.52		
1.4	64QAM	3	0	21.72	21.61	21.53		
1.4	64QAM	3	1	21.78	21.70	21.56		
1.4	64QAM	3	3	21.70	21.60	21.49		
1.4	64QAM	6	0	20.60	20.49	20.39	21.5	3

<LTE Band 7_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.31	23.24	23.14	24	0
20	QPSK	1	49	23.37	23.28	23.14		
20	QPSK	1	99	23.38	23.29	23.18		
20	QPSK	50	0	22.44	22.34	22.27	23	1
20	QPSK	50	24	22.54	22.38	22.31		
20	QPSK	50	50	22.55	22.39	22.32		
20	QPSK	100	0	22.53	22.35	22.30	23	1
20	16QAM	1	0	22.64	22.60	22.58		
20	16QAM	1	49	22.74	22.62	22.50		
20	16QAM	1	99	22.76	22.63	22.49	22	2
20	16QAM	50	0	21.44	21.35	21.29		
20	16QAM	50	24	21.55	21.36	21.31		
20	16QAM	50	50	21.55	21.36	21.31	22	2
20	16QAM	100	0	21.52	21.34	21.30		
20	64QAM	1	0	21.52	21.44	21.41		
20	64QAM	1	49	21.56	21.49	20.83	22	2
20	64QAM	1	99	21.65	21.47	21.05		
20	64QAM	50	0	20.45	20.35	20.06		
20	64QAM	50	24	20.55	20.37	19.88	21	3
20	64QAM	50	50	20.56	20.34	19.99		
20	64QAM	100	0	20.53	20.34	19.92		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.37	23.27	23.18	24	0
15	QPSK	1	37	23.35	23.32	23.11		
15	QPSK	1	74	23.35	23.31	23.20		
15	QPSK	36	0	22.52	22.38	22.29	23	1
15	QPSK	36	20	22.55	22.40	22.31		
15	QPSK	36	39	22.55	22.37	22.30		
15	QPSK	75	0	22.53	22.37	22.28	23	1
15	16QAM	1	0	22.71	22.60	22.46		
15	16QAM	1	37	22.72	22.63	22.46		
15	16QAM	1	74	22.77	22.67	22.50	22	2
15	16QAM	36	0	21.52	21.37	21.29		
15	16QAM	36	20	21.54	21.38	21.31		
15	16QAM	36	39	21.52	21.39	21.32	22	2
15	16QAM	75	0	21.53	21.39	21.31		
15	64QAM	1	0	21.54	21.48	21.18		
15	64QAM	1	37	21.65	21.59	20.79	22	2
15	64QAM	1	74	21.64	21.52	20.99		
15	64QAM	36	0	20.54	20.41	19.94		
15	64QAM	36	20	20.56	20.41	20.00	21	3
15	64QAM	36	39	20.58	20.40	20.06		
15	64QAM	75	0	20.53	20.37	19.88		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.10	23.04	22.88	24	0
10	QPSK	1	25	23.06	23.03	22.82		
10	QPSK	1	49	23.15	23.03	22.91		
10	QPSK	25	0	22.28	22.14	22.08	23	1



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10	QPSK	25	12	22.32	22.18	22.09		
10	QPSK	25	25	22.30	22.14	22.09		
10	QPSK	50	0	22.33	22.17	22.11		
10	16QAM	1	0	22.49	22.38	22.25	23	1
10	16QAM	1	25	22.53	22.40	22.29		
10	16QAM	1	49	22.53	22.41	22.31		
10	16QAM	25	0	21.29	21.14	21.07	22	2
10	16QAM	25	12	21.34	21.17	21.11		
10	16QAM	25	25	21.31	21.18	21.08		
10	16QAM	50	0	21.31	21.18	21.11	22	2
10	64QAM	1	0	21.41	21.31	21.15		
10	64QAM	1	25	21.41	21.37	21.19		
10	64QAM	1	49	21.44	21.27	21.23	21	3
10	64QAM	25	0	20.34	20.19	19.99		
10	64QAM	25	12	20.37	20.24	20.08		
10	64QAM	25	25	20.35	20.18	20.11	21	3
10	64QAM	50	0	20.36	20.22	19.91		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.15	23.02	22.92	24	0
5	QPSK	1	12	23.16	23.16	23.00		
5	QPSK	1	24	23.15	23.11	22.97		
5	QPSK	12	0	22.27	22.19	22.06	23	1
5	QPSK	12	7	22.29	22.22	22.10		
5	QPSK	12	13	22.33	22.22	22.11		
5	QPSK	25	0	22.28	22.17	22.08	23	1
5	16QAM	1	0	22.48	22.40	22.27		
5	16QAM	1	12	22.49	22.42	22.24		
5	16QAM	1	24	22.48	22.43	22.30	22	2
5	16QAM	12	0	21.34	21.20	21.11		
5	16QAM	12	7	21.30	21.26	21.08		
5	16QAM	12	13	21.32	21.25	21.11	22	2
5	16QAM	25	0	21.31	21.19	21.08		
5	64QAM	1	0	21.42	21.33	21.17		
5	64QAM	1	12	21.42	21.36	21.19	22	2
5	64QAM	1	24	21.46	21.39	21.20		
5	64QAM	12	0	20.37	20.25	20.15		
5	64QAM	12	7	20.38	20.29	20.14	21	3
5	64QAM	12	13	20.37	20.30	20.14		
5	64QAM	25	0	20.31	20.19	20.07		

<LTE Band 7_ Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350	17.4	0
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	16.86	16.87	16.75		
20	QPSK	1	49	16.85	16.76	16.72	17.4	290
20	QPSK	1	99	16.77	16.73	16.65		
20	QPSK	50	0	16.71	16.76	16.74		
20	QPSK	50	24	16.71	16.77	16.75	17.4	0
20	QPSK	50	50	16.60	16.59	16.65		
20	QPSK	100	0	16.72	16.73	16.70		
20	16QAM	1	0	16.99	16.92	16.85	17.4	0
20	16QAM	1	49	17.02	16.78	16.76		
20	16QAM	1	99	16.98	16.70	16.61		
20	16QAM	50	0	16.88	16.76	16.69	17.4	0
20	16QAM	50	24	16.82	16.73	16.69		
20	16QAM	50	50	16.82	16.67	16.67		
20	16QAM	100	0	16.88	16.78	16.77	17.4	0
20	64QAM	1	0	16.92	16.95	16.84		
20	64QAM	1	49	16.96	16.75	16.94		
20	64QAM	1	99	16.83	16.65	16.73	17.4	0
20	64QAM	50	0	17.00	16.87	16.90		
20	64QAM	50	24	16.93	16.85	16.68		
20	64QAM	50	50	16.92	16.75	16.93	17.4	0
20	64QAM	100	0	16.80	16.75	16.75		
Channel				20825	21100	21375	17.4	0
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	16.85	16.93	16.75		
15	QPSK	1	37	16.83	16.74	16.71	17.4	0
15	QPSK	1	74	16.81	16.73	16.61		
15	QPSK	36	0	16.91	16.73	16.64	17.4	0
15	QPSK	36	20	16.84	16.75	16.67		
15	QPSK	36	39	16.84	16.63	16.67		
15	QPSK	75	0	16.82	16.71	16.72	17.4	0
15	16QAM	1	0	17.00	16.93	16.83		
15	16QAM	1	37	16.96	16.88	16.71		
15	16QAM	1	74	16.92	16.72	16.65	17.4	0
15	16QAM	36	0	16.98	16.82	16.73		
15	16QAM	36	20	16.81	16.76	16.73		
15	16QAM	36	39	16.78	16.66	16.67	17.4	0
15	16QAM	75	0	16.85	16.73	16.68		
15	64QAM	1	0	16.88	16.98	16.83		
15	64QAM	1	37	16.90	16.79	16.91	17.4	0
15	64QAM	1	74	16.90	16.61	16.75		
15	64QAM	36	0	17.00	16.86	16.92		
15	64QAM	36	20	16.93	16.77	16.77	17.4	0
15	64QAM	36	39	16.95	16.68	16.91		
15	64QAM	75	0	16.86	16.77	16.75		
Channel				20800	21100	21400	17.4	0
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	16.84	16.87	16.74		
10	QPSK	1	25	16.85	16.74	16.66	17.4	0
10	QPSK	1	49	16.82	16.69	16.62		
10	QPSK	25	0	16.81	16.79	16.68		



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10	QPSK	25	12	16.88	16.76	16.72		
10	QPSK	25	25	16.85	16.69	16.57		
10	QPSK	50	0	16.88	16.62	16.71		
10	16QAM	1	0	17.07	16.99	16.91	17.4	0
10	16QAM	1	25	16.94	16.79	16.80		
10	16QAM	1	49	16.92	16.66	16.61		
10	16QAM	25	0	16.96	16.72	16.70	17.4	0
10	16QAM	25	12	16.90	16.73	16.72		
10	16QAM	25	25	16.83	16.64	16.61		
10	16QAM	50	0	16.81	16.77	16.74	17.4	0
10	64QAM	1	0	16.94	16.91	16.86		
10	64QAM	1	25	16.95	16.71	16.94		
10	64QAM	1	49	16.90	16.62	16.81	17.4	0
10	64QAM	25	0	17.06	16.94	16.92		
10	64QAM	25	12	16.93	16.75	16.73		
10	64QAM	25	25	16.91	16.75	16.87	17.4	0
10	64QAM	50	0	16.81	16.77	16.66		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	16.87	16.93	16.71	17.4	0
5	QPSK	1	12	16.80	16.77	16.67		
5	QPSK	1	24	16.79	16.66	16.69		
5	QPSK	12	0	16.91	16.73	16.71	17.4	0
5	QPSK	12	7	16.83	16.72	16.68		
5	QPSK	12	13	16.81	16.61	16.65		
5	QPSK	25	0	16.86	16.72	16.76	17.4	0
5	16QAM	1	0	17.02	16.97	16.84		
5	16QAM	1	12	17.03	16.87	16.76		
5	16QAM	1	24	16.97	16.70	16.63	17.4	0
5	16QAM	12	0	16.91	16.75	16.71		
5	16QAM	12	7	16.87	16.72	16.77		
5	16QAM	12	13	16.86	16.65	16.65	17.4	0
5	16QAM	25	0	16.83	16.80	16.68		
5	64QAM	1	0	16.94	16.92	16.88		
5	64QAM	1	12	16.98	16.70	16.85	17.4	0
5	64QAM	1	24	16.86	16.64	16.74		
5	64QAM	12	0	17.00	16.90	16.94		
5	64QAM	12	7	16.93	16.82	16.73	17.4	0
5	64QAM	12	13	16.87	16.77	16.87		
5	64QAM	25	0	16.86	16.77	16.68		

<LTE Band 12_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.43	23.17	23.12	24.5	0
10	QPSK	1	25	23.31	23.13	23.26		
10	QPSK	1	49	23.25	23.35	23.36		
10	QPSK	25	0	22.31	22.25	22.27	23.5	1
10	QPSK	25	12	22.34	22.32	22.35		
10	QPSK	25	25	22.34	22.41	22.51		
10	QPSK	50	0	22.37	22.34	22.46	23.5	1
10	16QAM	1	0	22.61	22.56	22.50		
10	16QAM	1	25	22.56	22.52	22.64		
10	16QAM	1	49	22.60	22.74	22.73	22.5	2
10	16QAM	25	0	21.31	21.26	21.29		
10	16QAM	25	12	21.37	21.35	21.36		
10	16QAM	25	25	21.29	21.35	21.50	22.5	2
10	16QAM	50	0	21.37	21.34	21.45		
10	64QAM	1	0	21.46	21.37	21.33		
10	64QAM	1	25	21.10	21.44	21.56	22.5	2
10	64QAM	1	49	21.44	21.66	21.64		
10	64QAM	25	0	20.17	20.30	20.31	21.5	3
10	64QAM	25	12	20.38	20.35	20.42		
10	64QAM	25	25	20.35	20.44	20.54		
10	64QAM	50	0	20.41	20.39	20.48		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.40	23.22	23.32	24.5	0
5	QPSK	1	12	23.40	23.24	23.40		
5	QPSK	1	24	23.30	23.33	23.40		
5	QPSK	12	0	22.38	22.29	22.49	23.5	1
5	QPSK	12	7	22.40	22.32	22.55		
5	QPSK	12	13	22.36	22.32	22.50		
5	QPSK	25	0	22.39	22.33	22.48	23.5	1
5	16QAM	1	0	22.61	22.56	22.65		
5	16QAM	1	12	22.56	22.51	22.73		
5	16QAM	1	24	22.58	22.66	22.77	22.5	2
5	16QAM	12	0	21.39	21.31	21.46		
5	16QAM	12	7	21.38	21.35	21.56		
5	16QAM	12	13	21.35	21.35	21.51	22.5	2
5	16QAM	25	0	21.42	21.36	21.49		
5	64QAM	1	0	21.39	21.50	21.59		
5	64QAM	1	12	21.25	21.45	21.62	22.5	2
5	64QAM	1	24	20.88	21.56	21.51		
5	64QAM	12	0	20.23	20.40	20.53		
5	64QAM	12	7	20.30	20.44	20.60	21.5	3
5	64QAM	12	13	20.39	20.43	20.45		
5	64QAM	25	0	20.21	20.36	20.51		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.30	23.14	23.36	24.5	0
3	QPSK	1	8	23.25	23.17	23.41		
3	QPSK	1	14	23.18	23.17	23.36		
3	QPSK	8	0	22.34	22.21	22.44	23.5	1



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3	QPSK	8	4	22.33	22.27	22.48		
3	QPSK	8	7	22.27	22.23	22.45		
3	QPSK	15	0	22.34	22.25	22.42		
3	16QAM	1	0	22.61	22.46	22.70	23.5	1
3	16QAM	1	8	22.61	22.53	22.77		
3	16QAM	1	14	22.52	22.50	22.68		
3	16QAM	8	0	21.41	21.26	21.49	22.5	2
3	16QAM	8	4	21.41	21.32	21.55		
3	16QAM	8	7	21.34	21.35	21.51		
3	16QAM	15	0	21.38	21.30	21.43	22.5	2
3	64QAM	1	0	21.30	21.38	21.61		
3	64QAM	1	8	21.34	21.46	21.58		
3	64QAM	1	14	21.31	21.45	21.17	21.5	3
3	64QAM	8	0	20.31	20.29	20.52		
3	64QAM	8	4	20.37	20.34	20.49		
3	64QAM	8	7	20.30	20.31	20.29	20.5	0
3	64QAM	15	0	20.25	20.28	20.43		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.13	22.99	23.31	24.5	0
1.4	QPSK	1	3	23.18	23.11	23.33		
1.4	QPSK	1	5	23.14	23.09	23.27		
1.4	QPSK	3	0	23.19	23.01	23.29		
1.4	QPSK	3	1	23.21	23.13	23.31		
1.4	QPSK	3	3	23.15	23.11	23.28		
1.4	QPSK	6	0	22.26	22.16	22.36	23.5	1
1.4	16QAM	1	0	22.52	22.35	22.62	23.5	1
1.4	16QAM	1	3	22.54	22.48	22.66		
1.4	16QAM	1	5	22.46	22.37	22.54		
1.4	16QAM	3	0	22.26	22.12	22.39		
1.4	16QAM	3	1	22.30	22.22	22.41		
1.4	16QAM	3	3	22.23	22.18	22.35		
1.4	16QAM	6	0	21.33	21.22	21.44	22.5	2
1.4	64QAM	1	0	21.24	21.29	21.28	22.5	2
1.4	64QAM	1	3	21.37	21.38	21.18		
1.4	64QAM	1	5	21.32	21.34	21.01		
1.4	64QAM	3	0	21.29	21.22	21.22		
1.4	64QAM	3	1	21.35	21.36	21.21		
1.4	64QAM	3	3	21.30	21.31	21.02		
1.4	64QAM	6	0	20.22	20.19	20.06	21.5	3

<LTE Band 13_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		23.41		24.5	0
10	QPSK	1	25		23.30			
10	QPSK	1	49		23.36			
10	QPSK	25	0		22.44		23.5	1
10	QPSK	25	12		22.43			
10	QPSK	25	25		22.46			
10	QPSK	50	0		22.44		23.5	1
10	16QAM	1	0		22.69			
10	16QAM	1	25		22.70			
10	16QAM	1	49		22.67		22.5	2
10	16QAM	25	0		21.44			
10	16QAM	25	12		21.48			
10	16QAM	25	25		21.49		22.5	2
10	16QAM	50	0		21.45			
10	64QAM	1	0		21.54			
10	64QAM	1	25		21.65		22.5	2
10	64QAM	1	49		21.62			
10	64QAM	25	0		20.47			
10	64QAM	25	12		20.50		21.5	3
10	64QAM	25	25		20.50			
10	64QAM	50	0		20.49			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.37	23.33	23.35	24.5	0
5	QPSK	1	12	23.40	23.36	23.40		
5	QPSK	1	24	23.40	23.39	23.40		
5	QPSK	12	0	22.44	22.44	22.49	23.5	1
5	QPSK	12	7	22.50	22.51	22.52		
5	QPSK	12	13	22.51	22.50	22.50		
5	QPSK	25	0	22.54	22.44	22.48	23.5	1
5	16QAM	1	0	22.66	22.66	22.65		
5	16QAM	1	12	22.66	22.72	22.60		
5	16QAM	1	24	22.75	22.74	22.73	22.5	2
5	16QAM	12	0	21.53	21.51	21.49		
5	16QAM	12	7	21.53	21.55	21.53		
5	16QAM	12	13	21.54	21.52	21.51	22.5	2
5	16QAM	25	0	21.55	21.48	21.55		
5	64QAM	1	0	21.60	21.59	21.62		
5	64QAM	1	12	21.57	21.69	21.63	22.5	2
5	64QAM	1	24	21.66	21.69	21.61		
5	64QAM	12	0	20.57	20.57	20.55		
5	64QAM	12	7	20.57	20.57	20.56	21.5	3
5	64QAM	12	13	20.57	20.58	20.58		
5	64QAM	25	0	20.57	20.48	20.54		

<LTE Band 14_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23330				
Frequency (MHz)				793				
10	QPSK	1	0		23.42		24.5	0
10	QPSK	1	25		23.35			
10	QPSK	1	49		23.32			
10	QPSK	25	0		22.37		23.5	1
10	QPSK	25	12		22.40			
10	QPSK	25	25		22.46			
10	QPSK	50	0		22.38		23.5	1
10	16QAM	1	0		22.75			
10	16QAM	1	25		22.74			
10	16QAM	1	49		22.67		22.5	2
10	16QAM	25	0		21.37			
10	16QAM	25	12		21.41			
10	16QAM	25	25		21.45		22.5	2
10	16QAM	50	0		21.40			
10	64QAM	1	0		21.57			
10	64QAM	1	25		21.69		22.5	2
10	64QAM	1	49		21.62			
10	64QAM	25	0		20.42			
10	64QAM	25	12		20.44		21.5	3
10	64QAM	25	25		20.49			
10	64QAM	50	0		20.44			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	23.35	23.32	23.40	24.5	0
5	QPSK	1	12	23.40	23.40	23.40		
5	QPSK	1	24	23.40	23.38	23.33		
5	QPSK	12	0	22.46	22.45	22.48	23.5	1
5	QPSK	12	7	22.49	22.47	22.50		
5	QPSK	12	13	22.45	22.46	22.46		
5	QPSK	25	0	22.45	22.42	22.42	23.5	1
5	16QAM	1	0	22.70	22.67	22.74		
5	16QAM	1	12	22.75	22.79	22.71		
5	16QAM	1	24	22.74	22.72	22.66	22.5	2
5	16QAM	12	0	21.52	21.46	21.50		
5	16QAM	12	7	21.52	21.50	21.53		
5	16QAM	12	13	21.49	21.50	21.44	22.5	2
5	16QAM	25	0	21.46	21.46	21.48		
5	64QAM	1	0	21.63	21.61	21.72		
5	64QAM	1	12	21.69	21.74	21.69	22.5	2
5	64QAM	1	24	21.68	21.66	21.63		
5	64QAM	12	0	20.52	20.50	20.58		
5	64QAM	12	7	20.55	20.55	20.56	21.5	3
5	64QAM	12	13	20.49	20.52	20.50		
5	64QAM	25	0	20.48	20.45	20.47		

<LTE Band 17_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	23.17	23.14	23.19	24.5	0
10	QPSK	1	25	23.18	23.19	23.22		
10	QPSK	1	49	23.42	23.43	23.44		
10	QPSK	25	0	22.24	22.27	22.26	23.5	1
10	QPSK	25	12	22.38	22.38	22.36		
10	QPSK	25	25	22.47	22.51	22.54		
10	QPSK	50	0	22.38	22.40	22.42	23.5	1
10	16QAM	1	0	22.58	22.51	22.52		
10	16QAM	1	25	22.57	22.54	22.63		
10	16QAM	1	49	22.76	22.79	22.81	22.5	2
10	16QAM	25	0	21.25	21.24	21.26		
10	16QAM	25	12	21.38	21.40	21.34		
10	16QAM	25	25	21.44	21.48	21.49	22.5	2
10	16QAM	50	0	21.37	21.37	21.40		
10	64QAM	1	0	21.43	21.42	21.37		
10	64QAM	1	25	21.51	21.51	21.55	21.5	3
10	64QAM	1	49	21.69	21.71	21.42		
10	64QAM	25	0	20.27	20.28	20.29		
10	64QAM	25	12	20.42	20.43	20.40	21.5	3
10	64QAM	25	25	20.49	20.51	20.54		
10	64QAM	50	0	20.38	20.41	20.47		
Channel				23755	23790	23825		
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	23.18	23.18	23.26	24.5	0
5	QPSK	1	12	23.23	23.29	23.40		
5	QPSK	1	24	23.29	23.39	23.40		
5	QPSK	12	0	22.29	22.31	22.43	23.5	1
5	QPSK	12	7	22.35	22.42	22.52		
5	QPSK	12	13	22.34	22.41	22.55		
5	QPSK	25	0	22.32	22.38	22.47	23.5	1
5	16QAM	1	0	22.51	22.50	22.60		
5	16QAM	1	12	22.58	22.59	22.72		
5	16QAM	1	24	22.63	22.73	22.79	22.5	2
5	16QAM	12	0	21.32	21.34	21.43		
5	16QAM	12	7	21.40	21.41	21.55		
5	16QAM	12	13	21.36	21.42	21.54	22.5	2
5	16QAM	25	0	21.36	21.41	21.44		
5	64QAM	1	0	21.19	21.44	21.53		
5	64QAM	1	12	21.52	21.54	21.62	21.5	3
5	64QAM	1	24	21.59	21.64	20.99		
5	64QAM	12	0	20.37	20.35	20.46		
5	64QAM	12	7	20.43	20.44	20.44	21.5	3
5	64QAM	12	13	20.40	20.46	20.08		
5	64QAM	25	0	20.37	20.42	20.28		

<LTE Band 25_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	23.00	23.05	23.01	24	0
20	QPSK	1	49	22.97	22.99	23.00		
20	QPSK	1	99	22.94	22.96	22.95		
20	QPSK	50	0	22.05	22.09	22.11	23	1
20	QPSK	50	24	22.12	22.19	22.15		
20	QPSK	50	50	22.06	22.13	22.14		
20	QPSK	100	0	22.10	22.15	22.10	23	1
20	16QAM	1	0	22.33	22.37	22.38		
20	16QAM	1	49	22.29	22.38	22.36		
20	16QAM	1	99	22.21	22.34	22.32	22	2
20	16QAM	50	0	21.07	21.10	21.11		
20	16QAM	50	24	21.12	21.19	21.11		
20	16QAM	50	50	21.08	21.16	21.16	22	2
20	16QAM	100	0	21.11	21.16	21.09		
20	64QAM	1	0	21.21	21.21	21.26		
20	64QAM	1	49	21.22	21.23	21.25	22	2
20	64QAM	1	99	21.15	21.22	20.84		
20	64QAM	50	0	20.07	20.11	20.12		
20	64QAM	50	24	20.15	20.21	20.13	21	3
20	64QAM	50	50	20.10	20.17	20.16		
20	64QAM	100	0	20.11	20.18	20.14		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.02	23.00	23.00	24	0
15	QPSK	1	37	22.98	23.01	23.01		
15	QPSK	1	74	22.97	23.00	23.02		
15	QPSK	36	0	22.08	22.12	22.14	23	1
15	QPSK	36	20	22.14	22.21	22.22		
15	QPSK	36	39	22.07	22.16	22.17		
15	QPSK	75	0	22.11	22.19	22.18	23	1
15	16QAM	1	0	22.31	22.40	22.39		
15	16QAM	1	37	22.29	22.41	22.43		
15	16QAM	1	74	22.27	22.41	22.37	22	2
15	16QAM	36	0	21.09	21.15	21.14		
15	16QAM	36	20	21.13	21.21	21.19		
15	16QAM	36	39	21.08	21.14	21.14	22	2
15	16QAM	75	0	21.15	21.18	21.19		
15	64QAM	1	0	21.22	21.27	21.22		
15	64QAM	1	37	21.26	21.30	21.30	22	2
15	64QAM	1	74	21.20	21.25	20.84		
15	64QAM	36	0	20.12	20.15	20.16		
15	64QAM	36	20	20.18	20.23	20.23	21	3
15	64QAM	36	39	20.12	20.20	20.10		
15	64QAM	75	0	20.14	20.20	20.20		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	22.78	22.84	22.88	24	0
10	QPSK	1	25	22.79	22.86	22.85		
10	QPSK	1	49	22.75	22.86	22.89		
10	QPSK	25	0	21.90	21.95	21.90	23	1



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10	QPSK	25	12	21.92	22.00	22.02		
10	QPSK	25	25	21.91	21.99	22.01		
10	QPSK	50	0	21.91	21.99	21.91		
10	16QAM	1	0	22.19	22.20	22.21	23	1
10	16QAM	1	25	22.13	22.23	22.26		
10	16QAM	1	49	22.15	22.24	22.23		
10	16QAM	25	0	20.90	20.97	20.91	22	2
10	16QAM	25	12	20.92	21.00	21.03		
10	16QAM	25	25	20.90	20.99	20.98		
10	16QAM	50	0	20.92	21.00	20.91	22	2
10	64QAM	1	0	21.10	21.06	21.09		
10	64QAM	1	25	21.08	21.15	21.17		
10	64QAM	1	49	21.03	21.18	20.85	21	3
10	64QAM	25	0	19.91	19.99	19.95		
10	64QAM	25	12	19.98	20.05	20.08		
10	64QAM	25	25	19.94	20.03	19.92	21	3
10	64QAM	50	0	19.97	19.99	19.91		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	22.81	22.81	22.89	24	0
5	QPSK	1	12	22.88	22.95	22.91		
5	QPSK	1	24	22.83	22.94	22.91		
5	QPSK	12	0	21.88	21.93	21.94	23	1
5	QPSK	12	7	21.93	22.01	22.01		
5	QPSK	12	13	21.93	22.03	22.01		
5	QPSK	25	0	21.91	21.97	21.96	23	1
5	16QAM	1	0	22.15	22.14	22.20		
5	16QAM	1	12	22.13	22.17	22.19		
5	16QAM	1	24	22.15	22.24	22.20	22	2
5	16QAM	12	0	20.88	20.97	20.94		
5	16QAM	12	7	20.95	21.02	21.01		
5	16QAM	12	13	20.96	21.04	21.01	22	2
5	16QAM	25	0	20.94	20.99	20.97		
5	64QAM	1	0	21.08	21.08	21.11		
5	64QAM	1	12	21.06	21.12	20.93	22	2
5	64QAM	1	24	21.05	21.12	20.79		
5	64QAM	12	0	19.94	20.00	19.99		
5	64QAM	12	7	20.01	20.08	20.02	21	3
5	64QAM	12	13	20.01	20.09	19.94		
5	64QAM	25	0	19.93	20.01	19.88		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.71	22.78	22.80	24	0
3	QPSK	1	8	22.85	22.92	22.91		
3	QPSK	1	14	22.81	22.90	22.91		
3	QPSK	8	0	21.81	21.86	21.85	23	1
3	QPSK	8	4	21.91	21.94	21.94		
3	QPSK	8	7	21.91	21.96	21.95		
3	QPSK	15	0	21.85	21.93	21.92	23	1
3	16QAM	1	0	22.03	22.05	22.08		
3	16QAM	1	8	22.17	22.23	22.21		
3	16QAM	1	14	22.14	22.24	22.22	22	2
3	16QAM	8	0	20.89	20.93	20.92		
3	16QAM	8	4	20.98	21.00	20.99		
3	16QAM	8	7	20.97	21.03	21.01	22	2
3	16QAM	15	0	20.89	20.96	20.93		



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3	64QAM	1	0	20.93	21.02	20.88	22	2
3	64QAM	1	8	21.09	21.13	20.85		
3	64QAM	1	14	21.07	21.11	20.74		
3	64QAM	8	0	19.90	19.93	19.91	21	3
3	64QAM	8	4	19.96	20.03	19.92		
3	64QAM	8	7	19.96	20.04	19.87		
3	64QAM	15	0	19.91	19.97	19.85		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	22.68	22.73	22.70	24	0
1.4	QPSK	1	3	22.77	22.82	22.79		
1.4	QPSK	1	5	22.75	22.80	22.77		
1.4	QPSK	3	0	22.70	22.74	22.71		
1.4	QPSK	3	1	22.75	22.80	22.77		
1.4	QPSK	3	3	22.74	22.80	22.79		
1.4	QPSK	6	0	21.79	21.84	21.83	23	1
1.4	16QAM	1	0	21.97	22.00	22.01	23	1
1.4	16QAM	1	3	22.07	22.14	22.13		
1.4	16QAM	1	5	22.08	22.12	22.08		
1.4	16QAM	3	0	21.79	21.85	21.78		
1.4	16QAM	3	1	21.85	21.92	21.86		
1.4	16QAM	3	3	21.82	21.88	21.84		
1.4	16QAM	6	0	20.86	20.92	20.89	22	2
1.4	64QAM	1	0	20.89	20.97	20.69	22	2
1.4	64QAM	1	3	21.01	21.06	20.79		
1.4	64QAM	1	5	20.94	20.98	20.76		
1.4	64QAM	3	0	20.91	20.95	20.72		
1.4	64QAM	3	1	20.96	21.04	20.88		
1.4	64QAM	3	3	20.94	21.01	20.73		
1.4	64QAM	6	0	19.80	19.87	19.70	21	3

<LTE Band 26_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	23.80	23.73	23.69		
15	QPSK	1	37	23.66	23.72	23.56	24.5	0
15	QPSK	1	74	23.70	23.61	23.46		
15	QPSK	36	0	22.84	22.84	22.74		
15	QPSK	36	20	22.87	22.82	22.67	23.5	1
15	QPSK	36	39	22.85	22.83	22.66		
15	QPSK	75	0	22.87	22.79	22.68		
15	16QAM	1	0	23.06	23.04	23.01	23.5	1
15	16QAM	1	37	22.98	23.07	22.90		
15	16QAM	1	74	23.01	22.97	22.74		
15	16QAM	36	0	21.83	21.85	21.77	22.5	2
15	16QAM	36	20	21.86	21.81	21.66		
15	16QAM	36	39	21.87	21.83	21.68		
15	16QAM	75	0	21.89	21.83	21.71	22.5	2
15	64QAM	1	0	21.64	21.88	21.86		
15	64QAM	1	37	21.89	21.96	21.82		
15	64QAM	1	74	21.91	21.85	20.90	21.5	3
15	64QAM	36	0	20.40	20.88	20.78		
15	64QAM	36	20	20.85	20.88	20.70		
15	64QAM	36	39	20.86	20.89	20.76	20.88	
15	64QAM	75	0	20.88	20.83	20.70		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	23.77	23.58	23.52		
10	QPSK	1	25	23.61	23.58	23.41	24.5	0
10	QPSK	1	49	23.66	23.54	23.37		
10	QPSK	25	0	22.76	22.66	22.54		
10	QPSK	25	12	22.75	22.69	22.51	23.5	1
10	QPSK	25	25	22.69	22.67	22.51		
10	QPSK	50	0	22.71	22.63	22.48		
10	16QAM	1	0	23.07	22.96	22.94	23.5	1
10	16QAM	1	25	22.97	22.97	22.85		
10	16QAM	1	49	23.03	22.94	22.76		
10	16QAM	25	0	21.76	21.67	21.52	22.5	2
10	16QAM	25	12	21.75	21.65	21.52		
10	16QAM	25	25	21.66	21.67	21.43		
10	16QAM	50	0	21.72	21.64	21.48	22.5	2
10	64QAM	1	0	21.70	21.84	21.74		
10	64QAM	1	25	21.48	21.92	21.74		
10	64QAM	1	49	21.90	21.85	21.08	21.5	3
10	64QAM	25	0	20.44	20.72	20.56		
10	64QAM	25	12	20.41	20.73	20.55		
10	64QAM	25	25	20.67	20.72	20.39	20.53	
10	64QAM	50	0	20.53	20.70	20.53		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	23.70	23.60	23.53		
5	QPSK	1	12	23.79	23.71	23.46	24.5	0
5	QPSK	1	24	23.61	23.67	23.41		
5	QPSK	12	0	22.79	22.71	22.57		
5	QPSK	12	7	22.78	22.73	22.52	23.5	1
5	QPSK	12	13	22.70	22.70	22.45		
5	QPSK	25	0	22.78	22.68	22.52		
5	16QAM	1	0	23.11	22.99	22.80	23.5	1
5	16QAM	1	12	22.98	23.02	22.70		
5	16QAM	1	24	22.93	22.98	22.72		



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5	16QAM	12	0	21.82	21.73	21.57	22.5	2
5	16QAM	12	7	21.79	21.71	21.55		
5	16QAM	12	13	21.73	21.69	21.47		
5	16QAM	25	0	21.76	21.70	21.53		
5	64QAM	1	0	21.85	21.89	21.74	22.5	2
5	64QAM	1	12	21.52	21.90	21.08		
5	64QAM	1	24	21.39	21.87	21.26		
5	64QAM	12	0	20.74	20.81	20.50	21.5	3
5	64QAM	12	7	20.54	20.77	20.14		
5	64QAM	12	13	20.44	20.73	20.12		
5	64QAM	25	0	20.48	20.69	20.26		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	23.76	23.58	23.39	24.5	0
3	QPSK	1	8	23.77	23.68	23.42		
3	QPSK	1	14	23.57	23.59	23.31		
3	QPSK	8	0	22.74	22.68	22.45	23.5	1
3	QPSK	8	4	22.78	22.65	22.46		
3	QPSK	8	7	22.70	22.67	22.37		
3	QPSK	15	0	22.74	22.64	22.40		
3	16QAM	1	0	23.04	22.92	22.72	23.5	1
3	16QAM	1	8	23.01	22.96	22.69		
3	16QAM	1	14	22.89	22.96	22.65		
3	16QAM	8	0	21.80	21.71	21.51	22.5	2
3	16QAM	8	4	21.81	21.70	21.50		
3	16QAM	8	7	21.75	21.68	21.43		
3	16QAM	15	0	21.75	21.66	21.43		
3	64QAM	1	0	21.85	21.84	21.19	22.5	2
3	64QAM	1	8	21.80	21.91	21.06		
3	64QAM	1	14	21.54	21.85	21.23		
3	64QAM	8	0	20.81	20.73	19.93	21.5	3
3	64QAM	8	4	20.71	20.72	20.08		
3	64QAM	8	7	20.59	20.71	20.22		
3	64QAM	15	0	20.63	20.65	20.09		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	23.68	23.47	23.29	24.5	0
1.4	QPSK	1	3	23.70	23.63	23.31		
1.4	QPSK	1	5	23.55	23.53	23.25		
1.4	QPSK	3	0	23.64	23.50	23.29		
1.4	QPSK	3	1	23.68	23.54	23.35		
1.4	QPSK	3	3	23.58	23.54	23.28	23.5	1
1.4	QPSK	6	0	22.70	22.56	22.36		
1.4	16QAM	1	0	22.93	22.81	22.60	23.5	1
1.4	16QAM	1	3	23.02	22.93	22.66		
1.4	16QAM	1	5	22.92	22.84	22.54		
1.4	16QAM	3	0	22.72	22.63	22.37		
1.4	16QAM	3	1	22.76	22.66	22.43		
1.4	16QAM	3	3	22.67	22.62	22.33	22.5	2
1.4	16QAM	6	0	21.75	21.66	21.43		
1.4	64QAM	1	0	21.80	21.75	21.17	22.5	2
1.4	64QAM	1	3	21.80	21.84	21.34		
1.4	64QAM	1	5	21.69	21.78	21.38		
1.4	64QAM	3	0	21.83	21.72	21.18		
1.4	64QAM	3	1	21.88	21.77	21.32		
1.4	64QAM	3	3	21.73	21.74	21.46		
1.4	64QAM	6	0	20.69	20.56	20.24	21.5	3

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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)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0		22.02		23	0
10	QPSK	1	25		21.91			
10	QPSK	1	49		21.90			
10	QPSK	25	0		21.04		22	1
10	QPSK	25	12		20.99			
10	QPSK	25	25		21.01			
10	QPSK	50	0		20.99		22	1
10	16QAM	1	0		21.34			
10	16QAM	1	25		21.27			
10	16QAM	1	49		21.26		21	2
10	16QAM	25	0		20.07			
10	16QAM	25	12		20.00			
10	16QAM	25	25		20.00		21	2
10	16QAM	50	0		20.00			
10	64QAM	1	0		20.22			
10	64QAM	1	25		20.22		21	2
10	64QAM	1	49		20.16			
10	64QAM	25	0		19.09			
10	64QAM	25	12		19.06		20	3
10	64QAM	25	25		19.03			
10	64QAM	50	0		19.06			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	21.99	21.97	21.95	23	0
5	QPSK	1	12	22.00	22.00	21.99		
5	QPSK	1	24	21.96	21.95	21.97		
5	QPSK	12	0	21.06	21.07	21.05	22	1
5	QPSK	12	7	21.10	21.04	21.10		
5	QPSK	12	13	21.03	21.04	21.09		
5	QPSK	25	0	21.06	21.01	21.05	22	1
5	16QAM	1	0	21.32	21.30	21.30		
5	16QAM	1	12	21.31	21.30	21.29		
5	16QAM	1	24	21.29	21.28	21.29	21	2
5	16QAM	12	0	20.09	20.10	20.10		
5	16QAM	12	7	20.11	20.07	20.12		
5	16QAM	12	13	20.05	20.06	20.11	21	2
5	16QAM	25	0	20.09	20.05	20.10		
5	64QAM	1	0	20.24	20.25	20.24		
5	64QAM	1	12	20.26	20.27	20.24	21	2
5	64QAM	1	24	20.23	20.27	20.21		
5	64QAM	12	0	19.14	19.14	19.15		
5	64QAM	12	7	19.19	19.14	19.18	20	3
5	64QAM	12	13	19.10	19.13	19.17		
5	64QAM	25	0	19.13	19.06	19.11		

<LTE Band 66_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572	24	0
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	23.32	23.14	23.12		
20	QPSK	1	49	23.22	22.99	23.00	23	1
20	QPSK	1	99	23.10	22.96	22.89		
20	QPSK	50	0	22.46	22.25	22.15		
20	QPSK	50	24	22.35	22.23	22.20	23	1
20	QPSK	50	50	22.26	22.17	22.14		
20	QPSK	100	0	22.32	22.18	22.18		
20	16QAM	1	0	22.68	22.49	22.48	23	1
20	16QAM	1	49	22.62	22.34	22.35		
20	16QAM	1	99	22.48	22.29	22.24		
20	16QAM	50	0	21.44	21.25	21.17	22	2
20	16QAM	50	24	21.34	21.23	21.21		
20	16QAM	50	50	21.26	21.15	21.14		
20	16QAM	100	0	21.30	21.18	21.20	22	2
20	64QAM	1	0	21.58	21.04	21.30		
20	64QAM	1	49	21.43	21.27	21.23		
20	64QAM	1	99	21.31	21.21	21.13	21	3
20	64QAM	50	0	20.48	20.29	20.19		
20	64QAM	50	24	20.38	20.25	20.23		
20	64QAM	50	50	20.30	20.19	20.15	21	3
20	64QAM	100	0	20.36	20.21	20.22		
Channel				132047	132322	132597	24	0
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.31	23.11	23.12		
15	QPSK	1	37	23.26	23.04	23.03	23	1
15	QPSK	1	74	23.21	23.02	22.97		
15	QPSK	36	0	22.47	22.24	22.17		
15	QPSK	36	20	22.45	22.23	22.21	23	1
15	QPSK	36	39	22.32	22.17	22.15		
15	QPSK	75	0	22.41	22.21	22.12		
15	16QAM	1	0	22.63	22.42	22.45	23	1
15	16QAM	1	37	22.60	22.35	22.43		
15	16QAM	1	74	22.55	22.34	22.32		
15	16QAM	36	0	21.45	21.26	21.15	22	2
15	16QAM	36	20	21.45	21.25	21.24		
15	16QAM	36	39	21.31	21.17	21.17		
15	16QAM	75	0	21.45	21.24	21.14	22	2
15	64QAM	1	0	21.57	21.29	21.34		
15	64QAM	1	37	21.48	21.32	21.29		
15	64QAM	1	74	21.35	21.24	21.19	21	3
15	64QAM	36	0	20.47	20.29	20.22		
15	64QAM	36	20	20.48	20.27	20.26		
15	64QAM	36	39	20.37	20.22	20.18	21	3
15	64QAM	75	0	20.46	20.24	20.14		
Channel				132022	132322	132622	24	0
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	23.17	22.94	22.91		
10	QPSK	1	25	23.07	22.86	22.86	24	0
10	QPSK	1	49	23.04	22.84	22.81		
10	QPSK	25	0	22.24	22.02	21.95	23	1



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10	QPSK	25	12	22.15	22.01	21.94		
10	QPSK	25	25	22.12	21.96	21.96		
10	QPSK	50	0	22.20	22.03	21.95		
10	16QAM	1	0	22.57	22.34	22.29	23	1
10	16QAM	1	25	22.44	22.25	22.23		
10	16QAM	1	49	22.43	22.21	22.20		
10	16QAM	25	0	21.25	21.05	20.95	22	2
10	16QAM	25	12	21.19	21.04	20.95		
10	16QAM	25	25	21.14	20.96	20.97		
10	16QAM	50	0	21.18	21.02	20.93	22	2
10	64QAM	1	0	21.47	21.22	21.15		
10	64QAM	1	25	21.43	21.17	21.19		
10	64QAM	1	49	21.29	21.12	21.08	21	3
10	64QAM	25	0	20.29	20.09	19.98		
10	64QAM	25	12	20.21	20.08	20.00		
10	64QAM	25	25	20.17	20.01	20.00		
10	64QAM	50	0	20.23	20.09	19.99		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	23.16	22.93	22.92	24	0
5	QPSK	1	12	23.22	22.97	22.94		
5	QPSK	1	24	23.14	22.87	22.82		
5	QPSK	12	0	22.30	22.06	22.01	23	1
5	QPSK	12	7	22.29	22.07	22.01		
5	QPSK	12	13	22.26	22.03	21.98		
5	QPSK	25	0	22.26	22.01	21.99	23	1
5	16QAM	1	0	22.51	22.31	22.25		
5	16QAM	1	12	22.52	22.29	22.26		
5	16QAM	1	24	22.43	22.24	22.22	22	2
5	16QAM	12	0	21.30	21.09	21.05		
5	16QAM	12	7	21.34	21.08	21.07		
5	16QAM	12	13	21.28	21.03	21.01	22	2
5	16QAM	25	0	21.32	21.06	21.03		
5	64QAM	1	0	21.47	21.25	21.23		
5	64QAM	1	12	21.45	21.22	21.18	22	2
5	64QAM	1	24	21.39	21.17	21.09		
5	64QAM	12	0	20.38	20.13	20.11		
5	64QAM	12	7	20.39	20.14	20.10	21	3
5	64QAM	12	13	20.31	20.08	20.06		
5	64QAM	25	0	20.30	20.05	20.03		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	23.09	22.84	22.82	24	0
3	QPSK	1	8	23.14	22.87	22.87		
3	QPSK	1	14	23.06	22.80	22.79		
3	QPSK	8	0	22.21	21.96	21.92	23	1
3	QPSK	8	4	22.19	21.95	21.92		
3	QPSK	8	7	22.17	21.91	21.86		
3	QPSK	15	0	22.18	21.95	21.94	23	1
3	16QAM	1	0	22.43	22.19	22.16		
3	16QAM	1	8	22.48	22.20	22.24		
3	16QAM	1	14	22.40	22.18	22.11	22	2
3	16QAM	8	0	21.27	21.02	20.95		
3	16QAM	8	4	21.28	21.04	20.98		
3	16QAM	8	7	21.24	21.00	20.94		
3	16QAM	15	0	21.25	20.97	20.93		



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3	64QAM	1	0	21.37	21.12	21.08	22	2
3	64QAM	1	8	21.45	21.19	21.12		
3	64QAM	1	14	21.34	21.08	21.02		
3	64QAM	8	0	20.27	20.02	19.98	21	3
3	64QAM	8	4	20.29	20.02	19.99		
3	64QAM	8	7	20.26	19.98	19.94		
3	64QAM	15	0	20.22	19.98	19.99		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	22.99	22.75	22.75	24	0
1.4	QPSK	1	3	23.05	22.81	22.78		
1.4	QPSK	1	5	23.00	22.74	22.73		
1.4	QPSK	3	0	23.05	22.60	22.75		
1.4	QPSK	3	1	23.11	22.74	22.81		
1.4	QPSK	3	3	23.05	22.80	22.74		
1.4	QPSK	6	0	22.13	21.85	21.86	23	1
1.4	16QAM	1	0	22.34	22.02	22.09	23	1
1.4	16QAM	1	3	22.40	22.15	22.15		
1.4	16QAM	1	5	22.32	22.10	22.11		
1.4	16QAM	3	0	22.14	21.90	21.85		
1.4	16QAM	3	1	22.16	21.96	21.92		
1.4	16QAM	3	3	22.10	21.87	21.85		
1.4	16QAM	6	0	21.18	20.94	20.91	22	2
1.4	64QAM	1	0	21.31	20.57	21.01	22	2
1.4	64QAM	1	3	21.36	20.12	21.07		
1.4	64QAM	1	5	21.27	21.02	21.01		
1.4	64QAM	3	0	21.26	20.99	20.98		
1.4	64QAM	3	1	21.30	21.07	21.01		
1.4	64QAM	3	3	21.24	20.98	20.96		
1.4	64QAM	6	0	20.14	19.90	19.87	21	3

<LTE Band 66_ Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	21.35	21.06	21.15	22.3	0
20	QPSK	1	49	21.32	20.95	20.95		
20	QPSK	1	99	21.28	20.89	20.93		
20	QPSK	50	0	21.44	21.17	21.04	22.3	0
20	QPSK	50	24	21.43	21.12	21.12		
20	QPSK	50	50	21.28	21.07	21.11		
20	QPSK	100	0	21.34	21.09	21.15	22.3	0
20	16QAM	1	0	20.93	20.73	20.87		
20	16QAM	1	49	20.94	20.50	20.67		
20	16QAM	1	99	21.03	20.49	20.66	22.3	0
20	16QAM	50	0	21.42	21.03	20.97		
20	16QAM	50	24	21.36	21.09	21.12		
20	16QAM	50	50	21.23	21.06	21.02	22.3	0
20	16QAM	100	0	21.28	21.09	21.11		
20	64QAM	1	0	21.16	20.71	21.06		
20	64QAM	1	49	21.06	20.84	21.16	22.3	0
20	64QAM	1	99	21.30	21.28	21.17		
20	64QAM	50	0	21.14	20.39	20.71		
20	64QAM	50	24	21.09	20.62	20.73	22.3	0
20	64QAM	50	50	21.00	20.76	20.76		
20	64QAM	100	0	21.05	20.66	20.79		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	21.28	20.98	21.08	22.3	0
15	QPSK	1	37	21.26	20.95	20.88		
15	QPSK	1	74	21.25	20.80	20.83		
15	QPSK	36	0	21.37	21.13	21.01	22.3	0
15	QPSK	36	20	21.41	21.04	21.05		
15	QPSK	36	39	21.26	20.97	21.11		
15	QPSK	75	0	21.30	21.04	21.13	22.3	0
15	16QAM	1	0	20.85	20.70	20.79		
15	16QAM	1	37	20.91	20.44	20.59		
15	16QAM	1	74	20.96	20.46	20.63	22.3	0
15	16QAM	36	0	21.32	20.96	20.87		
15	16QAM	36	20	21.29	21.01	21.08		
15	16QAM	36	39	21.15	20.96	20.92	22.3	0
15	16QAM	75	0	21.27	20.99	21.08		
15	64QAM	1	0	21.15	20.64	21.01		
15	64QAM	1	37	21.04	20.81	21.12	22.3	0
15	64QAM	1	74	21.24	21.25	21.10		
15	64QAM	36	0	21.04	20.36	20.70		
15	64QAM	36	20	21.01	20.60	20.65	22.3	0
15	64QAM	36	39	21.00	20.75	20.73		
15	64QAM	75	0	21.01	20.60	20.69		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	21.35	21.05	21.10	22.3	0
10	QPSK	1	25	21.32	20.92	20.87		
10	QPSK	1	49	21.23	20.86	20.83		
10	QPSK	25	0	21.39	21.11	21.03	22.3	0



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10	QPSK	25	12	21.37	21.10	21.02		
10	QPSK	25	25	21.27	20.99	21.10		
10	QPSK	50	0	21.26	21.08	21.14		
10	16QAM	1	0	20.87	20.64	20.78	22.3	0
10	16QAM	1	25	20.88	20.41	20.64		
10	16QAM	1	49	20.99	20.45	20.64		
10	16QAM	25	0	21.36	20.94	20.91	22.3	0
10	16QAM	25	12	21.35	21.05	21.06		
10	16QAM	25	25	21.14	20.98	20.95		
10	16QAM	50	0	21.26	21.03	21.01	22.3	0
10	64QAM	1	0	21.13	20.61	21.02		
10	64QAM	1	25	21.05	20.80	21.14		
10	64QAM	1	49	21.24	21.21	21.17	22.3	0
10	64QAM	25	0	21.08	20.34	20.64		
10	64QAM	25	12	21.04	20.60	20.72		
10	64QAM	25	25	20.91	20.76	20.76	22.3	0
10	64QAM	50	0	20.98	20.64	20.79		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	21.27	21.03	21.14	22.3	0
5	QPSK	1	12	21.23	20.92	20.85		
5	QPSK	1	24	21.22	20.84	20.85		
5	QPSK	12	0	21.40	21.10	20.99	22.3	0
5	QPSK	12	7	21.35	21.04	21.11		
5	QPSK	12	13	21.26	21.01	21.04		
5	QPSK	25	0	21.27	21.00	21.13	22.3	0
5	16QAM	1	0	20.89	20.68	20.81		
5	16QAM	1	12	20.88	20.43	20.67		
5	16QAM	1	24	20.99	20.41	20.62	22.3	0
5	16QAM	12	0	21.41	20.95	20.88		
5	16QAM	12	7	21.26	21.08	21.07		
5	16QAM	12	13	21.22	21.06	20.99	22.3	0
5	16QAM	25	0	21.24	21.02	21.03		
5	64QAM	1	0	21.10	20.66	20.97		
5	64QAM	1	12	21.05	20.79	21.11	22.3	0
5	64QAM	1	24	21.27	21.20	21.07		
5	64QAM	12	0	21.04	20.37	20.69		
5	64QAM	12	7	21.04	20.61	20.69	22.3	0
5	64QAM	12	13	20.98	20.75	20.67		
5	64QAM	25	0	21.05	20.60	20.70		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	21.35	21.06	21.06	22.3	0
3	QPSK	1	8	21.29	20.92	20.89		
3	QPSK	1	14	21.21	20.80	20.90		
3	QPSK	8	0	21.37	21.08	20.94	22.3	0
3	QPSK	8	4	21.41	21.02	21.12		
3	QPSK	8	7	21.27	20.98	21.09		
3	QPSK	15	0	21.31	21.09	21.09	22.3	0
3	16QAM	1	0	20.85	20.69	20.82		
3	16QAM	1	8	20.91	20.41	20.64		
3	16QAM	1	14	20.94	20.43	20.58	22.3	0
3	16QAM	8	0	21.36	20.99	20.95		
3	16QAM	8	4	21.32	21.09	21.04		
3	16QAM	8	7	21.13	20.97	20.94	22.3	0
3	16QAM	15	0	21.21	21.01	21.06		



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3	64QAM	1	0	21.07	20.66	21.00	22.3	0
3	64QAM	1	8	20.98	20.79	21.13		
3	64QAM	1	14	21.24	21.23	21.15		
3	64QAM	8	0	21.14	20.32	20.64	22.3	0
3	64QAM	8	4	21.07	20.55	20.72		
3	64QAM	8	7	20.96	20.69	20.66		
3	64QAM	15	0	20.98	20.61	20.71		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	21.28	21.01	21.06	22.3	0
1.4	QPSK	1	3	21.29	20.87	20.89		
1.4	QPSK	1	5	21.20	20.89	20.87		
1.4	QPSK	3	0	21.42	21.15	21.00		
1.4	QPSK	3	1	21.36	21.08	21.09		
1.4	QPSK	3	3	21.18	20.98	21.06		
1.4	QPSK	6	0	21.24	21.01	21.09	22.3	0
1.4	16QAM	1	0	20.86	20.70	20.82	22.3	0
1.4	16QAM	1	3	20.85	20.50	20.60		
1.4	16QAM	1	5	21.01	20.40	20.62		
1.4	16QAM	3	0	21.37	21.02	20.90		
1.4	16QAM	3	1	21.31	21.05	21.11		
1.4	16QAM	3	3	21.14	20.97	20.99		
1.4	16QAM	6	0	21.26	21.04	21.04	22.3	0
1.4	64QAM	1	0	21.11	20.62	21.01	22.3	0
1.4	64QAM	1	3	21.02	20.76	21.08		
1.4	64QAM	1	5	21.23	21.23	21.07		
1.4	64QAM	3	0	21.12	20.32	20.64		
1.4	64QAM	3	1	21.02	20.62	20.73		
1.4	64QAM	3	3	20.98	20.68	20.72		
1.4	64QAM	6	0	20.97	20.63	20.71	22.3	0

<Tablet Mode>
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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)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	16.14	16.15	16.14	17	0
20	QPSK	1	49	16.08	16.11	16.02		
20	QPSK	1	99	16.04	16.09	16.01		
20	QPSK	50	0	16.22	16.18	16.14	17	0
20	QPSK	50	24	16.30	16.23	16.16		
20	QPSK	50	50	16.30	16.27	16.23		
20	QPSK	100	0	16.30	16.19	16.15	17	0
20	16QAM	1	0	16.54	16.44	16.49		
20	16QAM	1	49	16.46	16.47	16.49		
20	16QAM	1	99	16.37	16.47	16.49	17	0
20	16QAM	50	0	16.22	16.21	16.18		
20	16QAM	50	24	16.32	16.24	16.19		
20	16QAM	50	50	16.30	16.28	16.24	17	0
20	16QAM	100	0	16.29	16.21	16.16		
20	64QAM	1	0	16.35	16.36	16.40		
20	64QAM	1	49	16.40	16.32	16.40	17	0
20	64QAM	1	99	16.32	16.32	16.27		
20	64QAM	50	0	16.22	16.20	16.18		
20	64QAM	50	24	16.31	16.23	16.18	17	0
20	64QAM	50	50	16.28	16.29	16.26		
20	64QAM	100	0	16.28	16.22	16.15		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	16.10	16.14	16.10	17	0
15	QPSK	1	37	16.02	16.04	15.93		
15	QPSK	1	74	15.97	16.08	15.92		
15	QPSK	36	0	16.12	16.13	16.09	17	0
15	QPSK	36	20	16.25	16.16	16.16		
15	QPSK	36	39	16.20	16.20	16.21		
15	QPSK	75	0	16.30	16.16	16.10	17	0
15	16QAM	1	0	16.52	16.44	16.39		
15	16QAM	1	37	16.40	16.40	16.43		
15	16QAM	1	74	16.34	16.47	16.44	17	0
15	16QAM	36	0	16.17	16.18	16.18		
15	16QAM	36	20	16.28	16.19	16.17		
15	16QAM	36	39	16.30	16.19	16.15	17	0
15	16QAM	75	0	16.22	16.12	16.14		
15	64QAM	1	0	16.26	16.29	16.36		
15	64QAM	1	37	16.30	16.32	16.36	17	0
15	64QAM	1	74	16.25	16.29	16.19		
15	64QAM	36	0	16.14	16.15	16.18		
15	64QAM	36	20	16.26	16.20	16.17	17	0
15	64QAM	36	39	16.28	16.19	16.25		
15	64QAM	75	0	16.22	16.12	16.05		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	16.13	16.13	16.09	17	0
10	QPSK	1	25	16.05	16.09	15.94		
10	QPSK	1	49	15.99	16.06	15.94		
10	QPSK	25	0	16.17	16.12	16.04	17	0



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10	QPSK	25	12	16.23	16.14	16.08		
10	QPSK	25	25	16.25	16.25	16.21		
10	QPSK	50	0	16.20	16.09	16.07		
10	16QAM	1	0	16.51	16.41	16.39	17	0
10	16QAM	1	25	16.46	16.46	16.39		
10	16QAM	1	49	16.27	16.47	16.39		
10	16QAM	25	0	16.18	16.19	16.16	17	0
10	16QAM	25	12	16.32	16.22	16.19		
10	16QAM	25	25	16.21	16.25	16.22		
10	16QAM	50	0	16.22	16.20	16.10	17	0
10	64QAM	1	0	16.32	16.35	16.32		
10	64QAM	1	25	16.38	16.29	16.40		
10	64QAM	1	49	16.30	16.23	16.18	17	0
10	64QAM	25	0	16.17	16.16	16.16		
10	64QAM	25	12	16.22	16.21	16.17		
10	64QAM	25	25	16.19	16.20	16.20	17	0
10	64QAM	50	0	16.18	16.15	16.10		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	16.10	16.13	16.13	17	0
5	QPSK	1	12	16.08	16.01	16.01		
5	QPSK	1	24	16.02	16.06	15.96		
5	QPSK	12	0	16.12	16.13	16.07	17	0
5	QPSK	12	7	16.26	16.21	16.07		
5	QPSK	12	13	16.28	16.22	16.13		
5	QPSK	25	0	16.28	16.18	16.13	17	0
5	16QAM	1	0	16.45	16.42	16.43		
5	16QAM	1	12	16.41	16.45	16.47		
5	16QAM	1	24	16.34	16.41	16.40	17	0
5	16QAM	12	0	16.18	16.14	16.14		
5	16QAM	12	7	16.23	16.14	16.16		
5	16QAM	12	13	16.23	16.23	16.21	17	0
5	16QAM	25	0	16.19	16.19	16.10		
5	64QAM	1	0	16.27	16.28	16.36		
5	64QAM	1	12	16.38	16.22	16.40	17	0
5	64QAM	1	24	16.32	16.22	16.27		
5	64QAM	12	0	16.15	16.16	16.18		
5	64QAM	12	7	16.22	16.20	16.13	17	0
5	64QAM	12	13	16.19	16.22	16.18		
5	64QAM	25	0	16.19	16.19	16.09		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	16.08	16.12	16.13	17	0
3	QPSK	1	8	16.01	16.07	15.93		
3	QPSK	1	14	15.97	16.05	15.99		
3	QPSK	8	0	16.12	16.16	16.05	17	0
3	QPSK	8	4	16.21	16.14	16.11		
3	QPSK	8	7	16.26	16.23	16.19		
3	QPSK	15	0	16.23	16.09	16.11	17	0
3	16QAM	1	0	16.45	16.41	16.41		
3	16QAM	1	8	16.36	16.41	16.45		
3	16QAM	1	14	16.29	16.46	16.44	17	0
3	16QAM	8	0	16.14	16.21	16.16		
3	16QAM	8	4	16.23	16.24	16.12		
3	16QAM	8	7	16.30	16.22	16.19	17	0
3	16QAM	15	0	16.24	16.19	16.15		



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3	64QAM	1	0	16.33	16.28	16.32	17	0
3	64QAM	1	8	16.32	16.26	16.37		
3	64QAM	1	14	16.27	16.31	16.17		
3	64QAM	8	0	16.18	16.10	16.16	17	0
3	64QAM	8	4	16.30	16.23	16.15		
3	64QAM	8	7	16.26	16.25	16.24		
3	64QAM	15	0	16.19	16.17	16.05	Tune-up limit (dBm)	MPR (dB)
Channel				18607	18900	19193		
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	16.06	16.10	16.04	17	0
1.4	QPSK	1	3	16.00	16.11	16.00		
1.4	QPSK	1	5	16.03	16.00	16.01		
1.4	QPSK	3	0	16.19	16.14	16.06	17	0
1.4	QPSK	3	1	16.30	16.13	16.09		
1.4	QPSK	3	3	16.27	16.18	16.14		
1.4	QPSK	6	0	16.21	16.15	16.10	17	0
1.4	16QAM	1	0	16.53	16.38	16.44	17	0
1.4	16QAM	1	3	16.36	16.38	16.48		
1.4	16QAM	1	5	16.37	16.40	16.43		
1.4	16QAM	3	0	16.21	16.17	16.11	17	0
1.4	16QAM	3	1	16.22	16.17	16.09		
1.4	16QAM	3	3	16.20	16.26	16.16		
1.4	16QAM	6	0	16.22	16.20	16.09	17	0
1.4	64QAM	1	0	16.31	16.26	16.39	17	0
1.4	64QAM	1	3	16.31	16.22	16.38		
1.4	64QAM	1	5	16.29	16.25	16.17		
1.4	64QAM	3	0	16.12	16.14	16.09	17	0
1.4	64QAM	3	1	16.25	16.13	16.15		
1.4	64QAM	3	3	16.24	16.19	16.24		
1.4	64QAM	6	0	16.23	16.15	16.13	17	0

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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)	MPR (dB)
Channel				18700	18900	19100	20.7	0
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	19.75	19.57	19.61	20.7	0
20	QPSK	1	49	19.65	19.48	19.58		
20	QPSK	1	99	19.54	19.64	19.60		
20	QPSK	50	0	19.74	19.69	19.73	20.7	0
20	QPSK	50	24	19.72	19.68	19.71		
20	QPSK	50	50	19.71	19.65	19.72		
20	QPSK	100	0	18.73	19.70	19.72		
20	16QAM	1	0	19.16	18.93	19.17	20.7	0
20	16QAM	1	49	19.21	19.03	19.13		
20	16QAM	1	99	19.08	19.18	19.32		
20	16QAM	50	0	19.66	19.56	19.74	20.7	0
20	16QAM	50	24	19.71	19.73	19.73		
20	16QAM	50	50	19.65	19.67	19.66		
20	16QAM	100	0	19.68	19.69	19.72		
20	64QAM	1	0	19.19	19.20	19.07	20.7	0
20	64QAM	1	49	19.13	19.07	19.33		
20	64QAM	1	99	19.24	19.09	19.07		
20	64QAM	50	0	19.71	19.71	19.72	20.7	0
20	64QAM	50	24	19.70	19.72	19.70		
20	64QAM	50	50	19.72	19.65	19.74		
20	64QAM	100	0	19.72	19.67	19.66		
Channel				18675	18900	19125	20.7	0
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	19.71	19.51	19.52	20.7	0
15	QPSK	1	37	19.61	19.47	19.49		
15	QPSK	1	74	19.50	19.56	19.50		
15	QPSK	36	0	19.65	19.64	19.71	20.7	0
15	QPSK	36	20	19.67	19.58	19.66		
15	QPSK	36	39	19.68	19.59	19.70		
15	QPSK	75	0	18.77	19.69	19.72		
15	16QAM	1	0	19.09	18.87	19.12	20.7	0
15	16QAM	1	37	19.19	18.99	19.05		
15	16QAM	1	74	19.07	19.12	19.24		
15	16QAM	36	0	19.62	19.56	19.74	20.7	0
15	16QAM	36	20	19.68	19.73	19.68		
15	16QAM	36	39	19.56	19.65	19.65		
15	16QAM	75	0	19.62	19.62	19.65		
15	64QAM	1	0	19.12	19.20	19.03	20.7	0
15	64QAM	1	37	19.07	19.02	19.27		
15	64QAM	1	74	19.19	19.09	19.02		
15	64QAM	36	0	19.69	19.61	19.65	20.7	0
15	64QAM	36	20	19.61	19.72	19.66		
15	64QAM	36	39	19.69	19.56	19.74		
15	64QAM	75	0	19.65	19.62	19.65		
Channel				18650	18900	19150	20.7	0
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	18.73	19.57	19.58	20.7	0
10	QPSK	1	25	19.55	19.39	19.48		
10	QPSK	1	49	19.51	19.58	19.55		
10	QPSK	25	0	19.73	19.68	19.68	20.7	0



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10	QPSK	25	12	19.65	19.63	19.65		
10	QPSK	25	25	19.61	19.61	19.72		
10	QPSK	50	0	18.73	19.61	19.68		
10	16QAM	1	0	19.11	18.91	19.17	20.7	0
10	16QAM	1	25	19.12	19.02	19.11		
10	16QAM	1	49	19.07	19.17	19.28		
10	16QAM	25	0	19.65	19.54	19.66	20.7	0
10	16QAM	25	12	19.63	19.73	19.67		
10	16QAM	25	25	19.57	19.65	19.64		
10	16QAM	50	0	19.58	19.67	19.68	20.7	0
10	64QAM	1	0	19.11	19.17	19.07		
10	64QAM	1	25	19.04	19.03	19.32		
10	64QAM	1	49	19.23	19.07	18.98	20.7	0
10	64QAM	25	0	19.71	19.71	19.71		
10	64QAM	25	12	19.67	19.62	19.69		
10	64QAM	25	25	19.64	19.63	19.68	20.7	0
10	64QAM	50	0	19.71	19.60	19.63		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	19.65	19.49	19.61	20.7	0
5	QPSK	1	12	19.61	19.38	19.55		
5	QPSK	1	24	19.53	19.59	19.55		
5	QPSK	12	0	19.69	19.68	19.71	20.7	0
5	QPSK	12	7	19.71	19.64	19.63		
5	QPSK	12	13	19.65	19.64	19.67		
5	QPSK	25	0	18.77	19.66	19.70	20.7	0
5	16QAM	1	0	19.08	18.92	19.07		
5	16QAM	1	12	19.19	19.01	19.07		
5	16QAM	1	24	19.06	19.15	19.23	20.7	0
5	16QAM	12	0	19.59	19.51	19.65		
5	16QAM	12	7	19.68	19.73	19.65		
5	16QAM	12	13	19.55	19.63	19.56	20.7	0
5	16QAM	25	0	19.60	19.69	19.66		
5	64QAM	1	0	19.11	19.11	19.03		
5	64QAM	1	12	19.03	19.00	19.25	20.7	0
5	64QAM	1	24	19.22	19.00	19.04		
5	64QAM	12	0	19.63	19.69	19.63		
5	64QAM	12	7	19.64	19.67	19.65	20.7	0
5	64QAM	12	13	19.66	19.56	19.74		
5	64QAM	25	0	19.67	19.65	19.58		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	19.65	19.51	19.56	20.7	0
3	QPSK	1	8	19.59	19.41	19.54		
3	QPSK	1	14	19.47	19.56	19.60		
3	QPSK	8	0	19.74	19.69	19.66	20.7	0
3	QPSK	8	4	19.64	19.61	19.71		
3	QPSK	8	7	19.69	19.59	19.71		
3	QPSK	15	0	18.72	19.70	19.69	20.7	0
3	16QAM	1	0	19.07	18.90	19.10		
3	16QAM	1	8	19.17	18.98	19.11		
3	16QAM	1	14	18.98	19.16	19.29	20.7	0
3	16QAM	8	0	19.65	19.51	19.65		
3	16QAM	8	4	19.66	19.73	19.72		
3	16QAM	8	7	19.56	19.61	19.63	20.7	0
3	16QAM	15	0	19.60	19.64	19.66		



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3	64QAM	1	0	19.15	19.12	19.00	20.7	0
3	64QAM	1	8	19.07	19.05	19.33		
3	64QAM	1	14	19.23	19.01	19.04		
3	64QAM	8	0	19.61	19.64	19.69	20.7	0
3	64QAM	8	4	19.60	19.67	19.65		
3	64QAM	8	7	19.71	19.56	19.66		
3	64QAM	15	0	19.66	19.66	19.60		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	19.65	19.51	19.60	20.7	0
1.4	QPSK	1	3	19.56	19.43	19.57		
1.4	QPSK	1	5	19.45	19.56	19.55		
1.4	QPSK	3	0	19.73	19.65	19.64		
1.4	QPSK	3	1	19.65	19.61	19.67		
1.4	QPSK	3	3	19.69	19.59	19.63		
1.4	QPSK	6	0	18.74	19.60	19.72	20.7	0
1.4	16QAM	1	0	19.12	18.84	19.14	20.7	0
1.4	16QAM	1	3	19.20	19.00	19.11		
1.4	16QAM	1	5	19.05	19.10	19.30		
1.4	16QAM	3	0	19.61	19.54	19.69		
1.4	16QAM	3	1	19.61	19.72	19.73		
1.4	16QAM	3	3	19.63	19.58	19.60		
1.4	16QAM	6	0	19.64	19.60	19.70	20.7	0
1.4	64QAM	1	0	19.17	19.16	19.04	20.7	0
1.4	64QAM	1	3	19.08	19.05	19.32		
1.4	64QAM	1	5	19.22	19.01	19.06		
1.4	64QAM	3	0	19.63	19.69	19.71		
1.4	64QAM	3	1	19.60	19.62	19.66		
1.4	64QAM	3	3	19.62	19.61	19.74		
1.4	64QAM	6	0	19.65	19.64	19.58	20.7	0

<LTE Band 4_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	16.71	16.75	16.68	17.5	0
20	QPSK	1	49	16.57	16.62	16.26		
20	QPSK	1	99	16.62	16.39	16.10		
20	QPSK	50	0	16.75	16.83	16.68	17.5	0
20	QPSK	50	24	16.78	16.76	16.50		
20	QPSK	50	50	16.69	16.62	16.24		
20	QPSK	100	0	16.75	16.81	16.46	17.5	0
20	16QAM	1	0	17.08	17.08	16.97		
20	16QAM	1	49	16.96	16.99	16.64		
20	16QAM	1	99	17.02	16.72	16.45	17.5	0
20	16QAM	50	0	16.80	16.87	16.70		
20	16QAM	50	24	16.80	16.81	16.51		
20	16QAM	50	50	16.73	16.64	16.30	17.5	0
20	16QAM	100	0	16.76	16.78	16.46		
20	64QAM	1	0	16.91	16.94	16.91		
20	64QAM	1	49	16.80	16.88	16.55	17.5	0
20	64QAM	1	99	16.86	16.61	16.39		
20	64QAM	50	0	16.80	16.90	16.71		
20	64QAM	50	24	16.83	16.83	16.53	17.5	0
20	64QAM	50	50	16.75	16.69	16.31		
20	64QAM	100	0	16.83	16.82	16.51		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	16.53	16.38	16.15	17.5	0
15	QPSK	1	37	16.34	16.21	15.80		
15	QPSK	1	74	16.31	15.98	15.69		
15	QPSK	36	0	16.53	16.42	16.07	17.5	0
15	QPSK	36	20	16.50	16.33	15.94		
15	QPSK	36	39	16.42	16.21	15.79		
15	QPSK	75	0	16.50	16.36	15.97	17.5	0
15	16QAM	1	0	16.83	16.69	16.43		
15	16QAM	1	37	16.72	16.49	16.16		
15	16QAM	1	74	16.70	16.23	16.05	17.5	0
15	16QAM	36	0	16.52	16.41	16.12		
15	16QAM	36	20	16.53	16.32	15.97		
15	16QAM	36	39	16.46	16.20	15.83	17.5	0
15	16QAM	75	0	16.53	16.37	16.00		
15	64QAM	1	0	16.68	16.61	16.39		
15	64QAM	1	37	16.54	16.47	16.08	17.5	0
15	64QAM	1	74	16.46	16.22	15.88		
15	64QAM	36	0	16.45	16.54	16.14		
15	64QAM	36	20	16.44	16.42	16.00	17.5	0
15	64QAM	36	39	16.41	16.25	15.84		
15	64QAM	75	0	16.45	16.40	16.00		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	16.50	16.32	16.13	17.5	0
10	QPSK	1	25	16.31	16.16	15.79		
10	QPSK	1	49	16.27	15.88	15.59		
10	QPSK	25	0	16.43	16.32	16.06	17.5	0



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10	QPSK	25	12	16.43	16.26	15.94		
10	QPSK	25	25	16.38	16.18	15.73		
10	QPSK	50	0	16.44	16.32	15.87		
10	16QAM	1	0	16.78	16.59	16.42	17.5	0
10	16QAM	1	25	16.69	16.43	16.10		
10	16QAM	1	49	16.62	16.18	15.95		
10	16QAM	25	0	16.52	16.31	16.09	17.5	0
10	16QAM	25	12	16.43	16.24	15.89		
10	16QAM	25	25	16.36	16.15	15.75		
10	16QAM	50	0	16.46	16.37	15.93	17.5	0
10	64QAM	1	0	16.61	16.57	16.29		
10	64QAM	1	25	16.51	16.39	16.03		
10	64QAM	1	49	16.45	16.16	15.81	17.5	0
10	64QAM	25	0	16.42	16.53	16.06		
10	64QAM	25	12	16.40	16.34	15.93		
10	64QAM	25	25	16.36	16.16	15.80	17.5	0
10	64QAM	50	0	16.42	16.32	15.93		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	16.45	16.36	16.10	17.5	0
5	QPSK	1	12	16.31	16.15	15.70		
5	QPSK	1	24	16.23	15.88	15.69		
5	QPSK	12	0	16.51	16.40	16.07	17.5	0
5	QPSK	12	7	16.47	16.29	15.87		
5	QPSK	12	13	16.39	16.18	15.76		
5	QPSK	25	0	16.45	16.30	15.97	17.5	0
5	16QAM	1	0	16.82	16.59	16.34		
5	16QAM	1	12	16.72	16.43	16.15		
5	16QAM	1	24	16.70	16.17	15.99	17.5	0
5	16QAM	12	0	16.43	16.37	16.05		
5	16QAM	12	7	16.49	16.23	15.91		
5	16QAM	12	13	16.40	16.17	15.80	17.5	0
5	16QAM	25	0	16.47	16.36	15.97		
5	64QAM	1	0	16.61	16.53	16.38		
5	64QAM	1	12	16.53	16.39	16.05	17.5	0
5	64QAM	1	24	16.43	16.14	15.79		
5	64QAM	12	0	16.38	16.48	16.04		
5	64QAM	12	7	16.41	16.36	15.95	17.5	0
5	64QAM	12	13	16.37	16.24	15.76		
5	64QAM	25	0	16.38	16.31	15.92		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	16.45	16.32	16.09	17.5	0
3	QPSK	1	8	16.25	16.20	15.74		
3	QPSK	1	14	16.26	15.96	15.59		
3	QPSK	8	0	16.49	16.42	16.03	17.5	0
3	QPSK	8	4	16.41	16.32	15.90		
3	QPSK	8	7	16.32	16.20	15.75		
3	QPSK	15	0	16.45	16.35	15.96	17.5	0
3	16QAM	1	0	16.73	16.63	16.38		
3	16QAM	1	8	16.71	16.43	16.14		
3	16QAM	1	14	16.68	16.19	16.03	17.5	0
3	16QAM	8	0	16.43	16.36	16.02		
3	16QAM	8	4	16.46	16.31	15.92		
3	16QAM	8	7	16.36	16.10	15.76	17.5	0
3	16QAM	15	0	16.45	16.29	15.98		



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3	64QAM	1	0	16.68	16.52	16.30	17.5	0
3	64QAM	1	8	16.51	16.39	16.02		
3	64QAM	1	14	16.37	16.18	15.87		
3	64QAM	8	0	16.42	16.50	16.11	17.5	0
3	64QAM	8	4	16.44	16.33	15.96		
3	64QAM	8	7	16.36	16.20	15.77		
3	64QAM	15	0	16.35	16.38	15.93		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.99	15.91	15.59	17.5	0
1.4	QPSK	1	3	16.09	15.99	15.56		
1.4	QPSK	1	5	15.99	15.88	15.52		
1.4	QPSK	3	0	16.05	15.91	15.54		
1.4	QPSK	3	1	16.08	16.02	15.57		
1.4	QPSK	3	3	16.04	15.91	15.57		
1.4	QPSK	6	0	16.10	15.99	15.56	17.5	0
1.4	16QAM	1	0	16.33	16.22	15.74	17.5	0
1.4	16QAM	1	3	16.44	16.36	15.82		
1.4	16QAM	1	5	16.31	16.23	15.73		
1.4	16QAM	3	0	16.15	16.02	15.53		
1.4	16QAM	3	1	16.20	16.12	15.58		
1.4	16QAM	3	3	16.15	16.03	15.54		
1.4	16QAM	6	0	16.21	16.05	15.67	17.5	0
1.4	64QAM	1	0	16.26	16.19	15.63	17.5	0
1.4	64QAM	1	3	16.35	16.30	15.62		
1.4	64QAM	1	5	16.27	16.17	15.59		
1.4	64QAM	3	0	16.24	16.12	15.65		
1.4	64QAM	3	1	16.31	16.24	15.75		
1.4	64QAM	3	3	16.26	16.15	15.67		
1.4	64QAM	6	0	16.15	16.02	15.54	17.5	0

<LTE Band 5_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	20.86	20.95	20.84	21.7	0
10	QPSK	1	25	20.83	20.85	20.59		
10	QPSK	1	49	20.75	20.78	20.57		
10	QPSK	25	0	20.99	21.08	21.01	21.7	0
10	QPSK	25	12	20.96	20.97	20.89		
10	QPSK	25	25	20.95	20.93	20.92		
10	QPSK	50	0	20.98	21.03	20.95	21.7	0
10	16QAM	1	0	20.90	20.87	20.69		
10	16QAM	1	25	20.98	20.82	21.18		
10	16QAM	1	49	21.13	20.63	21.14	21.7	0
10	16QAM	25	0	20.66	20.76	20.77		
10	16QAM	25	12	20.77	20.82	20.90		
10	16QAM	25	25	20.90	20.94	20.75	21.7	0
10	16QAM	50	0	20.85	20.83	20.82		
10	64QAM	1	0	20.97	21.04	21.08		
10	64QAM	1	25	21.21	21.31	21.06	21.7	0
10	64QAM	1	49	20.65	20.69	20.75		
10	64QAM	25	0	20.62	20.57	20.54		
10	64QAM	25	12	20.78	20.69	20.86	21.7	0
10	64QAM	25	25	20.81	20.72	20.73		
10	64QAM	50	0	20.90	20.67	20.60		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	20.68	20.73	20.72	21.7	0
5	QPSK	1	12	20.71	20.72	20.66		
5	QPSK	1	24	20.69	20.65	20.60		
5	QPSK	12	0	20.86	20.88	20.76	21.7	0
5	QPSK	12	7	20.90	20.80	20.74		
5	QPSK	12	13	20.77	20.76	20.69		
5	QPSK	25	0	20.75	20.79	20.74	21.7	0
5	16QAM	1	0	21.02	20.83	21.25		
5	16QAM	1	12	21.05	21.39	20.60		
5	16QAM	1	24	20.86	21.29	21.17	21.7	0
5	16QAM	12	0	20.99	20.93	20.85		
5	16QAM	12	7	20.88	20.84	20.65		
5	16QAM	12	13	20.86	20.86	20.67	21.7	0
5	16QAM	25	0	20.97	20.76	20.78		
5	64QAM	1	0	21.25	21.24	21.10		
5	64QAM	1	12	21.17	20.62	20.62	21.7	0
5	64QAM	1	24	21.32	20.91	21.09		
5	64QAM	12	0	20.79	20.77	20.63		
5	64QAM	12	7	20.73	20.64	20.52	21.7	0
5	64QAM	12	13	20.88	20.63	20.54		
5	64QAM	25	0	20.63	20.69	20.59		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	20.75	20.69	20.59	21.7	0
3	QPSK	1	8	20.72	20.64	20.55		
3	QPSK	1	14	20.75	20.56	20.55		
3	QPSK	8	0	20.83	20.71	20.63	21.7	0



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3	QPSK	8	4	20.78	20.78	20.61		
3	QPSK	8	7	20.63	20.65	20.61		
3	QPSK	15	0	20.84	20.81	20.67		
3	16QAM	1	0	20.99	20.86	21.03	21.7	0
3	16QAM	1	8	21.06	21.13	20.91		
3	16QAM	1	14	21.28	21.06	20.93		
3	16QAM	8	0	21.04	20.58	20.73	21.7	0
3	16QAM	8	4	20.94	20.74	20.85		
3	16QAM	8	7	20.83	20.76	20.69		
3	16QAM	15	0	20.72	20.57	20.67	21.7	0
3	64QAM	1	0	21.22	21.11	20.91		
3	64QAM	1	8	21.18	20.96	20.87		
3	64QAM	1	14	20.83	20.73	20.85	21.7	0
3	64QAM	8	0	20.68	20.65	20.44		
3	64QAM	8	4	20.61	20.68	20.46		
3	64QAM	8	7	20.59	20.56	20.47	21.7	0
3	64QAM	15	0	20.69	20.55	20.62		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	20.82	20.49	20.58	21.7	0
1.4	QPSK	1	3	20.79	20.53	20.63		
1.4	QPSK	1	5	20.76	20.41	20.59		
1.4	QPSK	3	0	20.79	20.50	20.64		
1.4	QPSK	3	1	20.75	20.61	20.74		
1.4	QPSK	3	3	20.73	20.54	20.59		
1.4	QPSK	6	0	20.73	20.55	20.70	21.7	0
1.4	16QAM	1	0	21.07	20.92	20.73	21.7	0
1.4	16QAM	1	3	21.42	21.27	21.28		
1.4	16QAM	1	5	21.39	20.64	20.70		
1.4	16QAM	3	0	20.98	20.59	20.60		
1.4	16QAM	3	1	20.81	20.63	20.83		
1.4	16QAM	3	3	21.02	20.80	20.72		
1.4	16QAM	6	0	20.99	20.74	20.84	21.7	0
1.4	64QAM	1	0	21.12	20.68	20.95	21.7	0
1.4	64QAM	1	3	21.26	20.85	20.66		
1.4	64QAM	1	5	21.05	20.93	20.86		
1.4	64QAM	3	0	20.96	20.82	20.79		
1.4	64QAM	3	1	21.00	21.17	20.93		
1.4	64QAM	3	3	20.89	21.02	20.73		
1.4	64QAM	6	0	20.49	20.54	20.73	21.7	0

<LTE Band 7_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	13.40	13.34	13.18	14.3	0
20	QPSK	1	49	13.44	13.31	13.22		
20	QPSK	1	99	13.47	13.34	13.26		
20	QPSK	50	0	13.60	13.54	13.42	14.3	0
20	QPSK	50	24	13.70	13.55	13.45		
20	QPSK	50	50	13.70	13.55	13.47		
20	QPSK	100	0	13.65	13.50	13.47	14.3	0
20	16QAM	1	0	13.72	13.68	13.54		
20	16QAM	1	49	13.77	13.73	13.56		
20	16QAM	1	99	13.80	13.69	13.57	14.3	0
20	16QAM	50	0	13.57	13.53	13.44		
20	16QAM	50	24	13.68	13.52	13.47		
20	16QAM	50	50	13.66	13.48	13.41	14.3	0
20	16QAM	100	0	13.65	13.48	13.44		
20	64QAM	1	0	13.80	13.72	13.59		
20	64QAM	1	49	13.90	13.77	13.60	14.3	0
20	64QAM	1	99	13.93	13.69	13.61		
20	64QAM	50	0	13.78	13.66	13.57		
20	64QAM	50	24	13.91	13.70	13.60	14.3	0
20	64QAM	50	50	13.85	13.66	13.58		
20	64QAM	100	0	13.80	13.63	13.54		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	13.36	13.30	13.14	14.3	0
15	QPSK	1	37	13.41	13.23	13.21		
15	QPSK	1	74	13.37	13.30	13.23		
15	QPSK	36	0	13.50	13.45	13.40	14.3	0
15	QPSK	36	20	13.64	13.55	13.45		
15	QPSK	36	39	13.63	13.49	13.44		
15	QPSK	75	0	13.58	13.43	13.43	14.3	0
15	16QAM	1	0	13.70	13.62	13.45		
15	16QAM	1	37	13.72	13.73	13.52		
15	16QAM	1	74	13.75	13.62	13.54	14.3	0
15	16QAM	36	0	13.47	13.50	13.44		
15	16QAM	36	20	13.63	13.43	13.47		
15	16QAM	36	39	13.66	13.40	13.37	14.3	0
15	16QAM	75	0	13.64	13.48	13.41		
15	64QAM	1	0	13.70	13.72	13.58		
15	64QAM	1	37	13.86	13.74	13.57	14.3	0
15	64QAM	1	74	13.89	13.68	13.55		
15	64QAM	36	0	13.78	13.58	13.57		
15	64QAM	36	20	13.84	13.63	13.59	14.3	0
15	64QAM	36	39	13.82	13.63	13.58		
15	64QAM	75	0	13.80	13.63	13.50		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	13.35	13.24	13.11	14.3	0
10	QPSK	1	25	13.34	13.22	13.13		
10	QPSK	1	49	13.47	13.31	13.23		
10	QPSK	25	0	13.52	13.46	13.35	14.3	0



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10	QPSK	25	12	13.67	13.54	13.37		
10	QPSK	25	25	13.61	13.50	13.39		
10	QPSK	50	0	13.62	13.47	13.42		
10	16QAM	1	0	13.71	13.68	13.44	14.3	0
10	16QAM	1	25	13.77	13.70	13.46		
10	16QAM	1	49	13.80	13.66	13.53		
10	16QAM	25	0	13.47	13.45	13.42	14.3	0
10	16QAM	25	12	13.67	13.43	13.42		
10	16QAM	25	25	13.58	13.41	13.37		
10	16QAM	50	0	13.61	13.47	13.43	14.3	0
10	64QAM	1	0	13.71	13.65	13.55		
10	64QAM	1	25	13.85	13.75	13.56		
10	64QAM	1	49	13.92	13.64	13.53	14.3	0
10	64QAM	25	0	13.72	13.58	13.52		
10	64QAM	25	12	13.84	13.68	13.59		
10	64QAM	25	25	13.84	13.58	13.55	14.3	0
10	64QAM	50	0	13.70	13.62	13.52		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	13.31	13.32	13.09	14.3	0
5	QPSK	1	12	13.36	13.21	13.14		
5	QPSK	1	24	13.38	13.28	13.25		
5	QPSK	12	0	13.59	13.47	13.38	14.3	0
5	QPSK	12	7	13.67	13.51	13.38		
5	QPSK	12	13	13.67	13.50	13.40		
5	QPSK	25	0	13.63	13.44	13.47	14.3	0
5	16QAM	1	0	13.65	13.66	13.49		
5	16QAM	1	12	13.76	13.67	13.49		
5	16QAM	1	24	13.77	13.69	13.47	14.3	0
5	16QAM	12	0	13.53	13.44	13.41		
5	16QAM	12	7	13.65	13.45	13.47		
5	16QAM	12	13	13.61	13.46	13.37	14.3	0
5	16QAM	25	0	13.56	13.43	13.37		
5	64QAM	1	0	13.79	13.71	13.52		
5	64QAM	1	12	13.85	13.70	13.57	14.3	0
5	64QAM	1	24	13.88	13.60	13.61		
5	64QAM	12	0	13.73	13.56	13.52		
5	64QAM	12	7	13.91	13.70	13.56	14.3	0
5	64QAM	12	13	13.81	13.56	13.50		
5	64QAM	25	0	13.73	13.63	13.50		

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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)	MPR (dB)
Channel				20850	21100	21350	17.4	0
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	16.86	16.87	16.75		
20	QPSK	1	49	16.85	16.76	16.72	17.4	0
20	QPSK	1	99	16.77	16.73	16.65		
20	QPSK	50	0	16.71	16.76	16.74		
20	QPSK	50	24	16.71	16.77	16.75	17.4	0
20	QPSK	50	50	16.60	16.59	16.65		
20	QPSK	100	0	16.72	16.73	16.70		
20	16QAM	1	0	16.99	16.92	16.85	17.4	0
20	16QAM	1	49	17.02	16.78	16.76		
20	16QAM	1	99	16.98	16.70	16.61		
20	16QAM	50	0	16.88	16.76	16.69	17.4	0
20	16QAM	50	24	16.82	16.73	16.69		
20	16QAM	50	50	16.82	16.67	16.67		
20	16QAM	100	0	16.88	16.78	16.77	17.4	0
20	64QAM	1	0	16.92	16.95	16.84		
20	64QAM	1	49	16.96	16.75	16.94		
20	64QAM	1	99	16.83	16.65	16.73	17.4	0
20	64QAM	50	0	17.00	16.87	16.90		
20	64QAM	50	24	16.93	16.85	16.68		
20	64QAM	50	50	16.92	16.75	16.93	17.4	0
20	64QAM	100	0	16.80	16.75	16.75		
Channel				20825	21100	21375	17.4	0
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	16.85	16.93	16.75		
15	QPSK	1	37	16.83	16.74	16.71	17.4	0
15	QPSK	1	74	16.81	16.73	16.61		
15	QPSK	36	0	16.91	16.73	16.64	17.4	0
15	QPSK	36	20	16.84	16.75	16.67		
15	QPSK	36	39	16.84	16.63	16.67		
15	QPSK	75	0	16.82	16.71	16.72	17.4	0
15	16QAM	1	0	17.00	16.93	16.83		
15	16QAM	1	37	16.96	16.88	16.71		
15	16QAM	1	74	16.92	16.72	16.65	17.4	0
15	16QAM	36	0	16.98	16.82	16.73		
15	16QAM	36	20	16.81	16.76	16.73		
15	16QAM	36	39	16.78	16.66	16.67	17.4	0
15	16QAM	75	0	16.85	16.73	16.68		
15	64QAM	1	0	16.88	16.98	16.83		
15	64QAM	1	37	16.90	16.79	16.91	17.4	0
15	64QAM	1	74	16.90	16.61	16.75		
15	64QAM	36	0	17.00	16.86	16.92		
15	64QAM	36	20	16.93	16.77	16.77	17.4	0
15	64QAM	36	39	16.95	16.68	16.91		
15	64QAM	75	0	16.86	16.77	16.75		
Channel				20800	21100	21400	17.4	0
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	16.84	16.87	16.74		
10	QPSK	1	25	16.85	16.74	16.66	17.4	0
10	QPSK	1	49	16.82	16.69	16.62		
10	QPSK	25	0	16.81	16.79	16.68		



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10	QPSK	25	12	16.88	16.76	16.72		
10	QPSK	25	25	16.85	16.69	16.57		
10	QPSK	50	0	16.88	16.62	16.71		
10	16QAM	1	0	17.07	16.99	16.91	17.4	0
10	16QAM	1	25	16.94	16.79	16.80		
10	16QAM	1	49	16.92	16.66	16.61		
10	16QAM	25	0	16.96	16.72	16.70	17.4	0
10	16QAM	25	12	16.90	16.73	16.72		
10	16QAM	25	25	16.83	16.64	16.61		
10	16QAM	50	0	16.81	16.77	16.74	17.4	0
10	64QAM	1	0	16.94	16.91	16.86		
10	64QAM	1	25	16.95	16.71	16.94		
10	64QAM	1	49	16.90	16.62	16.81	17.4	0
10	64QAM	25	0	17.06	16.94	16.92		
10	64QAM	25	12	16.93	16.75	16.73		
10	64QAM	25	25	16.91	16.75	16.87	17.4	0
10	64QAM	50	0	16.81	16.77	16.66		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	16.87	16.93	16.71	17.4	0
5	QPSK	1	12	16.80	16.77	16.67		
5	QPSK	1	24	16.79	16.66	16.69		
5	QPSK	12	0	16.91	16.73	16.71	17.4	0
5	QPSK	12	7	16.83	16.72	16.68		
5	QPSK	12	13	16.81	16.61	16.65		
5	QPSK	25	0	16.86	16.72	16.76	17.4	0
5	16QAM	1	0	17.02	16.97	16.84		
5	16QAM	1	12	17.03	16.87	16.76		
5	16QAM	1	24	16.97	16.70	16.63	17.4	0
5	16QAM	12	0	16.91	16.75	16.71		
5	16QAM	12	7	16.87	16.72	16.77		
5	16QAM	12	13	16.86	16.65	16.65	17.4	0
5	16QAM	25	0	16.83	16.80	16.68		
5	64QAM	1	0	16.94	16.92	16.88		
5	64QAM	1	12	16.98	16.70	16.85	17.4	0
5	64QAM	1	24	16.86	16.64	16.74		
5	64QAM	12	0	17.00	16.90	16.94		
5	64QAM	12	7	16.93	16.82	16.73	17.4	0
5	64QAM	12	13	16.87	16.77	16.87		
5	64QAM	25	0	16.86	16.77	16.68		

<LTE Band 12_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	18.28	18.15	17.96	19.2	0
10	QPSK	1	25	18.21	17.96	18.08		
10	QPSK	1	49	18.24	18.14	18.21		
10	QPSK	25	0	18.33	18.08	18.10	19.2	0
10	QPSK	25	12	18.31	18.15	18.20		
10	QPSK	25	25	18.34	18.22	18.34		
10	QPSK	50	0	18.38	18.23	18.28	19.2	0
10	16QAM	1	0	18.63	18.36	18.29		
10	16QAM	1	25	18.52	18.35	18.47		
10	16QAM	1	49	18.50	18.55	18.57	19.2	0
10	16QAM	25	0	18.21	18.09	18.10		
10	16QAM	25	12	18.26	18.18	18.19		
10	16QAM	25	25	18.18	18.23	18.34	19.2	0
10	16QAM	50	0	18.23	18.18	18.27		
10	64QAM	1	0	18.55	18.20	18.16		
10	64QAM	1	25	18.40	18.29	18.37	19.2	0
10	64QAM	1	49	18.39	18.46	18.46		
10	64QAM	25	0	18.15	18.13	18.13		
10	64QAM	25	12	18.23	18.23	18.22	19.2	0
10	64QAM	25	25	18.17	18.26	18.35		
10	64QAM	50	0	18.21	18.23	18.31		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	18.21	18.07	17.94	19.2	0
5	QPSK	1	12	18.12	17.90	18.01		
5	QPSK	1	24	18.18	18.11	18.16		
5	QPSK	12	0	18.33	18.01	18.10	19.2	0
5	QPSK	12	7	18.26	18.09	18.11		
5	QPSK	12	13	18.27	18.20	18.27		
5	QPSK	25	0	18.36	18.18	18.25	19.2	0
5	16QAM	1	0	18.55	18.27	18.19		
5	16QAM	1	12	18.47	18.28	18.38		
5	16QAM	1	24	18.45	18.53	18.47	19.2	0
5	16QAM	12	0	18.12	18.07	18.09		
5	16QAM	12	7	18.16	18.13	18.16		
5	16QAM	12	13	18.12	18.21	18.27	19.2	0
5	16QAM	25	0	18.20	18.10	18.19		
5	64QAM	1	0	18.48	18.17	18.14		
5	64QAM	1	12	18.34	18.28	18.35	19.2	0
5	64QAM	1	24	18.30	18.42	18.46		
5	64QAM	12	0	18.07	18.13	18.03		
5	64QAM	12	7	18.18	18.21	18.14	19.2	0
5	64QAM	12	13	18.11	18.20	18.34		
5	64QAM	25	0	18.20	18.14	18.23		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	18.27	18.09	17.90	19.2	0
3	QPSK	1	8	18.17	17.93	17.98		
3	QPSK	1	14	18.18	18.09	18.16		
3	QPSK	8	0	18.23	18.02	18.09	19.2	0



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3	QPSK	8	4	18.25	18.07	18.15		
3	QPSK	8	7	18.24	18.14	18.25		
3	QPSK	15	0	18.36	18.18	18.24		
3	16QAM	1	0	18.53	18.36	18.25	19.2	0
3	16QAM	1	8	18.49	18.34	18.37		
3	16QAM	1	14	18.48	18.49	18.51		
3	16QAM	8	0	18.16	18.04	18.00	19.2	0
3	16QAM	8	4	18.16	18.18	18.13		
3	16QAM	8	7	18.17	18.13	18.34		
3	16QAM	15	0	18.19	18.14	18.27	19.2	0
3	64QAM	1	0	18.45	18.18	18.06		
3	64QAM	1	8	18.36	18.25	18.37		
3	64QAM	1	14	18.30	18.45	18.42	19.2	0
3	64QAM	8	0	18.06	18.12	18.05		
3	64QAM	8	4	18.17	18.14	18.16		
3	64QAM	8	7	18.14	18.19	18.35	19.2	0
3	64QAM	15	0	18.19	18.23	18.21		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	18.20	18.14	17.92	19.2	0
1.4	QPSK	1	3	18.11	17.91	18.02		
1.4	QPSK	1	5	18.24	18.11	18.13		
1.4	QPSK	3	0	18.33	17.99	18.05		
1.4	QPSK	3	1	18.22	18.11	18.15		
1.4	QPSK	3	3	18.26	18.14	18.27		
1.4	QPSK	6	0	18.29	18.13	18.19	19.2	0
1.4	16QAM	1	0	18.61	18.36	18.28	19.2	0
1.4	16QAM	1	3	18.43	18.34	18.44		
1.4	16QAM	1	5	18.50	18.54	18.52		
1.4	16QAM	3	0	18.21	18.09	18.06		
1.4	16QAM	3	1	18.17	18.08	18.17		
1.4	16QAM	3	3	18.15	18.13	18.33		
1.4	16QAM	6	0	18.20	18.13	18.23	19.2	0
1.4	64QAM	1	0	18.47	18.10	18.11	19.2	0
1.4	64QAM	1	3	18.37	18.22	18.37		
1.4	64QAM	1	5	18.37	18.38	18.40		
1.4	64QAM	3	0	18.08	18.04	18.10		
1.4	64QAM	3	1	18.19	18.22	18.20		
1.4	64QAM	3	3	18.11	18.16	18.27		
1.4	64QAM	6	0	18.13	18.20	18.26	19.2	0

<LTE Band 13_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23180				
Frequency (MHz)				0				
10	QPSK	1	0		18.72		19.7	0
10	QPSK	1	25		18.64			
10	QPSK	1	49		18.46			
10	QPSK	25	0		18.69		19.7	0
10	QPSK	25	12		18.68			
10	QPSK	25	25		18.67			
10	QPSK	50	0		18.74		19.7	0
10	16QAM	1	0		19.03			
10	16QAM	1	25		18.92			
10	16QAM	1	49		18.89		19.7	0
10	16QAM	25	0		18.70			
10	16QAM	25	12		18.75			
10	16QAM	25	25		18.72		19.7	0
10	16QAM	50	0		18.79			
10	64QAM	1	0		18.88			
10	64QAM	1	25		18.98		19.7	0
10	64QAM	1	49		18.75			
10	64QAM	25	0		18.76			
10	64QAM	25	12		18.76		19.7	0
10	64QAM	25	25		18.70			
10	64QAM	50	0		18.74			
Channel				23205	23180	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2.5	0	-2.5		
5	QPSK	1	0	18.56	18.63	18.68	19.7	0
5	QPSK	1	12	18.54	18.70	18.64		
5	QPSK	1	24	18.67	18.63	18.61		
5	QPSK	12	0	18.72	18.69	18.70	19.7	0
5	QPSK	12	7	18.74	18.70	18.74		
5	QPSK	12	13	18.74	18.75	18.75		
5	QPSK	25	0	18.78	18.70	18.61	19.7	0
5	16QAM	1	0	18.85	18.89	18.97		
5	16QAM	1	12	18.84	19.00	18.86		
5	16QAM	1	24	19.00	18.93	18.93	19.7	0
5	16QAM	12	0	18.87	18.75	18.75		
5	16QAM	12	7	18.69	18.78	18.73		
5	16QAM	12	13	18.80	18.74	18.77	19.7	0
5	16QAM	25	0	18.79	18.72	18.66		
5	64QAM	1	0	18.88	18.92	18.86		
5	64QAM	1	12	18.88	18.85	18.81	19.7	0
5	64QAM	1	24	18.94	18.90	18.76		
5	64QAM	12	0	18.82	18.81	18.82		
5	64QAM	12	7	18.82	18.78	18.75	19.7	0
5	64QAM	12	13	18.86	18.80	18.78		
5	64QAM	25	0	18.72	18.77	18.72		

<LTE Band 14_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23330				
Frequency (MHz)				793				
10	QPSK	1	0		18.99		20	0
10	QPSK	1	25		18.87			
10	QPSK	1	49		18.81			
10	QPSK	25	0		18.96		20	0
10	QPSK	25	12		18.92			
10	QPSK	25	25		19.00			
10	QPSK	50	0		18.91		20	0
10	16QAM	1	0		19.34			
10	16QAM	1	25		19.33			
10	16QAM	1	49		19.26		20	0
10	16QAM	25	0		18.93			
10	16QAM	25	12		18.91			
10	16QAM	25	25		18.95		20	0
10	16QAM	50	0		18.98			
10	64QAM	1	0		19.24			
10	64QAM	1	25		19.23		20	0
10	64QAM	1	49		19.18			
10	64QAM	25	0		19.02			
10	64QAM	25	12		19.03		20	0
10	64QAM	25	25		19.05			
10	64QAM	50	0		19.00			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	18.88	18.84	18.90	20	0
5	QPSK	1	12	18.98	18.96	18.91		
5	QPSK	1	24	18.91	18.85	18.88		
5	QPSK	12	0	19.00	18.96	18.93	20	0
5	QPSK	12	7	19.03	18.94	19.00		
5	QPSK	12	13	18.96	18.96	18.95		
5	QPSK	25	0	19.03	18.91	18.90	20	0
5	16QAM	1	0	19.21	19.21	19.19		
5	16QAM	1	12	19.23	19.21	19.20		
5	16QAM	1	24	19.16	19.24	19.21	20	0
5	16QAM	12	0	19.05	18.99	18.94		
5	16QAM	12	7	19.06	19.02	18.95		
5	16QAM	12	13	18.99	18.99	18.94	20	0
5	16QAM	25	0	18.96	18.93	18.97		
5	64QAM	1	0	19.18	19.15	19.14		
5	64QAM	1	12	19.17	19.26	19.27	20	0
5	64QAM	1	24	19.13	19.18	19.18		
5	64QAM	12	0	19.10	19.01	19.01		
5	64QAM	12	7	19.09	19.08	19.03	20	0
5	64QAM	12	13	19.03	19.06	19.00		
5	64QAM	25	0	19.04	18.98	18.94		

<LTE Band 17_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	17.99	17.93	17.99	19.2	0
10	QPSK	1	25	17.96	17.96	18.04		
10	QPSK	1	49	18.24	18.27	18.26		
10	QPSK	25	0	18.03	18.04	18.04	19.2	0
10	QPSK	25	12	18.20	18.19	18.13		
10	QPSK	25	25	18.28	18.29	18.35		
10	QPSK	50	0	18.19	18.19	18.21	19.2	0
10	16QAM	1	0	18.41	18.32	18.34		
10	16QAM	1	25	18.40	18.38	18.43		
10	16QAM	1	49	18.62	18.60	18.65	19.2	0
10	16QAM	25	0	18.05	18.05	18.08		
10	16QAM	25	12	18.20	18.21	18.13		
10	16QAM	25	25	18.29	18.32	18.34	19.2	0
10	16QAM	50	0	18.18	18.16	18.22		
10	64QAM	1	0	18.24	18.19	18.25		
10	64QAM	1	25	18.33	18.29	18.36	19.2	0
10	64QAM	1	49	18.47	18.53	18.55		
10	64QAM	25	0	18.09	18.09	18.11		
10	64QAM	25	12	18.25	18.23	18.19	19.2	0
10	64QAM	25	25	18.30	18.33	18.35		
10	64QAM	50	0	18.21	18.22	18.25		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	17.91	17.91	17.93	19.2	0
5	QPSK	1	12	17.96	17.87	18.01		
5	QPSK	1	24	18.20	18.17	18.18		
5	QPSK	12	0	17.97	18.03	18.01	19.2	0
5	QPSK	12	7	18.10	18.15	18.11		
5	QPSK	12	13	18.23	18.29	18.33		
5	QPSK	25	0	18.09	18.11	18.13	19.2	0
5	16QAM	1	0	18.40	18.27	18.28		
5	16QAM	1	12	18.36	18.29	18.42		
5	16QAM	1	24	18.60	18.54	18.64	19.2	0
5	16QAM	12	0	17.96	18.01	18.05		
5	16QAM	12	7	18.11	18.20	18.08		
5	16QAM	12	13	18.27	18.27	18.25	19.2	0
5	16QAM	25	0	18.11	18.11	18.13		
5	64QAM	1	0	18.20	18.17	18.24		
5	64QAM	1	12	18.32	18.21	18.26	19.2	0
5	64QAM	1	24	18.43	18.48	18.51		
5	64QAM	12	0	18.09	18.00	18.02		
5	64QAM	12	7	18.17	18.22	18.14	19.2	0
5	64QAM	12	13	18.28	18.23	18.34		
5	64QAM	25	0	18.14	18.12	18.21		

<LTE Band 25_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	16.17	16.18	16.13	17	0
20	QPSK	1	49	16.14	16.12	16.12		
20	QPSK	1	99	16.09	16.10	16.05		
20	QPSK	50	0	16.29	16.27	16.25	17	0
20	QPSK	50	24	16.34	16.34	16.26		
20	QPSK	50	50	16.29	16.27	16.26		
20	QPSK	100	0	16.30	16.30	16.22	17	0
20	16QAM	1	0	16.55	16.50	16.49		
20	16QAM	1	49	16.50	16.51	16.45		
20	16QAM	1	99	16.40	16.49	16.35	17	0
20	16QAM	50	0	16.29	16.27	16.24		
20	16QAM	50	24	16.32	16.33	16.26		
20	16QAM	50	50	16.29	16.32	16.27	17	0
20	16QAM	100	0	16.32	16.29	16.22		
20	64QAM	1	0	16.34	16.33	16.41		
20	64QAM	1	49	16.37	16.37	16.37	17	0
20	64QAM	1	99	16.37	16.35	16.31		
20	64QAM	50	0	16.31	16.27	16.25		
20	64QAM	50	24	16.35	16.34	16.26	17	0
20	64QAM	50	50	16.30	16.30	16.29		
20	64QAM	100	0	16.31	16.31	16.24		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	16.15	16.08	16.08	17	0
15	QPSK	1	37	16.11	16.07	16.10		
15	QPSK	1	74	16.07	16.08	15.96		
15	QPSK	36	0	16.23	16.19	16.22	17	0
15	QPSK	36	20	16.32	16.34	16.17		
15	QPSK	36	39	16.27	16.22	16.26		
15	QPSK	75	0	16.28	16.24	16.18	17	0
15	16QAM	1	0	16.55	16.43	16.42		
15	16QAM	1	37	16.42	16.45	16.43		
15	16QAM	1	74	16.32	16.40	16.33	17	0
15	16QAM	36	0	16.29	16.27	16.18		
15	16QAM	36	20	16.29	16.23	16.25		
15	16QAM	36	39	16.20	16.25	16.20	17	0
15	16QAM	75	0	16.25	16.24	16.16		
15	64QAM	1	0	16.29	16.25	16.31		
15	64QAM	1	37	16.30	16.27	16.36	17	0
15	64QAM	1	74	16.27	16.33	16.31		
15	64QAM	36	0	16.26	16.22	16.21		
15	64QAM	36	20	16.27	16.34	16.19	17	0
15	64QAM	36	39	16.22	16.22	16.29		
15	64QAM	75	0	16.21	16.21	16.21		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	16.15	16.18	16.03	17	0
10	QPSK	1	25	16.06	16.09	16.03		
10	QPSK	1	49	16.09	16.03	16.01		
10	QPSK	25	0	16.22	16.24	16.25	17	0



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10	QPSK	25	12	16.28	16.25	16.21		
10	QPSK	25	25	16.19	16.19	16.17		
10	QPSK	50	0	16.22	16.23	16.15		
10	16QAM	1	0	16.54	16.45	16.48	17	0
10	16QAM	1	25	16.47	16.50	16.37		
10	16QAM	1	49	16.34	16.49	16.25		
10	16QAM	25	0	16.24	16.22	16.16	17	0
10	16QAM	25	12	16.32	16.27	16.16		
10	16QAM	25	25	16.25	16.31	16.27		
10	16QAM	50	0	16.30	16.22	16.13	17	0
10	64QAM	1	0	16.30	16.27	16.32		
10	64QAM	1	25	16.33	16.32	16.34		
10	64QAM	1	49	16.36	16.33	16.26	17	0
10	64QAM	25	0	16.24	16.24	16.20		
10	64QAM	25	12	16.29	16.32	16.22		
10	64QAM	25	25	16.30	16.30	16.25	17	0
10	64QAM	50	0	16.30	16.24	16.16		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	16.08	16.17	16.13	17	0
5	QPSK	1	12	16.10	16.06	16.02		
5	QPSK	1	24	16.03	16.09	16.02		
5	QPSK	12	0	16.27	16.18	16.19	17	0
5	QPSK	12	7	16.26	16.33	16.16		
5	QPSK	12	13	16.19	16.26	16.18		
5	QPSK	25	0	16.24	16.22	16.15	17	0
5	16QAM	1	0	16.49	16.43	16.46		
5	16QAM	1	12	16.44	16.42	16.43		
5	16QAM	1	24	16.35	16.39	16.35	17	0
5	16QAM	12	0	16.26	16.21	16.16		
5	16QAM	12	7	16.23	16.31	16.22		
5	16QAM	12	13	16.25	16.25	16.24	17	0
5	16QAM	25	0	16.30	16.29	16.16		
5	64QAM	1	0	16.25	16.33	16.40		
5	64QAM	1	12	16.29	16.33	16.30	17	0
5	64QAM	1	24	16.36	16.34	16.29		
5	64QAM	12	0	16.24	16.27	16.19		
5	64QAM	12	7	16.27	16.33	16.24	17	0
5	64QAM	12	13	16.22	16.28	16.28		
5	64QAM	25	0	16.28	16.28	16.14		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	16.09	16.18	16.07	17	0
3	QPSK	1	8	16.07	16.06	16.05		
3	QPSK	1	14	16.01	16.00	16.04		
3	QPSK	8	0	16.28	16.25	16.15	17	0
3	QPSK	8	4	16.26	16.31	16.16		
3	QPSK	8	7	16.23	16.19	16.26		
3	QPSK	15	0	16.22	16.23	16.20	17	0
3	16QAM	1	0	16.51	16.42	16.46		
3	16QAM	1	8	16.45	16.50	16.44		
3	16QAM	1	14	16.34	16.48	16.29	17	0
3	16QAM	8	0	16.24	16.27	16.17		
3	16QAM	8	4	16.31	16.24	16.25		
3	16QAM	8	7	16.22	16.27	16.19	17	0
3	16QAM	15	0	16.29	16.19	16.17		



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3	64QAM	1	0	16.34	16.28	16.40	17	0
3	64QAM	1	8	16.36	16.32	16.30		
3	64QAM	1	14	16.35	16.30	16.21		
3	64QAM	8	0	16.31	16.27	16.16	17	0
3	64QAM	8	4	16.28	16.33	16.22		
3	64QAM	8	7	16.28	16.25	16.28		
3	64QAM	15	0	16.25	16.25	16.24		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	16.15	16.14	16.11	17	0
1.4	QPSK	1	3	16.08	16.02	16.09		
1.4	QPSK	1	5	16.01	16.09	15.97		
1.4	QPSK	3	0	16.25	16.23	16.24		
1.4	QPSK	3	1	16.30	16.26	16.26		
1.4	QPSK	3	3	16.21	16.23	16.24		
1.4	QPSK	6	0	16.22	16.23	16.14	17	0
1.4	16QAM	1	0	16.49	16.45	16.47	17	0
1.4	16QAM	1	3	16.46	16.41	16.35		
1.4	16QAM	1	5	16.34	16.39	16.32		
1.4	16QAM	3	0	16.28	16.25	16.15		
1.4	16QAM	3	1	16.31	16.31	16.18		
1.4	16QAM	3	3	16.19	16.27	16.25		
1.4	16QAM	6	0	16.25	16.25	16.21	17	0
1.4	64QAM	1	0	16.26	16.26	16.39	17	0
1.4	64QAM	1	3	16.33	16.31	16.30		
1.4	64QAM	1	5	16.31	16.31	16.22		
1.4	64QAM	3	0	16.31	16.21	16.18		
1.4	64QAM	3	1	16.33	16.24	16.22		
1.4	64QAM	3	3	16.28	16.28	16.20		
1.4	64QAM	6	0	16.30	16.31	16.22	17	0

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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)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	20.93	20.96	20.91		
15	QPSK	1	37	20.89	20.92	20.87	21.7	0
15	QPSK	1	74	20.87	20.85	20.85		
15	QPSK	36	0	20.94	21.07	20.93		
15	QPSK	36	20	21.07	21.05	20.88	21.7	0
15	QPSK	36	39	21.00	21.15	20.86		
15	QPSK	75	0	21.12	21.01	20.96		
15	16QAM	1	0	21.33	21.43	21.37	21.7	0
15	16QAM	1	37	21.40	21.45	21.34		
15	16QAM	1	74	21.14	21.41	21.28		
15	16QAM	36	0	21.01	21.03	20.98	21.7	0
15	16QAM	36	20	21.14	21.11	20.85		
15	16QAM	36	39	20.95	20.92	20.89		
15	16QAM	75	0	21.14	21.00	20.99	21.7	0
15	64QAM	1	0	21.27	20.73	20.73		
15	64QAM	1	37	20.91	20.87	20.70		
15	64QAM	1	74	20.81	20.89	20.47	21.7	0
15	64QAM	36	0	20.86	20.94	20.90		
15	64QAM	36	20	20.99	20.92	20.82		
15	64QAM	36	39	20.95	20.84	20.83	21.7	0
15	64QAM	75	0	20.85	20.79	20.65		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	20.82	20.74	20.86		
10	QPSK	1	25	20.73	20.77	20.58	21.7	0
10	QPSK	1	49	20.85	20.69	20.33		
10	QPSK	25	0	20.93	20.80	20.64		
10	QPSK	25	12	20.91	20.92	20.73	21.7	0
10	QPSK	25	25	20.85	20.87	20.71		
10	QPSK	50	0	20.86	20.88	20.66		
10	16QAM	1	0	20.85	20.96	20.80	21.7	0
10	16QAM	1	25	20.98	21.09	21.09		
10	16QAM	1	49	20.81	21.09	21.03		
10	16QAM	25	0	20.91	20.88	20.75	21.7	0
10	16QAM	25	12	20.96	20.87	20.73		
10	16QAM	25	25	20.81	20.89	20.73		
10	16QAM	50	0	20.94	20.79	20.68	21.7	0
10	64QAM	1	0	21.10	21.29	21.20		
10	64QAM	1	25	21.19	21.20	20.99		
10	64QAM	1	49	21.24	20.74	20.62	21.7	0
10	64QAM	25	0	20.70	20.56	20.54		
10	64QAM	25	12	20.64	20.69	20.46		
10	64QAM	25	25	20.53	20.68	20.55	21.7	0
10	64QAM	50	0	20.66	20.66	20.49		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	20.91	20.80	20.64		
5	QPSK	1	12	20.87	20.71	20.56	21.7	0
5	QPSK	1	24	20.65	20.68	20.48		
5	QPSK	12	0	20.88	20.78	20.81	21.7	0



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5	QPSK	12	7	20.92	20.84	20.63		
5	QPSK	12	13	20.83	20.74	20.64		
5	QPSK	25	0	20.92	20.83	20.67		
5	16QAM	1	0	21.40	20.90	20.85	21.7	0
5	16QAM	1	12	20.69	20.91	20.83		
5	16QAM	1	24	20.84	20.96	21.21		
5	16QAM	12	0	20.89	20.92	20.80	21.7	0
5	16QAM	12	7	20.90	20.87	20.67		
5	16QAM	12	13	20.86	20.87	20.65		
5	16QAM	25	0	20.77	20.78	20.74	21.7	0
5	64QAM	1	0	21.22	21.13	20.76		
5	64QAM	1	12	20.86	21.16	20.89		
5	64QAM	1	24	20.97	21.13	20.93	21.7	0
5	64QAM	12	0	20.69	20.81	20.56		
5	64QAM	12	7	20.65	20.80	20.44		
5	64QAM	12	13	20.72	20.66	20.47	21.7	0
5	64QAM	25	0	20.58	20.62	20.50		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	20.59	20.50	20.53	21.7	0
3	QPSK	1	8	20.66	20.52	20.47		
3	QPSK	1	14	20.56	20.67	20.51		
3	QPSK	8	0	20.73	20.72	20.41	21.7	0
3	QPSK	8	4	20.80	20.71	20.55		
3	QPSK	8	7	20.70	20.73	20.46		
3	QPSK	15	0	20.62	20.65	20.51	21.7	0
3	16QAM	1	0	21.30	21.24	20.69		
3	16QAM	1	8	20.74	20.99	20.79		
3	16QAM	1	14	20.94	20.97	20.86	21.7	0
3	16QAM	8	0	20.85	20.70	20.68		
3	16QAM	8	4	20.85	20.75	20.69		
3	16QAM	8	7	20.83	20.76	20.52	21.7	0
3	16QAM	15	0	20.71	20.83	20.49		
3	64QAM	1	0	20.81	21.10	20.95		
3	64QAM	1	8	20.88	20.60	20.69	21.7	0
3	64QAM	1	14	20.76	20.65	20.47		
3	64QAM	8	0	20.56	20.64	20.57		
3	64QAM	8	4	20.57	20.74	20.39	21.7	0
3	64QAM	8	7	20.69	20.55	20.37		
3	64QAM	15	0	20.69	20.56	20.52		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	20.87	20.73	20.51	21.7	0
1.4	QPSK	1	3	20.88	20.81	20.51		
1.4	QPSK	1	5	20.74	20.75	20.52		
1.4	QPSK	3	0	20.80	20.72	20.48	21.7	0
1.4	QPSK	3	1	20.90	20.81	20.55		
1.4	QPSK	3	3	20.74	20.78	20.54		
1.4	QPSK	6	0	20.81	20.90	20.60	21.7	0
1.4	16QAM	1	0	21.06	20.91	20.50		
1.4	16QAM	1	3	20.97	20.89	20.78		
1.4	16QAM	1	5	20.84	20.88	20.71	21.7	0
1.4	16QAM	3	0	20.73	20.65	20.69		
1.4	16QAM	3	1	20.97	20.72	20.75		
1.4	16QAM	3	3	20.92	20.74	20.69	21.7	0
1.4	16QAM	6	0	20.89	20.91	20.76		



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1.4	64QAM	1	0	20.71	20.80	20.70	21.7	0
1.4	64QAM	1	3	21.18	21.16	20.49		
1.4	64QAM	1	5	21.06	20.81	20.92		
1.4	64QAM	3	0	21.05	20.88	20.79		
1.4	64QAM	3	1	21.02	20.87	20.86		
1.4	64QAM	3	3	20.92	20.85	20.76		
1.4	64QAM	6	0	20.69	20.60	20.36	21.7	0

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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)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0		14.86		15.6	0
10	QPSK	1	25		14.74			
10	QPSK	1	49		14.75			
10	QPSK	25	0		14.90		15.6	0
10	QPSK	25	12		14.85			
10	QPSK	25	25		14.86			
10	QPSK	50	0		14.84		15.6	0
10	16QAM	1	0		15.27			
10	16QAM	1	25		15.22			
10	16QAM	1	49		15.18		15.6	0
10	16QAM	25	0		14.96			
10	16QAM	25	12		14.91			
10	16QAM	25	25		14.93		15.6	0
10	16QAM	50	0		14.90			
10	64QAM	1	0		15.16			
10	64QAM	1	25		15.10		15.6	0
10	64QAM	1	49		14.99			
10	64QAM	25	0		14.96			
10	64QAM	25	12		14.95		15.6	0
10	64QAM	25	25		14.95			
10	64QAM	50	0		14.92			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	14.81	14.79	14.84	15.6	0
5	QPSK	1	12	14.65	14.69	14.67		
5	QPSK	1	24	14.67	14.67	14.67		
5	QPSK	12	0	14.85	14.87	14.80	15.6	0
5	QPSK	12	7	14.76	14.84	14.83		
5	QPSK	12	13	14.86	14.81	14.78		
5	QPSK	25	0	14.76	14.78	14.80	15.6	0
5	16QAM	1	0	15.26	15.26	15.21		
5	16QAM	1	12	15.17	15.21	15.20		
5	16QAM	1	24	15.08	15.13	15.13	15.6	0
5	16QAM	12	0	14.88	14.91	14.92		
5	16QAM	12	7	14.85	14.82	14.85		
5	16QAM	12	13	14.91	14.90	14.88	15.6	0
5	16QAM	25	0	14.86	14.83	14.82		
5	64QAM	1	0	15.06	15.13	15.10		
5	64QAM	1	12	15.04	15.06	15.00	15.6	0
5	64QAM	1	24	14.89	14.91	14.97		
5	64QAM	12	0	14.90	14.89	14.90		
5	64QAM	12	7	14.92	14.90	14.89	15.6	0
5	64QAM	12	13	14.89	14.89	14.92		
5	64QAM	25	0	14.87	14.89	14.84		

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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)	MPR (dB)
Channel				132072	132322	132572	17.5	0
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	16.72	16.43	16.35		
20	QPSK	1	49	16.60	16.23	16.19	17.5	0
20	QPSK	1	99	16.44	16.18	16.09		
20	QPSK	50	0	16.78	16.48	16.35		
20	QPSK	50	24	16.66	16.42	16.34	17.5	0
20	QPSK	50	50	16.58	16.35	16.29		
20	QPSK	100	0	16.63	16.39	16.39		
20	16QAM	1	0	17.03	16.76	16.69	17.5	0
20	16QAM	1	49	16.95	16.59	16.50		
20	16QAM	1	99	16.79	16.49	16.42		
20	16QAM	50	0	16.78	16.48	16.35	17.5	0
20	16QAM	50	24	16.67	16.42	16.38		
20	16QAM	50	50	16.56	16.36	16.30		
20	16QAM	100	0	16.61	16.38	16.39	17.5	0
20	64QAM	1	0	16.97	16.67	16.55		
20	64QAM	1	49	16.83	16.45	16.41		
20	64QAM	1	99	16.64	16.41	16.35	17.5	0
20	64QAM	50	0	16.80	16.49	16.38		
20	64QAM	50	24	16.71	16.46	16.41		
20	64QAM	50	50	16.61	16.38	16.31	17.5	0
20	64QAM	100	0	16.66	16.41	16.38		
Channel				132047	132322	132597	17.5	0
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	16.35	15.92	15.81		
15	QPSK	1	37	16.20	15.80	15.67	17.5	0
15	QPSK	1	74	16.12	15.72	15.62		
15	QPSK	36	0	16.39	15.99	15.80	17.5	0
15	QPSK	36	20	16.39	15.96	15.84		
15	QPSK	36	39	16.22	15.90	15.79		
15	QPSK	75	0	16.37	15.94	15.77	17.5	0
15	16QAM	1	0	16.61	16.19	16.14		
15	16QAM	1	37	16.53	16.13	15.95		
15	16QAM	1	74	16.44	16.00	15.96	17.5	0
15	16QAM	36	0	16.42	15.98	15.80		
15	16QAM	36	20	16.39	15.97	15.87		
15	16QAM	36	39	16.22	15.90	15.80	17.5	0
15	16QAM	75	0	16.37	15.93	15.77		
15	64QAM	1	0	16.60	16.16	16.03		
15	64QAM	1	37	16.50	16.08	15.96	17.5	0
15	64QAM	1	74	16.30	15.97	15.86		
15	64QAM	36	0	16.45	16.03	15.86		
15	64QAM	36	20	16.42	15.98	15.89	17.5	0
15	64QAM	36	39	16.27	15.92	15.81		
15	64QAM	75	0	16.38	15.96	15.79		
Channel				132022	132322	132622	17.5	0
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	16.31	15.91	15.81		
10	QPSK	1	25	16.14	15.74	15.58	17.5	0
10	QPSK	1	49	16.02	15.62	15.57		
10	QPSK	25	0	16.33	15.97	15.73		



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10	QPSK	25	12	16.36	15.93	15.78		
10	QPSK	25	25	16.17	15.84	15.78		
10	QPSK	50	0	16.34	15.92	15.77		
10	16QAM	1	0	16.54	16.11	16.07	17.5	0
10	16QAM	1	25	16.43	16.03	15.86		
10	16QAM	1	49	16.41	15.91	15.89		
10	16QAM	25	0	16.41	15.97	15.70	17.5	0
10	16QAM	25	12	16.31	15.94	15.86		
10	16QAM	25	25	16.15	15.81	15.77		
10	16QAM	50	0	16.27	15.84	15.72	17.5	0
10	64QAM	1	0	16.51	16.13	16.02		
10	64QAM	1	25	16.49	15.99	15.88		
10	64QAM	1	49	16.26	15.97	15.84	17.5	0
10	64QAM	25	0	16.36	15.98	15.82		
10	64QAM	25	12	16.36	15.89	15.81		
10	64QAM	25	25	16.19	15.90	15.77	17.5	0
10	64QAM	50	0	16.28	15.96	15.71		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	16.25	15.86	15.76	17.5	0
5	QPSK	1	12	16.14	15.74	15.57		
5	QPSK	1	24	16.12	15.64	15.56		
5	QPSK	12	0	16.32	15.94	15.80	17.5	0
5	QPSK	12	7	16.30	15.96	15.78		
5	QPSK	12	13	16.17	15.80	15.76		
5	QPSK	25	0	16.34	15.93	15.76	17.5	0
5	16QAM	1	0	16.51	16.19	16.05		
5	16QAM	1	12	16.46	16.08	15.92		
5	16QAM	1	24	16.34	15.98	15.91	17.5	0
5	16QAM	12	0	16.34	15.90	15.76		
5	16QAM	12	7	16.34	15.92	15.81		
5	16QAM	12	13	16.18	15.87	15.74	17.5	0
5	16QAM	25	0	16.32	15.87	15.68		
5	64QAM	1	0	16.60	16.15	15.94		
5	64QAM	1	12	16.40	15.98	15.93	17.5	0
5	64QAM	1	24	16.21	15.88	15.78		
5	64QAM	12	0	16.41	16.03	15.80		
5	64QAM	12	7	16.42	15.92	15.85	17.5	0
5	64QAM	12	13	16.21	15.84	15.79		
5	64QAM	25	0	16.36	15.94	15.75		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	16.29	15.82	15.76	17.5	0
3	QPSK	1	8	16.13	15.79	15.67		
3	QPSK	1	14	16.03	15.67	15.52		
3	QPSK	8	0	16.31	15.90	15.73	17.5	0
3	QPSK	8	4	16.32	15.95	15.84		
3	QPSK	8	7	16.18	15.85	15.75		
3	QPSK	15	0	16.31	15.93	15.70	17.5	0
3	16QAM	1	0	16.54	16.11	16.06		
3	16QAM	1	8	16.47	16.10	15.90		
3	16QAM	1	14	16.41	15.95	15.90	17.5	0
3	16QAM	8	0	16.37	15.90	15.78		
3	16QAM	8	4	16.31	15.89	15.85		
3	16QAM	8	7	16.15	15.90	15.80	17.5	0
3	16QAM	15	0	16.29	15.85	15.75		



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3	64QAM	1	0	16.59	16.16	15.98	17.5	0
3	64QAM	1	8	16.50	16.03	15.87		
3	64QAM	1	14	16.30	15.97	15.78		
3	64QAM	8	0	16.36	15.94	15.84	17.5	0
3	64QAM	8	4	16.40	15.97	15.79		
3	64QAM	8	7	16.19	15.83	15.72		
3	64QAM	15	0	16.37	15.90	15.79		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.98	15.58	15.59	17.5	0
1.4	QPSK	1	3	16.05	15.54	15.65		
1.4	QPSK	1	5	15.96	15.55	15.58		
1.4	QPSK	3	0	16.05	15.51	15.59		
1.4	QPSK	3	1	16.07	15.54	15.61		
1.4	QPSK	3	3	16.00	15.50	15.58		
1.4	QPSK	6	0	16.08	15.54	15.64	17.5	0
1.4	16QAM	1	0	16.31	15.81	15.90	17.5	0
1.4	16QAM	1	3	16.38	15.88	15.99		
1.4	16QAM	1	5	16.29	15.77	15.93		
1.4	16QAM	3	0	16.11	15.62	15.66		
1.4	16QAM	3	1	16.17	15.64	15.68		
1.4	16QAM	3	3	16.11	15.58	15.63		
1.4	16QAM	6	0	16.15	15.67	15.75	17.5	0
1.4	64QAM	1	0	16.25	15.76	15.78	17.5	0
1.4	64QAM	1	3	16.32	15.79	15.81		
1.4	64QAM	1	5	16.25	15.71	15.76		
1.4	64QAM	3	0	16.25	15.72	15.79		
1.4	64QAM	3	1	16.30	15.76	15.88		
1.4	64QAM	3	3	16.23	15.71	15.81		
1.4	64QAM	6	0	16.10	15.61	15.69	17.5	0

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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)	MPR (dB)
Channel				132072	132322	132572	22.3	0
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	21.35	21.06	21.15	22.3	0
20	QPSK	1	49	21.32	20.95	20.95		
20	QPSK	1	99	21.28	20.89	20.93		
20	QPSK	50	0	21.44	21.17	21.04	22.3	0
20	QPSK	50	24	21.43	21.12	21.12		
20	QPSK	50	50	21.28	21.07	21.11		
20	QPSK	100	0	21.34	21.09	21.15	22.3	0
20	16QAM	1	0	20.93	20.73	20.87		
20	16QAM	1	49	20.94	20.50	20.67		
20	16QAM	1	99	21.03	20.49	20.66	22.3	0
20	16QAM	50	0	21.42	21.03	20.97		
20	16QAM	50	24	21.36	21.09	21.12		
20	16QAM	50	50	21.23	21.06	21.02	22.3	0
20	16QAM	100	0	21.28	21.09	21.11		
20	64QAM	1	0	21.16	20.71	21.06		
20	64QAM	1	49	21.06	20.84	21.16	22.3	0
20	64QAM	1	99	21.30	21.28	21.17		
20	64QAM	50	0	21.14	20.39	20.71		
20	64QAM	50	24	21.09	20.62	20.73	22.3	0
20	64QAM	50	50	21.00	20.76	20.76		
20	64QAM	100	0	21.05	20.66	20.79		
Channel				132047	132322	132597	22.3	0
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	21.28	20.98	21.08	22.3	0
15	QPSK	1	37	21.26	20.95	20.88		
15	QPSK	1	74	21.25	20.80	20.83		
15	QPSK	36	0	21.37	21.13	21.01	22.3	0
15	QPSK	36	20	21.41	21.04	21.05		
15	QPSK	36	39	21.26	20.97	21.11		
15	QPSK	75	0	21.30	21.04	21.13	22.3	0
15	16QAM	1	0	20.85	20.70	20.79		
15	16QAM	1	37	20.91	20.44	20.59		
15	16QAM	1	74	20.96	20.46	20.63	22.3	0
15	16QAM	36	0	21.32	20.96	20.87		
15	16QAM	36	20	21.29	21.01	21.08		
15	16QAM	36	39	21.15	20.96	20.92	22.3	0
15	16QAM	75	0	21.27	20.99	21.08		
15	64QAM	1	0	21.15	20.64	21.01		
15	64QAM	1	37	21.04	20.81	21.12	22.3	0
15	64QAM	1	74	21.24	21.25	21.10		
15	64QAM	36	0	21.04	20.36	20.70		
15	64QAM	36	20	21.01	20.60	20.65	22.3	0
15	64QAM	36	39	21.00	20.75	20.73		
15	64QAM	75	0	21.01	20.60	20.69		
Channel				132022	132322	132622	22.3	0
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	21.35	21.05	21.10	22.3	0
10	QPSK	1	25	21.32	20.92	20.87		
10	QPSK	1	49	21.23	20.86	20.83		
10	QPSK	25	0	21.39	21.11	21.03	22.3	0



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10	QPSK	25	12	21.37	21.10	21.02		
10	QPSK	25	25	21.27	20.99	21.10		
10	QPSK	50	0	21.26	21.08	21.14		
10	16QAM	1	0	20.87	20.64	20.78	22.3	0
10	16QAM	1	25	20.88	20.41	20.64		
10	16QAM	1	49	20.99	20.45	20.64		
10	16QAM	25	0	21.36	20.94	20.91	22.3	0
10	16QAM	25	12	21.35	21.05	21.06		
10	16QAM	25	25	21.14	20.98	20.95		
10	16QAM	50	0	21.26	21.03	21.01	22.3	0
10	64QAM	1	0	21.13	20.61	21.02		
10	64QAM	1	25	21.05	20.80	21.14		
10	64QAM	1	49	21.24	21.21	21.17	22.3	0
10	64QAM	25	0	21.08	20.34	20.64		
10	64QAM	25	12	21.04	20.60	20.72		
10	64QAM	25	25	20.91	20.76	20.76	22.3	0
10	64QAM	50	0	20.98	20.64	20.79		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	21.27	21.03	21.14	22.3	0
5	QPSK	1	12	21.23	20.92	20.85		
5	QPSK	1	24	21.22	20.84	20.85		
5	QPSK	12	0	21.40	21.10	20.99	22.3	0
5	QPSK	12	7	21.35	21.04	21.11		
5	QPSK	12	13	21.26	21.01	21.04		
5	QPSK	25	0	21.27	21.00	21.13	22.3	0
5	16QAM	1	0	20.89	20.68	20.81		
5	16QAM	1	12	20.88	20.43	20.67		
5	16QAM	1	24	20.99	20.41	20.62	22.3	0
5	16QAM	12	0	21.41	20.95	20.88		
5	16QAM	12	7	21.26	21.08	21.07		
5	16QAM	12	13	21.22	21.06	20.99	22.3	0
5	16QAM	25	0	21.24	21.02	21.03		
5	64QAM	1	0	21.10	20.66	20.97		
5	64QAM	1	12	21.05	20.79	21.11	22.3	0
5	64QAM	1	24	21.27	21.20	21.07		
5	64QAM	12	0	21.04	20.37	20.69		
5	64QAM	12	7	21.04	20.61	20.69	22.3	0
5	64QAM	12	13	20.98	20.75	20.67		
5	64QAM	25	0	21.05	20.60	20.70		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	21.35	21.06	21.06	22.3	0
3	QPSK	1	8	21.29	20.92	20.89		
3	QPSK	1	14	21.21	20.80	20.90		
3	QPSK	8	0	21.37	21.08	20.94	22.3	0
3	QPSK	8	4	21.41	21.02	21.12		
3	QPSK	8	7	21.27	20.98	21.09		
3	QPSK	15	0	21.31	21.09	21.09	22.3	0
3	16QAM	1	0	20.85	20.69	20.82		
3	16QAM	1	8	20.91	20.41	20.64		
3	16QAM	1	14	20.94	20.43	20.58	22.3	0
3	16QAM	8	0	21.36	20.99	20.95		
3	16QAM	8	4	21.32	21.09	21.04		
3	16QAM	8	7	21.13	20.97	20.94	22.3	0
3	16QAM	15	0	21.21	21.01	21.06		



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3	64QAM	1	0	21.07	20.66	21.00	22.3	0
3	64QAM	1	8	20.98	20.79	21.13		
3	64QAM	1	14	21.24	21.23	21.15		
3	64QAM	8	0	21.14	20.32	20.64	22.3	0
3	64QAM	8	4	21.07	20.55	20.72		
3	64QAM	8	7	20.96	20.69	20.66		
3	64QAM	15	0	20.98	20.61	20.71		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	21.28	21.01	21.06	22.3	0
1.4	QPSK	1	3	21.29	20.87	20.89		
1.4	QPSK	1	5	21.20	20.89	20.87		
1.4	QPSK	3	0	21.42	21.15	21.00		
1.4	QPSK	3	1	21.36	21.08	21.09		
1.4	QPSK	3	3	21.18	20.98	21.06		
1.4	QPSK	6	0	21.24	21.01	21.09	22.3	0
1.4	16QAM	1	0	20.86	20.70	20.82	22.3	0
1.4	16QAM	1	3	20.85	20.50	20.60		
1.4	16QAM	1	5	21.01	20.40	20.62		
1.4	16QAM	3	0	21.37	21.02	20.90		
1.4	16QAM	3	1	21.31	21.05	21.11		
1.4	16QAM	3	3	21.14	20.97	20.99		
1.4	16QAM	6	0	21.26	21.04	21.04	22.3	0
1.4	64QAM	1	0	21.11	20.62	21.01	22.3	0
1.4	64QAM	1	3	21.02	20.76	21.08		
1.4	64QAM	1	5	21.23	21.23	21.07		
1.4	64QAM	3	0	21.12	20.32	20.64		
1.4	64QAM	3	1	21.02	20.62	20.73		
1.4	64QAM	3	3	20.98	20.68	20.72		
1.4	64QAM	6	0	20.97	20.63	20.71	22.3	0

<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 Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

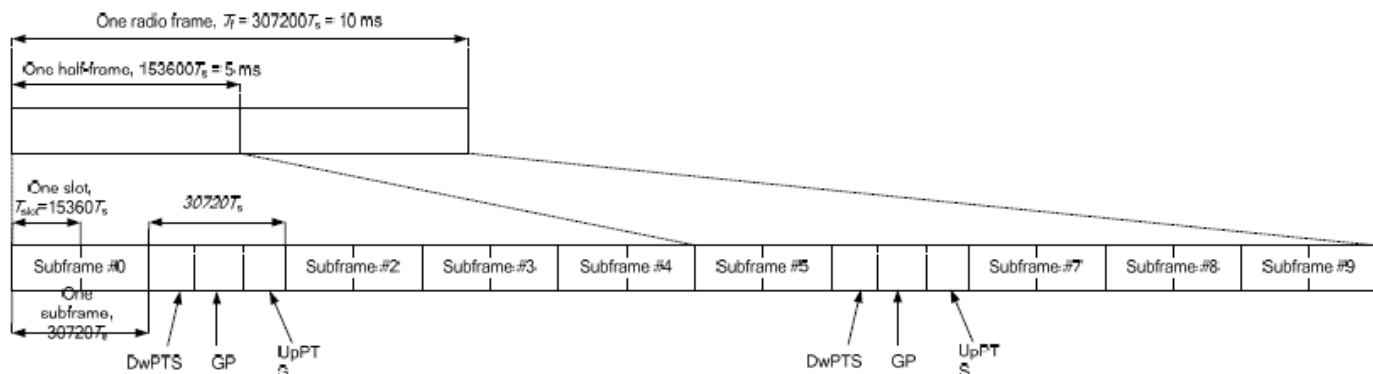


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
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.
- The device supports Power Class 3 uplink-downlink configurations 0 and 6, and Power Class 2 uplink-downlink configurations 1 to 5 operations for LTE Band 41.
- The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition.

<Laptop Mode>
<LTE Band 38_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	23.15	23.09	23.06	24	0
20	QPSK	1	49	23.12	23.14	23.09		
20	QPSK	1	99	23.17	23.14	23.10		
20	QPSK	50	0	22.31	22.20	22.16	23	1
20	QPSK	50	24	22.33	22.27	22.24		
20	QPSK	50	50	22.31	22.27	22.23		
20	QPSK	100	0	22.33	22.28	22.25	23	1
20	16QAM	1	0	22.26	22.19	22.16		
20	16QAM	1	49	22.23	22.19	22.16		
20	16QAM	1	99	22.27	22.22	22.17	22	2
20	16QAM	50	0	21.37	21.23	21.18		
20	16QAM	50	24	21.36	21.32	21.27		
20	16QAM	50	50	21.35	21.31	21.26	22	2
20	16QAM	100	0	21.34	21.28	21.25		
20	64QAM	1	0	20.95	20.92	20.86		
20	64QAM	1	49	20.96	20.93	20.90	22	2
20	64QAM	1	99	21.00	21.01	20.97		
20	64QAM	50	0	20.36	20.23	20.21		
20	64QAM	50	24	20.36	20.32	20.27	21	3
20	64QAM	50	50	20.35	20.29	20.25		
20	64QAM	100	0	20.34	20.29	20.26		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	23.12	23.03	23.01	24	0
15	QPSK	1	37	23.13	23.01	23.05		
15	QPSK	1	74	23.06	23.05	23.07		
15	QPSK	36	0	22.22	22.16	22.16	23	1
15	QPSK	36	20	22.21	22.17	22.15		
15	QPSK	36	39	22.31	22.22	22.16		
15	QPSK	75	0	22.29	22.24	22.05	23	1
15	16QAM	1	0	22.18	22.19	22.06		
15	16QAM	1	37	22.07	22.06	21.99		
15	16QAM	1	74	22.26	22.25	22.22	22	2
15	16QAM	36	0	21.23	21.15	21.06		
15	16QAM	36	20	21.25	21.22	21.08		
15	16QAM	36	39	21.21	21.21	21.12	22	2
15	16QAM	75	0	21.26	21.29	21.10		
15	64QAM	1	0	20.93	20.86	20.83		
15	64QAM	1	37	20.96	20.86	20.90	22	2
15	64QAM	1	74	20.97	20.96	20.88		
15	64QAM	36	0	20.27	20.21	20.17		
15	64QAM	36	20	20.28	20.24	20.18	21	3
15	64QAM	36	39	20.29	20.21	20.15		
15	64QAM	75	0	20.29	20.24	20.16		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	23.14	23.04	22.96	24	0
10	QPSK	1	25	23.03	23.04	22.98		
10	QPSK	1	49	23.11	23.03	22.99		
10	QPSK	25	0	22.32	22.21	22.11	23	1



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10	QPSK	25	12	22.26	22.21	22.21		
10	QPSK	25	25	22.27	22.17	22.20		
10	QPSK	50	0	22.27	22.21	22.13		
10	16QAM	1	0	22.21	22.12	22.12	23	1
10	16QAM	1	25	22.15	22.09	22.05		
10	16QAM	1	49	22.28	22.22	22.14		
10	16QAM	25	0	21.20	21.14	21.11	22	2
10	16QAM	25	12	21.20	21.13	21.10		
10	16QAM	25	25	21.27	21.12	21.09		
10	16QAM	50	0	21.31	21.27	21.09	22	2
10	64QAM	1	0	20.96	20.83	20.81		
10	64QAM	1	25	20.98	20.88	20.88		
10	64QAM	1	49	20.97	20.95	20.90	21	3
10	64QAM	25	0	20.27	20.20	20.07		
10	64QAM	25	12	20.26	20.26	20.22		
10	64QAM	25	25	20.26	20.20	20.19	21	3
10	64QAM	50	0	20.30	20.25	20.14		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	23.01	22.93	22.96	24	0
5	QPSK	1	12	22.99	22.96	22.92		
5	QPSK	1	24	23.00	22.99	22.92		
5	QPSK	12	0	22.16	22.06	22.06	23	1
5	QPSK	12	7	22.17	22.14	22.09		
5	QPSK	12	13	22.13	22.12	22.09		
5	QPSK	25	0	22.15	22.10	22.07	23	1
5	16QAM	1	0	22.15	22.04	22.11		
5	16QAM	1	12	22.15	22.13	22.05		
5	16QAM	1	24	22.15	22.15	22.12	22	2
5	16QAM	12	0	21.14	21.03	21.05		
5	16QAM	12	7	21.14	21.12	21.07		
5	16QAM	12	13	21.13	21.09	21.05	22	2
5	16QAM	25	0	21.18	21.15	21.11		
5	64QAM	1	0	20.91	20.81	20.81		
5	64QAM	1	12	20.90	20.87	20.81	22	2
5	64QAM	1	24	20.93	20.87	20.83		
5	64QAM	12	0	20.20	20.10	20.11		
5	64QAM	12	7	20.21	20.18	20.14	21	3
5	64QAM	12	13	20.19	20.16	20.12		
5	64QAM	25	0	20.22	20.17	20.13		

<LTE Band 41_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490	24	0
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	23.16	23.14	23.23	23.11	23.03	24	0
20	QPSK	1	49	23.16	23.10	23.17	23.11	22.96		
20	QPSK	1	99	23.17	23.15	23.27	23.12	23.05		
20	QPSK	50	0	22.32	22.21	22.23	22.24	22.06	23	1
20	QPSK	50	24	22.32	22.30	22.33	22.22	22.06		
20	QPSK	50	50	22.33	22.31	22.34	22.25	22.11		
20	QPSK	100	0	22.32	22.29	22.32	22.16	22.05	23	1
20	16QAM	1	0	22.31	22.22	22.34	22.29	22.07		
20	16QAM	1	49	22.24	22.22	22.24	22.18	22.03		
20	16QAM	1	99	22.29	22.24	22.36	22.17	22.09	22	2
20	16QAM	50	0	21.36	21.22	21.27	21.28	21.08		
20	16QAM	50	24	21.36	21.33	21.35	21.27	21.07		
20	16QAM	50	50	21.33	21.32	21.36	21.16	21.13	22	2
20	16QAM	100	0	21.35	21.31	21.34	21.17	21.05		
20	64QAM	1	0	21.04	20.96	20.97	21.00	20.70		
20	64QAM	1	49	20.96	20.90	20.95	20.93	20.75	22	2
20	64QAM	1	99	21.03	21.07	21.05	20.86	20.79		
20	64QAM	50	0	20.38	20.24	20.28	20.28	20.08		
20	64QAM	50	24	20.39	20.36	20.35	20.27	20.09	21	3
20	64QAM	50	50	20.35	20.32	20.36	20.17	20.14		
20	64QAM	100	0	20.36	20.33	20.36	20.18	20.09		
Channel				39725	40173	40620	41068	41515	24	0
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	23.11	23.08	23.06	23.04	22.91	24	0
15	QPSK	1	37	23.07	23.09	23.13	23.06	22.95		
15	QPSK	1	74	23.17	23.17	23.20	23.08	23.04		
15	QPSK	36	0	22.22	22.23	22.14	22.21	21.99	23	1
15	QPSK	36	20	22.29	22.23	22.30	22.15	22.04		
15	QPSK	36	39	22.23	22.25	22.26	22.13	22.03		
15	QPSK	75	0	22.23	22.20	22.23	22.04	22.04	23	1
15	16QAM	1	0	22.23	22.18	22.20	22.20	22.07		
15	16QAM	1	37	22.13	22.08	22.10	21.96	21.91		
15	16QAM	1	74	22.22	22.31	22.41	22.23	22.06	22	2
15	16QAM	36	0	21.22	21.18	21.14	21.16	20.93		
15	16QAM	36	20	21.20	21.18	21.20	21.15	21.04		
15	16QAM	36	39	21.23	21.21	21.27	21.06	21.02	22	2
15	16QAM	75	0	21.32	21.26	21.27	21.08	20.98		
15	64QAM	1	0	20.99	20.92	20.92	20.91	20.68		
15	64QAM	1	37	21.05	20.99	20.90	20.89	20.68	22	2
15	64QAM	1	74	20.92	21.06	21.02	20.91	20.73		
15	64QAM	36	0	20.33	20.25	20.17	20.25	20.01		
15	64QAM	36	20	20.24	20.30	20.29	20.25	20.09	21	3
15	64QAM	36	39	20.28	20.27	20.32	20.13	20.09		
15	64QAM	75	0	20.32	20.31	20.32	20.09	20.05		
Channel				39700	40160	40620	41080	41540	24	0
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	23.11	23.01	22.95	23.03	23.06	24	0
10	QPSK	1	25	23.05	23.07	22.90	22.98	23.04		
10	QPSK	1	49	23.13	23.12	22.95	23.10	23.03		



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10	QPSK	25	0	22.21	22.19	21.97	22.15	22.17	23	1
10	QPSK	25	12	22.29	22.15	22.02	22.14	22.25		
10	QPSK	25	25	22.30	22.11	22.03	22.13	22.27		
10	QPSK	50	0	22.27	22.10	21.99	22.18	22.17		
10	16QAM	1	0	22.19	22.17	22.08	22.14	22.09	23	1
10	16QAM	1	25	22.12	22.03	21.93	22.05	22.09		
10	16QAM	1	49	22.34	22.21	22.08	22.31	22.29		
10	16QAM	25	0	21.19	21.13	21.01	21.09	21.15	22	2
10	16QAM	25	12	21.21	21.11	21.01	21.13	21.19		
10	16QAM	25	25	21.25	21.09	20.99	21.19	21.22		
10	16QAM	50	0	21.26	21.13	21.00	21.26	21.24		
10	64QAM	1	0	20.95	20.94	20.67	20.78	20.92	22	2
10	64QAM	1	25	20.96	20.91	20.75	20.91	20.86		
10	64QAM	1	49	21.07	20.87	20.83	21.05	20.98		
10	64QAM	25	0	20.22	20.21	20.01	20.25	20.16	21	3
10	64QAM	25	12	20.26	20.25	20.11	20.19	20.26		
10	64QAM	25	25	20.28	20.08	20.04	20.20	20.25		
10	64QAM	50	0	20.23	20.08	19.97	20.22	20.13		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	23.08	22.96	22.97	22.96	22.84	24	0
5	QPSK	1	12	23.04	23.01	23.04	22.93	22.83		
5	QPSK	1	24	23.05	22.98	23.01	22.85	22.83		
5	QPSK	12	0	22.14	22.10	22.14	22.01	21.96	23	1
5	QPSK	12	7	22.20	22.13	22.17	22.00	22.01		
5	QPSK	12	13	22.16	22.09	22.13	21.96	21.96		
5	QPSK	25	0	22.14	22.11	22.13	21.98	21.95		
5	16QAM	1	0	22.21	22.07	22.08	22.08	21.99	23	1
5	16QAM	1	12	22.20	22.16	22.25	22.15	22.08		
5	16QAM	1	24	22.21	22.14	22.18	22.03	22.01		
5	16QAM	12	0	21.16	21.10	21.13	21.03	20.94	22	2
5	16QAM	12	7	21.16	21.11	21.13	20.99	20.98		
5	16QAM	12	13	21.13	21.10	21.14	20.94	20.94		
5	16QAM	25	0	21.18	21.14	21.17	21.00	21.00		
5	64QAM	1	0	21.01	20.89	20.86	20.84	20.67	22	2
5	64QAM	1	12	20.98	20.94	20.94	20.87	20.69		
5	64QAM	1	24	20.99	20.95	20.96	20.77	20.69		
5	64QAM	12	0	20.22	20.16	20.16	20.07	19.99	21	3
5	64QAM	12	7	20.18	20.19	20.22	20.03	20.02		
5	64QAM	12	13	20.20	20.15	20.18	20.01	19.99		
5	64QAM	25	0	20.20	20.18	20.19	20.02	20.01		

<LTE Band 41__Ant 5 HPUE>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490	27	0
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	25.87	25.84	25.84	25.93	25.30	27	0
20	QPSK	1	49	25.83	25.82	25.83	25.78	25.14		
20	QPSK	1	99	25.86	25.83	25.83	25.81	25.11		
20	QPSK	50	0	25.12	25.00	25.04	25.05	24.65	26	1
20	QPSK	50	24	25.13	25.10	25.04	25.04	24.40		
20	QPSK	50	50	25.11	25.09	25.03	24.94	24.12		
20	QPSK	100	0	25.14	25.10	25.03	24.97	24.34		
20	16QAM	1	0	25.24	25.15	25.09	25.22	24.57	26	1
20	16QAM	1	49	25.24	25.15	25.14	25.13	24.45		
20	16QAM	1	99	25.20	25.18	25.16	25.21	24.12		
20	16QAM	50	0	24.15	24.05	24.11	24.09	23.72	25	2
20	16QAM	50	24	24.18	24.12	24.19	24.10	23.42		
20	16QAM	50	50	24.15	24.12	24.21	23.98	23.13		
20	16QAM	100	0	24.17	24.13	24.12	24.00	23.28		
20	64QAM	1	0	23.69	24.02	23.13	23.53	23.15	25	2
20	64QAM	1	49	23.71	23.91	23.18	23.80	23.11		
20	64QAM	1	99	24.07	23.88	23.24	23.62	23.02		
20	64QAM	50	0	22.84	23.04	22.27	22.78	22.11	24	3
20	64QAM	50	24	22.97	23.02	22.25	22.78	22.12		
20	64QAM	50	50	23.08	22.89	22.30	22.81	22.02		
20	64QAM	100	0	22.91	22.91	22.22	22.70	22.09		
Channel				39725	40173	40620	41068	41515	27	0
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	25.91	25.91	25.91	25.87	25.49	27	0
15	QPSK	1	37	25.92	25.91	25.78	25.84	25.03		
15	QPSK	1	74	25.92	25.90	25.90	25.89	25.01		
15	QPSK	36	0	25.13	25.10	25.06	25.05	24.51	26	1
15	QPSK	36	20	25.15	25.10	25.05	25.05	24.24		
15	QPSK	36	39	25.12	25.09	25.14	24.95	24.02		
15	QPSK	75	0	25.13	25.10	25.07	24.97	24.12	26	1
15	16QAM	1	0	25.29	25.20	25.21	25.24	24.73		
15	16QAM	1	37	25.25	25.18	25.07	25.22	24.28		
15	16QAM	1	74	25.22	25.29	25.22	25.24	24.03	25	2
15	16QAM	36	0	24.10	24.09	24.09	24.07	23.57		
15	16QAM	36	20	24.11	24.08	24.16	24.05	23.31		
15	16QAM	36	39	24.09	24.08	24.17	23.95	23.03	25	2
15	16QAM	75	0	24.16	24.12	24.13	24.01	23.27		
15	64QAM	1	0	23.63	24.04	23.25	23.65	23.02		
15	64QAM	1	37	23.70	23.96	23.10	23.68	23.05	25	2
15	64QAM	1	74	23.90	24.02	23.28	23.69	23.11		
15	64QAM	36	0	22.79	23.09	22.25	22.77	22.03		
15	64QAM	36	20	22.95	23.06	22.28	22.84	22.05	24	3
15	64QAM	36	39	23.02	22.96	22.35	22.84	22.09		
15	64QAM	75	0	22.87	23.02	22.24	22.78	22.05		
Channel				39700	40160	40620	41080	41540	27	0
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	25.88	25.70	25.72	25.70	25.16	27	0
10	QPSK	1	25	25.78	25.75	25.76	25.69	25.01		
10	QPSK	1	49	25.82	25.81	25.88	25.67	25.03		



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10	QPSK	25	0	24.96	24.98	24.91	24.89	24.24	26	1
10	QPSK	25	12	24.98	25.02	25.06	24.93	24.09		
10	QPSK	25	25	24.97	24.97	25.02	24.79	24.02		
10	QPSK	50	0	24.98	24.97	25.00	24.81	24.03		
10	16QAM	1	0	25.17	25.11	25.12	25.08	24.47	26	1
10	16QAM	1	25	25.11	25.09	25.17	25.02	24.21		
10	16QAM	1	49	25.14	25.11	25.13	25.01	24.03		
10	16QAM	25	0	23.99	24.01	23.93	23.93	23.40	25	2
10	16QAM	25	12	24.07	24.04	24.10	23.94	23.28		
10	16QAM	25	25	23.96	24.00	24.04	23.82	23.09		
10	16QAM	50	0	24.03	24.03	24.05	23.86	23.12		
10	64QAM	1	0	23.62	23.99	23.23	23.75	23.02	25	2
10	64QAM	1	25	23.73	24.12	23.23	23.80	23.01		
10	64QAM	1	49	23.81	24.05	23.31	23.76	23.03		
10	64QAM	25	0	22.75	23.07	22.31	22.91	22.02	24	3
10	64QAM	25	12	22.83	23.09	22.34	22.92	22.03		
10	64QAM	25	25	22.89	23.06	22.36	22.90	22.05		
10	64QAM	50	0	22.73	23.02	22.26	22.78	22.04		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	25.88	25.76	25.77	25.76	25.00	27	0
5	QPSK	1	12	25.88	25.82	25.87	25.79	25.01		
5	QPSK	1	24	25.87	25.81	25.84	25.70	25.03		
5	QPSK	12	0	25.02	25.02	25.00	24.89	24.17	26	1
5	QPSK	12	7	25.03	25.03	25.05	24.86	24.07		
5	QPSK	12	13	25.00	25.01	25.03	24.85	24.07		
5	QPSK	25	0	24.96	24.98	24.99	24.79	24.04		
5	16QAM	1	0	25.11	25.04	25.03	24.99	24.28	26	1
5	16QAM	1	12	25.10	25.09	25.09	24.99	24.20		
5	16QAM	1	24	25.15	25.12	25.14	24.94	24.09		
5	16QAM	12	0	24.05	24.03	24.06	23.94	23.30	25	2
5	16QAM	12	7	24.08	24.07	24.09	23.89	23.23		
5	16QAM	12	13	24.06	24.05	24.09	23.85	23.11		
5	16QAM	25	0	24.05	24.04	24.08	23.86	23.13		
5	64QAM	1	0	23.61	23.96	23.26	23.83	23.05	25	2
5	64QAM	1	12	23.69	24.06	23.31	23.85	23.01		
5	64QAM	1	24	23.82	24.05	23.42	23.87	23.05		
5	64QAM	12	0	22.70	23.07	22.37	22.93	22.07	24	3
5	64QAM	12	7	22.80	23.07	22.44	22.94	22.01		
5	64QAM	12	13	22.83	23.05	22.42	22.88	22.03		
5	64QAM	25	0	22.73	23.08	22.35	22.89	22.06		

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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)	MPR (dB)
Channel				43190	43340	43490		
Frequency (MHz)				3560	3575	3590		
20	QPSK	1	0	16.46	16.46	16.41	17.3	0
20	QPSK	1	49	16.50	16.52	16.42		
20	QPSK	1	99	16.50	16.45	16.35		
20	QPSK	50	0	16.57	16.58	16.50	17.3	0
20	QPSK	50	24	16.57	16.56	16.48		
20	QPSK	50	50	16.56	16.54	16.45		
20	QPSK	100	0	16.54	16.55	16.45	17.3	0
20	16QAM	1	0	16.60	16.57	16.50		
20	16QAM	1	49	16.61	16.59	16.48		
20	16QAM	1	99	16.65	16.61	16.50	17.3	0
20	16QAM	50	0	16.61	16.62	16.53		
20	16QAM	50	24	16.63	16.60	16.55		
20	16QAM	50	50	16.63	16.56	16.50	17.3	0
20	16QAM	100	0	16.61	16.59	16.53		
20	64QAM	1	0	16.49	16.30	16.22		
20	64QAM	1	49	16.53	16.29	16.20	17.3	0
20	64QAM	1	99	16.31	16.27	16.19		
20	64QAM	50	0	16.63	16.63	16.53		
20	64QAM	50	24	16.64	16.62	16.50	17.3	0
20	64QAM	50	50	16.64	16.59	16.49		
20	64QAM	100	0	16.63	16.59	16.51		
Channel				43165	43340	43515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3557.5	3575	3592.5		
15	QPSK	1	0	16.42	16.40	16.37	17.3	0
15	QPSK	1	37	16.45	16.46	16.35		
15	QPSK	1	74	16.42	16.44	16.34		
15	QPSK	36	0	16.57	16.48	16.48	17.3	0
15	QPSK	36	20	16.54	16.52	16.47		
15	QPSK	36	39	16.48	16.48	16.38		
15	QPSK	75	0	16.50	16.49	16.42	17.3	0
15	16QAM	1	0	16.58	16.49	16.44		
15	16QAM	1	37	16.53	16.57	16.42		
15	16QAM	1	74	16.62	16.54	16.48	17.3	0
15	16QAM	36	0	16.53	16.54	16.51		
15	16QAM	36	20	16.58	16.54	16.51		
15	16QAM	36	39	16.61	16.53	16.50	17.3	0
15	16QAM	75	0	16.60	16.54	16.46		
15	64QAM	1	0	16.45	16.27	16.20		
15	64QAM	1	37	16.48	16.21	16.15	17.3	0
15	64QAM	1	74	16.25	16.25	16.13		
15	64QAM	36	0	16.53	16.63	16.46		
15	64QAM	36	20	16.63	16.61	16.49	17.3	0
15	64QAM	36	39	16.62	16.59	16.41		
15	64QAM	75	0	16.63	16.55	16.43		
Channel				43140	43340	43540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3555	3575	3595		
10	QPSK	1	0	16.36	16.40	16.39	17.3	0
10	QPSK	1	25	16.48	16.52	16.33		
10	QPSK	1	49	16.41	16.37	16.31		
10	QPSK	25	0	16.49	16.56	16.46	17.3	0



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10	QPSK	25	12	16.48	16.55	16.39		
10	QPSK	25	25	16.48	16.44	16.40		
10	QPSK	50	0	16.46	16.46	16.38		
10	16QAM	1	0	16.52	16.48	16.41	17.3	0
10	16QAM	1	25	16.53	16.59	16.40		
10	16QAM	1	49	16.61	16.51	16.47		
10	16QAM	25	0	16.54	16.61	16.43	17.3	0
10	16QAM	25	12	16.57	16.52	16.55		
10	16QAM	25	25	16.53	16.47	16.40		
10	16QAM	50	0	16.55	16.58	16.44	17.3	0
10	64QAM	1	0	16.46	16.30	16.22		
10	64QAM	1	25	16.46	16.28	16.20		
10	64QAM	1	49	16.31	16.20	16.11	17.3	0
10	64QAM	25	0	16.62	16.62	16.46		
10	64QAM	25	12	16.62	16.58	16.50		
10	64QAM	25	25	16.63	16.55	16.43	17.3	0
10	64QAM	50	0	16.56	16.50	16.51		
Channel				43115	43340	43565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3552.5	3575	3597.5		
5	QPSK	1	0	16.38	16.38	16.38	17.3	0
5	QPSK	1	12	16.45	16.48	16.37		
5	QPSK	1	24	16.44	16.42	16.31		
5	QPSK	12	0	16.55	16.56	16.48	17.3	0
5	QPSK	12	7	16.47	16.53	16.39		
5	QPSK	12	13	16.52	16.49	16.42		
5	QPSK	25	0	16.46	16.54	16.41	17.3	0
5	16QAM	1	0	16.55	16.47	16.48		
5	16QAM	1	12	16.60	16.58	16.39		
5	16QAM	1	24	16.57	16.53	16.47	17.3	0
5	16QAM	12	0	16.58	16.55	16.44		
5	16QAM	12	7	16.62	16.58	16.53		
5	16QAM	12	13	16.58	16.51	16.49	17.3	0
5	16QAM	25	0	16.52	16.52	16.44		
5	64QAM	1	0	16.47	16.29	16.16		
5	64QAM	1	12	16.45	16.22	16.17	17.3	0
5	64QAM	1	24	16.21	16.18	16.16		
5	64QAM	12	0	16.59	16.58	16.51		
5	64QAM	12	7	16.61	16.61	16.41	17.3	0
5	64QAM	12	13	16.57	16.50	16.49		
5	64QAM	25	0	16.59	16.57	16.49		

<LTE Band 48_Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				55340	55830	56150	56640	16.6	0
Frequency (MHz)				3560	3609	3641	3690		
20	QPSK	1	0	15.48	15.38	15.37	15.52		
20	QPSK	1	49	15.42	15.22	15.27	15.46		
20	QPSK	1	99	15.45	15.29	15.36	15.51	16.6	0
20	QPSK	50	0	15.53	15.39	15.44	15.59		
20	QPSK	50	24	15.46	15.39	15.43	15.58		
20	QPSK	50	50	15.44	15.30	15.44	15.57		
20	QPSK	100	0	15.45	15.30	15.45	15.58	16.6	0
20	16QAM	1	0	15.55	15.50	15.50	15.66		
20	16QAM	1	49	15.47	15.31	15.40	15.51		
20	16QAM	1	99	15.56	15.42	15.59	15.64		
20	16QAM	50	0	15.58	15.44	15.50	15.64	16.6	0
20	16QAM	50	24	15.50	15.46	15.52	15.65		
20	16QAM	50	50	15.50	15.35	15.56	15.65		
20	16QAM	100	0	15.49	15.35	15.52	15.62		
20	64QAM	1	0	15.26	15.16	15.13	15.29	16.6	0
20	64QAM	1	49	15.17	15.01	15.09	15.20		
20	64QAM	1	99	15.26	15.12	15.24	15.33		
20	64QAM	50	0	15.57	15.44	15.53	15.64	16.6	0
20	64QAM	50	24	15.50	15.47	15.57	15.64		
20	64QAM	50	50	15.49	15.37	15.58	15.62		
20	64QAM	100	0	15.49	15.37	15.53	15.64		
Channel				55315	55820	56160	56665	16.6	0
Frequency (MHz)				3557.5	3608	3642	3692.5		
15	QPSK	1	0	15.48	15.32	15.33	15.49		
15	QPSK	1	37	15.38	15.16	15.18	15.39		
15	QPSK	1	74	15.42	15.19	15.35	15.50	16.6	0
15	QPSK	36	0	15.43	15.29	15.40	15.58		
15	QPSK	36	20	15.42	15.30	15.33	15.54		
15	QPSK	36	39	15.34	15.30	15.37	15.50		
15	QPSK	75	0	15.36	15.26	15.43	15.58	16.6	0
15	16QAM	1	0	15.53	15.46	15.47	15.65		
15	16QAM	1	37	15.47	15.24	15.33	15.46		
15	16QAM	1	74	15.48	15.39	15.52	15.56		
15	16QAM	36	0	15.50	15.34	15.43	15.64	16.6	0
15	16QAM	36	20	15.43	15.43	15.44	15.65		
15	16QAM	36	39	15.48	15.25	15.50	15.58		
15	16QAM	75	0	15.39	15.30	15.43	15.62		
15	64QAM	1	0	15.23	15.07	15.12	15.24	16.6	0
15	64QAM	1	37	15.10	15.00	15.00	15.13		
15	64QAM	1	74	15.26	15.12	15.24	15.26		
15	64QAM	36	0	15.53	15.38	15.50	15.59		
15	64QAM	36	20	15.50	15.44	15.53	15.63	16.6	0
15	64QAM	36	39	15.48	15.33	15.58	15.52		
15	64QAM	75	0	15.44	15.37	15.50	15.63		
Channel				55290	55815	56165	56690	16.6	0
Frequency (MHz)				3555	3607.5	3642.5	3695		
10	QPSK	1	0	15.47	15.30	15.31	15.49		
10	QPSK	1	25	15.36	15.17	15.24	15.44		
10	QPSK	1	49	15.37	15.25	15.34	15.42	16.6	0
10	QPSK	25	0	15.51	15.31	15.41	15.58		



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10	QPSK	25	12	15.40	15.37	15.39	15.52		
10	QPSK	25	25	15.36	15.25	15.35	15.48		
10	QPSK	50	0	15.42	15.22	15.45	15.53		
10	16QAM	1	0	15.46	15.40	15.41	15.65	16.6	0
10	16QAM	1	25	15.39	15.31	15.40	15.44		
10	16QAM	1	49	15.56	15.41	15.54	15.57		
10	16QAM	25	0	15.58	15.40	15.49	15.55	16.6	0
10	16QAM	25	12	15.44	15.45	15.46	15.58		
10	16QAM	25	25	15.41	15.27	15.47	15.59		
10	16QAM	50	0	15.42	15.28	15.46	15.54		
10	64QAM	1	0	15.25	15.06	15.12	15.29	16.6	0
10	64QAM	1	25	15.11	15.00	15.03	15.14		
10	64QAM	1	49	15.22	15.07	15.19	15.32		
10	64QAM	25	0	15.50	15.38	15.43	15.60	16.6	0
10	64QAM	25	12	15.48	15.43	15.48	15.55		
10	64QAM	25	25	15.47	15.37	15.56	15.52		
10	64QAM	50	0	15.46	15.37	15.47	15.61		
Channel				55265	55810	56170	56715	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3552.5	3607	3643	3697.5		
5	QPSK	1	0	15.42	15.35	15.27	15.52	16.6	0
5	QPSK	1	12	15.40	15.15	15.17	15.39		
5	QPSK	1	24	15.35	15.19	15.31	15.43		
5	QPSK	12	0	15.46	15.30	15.37	15.57	16.6	0
5	QPSK	12	7	15.40	15.31	15.38	15.54		
5	QPSK	12	13	15.36	15.22	15.43	15.48		
5	QPSK	25	0	15.35	15.21	15.44	15.51		
5	16QAM	1	0	15.46	15.49	15.41	15.60	16.6	0
5	16QAM	1	12	15.44	15.25	15.34	15.42		
5	16QAM	1	24	15.49	15.42	15.55	15.60		
5	16QAM	12	0	15.55	15.44	15.49	15.58	16.6	0
5	16QAM	12	7	15.49	15.42	15.44	15.63		
5	16QAM	12	13	15.42	15.26	15.52	15.65		
5	16QAM	25	0	15.43	15.34	15.45	15.53		
5	64QAM	1	0	15.19	15.08	15.12	15.27	16.6	0
5	64QAM	1	12	15.10	15.00	15.01	15.15		
5	64QAM	1	24	15.19	15.07	15.19	15.24		
5	64QAM	12	0	15.57	15.40	15.50	15.56	16.6	0
5	64QAM	12	7	15.44	15.39	15.52	15.61		
5	64QAM	12	13	15.40	15.37	15.56	15.54		
5	64QAM	25	0	15.41	15.36	15.46	15.63		

<Tablet Mode>
<LTE Band 38_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	15.52	15.50	15.47	16.5	0
20	QPSK	1	49	15.54	15.51	15.47		
20	QPSK	1	99	15.59	15.54	15.49		
20	QPSK	50	0	15.71	15.59	15.55	16.5	0
20	QPSK	50	24	15.75	15.70	15.66		
20	QPSK	50	50	15.70	15.68	15.61		
20	QPSK	100	0	15.72	15.72	15.61	16.5	0
20	16QAM	1	0	15.66	15.65	15.59		
20	16QAM	1	49	15.63	15.63	15.60		
20	16QAM	1	99	15.70	15.68	15.61	16.5	0
20	16QAM	50	0	15.74	15.65	15.60		
20	16QAM	50	24	15.76	15.73	15.67		
20	16QAM	50	50	15.75	15.72	15.66	16.5	0
20	16QAM	100	0	15.75	15.73	15.66		
20	64QAM	1	0	15.45	15.41	15.25		
20	64QAM	1	49	15.46	15.42	15.37	16.5	0
20	64QAM	1	99	15.44	15.52	15.45		
20	64QAM	50	0	15.73	15.63	15.58	16.5	0
20	64QAM	50	24	15.76	15.72	15.67		
20	64QAM	50	50	15.75	15.68	15.64		
20	64QAM	100	0	15.73	15.68	15.65		
Channel				37825	38000	38175		
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	15.43	15.43	15.37	16.5	0
15	QPSK	1	37	15.44	15.51	15.46		
15	QPSK	1	74	15.59	15.50	15.40		
15	QPSK	36	0	15.70	15.53	15.47	16.5	0
15	QPSK	36	20	15.71	15.69	15.62		
15	QPSK	36	39	15.65	15.59	15.53		
15	QPSK	75	0	15.65	15.72	15.56	16.5	0
15	16QAM	1	0	15.60	15.65	15.56		
15	16QAM	1	37	15.63	15.60	15.52		
15	16QAM	1	74	15.65	15.60	15.61	16.5	0
15	16QAM	36	0	15.65	15.59	15.55		
15	16QAM	36	20	15.67	15.70	15.63		
15	16QAM	36	39	15.68	15.65	15.59	16.5	0
15	16QAM	75	0	15.74	15.66	15.58		
15	64QAM	1	0	15.40	15.34	15.17		
15	64QAM	1	37	15.38	15.32	15.33	16.5	0
15	64QAM	1	74	15.37	15.42	15.39		
15	64QAM	36	0	15.70	15.54	15.49		
15	64QAM	36	20	15.69	15.70	15.57	16.5	0
15	64QAM	36	39	15.75	15.61	15.59		
15	64QAM	75	0	15.70	15.58	15.57		
Channel				37800	38000	38200		
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	15.49	15.48	15.43	16.5	0
10	QPSK	1	25	15.50	15.42	15.46		
10	QPSK	1	49	15.56	15.47	15.49		



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10	QPSK	25	0	15.62	15.50	15.54	16.5	0
10	QPSK	25	12	15.72	15.63	15.59		
10	QPSK	25	25	15.64	15.67	15.52		
10	QPSK	50	0	15.72	15.62	15.58		
10	16QAM	1	0	15.59	15.55	15.59	16.5	0
10	16QAM	1	25	15.58	15.61	15.55		
10	16QAM	1	49	15.68	15.61	15.55		
10	16QAM	25	0	15.74	15.59	15.58	16.5	0
10	16QAM	25	12	15.66	15.63	15.60		
10	16QAM	25	25	15.66	15.70	15.66		
10	16QAM	50	0	15.66	15.63	15.66		
10	64QAM	1	0	15.39	15.41	15.15	16.5	0
10	64QAM	1	25	15.41	15.38	15.31		
10	64QAM	1	49	15.43	15.44	15.39		
10	64QAM	25	0	15.66	15.55	15.57	16.5	0
10	64QAM	25	12	15.67	15.65	15.60		
10	64QAM	25	25	15.68	15.58	15.63		
10	64QAM	50	0	15.69	15.60	15.60		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	15.50	15.42	15.40	16.5	0
5	QPSK	1	12	15.52	15.49	15.46		
5	QPSK	1	24	15.52	15.50	15.47		
5	QPSK	12	0	15.68	15.57	15.54	16.5	0
5	QPSK	12	7	15.70	15.65	15.66		
5	QPSK	12	13	15.65	15.65	15.56		
5	QPSK	25	0	15.66	15.71	15.56		
5	16QAM	1	0	15.63	15.58	15.51	16.5	0
5	16QAM	1	12	15.60	15.62	15.56		
5	16QAM	1	24	15.70	15.62	15.59		
5	16QAM	12	0	15.65	15.65	15.60	16.5	0
5	16QAM	12	7	15.66	15.69	15.67		
5	16QAM	12	13	15.75	15.62	15.56		
5	16QAM	25	0	15.73	15.63	15.61		
5	64QAM	1	0	15.39	15.34	15.18	16.5	0
5	64QAM	1	12	15.41	15.37	15.31		
5	64QAM	1	24	15.35	15.44	15.39		
5	64QAM	12	0	15.66	15.57	15.56	16.5	0
5	64QAM	12	7	15.68	15.64	15.57		
5	64QAM	12	13	15.75	15.67	15.58		
5	64QAM	25	0	15.66	15.64	15.64		

<LTE Band 41_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490	16.5	0
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	15.45	15.42	15.58	15.41	15.22		
20	QPSK	1	49	15.43	15.42	15.55	15.36	15.17	16.5	0
20	QPSK	1	99	15.46	15.49	15.67	15.42	15.23		
20	QPSK	50	0	15.62	15.56	15.62	15.56	15.27		
20	QPSK	50	24	15.65	15.62	15.70	15.56	15.36	16.5	0
20	QPSK	50	50	15.61	15.62	15.69	15.44	15.33		
20	QPSK	100	0	15.61	15.61	15.69	15.48	15.26		
20	16QAM	1	0	15.55	15.50	15.66	15.58	15.38	16.5	0
20	16QAM	1	49	15.50	15.49	15.61	15.46	15.30		
20	16QAM	1	99	15.49	15.59	15.70	15.40	15.40		
20	16QAM	50	0	15.63	15.57	15.63	15.60	15.31	16.5	0
20	16QAM	50	24	15.65	15.68	15.73	15.58	15.30		
20	16QAM	50	50	15.63	15.68	15.74	15.47	15.36		
20	16QAM	100	0	15.63	15.65	15.72	15.51	15.30	16.5	0
20	64QAM	1	0	15.39	15.23	15.33	15.31	14.96		
20	64QAM	1	49	15.21	15.21	15.28	15.21	15.10		
20	64QAM	1	99	15.20	15.49	15.38	15.07	15.18	16.5	0
20	64QAM	50	0	15.66	15.59	15.65	15.63	15.34		
20	64QAM	50	24	15.65	15.68	15.76	15.62	15.32		
20	64QAM	50	50	15.66	15.68	15.75	15.50	15.36	16.5	0
20	64QAM	100	0	15.66	15.66	15.72	15.51	15.31		
Channel				39725	40173	40620	41068	41515	16.5	0
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	15.38	15.39	15.56	15.34	15.19		
15	QPSK	1	37	15.40	15.38	15.49	15.34	15.07	16.5	0
15	QPSK	1	74	15.38	15.48	15.58	15.41	15.13		
15	QPSK	36	0	15.55	15.50	15.56	15.46	15.26	16.5	0
15	QPSK	36	20	15.57	15.59	15.67	15.52	15.28		
15	QPSK	36	39	15.51	15.61	15.61	15.37	15.33		
15	QPSK	75	0	15.55	15.61	15.69	15.38	15.16	16.5	0
15	16QAM	1	0	15.45	15.49	15.64	15.57	15.30		
15	16QAM	1	37	15.49	15.46	15.56	15.36	15.20		
15	16QAM	1	74	15.47	15.52	15.64	15.35	15.33	16.5	0
15	16QAM	36	0	15.61	15.49	15.56	15.50	15.27		
15	16QAM	36	20	15.56	15.65	15.63	15.49	15.23		
15	16QAM	36	39	15.54	15.68	15.66	15.42	15.34	16.5	0
15	16QAM	75	0	15.62	15.55	15.63	15.49	15.28		
15	64QAM	1	0	15.39	15.22	15.33	15.31	14.86		
15	64QAM	1	37	15.13	15.20	15.25	15.17	15.00	16.5	0
15	64QAM	1	74	15.12	15.45	15.37	15.05	15.15		
15	64QAM	36	0	15.60	15.53	15.61	15.57	15.32		
15	64QAM	36	20	15.61	15.61	15.68	15.59	15.27	16.5	0
15	64QAM	36	39	15.56	15.66	15.74	15.40	15.36		
15	64QAM	75	0	15.64	15.59	15.68	15.47	15.30		
Channel				39700	40160	40620	41080	41540	16.5	0
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	15.44	15.37	15.53	15.38	15.15		
10	QPSK	1	25	15.41	15.42	15.47	15.29	15.08	16.5	0
10	QPSK	1	49	15.41	15.45	15.66	15.32	15.22		
10	QPSK	25	0	15.56	15.51	15.61	15.48	15.25		



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10	QPSK	25	12	15.62	15.58	15.60	15.56	15.29		
10	QPSK	25	25	15.57	15.59	15.69	15.40	15.28		
10	QPSK	50	0	15.52	15.61	15.60	15.46	15.20		
10	16QAM	1	0	15.47	15.47	15.62	15.49	15.29	16.5	0
10	16QAM	1	25	15.42	15.41	15.54	15.45	15.24		
10	16QAM	1	49	15.39	15.59	15.65	15.37	15.32		
10	16QAM	25	0	15.63	15.48	15.57	15.53	15.24	16.5	0
10	16QAM	25	12	15.65	15.58	15.67	15.54	15.30		
10	16QAM	25	25	15.58	15.58	15.67	15.39	15.33		
10	16QAM	50	0	15.59	15.65	15.69	15.50	15.29	16.5	0
10	64QAM	1	0	15.35	15.20	15.27	15.26	14.95		
10	64QAM	1	25	15.18	15.20	15.20	15.12	15.01		
10	64QAM	1	49	15.13	15.43	15.35	15.02	15.14	16.5	0
10	64QAM	25	0	15.58	15.59	15.62	15.59	15.25		
10	64QAM	25	12	15.63	15.67	15.75	15.52	15.32		
10	64QAM	25	25	15.57	15.68	15.66	15.45	15.26	16.5	0
10	64QAM	50	0	15.64	15.59	15.71	15.48	15.27		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	15.36	15.38	15.54	15.39	15.13	16.5	0
5	QPSK	1	12	15.34	15.32	15.49	15.35	15.08		
5	QPSK	1	24	15.41	15.39	15.61	15.36	15.15		
5	QPSK	12	0	15.53	15.55	15.54	15.46	15.25	16.5	0
5	QPSK	12	7	15.65	15.61	15.65	15.54	15.26		
5	QPSK	12	13	15.59	15.54	15.62	15.42	15.30		
5	QPSK	25	0	15.53	15.60	15.69	15.41	15.23	16.5	0
5	16QAM	1	0	15.49	15.50	15.59	15.55	15.32		
5	16QAM	1	12	15.49	15.45	15.54	15.40	15.21		
5	16QAM	1	24	15.48	15.51	15.69	15.31	15.38	16.5	0
5	16QAM	12	0	15.62	15.48	15.61	15.59	15.28		
5	16QAM	12	7	15.64	15.68	15.64	15.54	15.30		
5	16QAM	12	13	15.57	15.63	15.66	15.45	15.34	16.5	0
5	16QAM	25	0	15.60	15.56	15.63	15.47	15.29		
5	64QAM	1	0	15.29	15.17	15.25	15.26	14.87		
5	64QAM	1	12	15.11	15.12	15.18	15.17	15.05	16.5	0
5	64QAM	1	24	15.17	15.46	15.33	15.05	15.12		
5	64QAM	12	0	15.61	15.55	15.59	15.62	15.33		
5	64QAM	12	7	15.57	15.62	15.69	15.54	15.26	16.5	0
5	64QAM	12	13	15.59	15.61	15.67	15.48	15.35		
5	64QAM	25	0	15.62	15.66	15.62	15.50	15.21		

<LTE Band 41_Ant 5 HPUE>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490	18.1	0
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	17.02	16.97	17.15	17.09	16.82		
20	QPSK	1	49	16.99	17.04	17.09	16.95	16.79	18.1	0
20	QPSK	1	99	17.01	17.11	17.21	17.00	16.82		
20	QPSK	50	0	17.32	17.26	17.26	17.27	16.97		
20	QPSK	50	24	17.32	17.34	17.40	17.27	16.97	18.1	0
20	QPSK	50	50	17.28	17.33	17.39	17.14	17.04		
20	QPSK	100	0	17.31	17.34	17.40	17.19	16.97		
20	16QAM	1	0	17.43	17.36	17.46	17.45	17.14	18.1	0
20	16QAM	1	49	17.40	17.39	17.44	17.34	17.17		
20	16QAM	1	99	17.34	17.50	17.51	17.28	17.18		
20	16QAM	50	0	17.35	17.29	17.33	17.31	17.00	18.1	0
20	16QAM	50	24	17.35	17.38	17.41	17.30	17.01		
20	16QAM	50	50	17.34	17.38	17.42	17.18	17.08		
20	16QAM	100	0	17.33	17.34	17.40	17.20	16.99	18.1	0
20	64QAM	1	0	17.35	17.22	17.27	17.27	16.89		
20	64QAM	1	49	17.20	17.25	17.29	17.23	17.06		
20	64QAM	1	99	17.18	17.44	17.35	17.11	17.14	18.1	0
20	64QAM	50	0	17.35	17.29	17.33	17.32	17.02		
20	64QAM	50	24	17.40	17.38	17.42	17.34	17.02		
20	64QAM	50	50	17.36	17.39	17.45	17.22	17.09	18.1	0
20	64QAM	100	0	17.37	17.35	17.41	17.22	17.00		
Channel				39725	40173	40620	41068	41515	18.1	0
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	17.01	16.91	17.08	17.06	16.82		
15	QPSK	1	37	16.97	17.04	17.02	16.95	16.69	18.1	0
15	QPSK	1	74	17.01	17.03	17.16	17.00	16.72		
15	QPSK	36	0	17.27	17.17	17.23	17.26	16.90	18.1	0
15	QPSK	36	20	17.28	17.34	17.39	17.22	16.91		
15	QPSK	36	39	17.21	17.23	17.35	17.04	16.95		
15	QPSK	75	0	17.26	17.30	17.38	17.09	16.91	18.1	0
15	16QAM	1	0	17.34	17.31	17.38	17.42	17.14		
15	16QAM	1	37	17.33	17.32	17.42	17.34	17.15		
15	16QAM	1	74	17.24	17.50	17.50	17.21	17.15	18.1	0
15	16QAM	36	0	17.25	17.23	17.31	17.31	16.96		
15	16QAM	36	20	17.29	17.37	17.37	17.30	16.92		
15	16QAM	36	39	17.24	17.30	17.35	17.17	17.06	18.1	0
15	16QAM	75	0	17.28	17.28	17.30	17.15	16.93		
15	64QAM	1	0	17.31	17.21	17.23	17.23	16.85		
15	64QAM	1	37	17.11	17.24	17.20	17.16	17.05	18.1	0
15	64QAM	1	74	17.09	17.35	17.26	17.03	17.10		
15	64QAM	36	0	17.25	17.26	17.29	17.23	17.02		
15	64QAM	36	20	17.33	17.30	17.33	17.30	17.00	18.1	0
15	64QAM	36	39	17.36	17.37	17.40	17.21	17.01		
15	64QAM	75	0	17.30	17.28	17.37	17.12	16.99		
Channel				39700	40160	40620	41080	41540	18.1	0
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	16.96	16.96	17.12	17.05	16.74		
10	QPSK	1	25	16.93	16.97	17.03	16.88	16.78	18.1	0
10	QPSK	1	49	16.98	17.09	17.15	16.91	16.76		
10	QPSK	25	0	17.32	17.23	17.21	17.19	16.90		

10	QPSK	25	12	17.32	17.31	17.30	17.23	16.92		
10	QPSK	25	25	17.18	17.28	17.36	17.12	17.03		
10	QPSK	50	0	17.28	17.34	17.38	17.14	16.93		
10	16QAM	1	0	17.42	17.31	17.44	17.37	17.05	18.1	0
10	16QAM	1	25	17.30	17.32	17.42	17.32	17.11		
10	16QAM	1	49	17.28	17.44	17.49	17.23	17.15		
10	16QAM	25	0	17.31	17.27	17.30	17.29	16.91	18.1	0
10	16QAM	25	12	17.28	17.38	17.34	17.20	16.97		
10	16QAM	25	25	17.24	17.32	17.37	17.14	17.03		
10	16QAM	50	0	17.24	17.28	17.38	17.16	16.93	18.1	0
10	64QAM	1	0	17.35	17.17	17.27	17.17	16.79		
10	64QAM	1	25	17.11	17.23	17.24	17.14	17.04		
10	64QAM	1	49	17.10	17.44	17.32	17.01	17.05	18.1	0
10	64QAM	25	0	17.26	17.27	17.28	17.27	16.92		
10	64QAM	25	12	17.34	17.33	17.35	17.31	16.94		
10	64QAM	25	25	17.34	17.38	17.38	17.18	17.00	18.1	0
10	64QAM	50	0	17.34	17.33	17.32	17.12	16.94		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	17.00	16.89	17.13	17.08	16.72	18.1	0
5	QPSK	1	12	16.90	16.98	17.06	16.88	16.71		
5	QPSK	1	24	16.96	17.06	17.16	16.95	16.74		
5	QPSK	12	0	17.24	17.23	17.26	17.23	16.90	18.1	0
5	QPSK	12	7	17.30	17.32	17.30	17.17	16.97		
5	QPSK	12	13	17.23	17.28	17.39	17.10	17.02		
5	QPSK	25	0	17.28	17.32	17.31	17.19	16.91	18.1	0
5	16QAM	1	0	17.43	17.29	17.44	17.39	17.12		
5	16QAM	1	12	17.31	17.29	17.40	17.26	17.09		
5	16QAM	1	24	17.33	17.40	17.46	17.27	17.15	18.1	0
5	16QAM	12	0	17.30	17.21	17.28	17.26	17.00		
5	16QAM	12	7	17.25	17.33	17.36	17.20	16.94		
5	16QAM	12	13	17.31	17.29	17.34	17.17	17.06	18.1	0
5	16QAM	25	0	17.30	17.31	17.32	17.19	16.97		
5	64QAM	1	0	17.31	17.12	17.19	17.24	16.80		
5	64QAM	1	12	17.15	17.22	17.21	17.17	17.05	18.1	0
5	64QAM	1	24	17.13	17.40	17.25	17.02	17.04		
5	64QAM	12	0	17.27	17.26	17.33	17.28	16.94		
5	64QAM	12	7	17.33	17.31	17.37	17.28	16.98	18.1	0
5	64QAM	12	13	17.27	17.31	17.42	17.17	16.99		
5	64QAM	25	0	17.35	17.27	17.33	17.13	16.92		

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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)	MPR (dB)
Channel				43190	43340	43490	17.3	0
Frequency (MHz)				3560	3575	3590		
20	QPSK	1	0	16.46	16.46	16.41	17.3	0
20	QPSK	1	49	16.50	16.52	16.42		
20	QPSK	1	99	16.50	16.45	16.35		
20	QPSK	50	0	16.57	16.58	16.50	17.3	0
20	QPSK	50	24	16.57	16.56	16.48		
20	QPSK	50	50	16.56	16.54	16.45		
20	QPSK	100	0	16.54	16.55	16.45	17.3	0
20	16QAM	1	0	16.60	16.57	16.50		
20	16QAM	1	49	16.61	16.59	16.48		
20	16QAM	1	99	16.65	16.61	16.50	17.3	0
20	16QAM	50	0	16.61	16.62	16.53		
20	16QAM	50	24	16.63	16.60	16.55		
20	16QAM	50	50	16.63	16.56	16.50	17.3	0
20	16QAM	100	0	16.61	16.59	16.53		
20	64QAM	1	0	16.49	16.30	16.22		
20	64QAM	1	49	16.53	16.29	16.20	17.3	0
20	64QAM	1	99	16.31	16.27	16.19		
20	64QAM	50	0	16.63	16.63	16.53		
20	64QAM	50	24	16.64	16.62	16.50	17.3	0
20	64QAM	50	50	16.64	16.59	16.49		
20	64QAM	100	0	16.63	16.59	16.51		
Channel				43165	43340	43515	17.3	0
Frequency (MHz)				3557.5	3575	3592.5		
15	QPSK	1	0	16.42	16.40	16.37	17.3	0
15	QPSK	1	37	16.45	16.46	16.35		
15	QPSK	1	74	16.42	16.44	16.34		
15	QPSK	36	0	16.57	16.48	16.48	17.3	0
15	QPSK	36	20	16.54	16.52	16.47		
15	QPSK	36	39	16.48	16.48	16.38		
15	QPSK	75	0	16.50	16.49	16.42	17.3	0
15	16QAM	1	0	16.58	16.49	16.44		
15	16QAM	1	37	16.53	16.57	16.42		
15	16QAM	1	74	16.62	16.54	16.48	17.3	0
15	16QAM	36	0	16.53	16.54	16.51		
15	16QAM	36	20	16.58	16.54	16.51		
15	16QAM	36	39	16.61	16.53	16.50	17.3	0
15	16QAM	75	0	16.60	16.54	16.46		
15	64QAM	1	0	16.45	16.27	16.20		
15	64QAM	1	37	16.48	16.21	16.15	17.3	0
15	64QAM	1	74	16.25	16.25	16.13		
15	64QAM	36	0	16.53	16.63	16.46		
15	64QAM	36	20	16.63	16.61	16.49	17.3	0
15	64QAM	36	39	16.62	16.59	16.41		
15	64QAM	75	0	16.63	16.55	16.43		
Channel				43140	43340	43540	17.3	0
Frequency (MHz)				3555	3575	3595		
10	QPSK	1	0	16.36	16.40	16.39	17.3	0
10	QPSK	1	25	16.48	16.52	16.33		
10	QPSK	1	49	16.41	16.37	16.31		
10	QPSK	25	0	16.49	16.56	16.46	17.3	0



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10	QPSK	25	12	16.48	16.55	16.39		
10	QPSK	25	25	16.48	16.44	16.40		
10	QPSK	50	0	16.46	16.46	16.38		
10	16QAM	1	0	16.52	16.48	16.41	17.3	0
10	16QAM	1	25	16.53	16.59	16.40		
10	16QAM	1	49	16.61	16.51	16.47		
10	16QAM	25	0	16.54	16.61	16.43	17.3	0
10	16QAM	25	12	16.57	16.52	16.55		
10	16QAM	25	25	16.53	16.47	16.40		
10	16QAM	50	0	16.55	16.58	16.44	17.3	0
10	64QAM	1	0	16.46	16.30	16.22		
10	64QAM	1	25	16.46	16.28	16.20		
10	64QAM	1	49	16.31	16.20	16.11	17.3	0
10	64QAM	25	0	16.62	16.62	16.46		
10	64QAM	25	12	16.62	16.58	16.50		
10	64QAM	25	25	16.63	16.55	16.43	17.3	0
10	64QAM	50	0	16.56	16.50	16.51		
Channel				43115	43340	43565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3552.5	3575	3597.5		
5	QPSK	1	0	16.38	16.38	16.38	17.3	0
5	QPSK	1	12	16.45	16.48	16.37		
5	QPSK	1	24	16.44	16.42	16.31		
5	QPSK	12	0	16.55	16.56	16.48	17.3	0
5	QPSK	12	7	16.47	16.53	16.39		
5	QPSK	12	13	16.52	16.49	16.42		
5	QPSK	25	0	16.46	16.54	16.41	17.3	0
5	16QAM	1	0	16.55	16.47	16.48		
5	16QAM	1	12	16.60	16.58	16.39		
5	16QAM	1	24	16.57	16.53	16.47	17.3	0
5	16QAM	12	0	16.58	16.55	16.44		
5	16QAM	12	7	16.62	16.58	16.53		
5	16QAM	12	13	16.58	16.51	16.49	17.3	0
5	16QAM	25	0	16.52	16.52	16.44		
5	64QAM	1	0	16.47	16.29	16.16		
5	64QAM	1	12	16.45	16.22	16.17	17.3	0
5	64QAM	1	24	16.21	16.18	16.16		
5	64QAM	12	0	16.59	16.58	16.51		
5	64QAM	12	7	16.61	16.61	16.41	17.3	0
5	64QAM	12	13	16.57	16.50	16.49		
5	64QAM	25	0	16.59	16.57	16.49		

<LTE Band 48_ Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				55340	55830	56150	56640	16.6	0
Frequency (MHz)				3560	3609	3641	3690		
20	QPSK	1	0	15.48	15.38	15.37	15.52		
20	QPSK	1	49	15.42	15.22	15.27	15.46		
20	QPSK	1	99	15.45	15.29	15.36	15.51	16.6	0
20	QPSK	50	0	15.53	15.39	15.44	15.59		
20	QPSK	50	24	15.46	15.39	15.43	15.58		
20	QPSK	50	50	15.44	15.30	15.44	15.57		
20	QPSK	100	0	15.45	15.30	15.45	15.58	16.6	0
20	16QAM	1	0	15.55	15.50	15.50	15.66		
20	16QAM	1	49	15.47	15.31	15.40	15.51		
20	16QAM	1	99	15.56	15.42	15.59	15.64		
20	16QAM	50	0	15.58	15.44	15.50	15.64	16.6	0
20	16QAM	50	24	15.50	15.46	15.52	15.65		
20	16QAM	50	50	15.50	15.35	15.56	15.65		
20	16QAM	100	0	15.49	15.35	15.52	15.62		
20	64QAM	1	0	15.26	15.16	15.13	15.29	16.6	0
20	64QAM	1	49	15.17	15.01	15.09	15.20		
20	64QAM	1	99	15.26	15.12	15.24	15.33		
20	64QAM	50	0	15.57	15.44	15.53	15.64	16.6	0
20	64QAM	50	24	15.50	15.47	15.57	15.64		
20	64QAM	50	50	15.49	15.37	15.58	15.62		
20	64QAM	100	0	15.49	15.37	15.53	15.64		
Channel				55315	55820	56160	56665	16.6	0
Frequency (MHz)				3557.5	3608	3642	3692.5		
15	QPSK	1	0	15.48	15.32	15.33	15.49		
15	QPSK	1	37	15.38	15.16	15.18	15.39		
15	QPSK	1	74	15.42	15.19	15.35	15.50	16.6	0
15	QPSK	36	0	15.43	15.29	15.40	15.58		
15	QPSK	36	20	15.42	15.30	15.33	15.54		
15	QPSK	36	39	15.34	15.30	15.37	15.50		
15	QPSK	75	0	15.36	15.26	15.43	15.58	16.6	0
15	16QAM	1	0	15.53	15.46	15.47	15.65		
15	16QAM	1	37	15.47	15.24	15.33	15.46		
15	16QAM	1	74	15.48	15.39	15.52	15.56		
15	16QAM	36	0	15.50	15.34	15.43	15.64	16.6	0
15	16QAM	36	20	15.43	15.43	15.44	15.65		
15	16QAM	36	39	15.48	15.25	15.50	15.58		
15	16QAM	75	0	15.39	15.30	15.43	15.62		
15	64QAM	1	0	15.23	15.07	15.12	15.24	16.6	0
15	64QAM	1	37	15.10	15.00	15.00	15.13		
15	64QAM	1	74	15.26	15.12	15.24	15.26		
15	64QAM	36	0	15.53	15.38	15.50	15.59		
15	64QAM	36	20	15.50	15.44	15.53	15.63	16.6	0
15	64QAM	36	39	15.48	15.33	15.58	15.52		
15	64QAM	75	0	15.44	15.37	15.50	15.63		
Channel				55290	55815	56165	56690	16.6	0
Frequency (MHz)				3555	3607.5	3642.5	3695		
10	QPSK	1	0	15.47	15.30	15.31	15.49		
10	QPSK	1	25	15.36	15.17	15.24	15.44		
10	QPSK	1	49	15.37	15.25	15.34	15.42	16.6	0
10	QPSK	25	0	15.51	15.31	15.41	15.58		



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10	QPSK	25	12	15.40	15.37	15.39	15.52		
10	QPSK	25	25	15.36	15.25	15.35	15.48		
10	QPSK	50	0	15.42	15.22	15.45	15.53		
10	16QAM	1	0	15.46	15.40	15.41	15.65	16.6	0
10	16QAM	1	25	15.39	15.31	15.40	15.44		
10	16QAM	1	49	15.56	15.41	15.54	15.57		
10	16QAM	25	0	15.58	15.40	15.49	15.55	16.6	0
10	16QAM	25	12	15.44	15.45	15.46	15.58		
10	16QAM	25	25	15.41	15.27	15.47	15.59		
10	16QAM	50	0	15.42	15.28	15.46	15.54		
10	64QAM	1	0	15.25	15.06	15.12	15.29	16.6	0
10	64QAM	1	25	15.11	15.00	15.03	15.14		
10	64QAM	1	49	15.22	15.07	15.19	15.32		
10	64QAM	25	0	15.50	15.38	15.43	15.60	16.6	0
10	64QAM	25	12	15.48	15.43	15.48	15.55		
10	64QAM	25	25	15.47	15.37	15.56	15.52		
10	64QAM	50	0	15.46	15.37	15.47	15.61		
Channel				55265	55810	56170	56715	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3552.5	3607	3643	3697.5		
5	QPSK	1	0	15.42	15.35	15.27	15.52	16.6	0
5	QPSK	1	12	15.40	15.15	15.17	15.39		
5	QPSK	1	24	15.35	15.19	15.31	15.43		
5	QPSK	12	0	15.46	15.30	15.37	15.57	16.6	0
5	QPSK	12	7	15.40	15.31	15.38	15.54		
5	QPSK	12	13	15.36	15.22	15.43	15.48		
5	QPSK	25	0	15.35	15.21	15.44	15.51		
5	16QAM	1	0	15.46	15.49	15.41	15.60	16.6	0
5	16QAM	1	12	15.44	15.25	15.34	15.42		
5	16QAM	1	24	15.49	15.42	15.55	15.60		
5	16QAM	12	0	15.55	15.44	15.49	15.58	16.6	0
5	16QAM	12	7	15.49	15.42	15.44	15.63		
5	16QAM	12	13	15.42	15.26	15.52	15.65		
5	16QAM	25	0	15.43	15.34	15.45	15.53		
5	64QAM	1	0	15.19	15.08	15.12	15.27	16.6	0
5	64QAM	1	12	15.10	15.00	15.01	15.15		
5	64QAM	1	24	15.19	15.07	15.19	15.24		
5	64QAM	12	0	15.57	15.40	15.50	15.56	16.6	0
5	64QAM	12	7	15.44	15.39	15.52	15.61		
5	64QAM	12	13	15.40	15.37	15.56	15.54		
5	64QAM	25	0	15.41	15.36	15.46	15.63		

**<LTE Carrier Aggregation combinations>****General Note:**

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

2CC Downlink Carrier Aggregation					3CC Downlink Carrier Aggregation					4CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_12A-12A			3CC-25	1	CA_12A-30A-66A	30A, 66A, 30A-66A		4CC-1	1	CA_12A-30A-66A-66A	30A, 66A, 30A-66A, 66A-66A, 30A-66A-66A		5CC-14
2	CA_12A-25A	25A			2	CA_12A-46C		B46 only SCC	4CC-2	2	CA_12A-46D		B46 only SCC	5CC-1
3	CA_12A-30A	30A		3CC-1	3	CA_12A-66A-66A	66A, 66A-66A		4CC-3	3	CA_12B-66A-66A	66A, 66A-66A		5CC-14
4	CA_12A-46A		B46 only SCC	3CC-2	4	CA_12A-66C	66C		4CC-3	4	CA_13A-46C-66A	66A	B46 only SCC	5CC-2
5	CA_12A-66A	66A		3CC-3	5	CA_12B-66A	66A		4CC-3	5	CA_13A-46D		B46 only SCC	5CC-2
6	CA_12B			3CC-5	6	CA_13A-46A-66A	66A	B46 only SCC	4CC-4	6	CA_13A-48A-48A-66A	48A, 66A, 48A-48A, 48A-66A, 48A-48A-66A		5CC-16
7	CA_13A-46A		B46 only SCC	3CC-7	7	CA_13A-46C		B46 only SCC	4CC-4	7	CA_13A-48A-48C	48A, 48C, 48A-48C		5CC-16
8	CA_13A-48A	48A		3CC-8	8	CA_13A-48A-48A	48A, 48A-48A		4CC-7	8	CA_13A-48A-66B	48A, 66B, 48A-66B		5CC-16
9	CA_13A-66A	66A		3CC-9	9	CA_13A-48A-66A	48A, 66A, 48A-66A		4CC-6	9	CA_13A-48A-66C	48A, 66C, 48A-66C		5CC-16
10	CA_14A-30A	30A		3CC-14	10	CA_13A-48C	48C		4CC-7	10	CA_13A-48C-66A	48C, 66A, 48C-66A		5CC-16
11	CA_14A-66A	66A		3CC-14	11	CA_13A-66A-66A	66A, 66A-66A		4CC-12	11	CA_13A-48D	48D		5CC-16
12	CA_25A-25A	25A, 25A-25A		3CC-16	12	CA_13A-66B	66B		4CC-12	12	CA_13A-66A-66A-66A	66A, 66A-66A, 66A-66A-66A		5CC-16
13	CA_25A-26A	25A		3CC-17	13	CA_13A-66C	66C		4CC-12	13	CA_13A-66A-66B	66A, 66B, 66A-66B		5CC-16
14	CA_25A-41A	25A, 41A, 25A-41A		3CC-18	14	CA_14A-30A-66A	30A, 66A, 30A-66A		4CC-16	14	CA_13A-66A-66C	66A, 66C, 66A-66C		5CC-16
15	CA_25A-46A	25A	B46 only SCC	3CC-21	15	CA_14A-66A-66A	66A, 66A-66A		4CC-17	15	CA_13A-66D	66D		5CC-16
16	CA_26A-41A	41A		3CC-22	16	CA_25A-25A-25A	25A, 25A-25A, 25A-25A-25A		4CC-18	16	CA_14A-30A-66A-66A	30A, 66A, 30A-66A, 66A-66A, 30A-66A-66A		5CC-23
17	CA_26A-46A		B46 only SCC		17	CA_25A-25A-26A	25A, 25A-25A		4CC-19	17	CA_14A-66A-66A-66A	66A, 66A-66A, 66A-66A		5CC-23
18	CA_29A-30A	30A	B29 only SCC	3CC-23	18	CA_25A-25A-41A	25A, 41A, 25A-25A, 25A-41A, 25A-25A-41A		4CC-18	18	CA_25A-25A-41C	25A, 41C, 25A-25A, 25A-41C, 25A-25A-41C		5CC-11
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					102	CA_4A-29A-30A	4A, 30A, 4A-30A	B29 only SCC	4CC-132	102	CA_41A-46D	41A	B46 only SCC	5CC-65
					103	CA_4A-46A-46A	4A	B46 only SCC	4CC-127	103	CA_41C-41C	41C, 41C-41C		5CC-66
					104	CA_4A-46C	4A	B46 only SCC	4CC-127	104	CA_41C-42C	41C, 42C, 41C-42C		5CC-67
					105	CA_4A-48C	4A, 48C, 4A-48C		4CC-128	105	CA_41D-42A	41D, 42A, 41D-42A		5CC-67
					106	CA_4A-4A-12A	4A, 4A-4A		4CC-129	106	CA_41E	41E		5CC-66
					107	CA_4A-4A-13A	4A, 4A-4A			107	CA_42A-42D	42A, 42D, 42A-42D		5CC-67
					108	CA_4A-4A-29A	4A, 4A-4A	B29 only SCC	4CC-68	108	CA_42C-42C	42C, 42C-42C		5CC-67
					109	CA_4A-4A-30A	4A, 30A, 4A-30A		4CC-68	109	CA_42E	42E		5CC-67
					110	CA_4A-4A-5A	4A, 4A-4A		4CC-135	110	CA_46A-46C-66A	66A	B46 only SCC	5CC-70
					111	CA_4A-4A-7A	4A, 7A, 4A-4A, 4A-7A, 4A-4A-7A		4CC-73	111	CA_46A-66A-66A-66A	66A, 66A-66A, 66A-66A-66A	B46 only SCC	5CC-70
					112	CA_4A-5A-30A	4A, 30A, 4A-30A		4CC-135	112	CA_46C-66A-66A	66A, 66A-66A	B46 only SCC	5CC-70
					113	CA_4A-5B	4A		4CC-135	113	CA_46D-66A	66A	B46 only SCC	5CC-70
					114	CA_4A-7A-12A	4A, 7A, 4A-7A		4CC-73	114	CA_48A-48A-66A-66A	48A, 66A, 48A-48A, 48A-66A, 66A-66A, 48A-48A-66A, 48A-66A-66A		5CC-75
					115	CA_4A-7A-7A	4A, 7A, 4A-7A, 7A-7A, 4A-7A-7A		4CC-73	115	CA_48A-48A-66B	48A, 66B, 48A-48A, 48A-66B, 48A-48A-66B		5CC-75
					116	CA_4A-7C	4A, 7C, 4A-7C		4CC-73	116	CA_48A-48A-66C	48A, 66C, 48A-48A, 48A-66C, 48A-48A-66C		5CC-75
					117	CA_5A-30A-66A	30A, 66A, 30A-66A		4CC-76	117	CA_48A-48C-66A	48A, 48C, 66A, 48A-48C, 48A-66A, 48C-66A, 48A-48C-66A		5CC-75
					118	CA_5A-46A-66A	66A	B46 only SCC	4CC-137	118	CA_48A-48D	48A, 48D, 48A-48D		5CC-75
					119	CA_5A-46C		B46 only SCC	4CC-137	119	CA_48A-66A-66A-66A	48A, 66A, 48A-66A, 66A-66A, 48A-66A-66A, 66A-66A-66A		5CC-75
					120	CA_5A-48A-48A	48A, 48A-48A		4CC-140	120	CA_48C-48C	48C, 48C-48C		5CC-75
					121	CA_5A-48A-66A	48A, 66A, 48A-66A		4CC-139	121	CA_48C-66A-66A	48C, 66A, 48C-66A, 66A-66A, 48C-66A-66A		5CC-75
					122	CA_5A-48C	48C		4CC-142	122	CA_48C-66B	48C, 66B, 48C-66B		5CC-75
					123	CA_5A-5A-66A	66A		4CC-141	123	CA_48C-66C	48C, 66C, 48C-66C		5CC-75
					124	CA_5A-66A-66A	66A, 66A-66A		4CC-141	124	CA_48D-66A	48D, 66A, 48D-66A		5CC-75
					125	CA_5A-66B	66B		4CC-141	125	CA_48E	48E		5CC-81
					126	CA_5A-66C	66C		4CC-141	126	CA_4A-46A-46C	4A	B46 only SCC	5CC-82
					127	CA_5A-7A-46A	7A	B46 only SCC	4CC-149	127	CA_4A-46D	4A	B46 only SCC	5CC-82
					128	CA_5A-7A-7A	7A, 7A-7A		4CC-149	128	CA_4A-48D	4A, 48D, 4A-48D		5CC-83
					129	CA_5A-7C	7C		4CC-149	129	CA_4A-4A-12A-12A	4A, 4A-4A		4CC-66
					130	CA_5B-30A	30A		4CC-150	130	CA_4A-4A-12A-30A	4A, 30A, 4A-4A, 4A-30A, 4A-4A-30A		4CC-66
					131	CA_5B-46A		B46 only SCC	4CC-138	131	CA_4A-4A-12B	4A, 4A-4A		4CC-66
					132	CA_5B-66A	66A		4CC-136	132	CA_4A-4A-29A-30A	4A, 30A, 4A-4A, 4A-30A, 4A-4A-30A	B29 only SCC	4CC-68
					133	CA_66A-66A-66A	66A, 66A-66A, 66A-66A-66A		4CC-147	133	CA_4A-4A-5A-30A	4A, 30A, 4A-4A, 4A-30A, 4A-4A-30A		5CC-51
					134	CA_66A-66B	66A, 66B, 66A-66B		4CC-152	134	CA_4A-4A-5B	4A, 4A-4A		5CC-51
					135	CA_66A-66C	66A, 66C, 66A-66C		4CC-152	135	CA_4A-5B-30A	4A, 30A, 4A-30A		5CC-51
					136	CA_66D	66D		4CC-152	136	CA_5A-30A-66A-66A	30A, 66A, 30A-66A, 66A-66A, 30A-66A-66A		5CC-52
					137	CA_7A-12A-66A	7A, 66A, 7A-66A		4CC-155	137	CA_5A-46C-66A	66A	B46 only SCC	5CC-85
					138	CA_7A-12B	7A		4CC-155	138	CA_5A-46D		B46 only SCC	5CC-85
					139	CA_7A-46C	7A	B46 only SCC	4CC-157	139	CA_5A-48A-48A-66A	48A, 66A, 48A-48A, 48A-66A, 48A-48A-66A		5CC-87
					140	CA_7A-66A-66A	7A, 66A, 7A-66A, 66A-66A, 7A-66A-66A		4CC-169	140	CA_5A-48A-48C	48A, 48C, 48A-48C		5CC-87
					141	CA_7A-7A-46A	7A, 7A-7A	B46 only SCC	4CC-164	141	CA_5A-48C-66A	48C, 66A, 48C-66A		5CC-87
					142	CA_7C-46A	7C	B46 only SCC	4CC-164	142	CA_5A-48D	48D		5CC-87
					143	CA_7C-66A	66A, 7C, 7C-66A		4CC-165	143	CA_5A-5A-66A-66A	66A, 66A-66A		5CC-87
					144	CA_2A-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-66A		4CC-170	144	CA_5A-5A-66B	66B		5CC-87



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							2A-48A-66A							
					145	CA_46A-48A-66A	66A	B46 only SCC	4CC-166	145	CA_5A-5A-66C	66C		5CC-87
					146	CA_48A-66B	48A, 66B, 48A-66B		4CC-166	146	CA_5A-66A-66B	66A, 66B, 66A-66B		5CC-87
					147	CA_7A-7A-66A	7A-7A-66A		4CC-169	147	CA_5A-66A-66C	66A, 66C, 66A-66C		5CC-87
					148	CA_7A-7A-13A	7A-7A		4CC-176	148	CA_5A-66D	66D		5CC-87
					149	CA_7A-7A-29A	7A-7A	B29 only SCC	4CC-175	149	CA_5A-7A-46C	7A	B46 only SCC	5CC-90
					150	CA_7A-29A-66A	7A-66A	B29 only SCC	4CC-175	150	CA_5B-30A-66A	30A, 66A, 30A-66A		5CC-52
					151	CA_7C-29A	7C	B29 only SCC	4CC-175	151	CA_5B-46C		B46 only SCC	5CC-53
					152	CA_7A-46A-66A	7A-66A	B46 only SCC	4CC-92	152	CA_5B-66A-66A	66A, 66A-66A		5CC-52
					153	CA_2A-46A-48A	2A	B46 only SCC	4CC-161	153	CA_5B-66B	66B		5CC-52
					154	CA_46C-48A		B46 only SCC	4CC-161	154	CA_5B-66C	66C		5CC-52
										155	CA_7A-12B-66A	7A, 66A, 7A-66A		5CC-62
										156	CA_7A-46D	7A	B46 only SCC	5CC-90
										157	CA_7A-7A-46C	7A, 7A-7A	B46 only SCC	5CC-90
										158	CA_7C-46C	7C	B46 only SCC	5CC-90
										159	CA_7C-66A-66A	7C, 66A, 7C-66A, 66A-66A, 7C-66A-66A		5CC-62
										160	CA_2A-12B-66A	2A-66A		5CC-62
										161	CA_2A-46A-48A-66A	2A-66A	B46 only SCC	5CC-101
										162	CA_2A-46A-48C	2A	B46 only SCC	5CC-101
										163	CA_2A-46C-48A	2A	B46 only SCC	5CC-101
										164	CA_2A-7A-46C	2A-7A		6CC-22
										165	CA_2A-7A-7A-66A	2A, 7A, 66A, 2A-7A, 2A-66A, 7A-66A, 2A-7A-7A, 2A-7A-66A, 7A-7A-66A, 2A-7A-7A-66A		5CC-113
										166	CA_46A-48C-66A	66A	B46 only SCC	5CC-109
										167	CA_46A-48D		B46 only SCC	5CC-109
										168	CA_46C-48A-66A	66A	B46 only SCC	5CC-109
										169	CA_2A-7C-66A	2A, 7C, 66A, 2A-7C, 7C-66A, 2A-7C-66A		5CC-112
										170	CA_2A-48A-66A-66A	2A-48A-66A-66A		5CC-103
										171	CA_7A-7A-66A-66A	7A, 66A, 7A-66A, 7A-7A, 7A-66A, 66A-66A, 7A-7A-66A, 7A-66A-66A, 7A-7A-66A-66A		5CC-110
										172	CA_2A-2A-7A-12A	2A-2A-7A		4CC-73
										173	CA_2A-7A-29A-66A	2A-7A-66A	B29 only SCC	5CC-111
										174	CA_7A-7A-29A-66A	7A-7A-66A	B29 only SCC	5CC-111
										175	CA_7C-29A-66A	7C-66A	B29 only SCC	5CC-111
										176	CA_2A-7A-7A-13A	2A, 7A, 2A-7A, 7A-7A, 2A-7A-7A		
										177	CA_46D-48A		B46 only SCC	5CC-106



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5CC Downlink Carrier Aggregation					6CC Downlink Carrier Aggregation				
Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
1	CA_12A-46E		B46 only SCC	6CC-5	1	CA_13A-46D-66A-66A	66A, 66A-66A	B46 only SCC	7CC-12
2	CA_13A-46D-66A	66A	B46 only SCC	6CC-1	2	CA_13A-46E-66A	66A	B46 only SCC	7CC-12
3	CA_13A-46E		B46 only SCC	6CC-1	3	CA_2A-13A-46A-46D	2A	B46 only SCC	7CC-12
4	CA_13A-48A-48C-66A	48A, 48C, 66A, 48A-48C, 48A-66A, 48C-66A, 48A-48C-66A		6CC-25	4	CA_2A-13A-46D-66A	2A, 66A, 2A-66A	B46 only SCC	7CC-12
5	CA_13A-48A-48D	48A, 48D, 48A-48D		6CC-25	5	CA_2A-13A-46E	2A	B46 only SCC	7CC-12
6	CA_13A-48C-48C	48C, 48C-48C		6CC-25	6	CA_2A-46A-48D-66A	2A, 66A, 2A-66A	B46 only SCC	7CC-1
7	CA_13A-48C-66B	48C, 66B, 48C-66B		6CC-25	7	CA_2A-46C-48C-66A	2A, 66A, 2A-66A	B46 only SCC	7CC-1
8	CA_13A-48C-66C	48C, 66C, 48C-66C		6CC-25	8	CA_2A-46C-48D	2A	B46 only SCC	7CC-1
9	CA_13A-48D-66A	48D, 66A, 48D-66A		6CC-25	9	CA_2A-46D-48A-66A	2A, 66A, 2A-66A	B46 only SCC	7CC-1
10	CA_13A-48E			6CC-25	10	CA_2A-46D-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A	B46 only SCC	7CC-1
11	CA_25A-25A-41D	25A, 41D, 25A-25A, 25A-41D, 25A-25A-41D			11	CA_2A-46E-66A	2A, 66A, 2A-66A	B46 only SCC	7CC-1
12	CA_25A-25A-46D	25A, 25A-25A	B46 only SCC		12	CA_2A-48E-66A	2A, 48E, 66A, 2A-66A		7CC-1
13	CA_25A-41E	25A, 41E, 25A-41E		5CC-11	13	CA_2A-5A-46D-66A	2A, 66A, 2A-66A	B46 only SCC	7CC-10
14	CA_2A-12A-30A-66A-66A	2A, 30A, 66A, 2A-30A, 2A-66A, 30A-66A, 66A-66A, 2A-30A-66A, 2A-66A-66A, 30A-66A-66A, 2A-30A-66A-66A			14	CA_2A-5A-46E	2A	B46 only SCC	7CC-10
15	CA_2A-13A-46D	2A	B46 only SCC	6CC-25	15	CA_41C-42C-42C	41C, 42C, 41C-42C, 42C-42C		
16	CA_2A-13A-48A-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-48A, 48A-66A, 2A-48A-48A, 2A-48A-66A, 48A-48A-66A, 2A-48A-48A-66A			16	CA_46E-66A-66A	66A, 66A-66A	B46 only SCC	7CC-1
17	CA_2A-13A-48A-48C	2A, 48A, 48C, 2A-48A, 2A-48C, 48A-48C, 2A-48A-48C		5CC-16	17	CA_5A-46D-66A-66A	66A, 66A-66A	B46 only SCC	7CC-10
18	CA_2A-13A-48C-66A	2A, 48C, 66A, 2A-48C, 2A-66A, 48C-66A, 2A-48C-66A		5CC-16	18	CA_5A-46E-66A	66A	B46 only SCC	7CC-10
19	CA_2A-13A-48D	2A, 48D, 2A-48D		5CC-16	19	CA_5B-46E		B46 only SCC	7CC-10
20	CA_2A-13A-66A-66B	2A, 66A, 66B, 2A-66A, 2A-66B, 66A-66B, 2A-66A-66B		5CC-16	20	CA_7A-7A-46E	7A, 7A-7A	B46 only SCC	7CC-7
21	CA_2A-13A-66A-66C	2A, 66A, 66C, 2A-66A, 2A-66C, 66A-66C, 2A-66A-66C		5CC-16	21	CA_2A-46A-48E		B46 only SCC	7CC-1
22	CA_2A-13A-66D	2A, 66D, 2A-66D		5CC-16	22	CA_2A-7A-46E	2A-7A	B46 only SCC	7CC-7
23	CA_2A-14A-30A-66A-66A	2A, 30A, 66A, 2A-30A, 2A-66A, 30A-66A, 66A-66A, 2A-30A-66A, 2A-66A-66A, 30A-66A-66A, 2A-30A-66A-66A			23	CA_2A-7A-7A-46D	2A-7A-7A	B46 only SCC	7CC-7
24	CA_2A-14A-66A-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A, 66A-66A-66A, 2A-66A-66A-66A		5CC-23	24	CA_46C-48D-66A	66A	B46 only SCC	7CC-1
25	CA_2A-2A-12A-30A-66A	2A, 30A, 66A, 2A-2A, 2A-30A, 2A-66A, 30A-66A, 2A-2A-30A, 2A-2A-66A, 2A-30A-66A, 2A-2A-30A-66A		5CC-14	25	CA_13A-48E-66A	66A		
26	CA_2A-2A-12A-66A-66A	2A, 66A, 2A-2A, 2A-66A, 66A-66A, 2A-2A-66A, 2A-66A-66A, 2A-2A-66A-66A		5CC-14	26	CA_2A-46D-48C	2A	B46 only SCC	7CC-1
27	CA_2A-2A-12B-66A	2A, 66A, 2A-2A, 2A-66A, 2A-2A-66A		5CC-14	27	CA_2A-46E-48A	2A	B46 only SCC	7CC-1
28	CA_2A-2A-13A-66A-66A	2A, 66A, 2A-2A, 2A-66A, 66A-66A, 2A-2A-66A, 2A-66A-66A, 2A-2A-66A-66A		6CC-4	28	CA_46E-48A-66A	66A	B46 only SCC	7CC-1
29	CA_2A-2A-13A-66B	2A, 66B, 2A-2A, 2A-66B, 2A-2A-66B		6CC-4	7CC Downlink Carrier Aggregation				
30	CA_2A-2A-14A-30A-66A	2A, 30A, 66A, 2A-2A, 2A-30A, 2A-66A, 30A-66A, 2A-2A-30A, 2A-2A-66A, 2A-30A-66A, 2A-2A-30A-66A		5CC-23	Number	Combination	4X4 MIMO	Restriction	Covered by Measurement Superset
31	CA_2A-2A-14A-66A-66A	2A, 66A, 2A-2A, 2A-66A, 66A-66A, 2A-2A-66A, 2A-66A-66A, 2A-2A-66A-66A		5CC-23	1	CA_2A-46C-48D-66A	2A, 66A, 2A-66A	B46 only SCC	
32	CA_2A-2A-46D	2A, 2A-2A	B46 only SCC	6CC-3	2	CA_2A-46C-48E	2A	B46 only SCC	7CC-1
33	CA_2A-2A-5A-30A-66A	2A, 30A, 66A, 2A-2A, 2A-30A, 2A-66A, 30A-66A, 2A-2A-30A, 2A-2A-66A, 2A-30A-66A, 2A-2A-30A-66A			3	CA_2A-46D-48C-66A	2A, 66A, 2A-66A	B46 only SCC	7CC-1
34	CA_2A-2A-5A-66A-66A	2A, 66A, 2A-2A, 2A-66A, 66A-66A, 2A-2A-66A, 2A-66A-66A, 2A-2A-66A-66A		5CC-3	4	CA_2A-46E-48A-66A	2A, 66A, 2A-66A	B46 only SCC	7CC-1
35	CA_2A-2A-5A-66B	2A, 66B, 2A-2A, 2A-66B, 2A-2A-66B		5CC-3	5	CA_2A-46E-48C	2A	B46 only SCC	7CC-1
36	CA_2A-2A-5A-66C	2A, 66C, 2A-2A, 2A-66C, 2A-2A-66C		5CC-3	6	CA_2A-46E-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A	B46 only SCC	7CC-1
37	CA_2A-2A-5B-66A	2A, 66A, 2A-2A, 2A-66A, 2A-2A-66A		5CC-3	7	CA_2A-7A-7A-46E	2A, 7A, 2A-7A, 7A-7A, 2A-7A-7A	B46 only SCC	
38	CA_2A-2A-66A-66B	2A, 66A, 66B, 2A-2A, 2A-66A, 2A-66B, 66A-66B, 2A-2A-66A, 2A-2A-66B, 2A-66A-66B, 2A-2A-66A-66B		5CC-3	8	CA_46C-48E-66A	66A	B46 only SCC	7CC-1
39	CA_2A-2A-66A-66C	2A, 66A, 66C, 2A-2A, 2A-66A, 2A-66C, 66A-66C, 2A-2A-66A, 2A-2A-66C, 2A-66A-66C, 2A-2A-66A-66C		5CC-3	9	CA_46E-48C-66A	66A	B46 only SCC	7CC-1
40	CA_2A-2A-7A-12A-66A	2A, 7A, 66A, 2A-2A, 2A-7A, 2A-66A, 7A-66A			10	CA_2A-5A-46E-66A	2A-66A	B46 only SCC	
41	CA_2A-46A-46C-66A	2A, 66A, 2A-66A	B46 only SCC	6CC-4	11	CA_2A-5A-46D-66A-66A	2A-66A-66A	B46 only SCC	7CC-10
42	CA_2A-46A-46D	2A	B46 only SCC	6CC-4	12	CA_2A-13A-46D-66A-66A	2A-66A-66A	B46 only SCC	
43	CA_2A-46C-46C	2A	B46 only SCC	6CC-4	13	CA_5A-46E-66A-66A	66A-66A	B46 only SCC	7CC-11
44	CA_2A-46D-66A	2A, 66A, 2A-66A	B46 only SCC	6CC-4					
45	CA_2A-46E	2A	B46 only SCC	6CC-4					
46	CA_2A-48A-48C-66A	2A, 48A, 48C, 2A-48A, 2A-48C, 2A-66A, 48A-48C, 48C-66A, 2A-48A-66A, 48A-48C-66A, 2A-48A-48C-66A		6CC-6					
47	CA_2A-48A-48D	2A, 48A, 48D, 2A-48A, 2A-48D, 48A-48D, 2A-48A-48D		6CC-6					
48	CA_2A-48C-48C	2A, 48C, 2A-48C, 48C-48C, 2A-48C-48C		6CC-6					
49	CA_2A-48D-66A	2A, 48D, 66A, 2A-48D, 2A-66A, 48D-66A, 2A-66A-48D		6CC-6					
50	CA_2A-48E	2A, 48E, 2A-48E		6CC-6					
51	CA_2A-4A-5B-30A	2A, 4A, 30A, 2A-4A, 2A-30A, 4A-30A, 2A-4A-30A							
52	CA_2A-5A-30A-66A-66A	2A, 30A, 66A, 2A-30A, 2A-66A, 30A-66A, 66A-66A, 2A-30A-66A, 30A-66A-66A		5CC-33					



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		2A-30A-66A-66A						
53	CA_2A-5A-46D	2A	B46 only SCC	6CC-13				
54	CA_2A-5A-48A-66A	2A, 48A, 66A, 2A-48A, 2A-66A, 48A-48A, 48A-66A						
55	CA_2A-5A-48A-48C	2A, 48A, 48C, 2A-48A, 2A-48C, 48A-48C, 2A-48A-48C		5CC-54				
56	CA_2A-5A-48C-66A	2A, 48C, 66A, 2A-48C, 2A-66A, 48C-66A, 2A-48C-66A		5CC-54				
57	CA_2A-5A-48D	2A, 48D, 2A-48D		5CC-54				
58	CA_2A-5B-30A-66A	2A, 30A, 66A, 2A-30A, 30A-66A, 2A-30A-66A		5CC-33				
59	CA_2A-5B-66A-66A	2A, 66A, 2A-66A, 66A-66A, 2A-66A-66A		5CC-33				
60	CA_2A-5B-66B	2A, 66B, 2A-66B		5CC-33				
61	CA_2A-5B-66C	2A, 66C, 2A-66C		5CC-33				
62	CA_2A-7A-12B-66A	2A, 7A, 66A, 2A-7A, 2A-66A, 7A-66A, 2A-7A-66A		5CC-40				
63	CA_2C-5B-30A	2C, 30A, 2C-30A		5CC-51				
64	CA_41A-42C-42C	41A, 42C, 41A-42C, 42C-42C, 41A-42C-42C		6CC-15				
65	CA_41A-46E	41A	B46 only SCC					
66	CA_41C-41D	41C, 41D, 41C-41D		5CC-65				
67	CA_41C-42A-42C	41C, 42A, 42C, 41C-42A, 41C-42C, 42A-42C, 41C-42A-42C		6CC-15				
68	CA_41D-42C	41D, 42C		6CC-15				
69	CA_46A-46D-66A	66A	B46 only SCC	6CC-1				
70	CA_46C-46C-66A	66A	B46 only SCC	6CC-1				
71	CA_46C-66A-66A-66A	66A, 66A-66A, 66A-66A-66A	B46 only SCC	6CC-1				
72	CA_46D-66A-66A	66A, 66A-66A	B46 only SCC	6CC-1				
73	CA_46E-66A	66A	B46 only SCC	6CC-1				
74	CA_48A-48C-66B	48A, 48C, 66B, 48A-48C, 48A-66B, 48C-66B, 48A-48C-66B		6CC-6				
75	CA_48A-48C-66C	48A, 48C, 66C, 48A-48C, 48A-66C, 48C-66C, 48A-48C-66C		6CC-6				
76	CA_48A-48D-66A	48A, 48D, 66A, 48A-48D, 48A-66A, 48D-66A, 48A-48D-66A		6CC-6				
77	CA_48C-48C-66A	48C, 66A, 48C-48C, 48C-66A, 48C-48C-66A		6CC-6				
78	CA_48C-48D	48C, 48D, 48C-48D		6CC-6				
79	CA_48C-66A-66A-66A	48C, 66A, 48C-66A, 66A-66A, 48C-66A-66A, 66A-66A-66A		6CC-6				
80	CA_48E-66A	48E, 66A, 48E-66A		6CC-6				
81	CA_48F	48F		6CC-6				
82	CA_4A-46A-46D	4A	B46 only SCC					
83	CA_4A-48E	4A, 48E, 4A-48E						
84	CA_4A-4A-5B-30A	4A, 30A, 4A-4A, 4A-30A, 4A-4A-30A		5CC-51				
85	CA_5A-46D-66A	66A	B46 only SCC	6CC-18				
86	CA_5A-46E		B46 only SCC	6CC-18				
87	CA_5A-48A-48C-66A	48A, 48C, 66A, 48A-48C, 48A-66A, 48C-66A, 48A-48C-66A		5CC-54				
88	CA_5A-48C-48C	48C, 48C-48C		5CC-54				
89	CA_5A-48E	48E		5CC-54				
90	CA_5A-7A-46D	7A	B46 only SCC					
91	CA_5B-30A-66A-66A	30A, 66A, 30A-66A, 66A-66A, 30A-66A-66A		5CC-33				
92	CA_5B-46D		B46 only SCC	6CC-13				
93	CA_5B-66A-66B	66A, 66B, 66A-66B		6CC-13				
94	CA_5B-66A-66C	66A, 66C, 66A-66C		6CC-13				
95	CA_7A-46E	7A	B46 only SCC	6CC-20				
96	CA_7A-7A-46D	7A, 7A-7A	B46 only SCC	6CC-20				
97	CA_7C-46D	7C	B46 only SCC	6CC-20				
98	CA_5A-48A-48D	48A, 48D, 48A-48D		5CC-54				
99	CA_5A-48D-66A	48D, 66A, 48D-66A		5CC-54				
100	CA_2A-12B-66A-66A	2A-66A-66A		5CC-40				
101	CA_2A-46A-48C-66A	2A-66A	B46 only SCC	6CC-9				
102	CA_2A-46A-48D	2A	B46 only SCC	6CC-9				
103	CA_2A-46C-48A-66A	2A-66A	B46 only SCC	6CC-9				
104	CA_2A-46C-48C	2A	B46 only SCC	6CC-9				
105	CA_2A-46D-48A	2A	B46 only SCC	6CC-9				
106	CA_46A-48D-66A	66A	B46 only SCC	6CC-9				
107	CA_46C-48C-66A	66A	B46 only SCC	6CC-9				
108	CA_46C-48D		B46 only SCC	6CC-9				
109	CA_46D-48A-66A	66A	B46 only SCC	6CC-9				
110	CA_2A-7C-66A-66A	2A, 7C, 66A, 2A-7C, 2A-66A, 7C-66A, 2A-7C-66A, 2A-66A-66A, 7C-66A-66A, 2A-7C-66A-66A		5CC-40				
111	CA_2A-7A-7A-29A-66A	2A-7A-7A-66A	B29 only SCC					
112	CA_2A-7C-29A-66A	2A-7C-66A	B29 only SCC	5CC-111				
113	CA_2A-7A-7A-66A-66A	2A, 7A, 66A, 2A-7A, 2A-66A, 7A-66A, 2A-7A-7A, 2A-7A-66A, 2A-66A-66A, 7A-66A-66A, 2A-7A-7A-66A, 2A-7A-66A-66A, 7A-7A-66A-66A, 2A-7A-7A-66A-66A		5CC-111				
114	CA_46E-48A		B46 only SCC	6CC-28				

<Power verification when LTE Carrier Aggregation Active>
General Note:

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

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

<Two Carrier power verification>

Configure	CA Configuration (BCS)	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	CA_12A-25A	12	10	704	23060	QPSK	1	0	25	20	1960	8340	23.40	23.43
	CA_26A-46A	26	5	816.5	26715	QPSK	1	12	46	20	5537.5	50665	23.72	23.79
	CA_41A-48A	41	20	2593	40620	QPSK	1	99	48	20	3625	55990	23.19	23.27
	CA_5A-25A	5	10	829	20450	QPSK	1	0	25	20	1960	8340	23.64	23.67
	CA_5A-38A	5	10	829	20450	QPSK	1	0	38	20	2595	38000	23.63	23.67
	CA_5A-41A	5	10	829	20450	QPSK	1	0	41	20	2593	40620	23.63	23.67
	CA_7A-42A	7	20	2510	20850	QPSK	1	99	42	20	3575	43340	23.31	23.38
	CA_4A-17A	4	10	1732.5	20175	QPSK	1	0	17	10	740	5790	23.25	23.34
	CA_2A-17A	2	5	1907.5	19175	QPSK	1	24	17	10	740	5790	22.99	23.02

<Three Carrier power verification>

Configure	CA Configuration (BCS)	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	CA_2A-4A-13A	2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	13	10	751	5230	23.08	23.12
	CA_2A-5A-7A	2	20	1880	18900	QPSK	1	0	5	10	881.5	2525	7	20	2655	3100	23.05	23.12
	CA_4A-4A-13A	4	20	1732.5	20175	QPSK	1	0	4	5	2152.5	2375	13	10	751	5230	23.32	23.41

<Four Carrier power verification>

Configure	CA Configuration (BCS)	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	CA_25A-26A-41C	25	20	1880	26340	QPSK	1	0	26	15	876.5	8865	41	20	2593	40620	41	20	2612.8	40818	23.01	23.05
	CA_2A-29A-30A-66A	2	20	1880	18900	QPSK	1	0	29	10	722.5	9715	30	10	2355	9820	66	20	2155	66886	23.06	23.12
	CA_2A-4A-12A-30A	2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	12	10	737.5	5095	30	10	2355	9820	23.10	23.12
	CA_2A-4A-29A-30A	2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	29	10	722.5	9715	30	10	2355	9820	23.04	23.12
	CA_2A-4A-7A-12A	2	20	1880	18900	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	12	10	737.5	5095	23.02	23.12
	CA_2A-7A-46A-66A	2	20	1880	18900	QPSK	1	0	7	20	2655	3100	46	20	5537.5	50665	66	20	2155	66886	23.02	23.12
	CA_2A-7A-7A-13A	2	20	1880	18900	QPSK	1	0	7	20	2655	3100	7	5	2687.5	3425	13	10	751	5230	23.02	23.12

<Five Carrier power verification>

Configure	CA Configuration (BCS)	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	CA_25A-25A-41D	25	20	1880	26340	QPSK	1	0	25	5	1932.5	8065	41	20	2593	40620	41	20	2612.8	40818	41	20	2632.6	41016	23.04	23.05
	CA_25A-25A-46D	25	20	1880	26340	QPSK	1	0	25	5	1932.5	8065	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	23.05	23.05
	CA_2A-12A-30A-66A-66A	2	20	1880	18900	QPSK	1	0	12	10	737.5	5095	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.05	23.12
	CA_2A-13A-48A-48A-66A	2	20	1880	18900	QPSK	1	0	13	10	751	5230	48	20	3625	55990	48	5	3697.5	56715	66	20	2155	66886	23.05	23.12
	CA_2A-14A-30A-66A-66A	2	20	1880	18900	QPSK	1	0	14	10	763	5330	30	10	2355	9820	66	20	2155	66886	66	5	2197.5	67311	23.06	23.12
	CA_2A-2A-5A-30A-66A	2	20	1880	18900	QPSK	1	0	2	5	1987.5	1175	5	10	881.5	2525	12	10	1960	900	66	20	2155	66886	23.06	23.12
	CA_2A-2A-7A-12A-66A	2	20	1880	18900	QPSK	1	0	2	5	1987.5	1175	7	20	2655	3100	12	10	1960	900	66	20	2155	66886	23.12	23.12
	CA_2A-4A-48A-48A-66A	2	20	1880	18900	QPSK	1	0	5	10	881.5	2525	48	20	3625	55990	48	5	3697.5	56715	66	20	2155	66886	23.05	23.12
	CA_41A-46E	41	20	2593	40620	QPSK	1	99	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	23.25	23.27
	CA_4A-46A-46D	4	20	1732.5	20175	QPSK	1	0	46	20	5537.5	50665	46	10	5915	54439	46	20	5900.6	54295	46	20	5880.8	54097	23.31	23.41
	CA_4A-48E	4	20	1732.5	20175	QPSK	1	0	48	20	3625	55990	48	20	3644.8	56188	48	20	3664.6	56386	48	20	3684.4	56584	23.34	23.41
	CA_5A-7A-46D	5	10	829	20450	QPSK	1	0	7	20	2655	3100	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	23.65	23.67
	CA_2A-7A-7A-29A-66A	2	20	1880	18900	QPSK	1	0	7	20	2655	3100	7	5	2687.5	3425	29	10	722.5	9715	66	20	2155	66886	23.02	23.12

<Six Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				SCC3				SCC4				SCC5				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	CA_41C-42C-42C	41	20	2593	40620	QPSK	1	99	41	20	2612.8	40818	42	20	3500	42590	42	20	3519.8	42788	42	5	3402.5	41615	42	20	3414.2	41732	23.17	23.27
	CA_13A-48E-66A	13	10	782	23230	QPSK	1	0	48	20	3625	55990	48	20	3644.8	56188	48	20	3664.6	56386	48	20	3684.4	56584	66	20	2155	66886	23.32	23.41

<Seven Carrier power verification>

Configure	CA Configuration (BCS)	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 Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)	
Inter-Band	CA_2A-46C-48D-66A	2	20	1880	18900	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	48	20	3625	55990	48	20	3644.8	56188	48	20	3664.6	56386	66	20	2155	66886	23.02	23.12
	CA_2A-7A-7A-46E	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	23.11	23.12
	CA_2A-5A-46E-66A	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	2155	66886	23.10	23.12
	CA_2A-13A-46D-66A-66A	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	2155	66886	66	5	2197.5	67311	23.10	23.12

<LTE Uplink carrier aggregation>

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

<Intra-band>
General Note:

- The device supports intra-band uplink carrier aggregation for LTE B5/7/66/38/41/48 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.
- 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.

CA_5B										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	20.59	21.7
20575	20476	QPSK	1	0	0	0	1	0	20.76	21.7
20600	20501	QPSK	1	0	0	0	1	0	20.72	21.7

CA_7C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	99	1	0	2	0	13.67	14.3
21100	20902	QPSK	1	0	1	99	2	0	13.57	14.3
21350	21152	QPSK	1	0	1	99	2	0	13.68	14.3

CA_66B										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	74	1	0	2	0	16.5	17.5
132322	132229	QPSK	1	0	1	24	2	0	16.09	17.5
132597	132504	QPSK	1	0	1	24	2	0	15.86	17.5

CA_66C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	99	1	0	2	0	16.41	17.5
132322	132124	QPSK	1	0	1	99	2	0	16.56	17.5
132572	132374	QPSK	1	0	1	99	2	0	16.69	17.5

CA_38C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
38048	37850	QPSK	1	99	1	0	2	0	15.71	16.5
38099	37901	QPSK	1	0	1	99	2	0	15.64	16.5
38150	37952	QPSK	1	99	1	0	2	0	15.66	16.5

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	1	99	2	0	15.65	16.5
40185	40383	QPSK	1	0	1	99	2	0	15.64	16.5
40620	40818	QPSK	1	0	1	99	2	0	15.62	16.5
41055	41253	QPSK	1	0	1	99	2	0	15.65	16.5
41490	41292	QPSK	1	99	1	0	2	0	15.69	16.5

CA_41C (HPUE)										
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	99	1	0	2	0	17.21	18.1
40185	40383	QPSK	1	99	1	0	2	0	17.31	18.1
40620	40818	QPSK	1	99	1	0	2	0	17.36	18.1
41055	41253	QPSK	1	99	1	0	2	0	17.3	18.1
41490	41292	QPSK	1	0	1	99	2	0	17.38	18.1

CA_48C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	99	1	0	2	0	15.47	16.6
55830	55632	QPSK	1	0	1	99	2	0	15.43	16.6
56150	55952	QPSK	1	0	1	99	2	0	15.47	16.6
56640	56442	QPSK	1	0	1	99	2	0	15.51	16.6

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

General Note:

1. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM measurement is unnecessary.
 - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, full measurement on Pi/2 BPSK and QPSK, for 16QAM/64QAM/256QAM spot check 1RB 1offset configuration to ensure the output power will not ½ dB higher than Pi/2 BPSK and QPSK, for smaller bandwidth output power will spot check 1RB 1offset configuration at Pi/2 BPSK to ensure output power will not ½ dB higher than largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for Pi/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
 - d. 50% RB allocation for Pi/2 BPSK SAR testing follows 1RB Pi/2 BPSK allocation procedure
 - e. Pi/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - f. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
2. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.

<3GPP 38.101 MPR for EN-DC>

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

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5 ¹	≤ 1.2 ¹	≤ 0.2 ¹
		≤ 0.5 ²	≤ 0.5 ²	0 ²
	QPSK	≤ 1		
	16 QAM	≤ 2		
	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		



<Laptop Mode>

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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				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	22.94	22.00	22.83	24.0
20	PI/2 BPSK	1	53	23.02	22.93	23.08	
20	PI/2 BPSK	1	104	22.44	22.71	22.87	
20	PI/2 BPSK	50	0	22.91	22.80	22.65	24.0
20	PI/2 BPSK	50	28	23.01	22.84	22.92	
20	PI/2 BPSK	50	56	23.00	22.83	22.73	
20	PI/2 BPSK	100	0	21.52	21.50	22.65	23.5
20	QPSK	1	1	23.00	22.82	22.96	24.0
20	QPSK	1	53	23.06	22.84	22.96	
20	QPSK	1	104	22.60	22.79	22.92	
20	QPSK	50	0	22.60	22.46	22.56	24.0
20	QPSK	50	28	22.84	22.87	22.96	
20	QPSK	50	56	22.44	22.47	22.54	
20	QPSK	100	0	22.50	22.39	21.91	23.0
20	16QAM	1	1	22.48	22.39	22.16	23.0
20	64QAM	1	1	21.32	21.17	21.29	21.5
20	256QAM	1	1	18.89	18.79	18.95	19.5
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	22.84	22.63	22.77	24.0
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	22.63	22.47	22.58	24.0
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	22.66	22.45	22.58	24.0

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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				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	19.42	19.28	19.34	20.8
20	PI/2 BPSK	1	53	19.76	19.36	19.44	
20	PI/2 BPSK	1	104	19.32	19.16	19.26	
20	PI/2 BPSK	50	0	19.50	19.21	19.29	20.8
20	PI/2 BPSK	50	28	19.51	19.29	19.33	
20	PI/2 BPSK	50	56	19.47	19.26	19.28	
20	PI/2 BPSK	100	0	19.48	19.29	19.38	20.8
20	QPSK	1	1	19.49	19.22	19.37	20.8
20	QPSK	1	53	19.45	19.27	19.33	
20	QPSK	1	104	19.40	19.20	19.32	
20	QPSK	50	0	19.46	19.22	19.28	20.8
20	QPSK	50	28	19.48	19.26	19.30	
20	QPSK	50	56	19.45	19.26	19.33	
20	QPSK	100	0	19.47	19.26	19.35	20.8
20	16QAM	1	1	19.48	19.26	19.38	20.8
20	64QAM	1	1	19.43	19.25	19.28	20.8
20	256QAM	1	1	19.25	19.02	19.11	19.3
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	19.38	19.28	19.3	20.8
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	19.36	19.23	19.28	20.8
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	19.35	19.19	19.24	20.8

<n5_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	24.0
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	23.04	22.95	22.95	24.0
20	PI/2 BPSK	1	53	22.94	23.11	22.94	
20	PI/2 BPSK	1	104	22.84	22.78	22.77	
20	PI/2 BPSK	50	0	22.93	22.95	22.85	24.0
20	PI/2 BPSK	50	28	22.90	22.98	22.92	
20	PI/2 BPSK	50	56	22.92	22.91	22.88	
20	PI/2 BPSK	100	0	22.76	21.50	21.51	23.5
20	QPSK	1	1	22.97	22.95	22.94	24.0
20	QPSK	1	53	23.07	22.94	23.10	
20	QPSK	1	104	22.86	22.78	22.84	
20	QPSK	50	0	22.47	22.58	22.48	24.0
20	QPSK	50	28	22.83	23.00	22.94	
20	QPSK	50	56	22.43	22.49	22.51	
20	QPSK	100	0	22.45	22.60	22.62	23.0
20	16QAM	1	1	22.76	22.53	22.84	23.0
20	64QAM	1	1	21.36	21.38	21.34	21.5
20	256QAM	1	1	19.27	18.92	19.29	19.5
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	23.04	22.97	22.86	24.0
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	22.81	22.67	22.74	24.0
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	22.95	22.78	22.71	24.0

<n7_Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	16.33	16.54	16.61	17.6
20	PI/2 BPSK	1	53	16.41	16.77	16.72	
20	PI/2 BPSK	1	104	16.35	16.39	16.57	
20	PI/2 BPSK	50	0	16.33	16.41	16.33	17.6
20	PI/2 BPSK	50	28	16.34	16.45	16.34	
20	PI/2 BPSK	50	56	16.34	16.44	16.10	
20	PI/2 BPSK	100	0	16.38	16.43	16.16	17.6
20	QPSK	1	1	16.38	16.48	16.30	17.6
20	QPSK	1	53	16.43	16.49	16.47	
20	QPSK	1	104	16.34	16.41	16.15	
20	QPSK	50	0	16.36	16.49	16.23	17.6
20	QPSK	50	28	16.38	16.43	16.17	
20	QPSK	50	56	16.31	16.38	16.05	
20	QPSK	100	0	16.35	16.43	16.10	17.6
20	16QAM	1	1	16.35	16.10	16.39	17.6
20	64QAM	1	1	16.42	16.18	16.38	17.6
20	256QAM	1	1	16.38	16.26	16.41	17.6
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	16.27	16.52	16.28	17.6
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	16.24	16.47	16.24	17.6
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	16.29	16.44	16.30	17.6

<n12_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				141300	141500	141700	
Frequency (MHz)				706.5	707.5	708.5	
15	PI/2 BPSK	1	1	23.31	23.28	23.21	24.0
15	PI/2 BPSK	1	40	23.17	23.16	23.11	
15	PI/2 BPSK	1	77	23.02	23.01	23.01	
15	PI/2 BPSK	36	0	23.15	23.15	23.13	24.0
15	PI/2 BPSK	36	22	23.13	23.10	23.06	
15	PI/2 BPSK	36	43	23.06	23.07	23.01	
15	PI/2 BPSK	75	0	23.13	23.13	23.13	23.5
15	QPSK	1	1	23.28	23.27	23.25	24.0
15	QPSK	1	40	23.17	23.17	23.15	
15	QPSK	1	77	23.07	23.06	23.01	
15	QPSK	36	0	22.80	22.75	22.77	24.0
15	QPSK	36	22	23.13	23.14	23.08	
15	QPSK	36	43	22.65	22.60	22.62	
15	QPSK	75	0	22.69	22.71	22.76	23.0
15	16QAM	1	1	22.98	22.99	22.95	23.0
15	64QAM	1	1	21.49	21.50	21.48	21.5
15	256QAM	1	1	19.48	19.48	19.49	19.5
Channel				140800	141500	142200	Tune-up limit (dBm)
Frequency (MHz)				704	707.5	711	
10	PI/2 BPSK	1	1	23.03	22.95	22.89	24.0
Channel				140300	141500	142700	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	PI/2 BPSK	1	1	23.15	22.99	22.90	24.0

<n66_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				344000	349000	354000	
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	23.14	22.85	22.90	24.0
20	PI/2 BPSK	1	53	23.13	22.84	22.82	
20	PI/2 BPSK	1	104	23.05	22.79	22.79	
20	PI/2 BPSK	50	0	23.06	22.75	22.84	24.0
20	PI/2 BPSK	50	28	23.04	22.75	22.79	
20	PI/2 BPSK	50	56	23.05	22.73	22.74	
20	PI/2 BPSK	100	0	22.97	22.68	22.81	23.5
20	QPSK	1	1	23.09	22.75	22.82	24.0
20	QPSK	1	53	22.95	22.63	22.68	
20	QPSK	1	104	22.95	22.64	22.74	
20	QPSK	50	0	22.67	22.41	22.44	24.0
20	QPSK	50	28	23.09	22.76	22.78	
20	QPSK	50	56	22.66	22.31	22.38	
20	QPSK	100	0	22.60	22.35	22.37	23.0
20	16QAM	1	1	22.96	22.64	22.70	23.0
20	64QAM	1	1	20.97	20.61	20.57	21.5
20	256QAM	1	1	19.36	19.10	18.99	19.5
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	23.13	22.78	22.84	24.0
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	22.95	22.68	22.62	24.0
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	22.94	22.69	22.60	24.0

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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				344000	349000	354000	
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	20.94	20.84	20.71	21.9
20	PI/2 BPSK	1	53	20.82	20.72	20.64	
20	PI/2 BPSK	1	104	20.85	20.67	20.66	
20	PI/2 BPSK	50	0	21.07	20.69	20.74	21.9
20	PI/2 BPSK	50	28	21.03	20.59	20.66	
20	PI/2 BPSK	50	56	20.96	20.60	20.61	
20	PI/2 BPSK	100	0	20.99	20.60	20.67	21.9
20	QPSK	1	1	21.09	20.79	20.81	21.9
20	QPSK	1	53	21.28	20.84	20.89	
20	QPSK	1	104	20.83	20.76	20.66	
20	QPSK	50	0	20.90	20.60	20.67	21.9
20	QPSK	50	28	20.99	20.65	20.66	
20	QPSK	50	56	20.96	20.56	20.71	
20	QPSK	100	0	20.89	20.67	20.68	21.9
20	16QAM	1	1	20.85	20.60	20.56	21.9
20	64QAM	1	1	21.07	20.95	20.85	21.4
20	256QAM	1	1	19.35	19.32	19.34	19.4
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	20.95	20.75	20.65	21.9
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	20.89	20.84	20.71	21.9
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	20.94	20.77	20.75	21.9

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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				509202	518598	528000	18.2
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	16.37	16.37	16.34	18.2
100	PI/2 BPSK	1	137	16.41	16.42	16.35	
100	PI/2 BPSK	1	271	16.29	16.33	16.30	
100	PI/2 BPSK	135	0	16.62	16.69	16.66	18.2
100	PI/2 BPSK	135	69	16.79	16.86	16.84	
100	PI/2 BPSK	135	138	16.21	16.23	16.21	
100	PI/2 BPSK	270	0	16.32	16.37	16.29	18.2
100	QPSK	1	1	16.29	16.32	16.28	18.2
100	QPSK	1	137	16.33	16.42	16.33	
100	QPSK	1	271	16.31	16.35	16.31	
100	QPSK	135	0	16.55	16.61	16.51	18.2
100	QPSK	135	69	16.82	16.83	16.74	
100	QPSK	135	138	16.23	16.27	16.22	
100	QPSK	270	0	16.36	16.39	16.30	18.2
100	16QAM	1	1	16.52	16.52	16.42	18.2
100	64QAM	1	1	16.46	16.48	16.38	18.2
100	256QAM	1	1	16.74	16.81	16.77	18.2
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	16.27	16.33	16.30	18.2
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	16.28	16.35	16.26	18.2
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	16.37	16.31	16.29	18.2
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	16.27	16.37	16.31	18.2
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	16.27	16.37	16.22	18.2
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	16.27	16.37	16.22	18.2



<Tablet Mode>

<n2_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	17.50	17.73	17.52	18.4
20	PI/2 BPSK	1	53	17.77	17.78	17.77	
20	PI/2 BPSK	1	104	17.58	17.65	17.61	
20	PI/2 BPSK	50	0	17.57	17.62	17.61	18.4
20	PI/2 BPSK	50	28	17.64	17.69	17.59	
20	PI/2 BPSK	50	56	17.66	17.72	17.70	
20	PI/2 BPSK	100	0	17.66	17.71	17.67	18.4
20	QPSK	1	1	17.65	17.72	17.70	18.4
20	QPSK	1	53	17.65	17.70	17.69	
20	QPSK	1	104	17.64	17.67	17.60	
20	QPSK	50	0	17.53	17.60	17.52	18.4
20	QPSK	50	28	17.61	17.65	17.63	
20	QPSK	50	56	17.58	17.66	17.62	
20	QPSK	100	0	17.67	17.67	17.57	18.4
20	16QAM	1	1	17.51	17.58	17.57	18.4
20	64QAM	1	1	17.55	17.62	17.54	18.4
20	256QAM	1	1	17.45	17.48	17.42	18.4
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	17.28	17.44	17.31	18.4
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	17.25	17.50	17.32	18.4
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	17.21	17.46	17.28	18.4

<n2_Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	19.42	19.28	19.34	20.8
20	PI/2 BPSK	1	53	19.76	19.36	19.44	
20	PI/2 BPSK	1	104	19.32	19.16	19.26	
20	PI/2 BPSK	50	0	19.50	19.21	19.29	20.8
20	PI/2 BPSK	50	28	19.51	19.29	19.33	
20	PI/2 BPSK	50	56	19.47	19.26	19.28	
20	PI/2 BPSK	100	0	19.48	19.29	19.38	20.8
20	QPSK	1	1	19.49	19.22	19.37	20.8
20	QPSK	1	53	19.45	19.27	19.33	
20	QPSK	1	104	19.40	19.20	19.32	
20	QPSK	50	0	19.46	19.22	19.28	20.8
20	QPSK	50	28	19.48	19.26	19.30	
20	QPSK	50	56	19.45	19.26	19.33	
20	QPSK	100	0	19.47	19.26	19.35	20.8
20	16QAM	1	1	19.48	19.26	19.38	20.8
20	64QAM	1	1	19.43	19.25	19.28	20.8
20	256QAM	1	1	19.25	19.02	19.11	19.3
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	19.38	19.28	19.30	20.8
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	19.36	19.23	19.28	20.8
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	19.35	19.19	19.24	20.8

<n5_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	20.6
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	19.40	19.46	19.54	20.6
20	PI/2 BPSK	1	53	19.56	19.58	19.54	
20	PI/2 BPSK	1	104	19.32	19.38	19.48	
20	PI/2 BPSK	50	0	19.42	19.46	19.54	20.6
20	PI/2 BPSK	50	28	19.34	19.41	19.57	
20	PI/2 BPSK	50	56	19.39	19.40	19.55	
20	PI/2 BPSK	100	0	19.40	19.47	19.55	20.6
20	QPSK	1	1	19.35	19.43	19.52	20.6
20	QPSK	1	53	19.51	19.50	19.53	
20	QPSK	1	104	19.24	19.33	19.37	
20	QPSK	50	0	19.41	19.45	19.57	20.6
20	QPSK	50	28	19.46	19.47	19.55	
20	QPSK	50	56	19.39	19.39	19.47	
20	QPSK	100	0	19.43	19.46	19.54	20.6
20	16QAM	1	1	19.26	19.29	19.32	20.6
20	64QAM	1	1	19.46	19.48	19.53	20.6
20	256QAM	1	1	19.02	19.02	19.10	19.6
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	19.44	19.45	19.50	20.6
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	19.33	19.37	19.51	20.6
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	19.39	19.44	19.51	20.6

<n7_Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				502000	507000	512000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2510	2535	2560		
20	PI/2 BPSK	1	1	16.33	16.54	16.61	17.6	0.0
20	PI/2 BPSK	1	53	16.41	16.77	16.72		
20	PI/2 BPSK	1	104	16.35	16.39	16.57		
20	PI/2 BPSK	50	0	16.33	16.41	16.33	17.6	0.0
20	PI/2 BPSK	50	28	16.34	16.45	16.34		
20	PI/2 BPSK	50	56	16.34	16.44	16.10		
20	PI/2 BPSK	100	0	16.38	16.43	16.16	17.6	0.0
20	QPSK	1	1	16.38	16.48	16.30	17.6	0.0
20	QPSK	1	53	16.43	16.49	16.47		
20	QPSK	1	104	16.34	16.41	16.15		
20	QPSK	50	0	16.36	16.49	16.23	17.6	0.0
20	QPSK	50	28	16.38	16.43	16.17		
20	QPSK	50	56	16.31	16.38	16.05		
20	QPSK	100	0	16.35	16.43	16.10	17.6	0.0
20	16QAM	1	1	16.35	16.10	16.39	17.6	0.0
20	64QAM	1	1	16.42	16.18	16.38	17.6	0.0
20	256QAM	1	1	16.38	16.26	16.41	17.6	0.0
Channel				501500	507000	512500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	PI/2 BPSK	1	1	16.27	16.52	16.28	17.6	0.0
Channel				501000	507000	513000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	PI/2 BPSK	1	1	16.24	16.47	16.24	17.6	0.0
Channel				500500	507000	513500	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	PI/2 BPSK	1	1	16.29	16.44	16.30	17.6	0.0

<n12_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				141300	141500	141700	
Frequency (MHz)				706.5	707.5	708.5	
15	PI/2 BPSK	1	1	18.26	18.27	18.23	19.1
15	PI/2 BPSK	1	40	18.04	18.05	18.03	
15	PI/2 BPSK	1	77	17.82	17.88	17.87	
15	PI/2 BPSK	36	0	18.11	18.12	18.09	19.1
15	PI/2 BPSK	36	22	17.95	18.01	17.91	
15	PI/2 BPSK	36	43	17.93	17.95	17.95	
15	PI/2 BPSK	75	0	18.04	18.04	18.04	19.1
15	QPSK	1	1	18.20	18.20	18.18	19.1
15	QPSK	1	40	17.93	17.97	17.90	
15	QPSK	1	77	17.74	17.83	17.74	
15	QPSK	36	0	18.06	18.09	17.99	19.1
15	QPSK	36	22	17.92	18.00	17.92	
15	QPSK	36	43	17.89	17.91	17.90	
15	QPSK	75	0	17.93	18.02	17.98	19.1
15	16QAM	1	1	17.93	18.01	17.94	19.1
15	64QAM	1	1	18.16	18.22	18.14	19.1
15	256QAM	1	1	18.19	18.19	18.09	19.1
Channel				140800	141500	142200	Tune-up limit (dBm)
Frequency (MHz)				704	707.5	711	
10	PI/2 BPSK	1	1	18.15	18.20	18.19	19.1
Channel				140300	141500	142700	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	PI/2 BPSK	1	1	18.20	18.23	18.15	19.1

<n66_Ant 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				344000	349000	354000	
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	15.98	15.97	16.10	17.2
20	PI/2 BPSK	1	53	15.91	15.92	15.98	
20	PI/2 BPSK	1	104	15.77	15.87	15.94	
20	PI/2 BPSK	50	0	15.79	15.89	16.06	17.2
20	PI/2 BPSK	50	28	15.79	15.82	15.95	
20	PI/2 BPSK	50	56	15.76	15.78	15.90	
20	PI/2 BPSK	100	0	15.79	15.83	15.94	17.2
20	QPSK	1	1	15.91	15.94	16.03	17.2
20	QPSK	1	53	15.84	15.91	16.00	
20	QPSK	1	104	15.74	15.78	15.88	
20	QPSK	50	0	15.87	15.87	16.03	17.2
20	QPSK	50	28	15.80	15.85	15.97	
20	QPSK	50	56	15.79	15.79	15.90	
20	QPSK	100	0	15.77	15.87	15.97	17.2
20	16QAM	1	1	15.77	15.85	15.90	17.2
20	64QAM	1	1	15.92	15.95	16.08	17.2
20	256QAM	1	1	15.88	15.90	16.02	17.2
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	15.95	15.97	16.00	17.2
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	15.94	15.97	16.07	17.2
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	15.96	15.87	16.08	17.2

<n66_Ant 8>

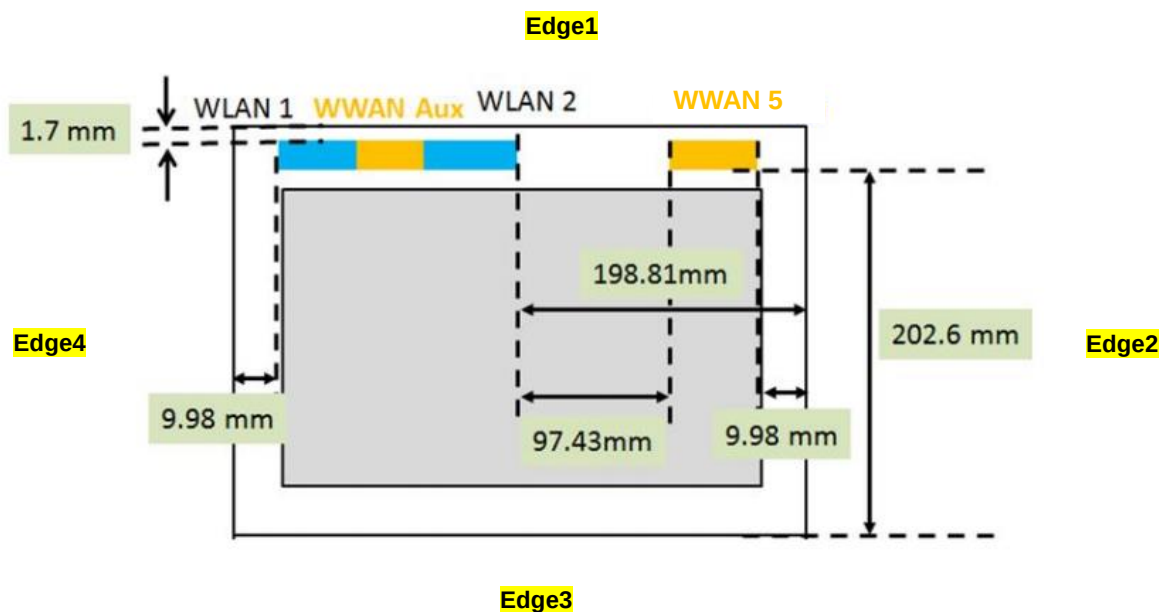
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				344000	349000	354000	
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	20.94	20.84	20.71	21.9
20	PI/2 BPSK	1	53	20.82	20.72	20.64	
20	PI/2 BPSK	1	104	20.85	20.67	20.66	
20	PI/2 BPSK	50	0	21.07	20.69	20.74	21.9
20	PI/2 BPSK	50	28	21.03	20.59	20.66	
20	PI/2 BPSK	50	56	20.96	20.60	20.61	
20	PI/2 BPSK	100	0	20.99	20.60	20.67	21.9
20	QPSK	1	1	21.09	20.79	20.81	21.9
20	QPSK	1	53	21.28	20.84	20.89	
20	QPSK	1	104	20.83	20.76	20.66	
20	QPSK	50	0	20.90	20.60	20.67	21.9
20	QPSK	50	28	20.99	20.65	20.66	
20	QPSK	50	56	20.96	20.56	20.71	
20	QPSK	100	0	20.89	20.67	20.68	21.9
20	16QAM	1	1	20.85	20.60	20.56	21.9
20	64QAM	1	1	21.07	20.95	20.85	21.4
20	256QAM	1	1	19.35	19.32	19.34	19.4
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	20.95	20.75	20.65	21.9
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	20.89	20.84	20.71	21.9
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	20.94	20.77	20.75	21.9

<n41_Ant 8>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	18.2
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	16.37	16.37	16.34	18.2
100	PI/2 BPSK	1	137	16.41	16.42	16.35	
100	PI/2 BPSK	1	271	16.29	16.33	16.30	
100	PI/2 BPSK	135	0	16.62	16.69	16.66	18.2
100	PI/2 BPSK	135	69	16.79	16.86	16.84	
100	PI/2 BPSK	135	138	16.21	16.23	16.21	
100	PI/2 BPSK	270	0	16.32	16.37	16.29	18.2
100	QPSK	1	1	16.29	16.32	16.28	18.2
100	QPSK	1	137	16.33	16.42	16.33	
100	QPSK	1	271	16.31	16.35	16.31	
100	QPSK	135	0	16.55	16.61	16.51	18.2
100	QPSK	135	69	16.82	16.83	16.74	
100	QPSK	135	138	16.23	16.27	16.22	
100	QPSK	270	0	16.36	16.39	16.30	18.2
100	16QAM	1	1	16.52	16.52	16.42	18.2
100	64QAM	1	1	16.46	16.48	16.38	18.2
100	256QAM	1	1	16.74	16.81	16.77	18.2
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	16.27	16.33	16.30	18.2
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	16.28	16.35	16.26	18.2
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	16.37	16.31	16.29	18.2
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	16.27	16.37	16.31	18.2
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	16.27	16.37	16.22	18.2
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	16.30	16.31	16.28	18.2

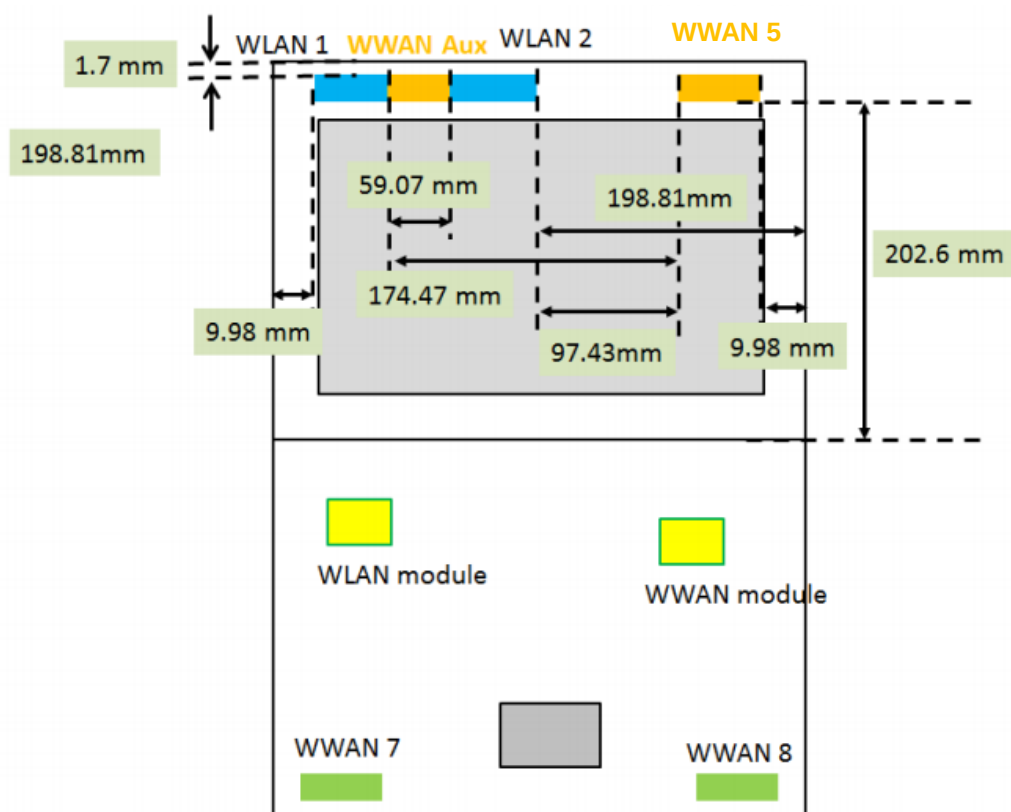
14. Antenna Location

<For Tablet Mode>



WWAN Antennas	Support Bands
WWAN Ant 5	WCDMA II/IV/V, LTE B2/4/5/7/12/13/14/17/25/26/30/38/41/66 5GNR n2/n5/n12/n66
WWAN Ant 8	LTE B2/7/42/48/66 5GNR n2/n7/n41/n66

<For Laptop Mode>



WWAN Antennas	Support Bands
WWAN Ant 5	WCDMA II/IV/V, LTE B2/4/5/7/12/13/14/17/25/26/30/38/41/66 5GNR n2/n5/n12/n66
WWAN Ant 8	LTE B2/7/42/48/66 5GNR n2/n7/n41/n66



<SAR test exclusion table> Tablet

General Note:

- The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
- Maximum power is the source-based time-average power and represents the maximum RF output power among production units
- Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
- Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
- 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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$
 - 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
- Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following
 - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · (f(MHz)/150)] mW, at 100 MHz to 1500 MHz
 - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz
- For the bottom-face that proximity sensor power reduction is applied for SAR compliance, additional SAR testing at "sensor trigger distance – 1mm" with EUT transmitting full power in normal mode was performed.

<Ant 5 Tablet mode>

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 12/17/n12	LTE Band 14	LTE Band 13	LTE Band 5/n5	LTE Band 26	LTE Band 4/66/n66	LTE Band 2/25/n2	LTE Band 30	LTE Band 7	LTE Band 38/41
	Calculated Frequency	846MHz	1750MHz	1907MHz	715MHz	795MHz	784MHz	848MHz	848MHz	1754MHz	1909MHz	2312MHz	2567MHz	2687MHz
	Maximum power (dBm)	21.20	17.1	18.1	19.2	20	19.7	21.7	21.7	17.5	18.4	15.6	14.3	16.5
	Maximum rated power(mW)	132.0	51.0	65.0	83.0	100.0	93.0	148.0	148.0	56.0	69.0	36.0	27.0	45.0
Bottom Face	Separation distance(mm)	5.0												
	exclusion threshold	24.3	13.5	18.0	14.0	17.8	16.5	27.3	27.3	14.8	19.1	11.0	8.7	14.8
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	1.7												
	exclusion threshold	24.3	13.5	18.0	14.0	17.8	16.5	27.3	27.3	14.8	19.1	11.0	8.7	14.8
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	Separation distance(mm)	9.98												
	exclusion threshold	12.2	6.8	9.0	7.0	8.9	8.3	13.7	13.7	7.4	9.6	5.5	4.3	7.4
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 3	Separation distance(mm)	202.6												
	exclusion threshold	1024.0	1639.0	1635.0	905.0	977.0	967.0	1026.0	1026.0	1639.0	1635.0	1625.0	1620.0	1618.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	206.5												
	exclusion threshold	1046.0	1678.0	1674.0	923.0	998.0	987.0	1048.0	1048.0	1678.0	1674.0	1664.0	1659.0	1657.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No

<Ant 5 Laptop Mode>

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 12/17/n12	LTE Band 14	LTE Band 13	LTE Band 5/n5	LTE Band 26	LTE Band 4/66/n66	LTE Band 2/25/n2	LTE Band 30	LTE Band 7	LTE Band 38/41
	Calculated Frequency	846MHz	1750MHz	1907MHz	715MHz	795MHz	784MHz	848MHz	848MHz	1754MHz	1909MHz	2312MHz	2567MHz	2687MHz
	Maximum power (dBm)	24.50	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24	24	23	24	24
	Maximum rated power(mW)	282.0	282.0	282.0	282.0	282.0	282.0	282.0	282.0	251.0	251.0	200.0	251.0	251.0
Bottom of Laptop	Separation distance(mm)	202.6												
	exclusion threshold	1024.0	1639.0	1635.0	905.0	977.0	967.0	1026.0	1026.0	1639.0	1635.0	1625.0	1620.0	1618.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No

<Ant 8 Tablet mode>

Exposure Position	Wireless Interface	LTE Band 66	LTE Band 2	LTE Band 7	LTE Band 42	LTE Band 48	LTE Band n2	LTE Band n7	LTE Band n41	LTE Band n66
	Calculated Frequency	1779MHz	1909MHz	2567MHz	3597MHz	3697MHz	1909MHz	2567MHz	2687MHz	1779MHz
	Maximum power (dBm)	22.3	20.7	17.4	17.3	16.6	20.8	17.6	18.2	21.9
	Maximum rated power(mW)	170.0	117.0	55.0	54.0	46.0	120.0	58.0	66.0	155.0
Bottom Face	Separation distance(mm)	5.0								
	exclusion threshold	45.4	32.3	17.6	20.5	15.1	33.2	18.6	21.6	41.4
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	4.6								
	exclusion threshold	45.4	32.3	17.6	20.5	15.1	33.2	18.6	21.6	41.4
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	Separation distance(mm)	27.28								
	exclusion threshold	8.3	5.9	3.2	3.8	2.8	6.1	3.4	4.0	7.6
	Testing required?	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Edge 3	Separation distance(mm)	202.6								
	exclusion threshold	1638.0	1635.0	1620.0	1605.0	1618.0	959.0	1620.0	1618.0	1638.0
	Testing required?	No	No	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	206.5								
	exclusion threshold	1677.0	1674.0	1659.0	1644.0	1657.0	2509.0	1659.0	1657.0	1677.0
	Testing required?	No	No	No	No	No	No	No	No	No

<Ant 8 Laptop Mode>

Exposure Position	Wireless Interface	LTE Band 66	LTE Band 2	LTE Band 7	LTE Band 42	LTE Band 48	LTE Band n2	LTE Band n7	LTE Band n41	LTE Band n66
	Calculated Frequency	1779MHz	1909MHz	2567MHz	3597MHz	3697MHz	1909MHz	2567MHz	2687MHz	1779MHz
	Maximum power (dBm)	22.3	20.7	17.4	17.3	16.6	20.8	17.6	18.2	21.9
	Maximum rated power(mW)	170.0	117.0	55.0	54.0	46.0	120.0	58.0	66.0	155.0
Bottom of Laptop	Separation distance(mm)	5.0								
	exclusion threshold	45.4	32.3	17.6	20.5	15.1	33.2	18.6	21.6	41.4
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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 WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - c. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq \frac{1}{4}$ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (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 B5/B12/B26 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. If the LTE band was not tested, 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. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. SAR testing start with the largest channel bandwidth and measure SAR for PI/2 BPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
 - b. 50% RB allocation for PI/2 BPSK SAR testing follows 1RB PI/2 BPSK allocation procedure
 - c. PI/2 BPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
 - d. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will 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.
 - e. Smaller bandwidth output power for each RB allocation configuration for this device will 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
 - f. For 5G FR1 n5/n12/n41 the maximum bandwidth does not support three non-overlapping channels, 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.

15.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Configure	Antenna Vendor	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_Ant 5	RMC 12.2Kbps	Bottom Face	0mm	Tablet	WNC	9538	1907.6	17.36	18.10	1.186	0.03	0.082	0.097
	WCDMA II_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	9538	1907.6	17.36	18.10	1.186	0.1	0.962	1.141
	WCDMA II_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	9262	1852.4	17.26	18.10	1.213	-0.09	0.954	1.158
01	WCDMA II_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	9400	1880	17.28	18.10	1.208	-0.06	0.992	1.198
	WCDMA II_Ant 5	RMC 12.2Kbps	Edge 2	0mm	Tablet	WNC	9538	1907.6	17.36	18.10	1.186	-0.09	0.126	0.149
	WCDMA II_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	HB	9400	1880	17.28	18.10	1.208	-0.05	0.835	1.008
	WCDMA IV_Ant 5	RMC 12.2Kbps	Bottom Face	0mm	Tablet	WNC	1413	1732.6	16.57	17.10	1.130	0.02	0.133	0.151
	WCDMA IV_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	1413	1732.6	16.57	17.10	1.130	0.1	0.661	0.747
	WCDMA IV_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	1312	1712.4	16.29	17.10	1.205	0.06	0.638	0.769
	WCDMA IV_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	1513	1752.6	16.19	17.10	1.233	0.05	0.558	0.688
	WCDMA IV_Ant 5	RMC 12.2Kbps	Edge 2	0mm	Tablet	WNC	1413	1732.6	16.57	17.10	1.130	-0.09	0.158	0.179
	WCDMA IV_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	HB	1413	1732.6	16.57	17.10	1.130	0.1	0.898	1.014
	WCDMA IV_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	HB	1312	1712.4	16.29	17.10	1.205	-0.01	0.756	0.911
02	WCDMA IV_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	HB	1513	1752.6	16.19	17.10	1.233	-0.07	0.860	1.060
	WCDMA V_Ant 5	RMC 12.2Kbps	Bottom Face	0mm	Tablet	WNC	4132	826.4	20.57	21.20	1.156	-0.04	0.110	0.127
	WCDMA V_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	4132	826.4	20.57	21.20	1.156	0.06	0.974	1.127
	WCDMA V_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	4182	836.4	20.33	21.20	1.222	0.07	0.916	1.119
03	WCDMA V_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	WNC	4233	846.6	20.38	21.20	1.208	-0.08	0.986	1.191
	WCDMA V_Ant 5	RMC 12.2Kbps	Edge 2	0mm	Tablet	WNC	4132	826.4	20.57	21.20	1.156	-0.03	0.082	0.095
	WCDMA V_Ant 5	RMC 12.2Kbps	Edge 1	0mm	Tablet	HB	4233	846.6	20.38	21.20	1.208	-0.09	0.942	1.138



<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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)
04	LTE Band 2_Ant 8	20M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	18700	1860	19.75	20.70	1.245	0.03	0.114	0.142
	LTE Band 2_Ant 8	20M	QPSK	50	0	Bottom Face	0mm	Tablet	WNC	18700	1860	19.74	20.70	1.247	-0.01	0.104	0.130
	LTE Band 2_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	18700	1860	19.75	20.70	1.245	-0.06	0.953	1.186
	LTE Band 2_Ant 8	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	18900	1880	19.64	20.70	1.276	0.05	0.809	1.033
	LTE Band 2_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	19100	1900	19.61	20.70	1.285	0.09	0.684	0.879
	LTE Band 2_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	18700	1860	19.74	20.70	1.247	-0.12	0.944	1.178
	LTE Band 2_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	18900	1880	19.69	20.70	1.262	0.03	0.822	1.037
	LTE Band 2_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	19100	1900	19.73	20.70	1.250	0.09	0.659	0.824
	LTE Band 2_Ant 8	20M	QPSK	100	0	Edge 1	0mm	Tablet	WNC	19100	1900	19.72	20.70	1.253	0.07	0.650	0.815
	LTE Band 2_Ant 8	20M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	18700	1860	19.75	20.70	1.245	-0.05	0.126	0.157
	LTE Band 2_Ant 8	20M	QPSK	50	0	Edge 2	0mm	Tablet	WNC	18700	1860	19.74	20.70	1.247	-0.09	0.125	0.156
	LTE Band 2_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	18700	1860	19.75	20.70	1.245	-0.07	0.629	0.783
	LTE Band 2_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	18700	1860	19.75	20.70	1.245	-0.11	0.950	1.182
	LTE Band 2_Ant 8	20M	QPSK	1	99	Bottom of Laptop	0mm	Laptop	WNC	18900	1880	19.64	20.70	1.276	-0.02	0.913	1.165
	LTE Band 2_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	19100	1900	19.61	20.70	1.285	0.01	0.905	1.163
05	LTE Band 2_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	18700	1860	19.74	20.70	1.247	0.09	0.934	1.165
	LTE Band 2_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	18900	1880	19.69	20.70	1.262	0.11	0.919	1.160
	LTE Band 2_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	19100	1900	19.73	20.70	1.250	-0.05	0.917	1.146
	LTE Band 2_Ant 8	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	WNC	19100	1900	19.72	20.70	1.253	0.16	0.929	1.164
	LTE Band 2_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	18700	1860	19.75	20.70	1.245	0.04	0.933	1.161
	LTE Band 5_Ant 5	10M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	20525	836.5	20.95	21.70	1.189	0.1	0.063	0.075
	LTE Band 5_Ant 5	10M	QPSK	25	0	Bottom Face	0mm	Tablet	WNC	20525	836.5	21.08	21.70	1.153	0.07	0.061	0.071
	LTE Band 5_Ant 5	10M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	20525	836.5	20.95	21.70	1.189	-0.04	0.946	1.124
	LTE Band 5_Ant 5	10M	QPSK	25	0	Edge 1	0mm	Tablet	WNC	20525	836.5	21.08	21.70	1.153	0.02	1.010	1.165
	LTE Band 5_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	20525	836.5	21.03	21.70	1.167	-0.08	1.020	1.190
	LTE Band 5_Ant 5	10M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	20525	836.5	20.95	21.70	1.189	0.1	0.081	0.096
	LTE Band 5_Ant 5	10M	QPSK	25	0	Edge 2	0mm	Tablet	WNC	20525	836.5	21.08	21.70	1.153	0.06	0.085	0.099
	LTE Band 5_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	HB	20525	836.5	21.03	21.70	1.167	0.07	0.998	1.164
	LTE Band 5B_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	20575	841.5	20.76	21.70	1.242	-0.1	0.952	1.182



FCC SAR TEST REPORT

Report No. : FA090426-01

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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)
	LTE Band 7_Ant 5	20M	QPSK	1	99	Bottom Face	0mm	Tablet	WNC	20850	2510	13.47	14.30	1.211	-0.15	0.001	0.001
	LTE Band 7_Ant 5	20M	QPSK	50	50	Bottom Face	0mm	Tablet	WNC	20850	2510	13.70	14.30	1.148	0.08	0.001	0.001
	LTE Band 7_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	20850	2510	13.47	14.30	1.211	0.04	0.808	0.979
	LTE Band 7_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	21100	2535	13.34	14.30	1.247	-0.07	0.792	0.988
	LTE Band 7_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	21350	2560	13.26	14.30	1.271	-0.15	0.797	1.013
	LTE Band 7_Ant 5	20M	QPSK	50	50	Edge 1	0mm	Tablet	WNC	20850	2510	13.70	14.30	1.148	-0.17	0.859	0.986
	LTE Band 7_Ant 5	20M	QPSK	50	50	Edge 1	0mm	Tablet	WNC	21100	2535	13.55	14.30	1.189	-0.11	0.830	0.986
	LTE Band 7_Ant 5	20M	QPSK	50	50	Edge 1	0mm	Tablet	WNC	21350	2560	13.47	14.30	1.211	0.16	0.828	1.003
	LTE Band 7_Ant 5	20M	QPSK	100	0	Edge 1	0mm	Tablet	WNC	20850	2510	13.65	14.30	1.161	0.02	0.860	0.999
	LTE Band 7_Ant 5	20M	QPSK	1	99	Edge 2	0mm	Tablet	WNC	20850	2510	13.47	14.30	1.211	0.09	0.040	0.049
	LTE Band 7_Ant 5	20M	QPSK	50	50	Edge 2	0mm	Tablet	WNC	20850	2510	13.70	14.30	1.148	-0.12	0.041	0.047
	LTE Band 7_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	HB	20850	2510	13.26	14.30	1.271	-0.11	0.588	0.747
	LTE Band 7C_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	21350	2560	13.68	14.30	1.153	-0.05	0.752	0.867
	LTE Band 7_Ant 8	20M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	21100	2535	16.87	17.40	1.130	0.05	0.064	0.072
	LTE Band 7_Ant 8	20M	QPSK	50	24	Bottom Face	0mm	Tablet	WNC	21100	2535	16.77	17.40	1.156	0.08	0.077	0.089
	LTE Band 7_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	21100	2535	16.87	17.40	1.130	-0.06	0.316	0.357
	LTE Band 7_Ant 8	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	21100	2535	16.77	17.40	1.156	0.03	0.319	0.369
	LTE Band 7_Ant 8	20M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	21100	2535	16.87	17.40	1.130	0	0.088	0.099
	LTE Band 7_Ant 8	20M	QPSK	50	24	Edge 2	0mm	Tablet	WNC	21100	2535	16.77	17.40	1.156	-0.01	0.087	0.101
	LTE Band 7_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	21100	2535	16.87	17.40	1.130	-0.04	0.574	0.649
	LTE Band 7_Ant 8	20M	QPSK	50	24	Edge 1	0mm	Tablet	HB	21100	2535	16.77	17.40	1.156	0.03	0.528	0.610
	LTE Band 7_Ant 8	20M	QPSK	100	0	Edge 1	0mm	Tablet	HB	21100	2535	16.73	17.40	1.167	0.05	0.512	0.597
	LTE Band 7_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	21100	2535	16.87	17.40	1.130	0.04	0.488	0.551
	LTE Band 7_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	20850	2510	16.86	17.40	1.132	0.08	0.504	0.571
	LTE Band 7_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	21350	2560	16.75	17.40	1.161	0.03	0.437	0.508
	LTE Band 7_Ant 8	20M	QPSK	50	24	Bottom of Laptop	0mm	Laptop	WNC	21100	2535	16.77	17.40	1.156	0.05	0.471	0.545
	LTE Band 7_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	20850	2510	16.86	17.40	1.132	0.01	0.841	0.952
06	LTE Band 7_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	21100	2535	16.87	17.40	1.130	-0.06	0.928	1.048
	LTE Band 7_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	21350	2560	16.75	17.40	1.161	0.03	0.837	0.972
	LTE Band 7_Ant 8	20M	QPSK	50	24	Bottom of Laptop	0mm	Laptop	HB	21100	2535	16.77	17.40	1.156	0.06	0.853	0.986
	LTE Band 7_Ant 8	20M	QPSK	50	24	Bottom of Laptop	0mm	Laptop	HB	20850	2510	16.71	17.40	1.172	0.02	0.799	0.937
	LTE Band 7_Ant 8	20M	QPSK	50	24	Bottom of Laptop	0mm	Laptop	HB	21350	2560	16.75	17.40	1.161	0.14	0.816	0.948
	LTE Band 7_Ant 8	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	HB	21100	2535	16.73	17.40	1.167	-0.05	0.771	0.900
	LTE Band 12_Ant 5	10M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	23095	707.5	18.15	19.20	1.274	0.08	0.001	0.001
	LTE Band 12_Ant 5	10M	QPSK	25	25	Bottom Face	0mm	Tablet	WNC	23095	707.5	18.22	19.20	1.253	-0.19	0.001	0.001
	LTE Band 12_Ant 5	10M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	23095	707.5	18.15	19.20	1.274	0.03	0.744	0.948
	LTE Band 12_Ant 5	10M	QPSK	25	25	Edge 1	0mm	Tablet	WNC	23095	707.5	18.22	19.20	1.253	-0.06	0.806	1.010
	LTE Band 12_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	23095	707.5	18.23	19.20	1.250	-0.19	0.805	1.006
	LTE Band 12_Ant 5	10M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	23095	707.5	18.15	19.20	1.274	-0.03	0.001	0.001
	LTE Band 12_Ant 5	10M	QPSK	25	25	Edge 2	0mm	Tablet	WNC	23095	707.5	18.22	19.20	1.253	-0.11	0.001	0.001
07	LTE Band 12_Ant 5	10M	QPSK	1	49	Edge 1	0mm	Tablet	HB	23095	707.5	18.15	19.20	1.274	-0.05	0.937	1.193
	LTE Band 12_Ant 5	10M	QPSK	25	12	Edge 1	0mm	Tablet	HB	23095	707.5	18.22	19.20	1.253	0.01	0.946	1.185
	LTE Band 12_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	HB	23095	707.5	18.23	19.20	1.250	-0.12	0.952	1.191



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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)
	LTE Band 13_Ant 5	10M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	23230	782	18.72	19.70	1.253	0.09	0.112	0.141
	LTE Band 13_Ant 5	10M	QPSK	25	0	Bottom Face	0mm	Tablet	WNC	23230	782	18.69	19.70	1.262	0.04	0.114	0.144
	LTE Band 13_Ant 5	10M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	23230	782	18.72	19.70	1.253	-0.09	0.929	1.164
	LTE Band 13_Ant 5	10M	QPSK	25	0	Edge 1	0mm	Tablet	WNC	23230	782	18.69	19.70	1.262	-0.03	0.939	1.185
08	LTE Band 13_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	23230	782	18.74	19.70	1.247	-0.1	0.954	1.190
	LTE Band 13_Ant 5	10M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	23230	782	18.72	19.70	1.253	-0.06	0.052	0.065
	LTE Band 13_Ant 5	10M	QPSK	25	0	Edge 2	0mm	Tablet	WNC	23230	782	18.69	19.70	1.262	-0.1	0.054	0.068
	LTE Band 13_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	HB	23230	782	18.74	19.70	1.247	0.08	0.673	0.840
	LTE Band 14_Ant 5	10M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	23330	793	18.99	20.00	1.262	0.13	0.117	0.148
	LTE Band 14_Ant 5	10M	QPSK	25	25	Bottom Face	0mm	Tablet	WNC	23330	793	19.00	20.00	1.259	-0.03	0.110	0.139
09	LTE Band 14_Ant 5	10M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	23330	793	18.99	20.00	1.262	-0.12	0.938	1.184
	LTE Band 14_Ant 5	10M	QPSK	25	25	Edge 1	0mm	Tablet	WNC	23330	793	19.00	20.00	1.259	0.13	0.924	1.163
	LTE Band 14_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	23330	793	18.91	20.00	1.285	-0.05	0.903	1.160
	LTE Band 14_Ant 5	10M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	23330	793	18.99	20.00	1.262	0.11	0.058	0.073
	LTE Band 14_Ant 5	10M	QPSK	25	25	Edge 2	0mm	Tablet	WNC	23330	793	19.00	20.00	1.259	0.09	0.051	0.065
	LTE Band 14_Ant 5	10M	QPSK	1	0	Edge 1	0mm	Tablet	HB	23330	793	18.99	20.00	1.262	0.08	0.636	0.802
	LTE Band 25_Ant 5	20M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	26340	1880	16.18	17.00	1.208	0.05	0.088	0.107
	LTE Band 25_Ant 5	20M	QPSK	50	24	Bottom Face	0mm	Tablet	WNC	26340	1880	16.34	17.00	1.164	-0.18	0.084	0.097
	LTE Band 25_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	26340	1880	16.18	17.00	1.208	-0.08	0.601	0.726
10	LTE Band 25_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	26140	1860	16.17	17.00	1.211	-0.19	0.730	0.884
	LTE Band 25_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	26590	1905	16.13	17.00	1.222	-0.15	0.510	0.623
	LTE Band 25_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	26340	1880	16.34	17.00	1.164	0.02	0.553	0.644
	LTE Band 25_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	26140	1860	16.34	17.00	1.164	-0.01	0.708	0.824
	LTE Band 25_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	26590	1905	16.26	17.00	1.186	-0.12	0.622	0.738
	LTE Band 25_Ant 5	20M	QPSK	100	0	Edge 1	0mm	Tablet	WNC	26340	1880	16.30	17.00	1.175	0.19	0.548	0.644
	LTE Band 25_Ant 5	20M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	26340	1880	16.18	17.00	1.208	-0.16	0.108	0.130
	LTE Band 25_Ant 5	20M	QPSK	50	24	Edge 2	0mm	Tablet	WNC	26340	1880	16.34	17.00	1.164	-0.02	0.105	0.122
	LTE Band 25_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	26140	1860	16.17	17.00	1.211	0	0.539	0.653
	LTE Band 26_Ant 5	15M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	26865	831.5	20.96	21.70	1.186	0.1	0.063	0.075
	LTE Band 26_Ant 5	15M	QPSK	36	39	Bottom Face	0mm	Tablet	WNC	26865	831.5	21.15	21.70	1.135	0.07	0.061	0.069
	LTE Band 26_Ant 5	15M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	26865	831.5	20.96	21.70	1.186	-0.04	0.988	1.172
	LTE Band 26_Ant 5	15M	QPSK	36	39	Edge 1	0mm	Tablet	WNC	26865	831.5	21.15	21.70	1.135	0.02	1.010	1.146
11	LTE Band 26_Ant 5	15M	QPSK	75	0	Edge 1	0mm	Tablet	WNC	26865	831.5	21.01	21.70	1.172	-0.08	1.010	1.184
	LTE Band 26_Ant 5	15M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	26865	831.5	20.96	21.70	1.186	0.1	0.081	0.096
	LTE Band 26_Ant 5	15M	QPSK	36	39	Edge 2	0mm	Tablet	WNC	26865	831.5	21.15	21.70	1.135	0.06	0.085	0.097
	LTE Band 26_Ant 5	15M	QPSK	75	0	Edge 1	0mm	Tablet	HB	26865	831.5	21.01	21.70	1.172	0.07	1.000	1.172



FCC SAR TEST REPORT

Report No. : FA090426-01

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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)
	LTE Band 30_Ant 5	10M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	27710	2310	14.86	15.60	1.186	0.05	0.001	0.001
	LTE Band 30_Ant 5	10M	QPSK	25	0	Bottom Face	0mm	Tablet	WNC	27710	2310	14.90	15.60	1.175	-0.11	0.038	0.045
	LTE Band 30_Ant 5	10M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	27710	2310	14.86	15.60	1.186	-0.1	0.852	1.010
	LTE Band 30_Ant 5	10M	QPSK	25	0	Edge 1	0mm	Tablet	WNC	27710	2310	14.90	15.60	1.175	0.09	0.882	1.036
12	LTE Band 30_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	27710	2310	14.84	15.60	1.191	-0.16	0.885	1.054
	LTE Band 30_Ant 5	10M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	27710	2310	14.86	15.60	1.186	0.15	0.001	0.001
	LTE Band 30_Ant 5	10M	QPSK	25	0	Edge 2	0mm	Tablet	WNC	27710	2310	14.90	15.60	1.175	0.18	0.001	0.001
	LTE Band 30_Ant 5	10M	QPSK	50	0	Edge 1	0mm	Tablet	HB	27710	2310	14.84	15.60	1.191	0.11	0.808	0.963
	LTE Band 66_Ant 5	20M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	132072	1720	16.72	17.50	1.197	0.08	0.142	0.170
	LTE Band 66_Ant 5	20M	QPSK	50	0	Bottom Face	0mm	Tablet	WNC	132072	1720	16.78	17.50	1.180	-0.02	0.150	0.177
	LTE Band 66_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	132072	1720	16.72	17.50	1.197	-0.01	0.731	0.875
	LTE Band 66_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	132322	1745	16.43	17.50	1.279	0.05	0.657	0.841
	LTE Band 66_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	132572	1770	16.35	17.50	1.303	-0.02	0.553	0.720
	LTE Band 66_Ant 5	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	132072	1720	16.78	17.50	1.180	0	0.729	0.860
	LTE Band 66_Ant 5	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	132322	1745	16.48	17.50	1.265	0.09	0.655	0.828
	LTE Band 66_Ant 5	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	132572	1770	16.35	17.50	1.303	0.03	0.552	0.719
	LTE Band 66_Ant 5	20M	QPSK	100	0	Edge 1	0mm	Tablet	WNC	132072	1720	16.63	17.50	1.222	0.08	0.722	0.882
	LTE Band 66_Ant 5	20M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	132072	1720	16.72	17.50	1.197	-0.06	0.231	0.276
	LTE Band 66_Ant 5	20M	QPSK	50	0	Edge 2	0mm	Tablet	WNC	132072	1720	16.78	17.50	1.180	-0.06	0.237	0.280
	LTE Band 66_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	132072	1720	16.72	17.50	1.197	0.1	0.819	0.980
	LTE Band 66_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	132322	1745	16.43	17.50	1.279	-0.02	0.860	1.100
	LTE Band 66_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	132572	1770	16.35	17.50	1.303	-0.02	0.880	1.147
	LTE Band 66_Ant 5	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	132072	1720	16.78	17.50	1.180	0.04	0.864	1.020
	LTE Band 66_Ant 5	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	132322	1745	16.48	17.50	1.265	-0.08	0.878	1.110
	LTE Band 66_Ant 5	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	132572	1770	16.35	17.50	1.303	0	0.878	1.144
	LTE Band 66_Ant 5	20M	QPSK	100	0	Edge 1	0mm	Tablet	HB	132072	1720	16.63	17.50	1.222	0.08	0.845	1.032
	LTE Band 66B_Ant 5	15M	QPSK	1	74	Edge 1	0mm	Tablet	HB	132047	1717.5	16.50	17.50	1.259	-0.04	0.829	1.044
	LTE Band 66C_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	132572	1770	16.69	17.50	1.205	0.08	0.845	1.018
	LTE Band 66_Ant 8	20M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	132072	1720	21.35	22.30	1.245	0.02	0.081	0.101
	LTE Band 66_Ant 8	20M	QPSK	50	0	Bottom Face	0mm	Tablet	WNC	132072	1720	21.44	22.30	1.219	-0.03	0.097	0.118
	LTE Band 66_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	132072	1720	21.35	22.30	1.245	0	0.695	0.865
13	LTE Band 66_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	132322	1745	21.06	22.30	1.330	-0.08	0.880	1.171
	LTE Band 66_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	132572	1770	21.15	22.30	1.303	0.05	0.898	1.170
	LTE Band 66_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	132072	1720	21.44	22.30	1.219	-0.04	0.651	0.794
	LTE Band 66_Ant 8	20M	QPSK	100	0	Edge 1	0mm	Tablet	WNC	132072	1720	21.34	22.30	1.247	0.01	0.683	0.852
	LTE Band 66_Ant 8	20M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	132072	1720	21.35	22.30	1.245	0.08	0.277	0.345
	LTE Band 66_Ant 8	20M	QPSK	50	0	Edge 2	0mm	Tablet	WNC	132072	1720	21.44	22.30	1.219	-0.04	0.309	0.377
	LTE Band 66_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	132322	1745	21.06	22.30	1.330	0.07	0.712	0.947
	LTE Band 66_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	132072	1720	21.35	22.30	1.245	-0.03	0.775	0.964
	LTE Band 66_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	132322	1745	21.06	22.30	1.330	0.05	0.856	1.139
	LTE Band 66_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	132572	1770	21.15	22.30	1.303	0.05	0.882	1.149
	LTE Band 66_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	132072	1720	21.44	22.30	1.219	-0.09	0.642	0.783
	LTE Band 66_Ant 8	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	WNC	132072	1720	21.34	22.30	1.247	0.03	0.679	0.847
	LTE Band 66_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	132572	1770	21.15	22.30	1.303	0.02	0.720	0.938



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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 41_Ant 5	20M	QPSK	1	99	Bottom Face	0mm	Tablet	WNC	40620	2593	15.67	16.50	1.211	62.9	1.006	0.06	0.047	0.057
	LTE Band 41_Ant 5	20M	QPSK	50	24	Bottom Face	0mm	Tablet	WNC	40620	2593	15.70	16.50	1.202	62.9	1.006	0.07	0.047	0.057
	LTE Band 41_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	40620	2593	15.67	16.50	1.211	62.9	1.006	0.09	0.862	1.050
	LTE Band 41_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	39750	2506	15.46	16.50	1.271	62.9	1.006	0.05	0.711	0.909
	LTE Band 41_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	40185	2549.5	15.49	16.50	1.262	62.9	1.006	0.1	0.751	0.954
	LTE Band 41_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	41055	2636.5	15.42	16.50	1.282	62.9	1.006	-0.04	0.833	1.075
	LTE Band 41_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	41490	2680	15.23	16.50	1.340	62.9	1.006	-0.1	0.676	0.911
	LTE Band 41_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	40620	2593	15.70	16.50	1.202	62.9	1.006	0.02	0.882	1.066
	LTE Band 41_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	39750	2506	15.65	16.50	1.216	62.9	1.006	0.03	0.744	0.910
	LTE Band 41_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	40185	2549.5	15.62	16.50	1.225	62.9	1.006	-0.09	0.754	0.929
14	LTE Band 41_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	41055	2636.5	15.56	16.50	1.242	62.9	1.006	-0.12	0.880	1.099
	LTE Band 41_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	WNC	41490	2680	15.36	16.50	1.300	62.9	1.006	-0.07	0.718	0.939
	LTE Band 41_Ant 5	20M	QPSK	100	0	Edge 1	0mm	Tablet	WNC	40620	2593	15.69	16.50	1.205	62.9	1.006	0.06	0.881	1.068
	LTE Band 41_Ant 5	20M	QPSK	1	99	Edge 2	0mm	Tablet	WNC	40620	2593	15.67	16.50	1.211	62.9	1.006	-0.09	0.009	0.011
	LTE Band 41_Ant 5	20M	QPSK	50	0	Edge 2	0mm	Tablet	WNC	40620	2593	15.70	16.50	1.202	62.9	1.006	-0.01	0.034	0.041
	LTE Band 41_Ant 5	20M	QPSK	50	24	Edge 1	0mm	Tablet	HB	41055	2636.5	15.56	16.50	1.242	62.9	1.006	-0.01	0.565	0.706
	LTE Band 41C_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	41490	2680	15.69	16.50	1.205	62.9	1.006	-0.03	0.841	1.020
	LTE Band 41_HPUE_Ant 5	20M	QPSK	1	99	Edge 1	0mm	Tablet	WNC	40620	2593	17.21	18.10	1.227	42.9	1.009	-0.17	0.868	1.075
	LTE Band 41C_HPUE_Ant 5	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	41490	2680	17.38	18.10	1.180	42.9	1.009	0.05	0.830	0.988



FCC SAR TEST REPORT

Report No. : FA090426-01

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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 42_Ant 8	20M	QPSK	1	49	Bottom Face	0mm	Tablet	WNC	43340	3575	16.52	17.30	1.197	62.9	1.006	0.08	0.090	0.109
	LTE Band 42_Ant 8	20M	QPSK	50	0	Bottom Face	0mm	Tablet	WNC	43340	3575	16.58	17.30	1.180	62.9	1.006	-0.09	0.092	0.110
	LTE Band 42_Ant 8	20M	QPSK	1	49	Edge 1	0mm	Tablet	WNC	43340	3575	16.52	17.30	1.197	62.9	1.006	0.03	0.392	0.473
	LTE Band 42_Ant 8	20M	QPSK	1	49	Edge 1	0mm	Tablet	WNC	43190	3560	16.50	17.30	1.202	62.9	1.006	0.05	0.355	0.429
	LTE Band 42_Ant 8	20M	QPSK	1	49	Edge 1	0mm	Tablet	WNC	43490	3590	16.42	17.30	1.225	62.9	1.006	0.1	0.371	0.457
	LTE Band 42_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	43340	3575	16.58	17.30	1.180	62.9	1.006	0.02	0.373	0.443
	LTE Band 42_Ant 8	20M	QPSK	1	49	Edge 2	0mm	Tablet	WNC	43340	3575	16.52	17.30	1.197	62.9	1.006	-0.08	0.197	0.237
	LTE Band 42_Ant 8	20M	QPSK	50	0	Edge 2	0mm	Tablet	WNC	43340	3575	16.58	17.30	1.180	62.9	1.006	-0.1	0.199	0.236
	LTE Band 42_Ant 8	20M	QPSK	1	49	Edge 1	0mm	Tablet	HB	43340	3575	16.52	17.30	1.197	62.9	1.006	0.09	0.690	0.830
	LTE Band 42_Ant 8	20M	QPSK	1	49	Edge 1	0mm	Tablet	HB	43190	3560	16.50	17.30	1.202	62.9	1.006	0.06	0.678	0.821
	LTE Band 42_Ant 8	20M	QPSK	1	49	Edge 1	0mm	Tablet	HB	43490	3590	16.42	17.30	1.225	62.9	1.006	-0.04	0.730	0.900
	LTE Band 42_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	43340	3575	16.58	17.30	1.180	62.9	1.006	-0.02	0.753	0.894
	LTE Band 42_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	43190	3560	16.57	17.30	1.183	62.9	1.006	0.08	0.696	0.828
	LTE Band 42_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	43490	3590	16.50	17.30	1.202	62.9	1.006	-0.09	0.740	0.895
	LTE Band 42_Ant 8	20M	QPSK	100	0	Edge 1	0mm	Tablet	HB	43340	3575	16.55	17.30	1.189	62.9	1.006	-0.08	0.721	0.862
	LTE Band 42_Ant 8	20M	QPSK	1	49	Bottom of Laptop	0mm	Laptop	WNC	43340	3575	16.52	17.30	1.197	62.9	1.006	0	0.395	0.476
	LTE Band 42_Ant 8	20M	QPSK	1	49	Bottom of Laptop	0mm	Laptop	WNC	43190	3560	16.50	17.30	1.202	62.9	1.006	0.09	0.380	0.460
	LTE Band 42_Ant 8	20M	QPSK	1	49	Bottom of Laptop	0mm	Laptop	WNC	43490	3590	16.42	17.30	1.225	62.9	1.006	0.05	0.388	0.478
	LTE Band 42_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	43340	3575	16.58	17.30	1.180	62.9	1.006	0	0.388	0.461
	LTE Band 42_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	43190	3560	16.57	17.30	1.183	62.9	1.006	0.03	0.378	0.450
	LTE Band 42_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	43490	3590	16.50	17.30	1.202	62.9	1.006	-0.1	0.403	0.488
	LTE Band 42_Ant 8	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	WNC	43340	3575	16.55	17.30	1.189	62.9	1.006	-0.05	0.389	0.465
	LTE Band 42_Ant 8	20M	QPSK	1	49	Bottom of Laptop	0mm	Laptop	HB	43340	3575	16.52	17.30	1.197	62.9	1.006	-0.03	0.712	0.857
	LTE Band 42_Ant 8	20M	QPSK	1	49	Bottom of Laptop	0mm	Laptop	HB	43190	3560	16.50	17.30	1.202	62.9	1.006	-0.01	0.686	0.829
	LTE Band 42_Ant 8	20M	QPSK	1	49	Bottom of Laptop	0mm	Laptop	HB	43490	3590	16.42	17.30	1.225	62.9	1.006	0.03	0.776	0.955
	LTE Band 42_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	HB	43340	3575	16.58	17.30	1.180	62.9	1.006	-0.03	0.740	0.879
	LTE Band 42_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	HB	43190	3560	16.57	17.30	1.183	62.9	1.006	0.04	0.704	0.838
15	LTE Band 42_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	HB	43490	3590	16.50	17.30	1.202	62.9	1.006	-0.08	0.805	0.974
	LTE Band 42_Ant 8	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	HB	43340	3575	16.55	17.30	1.189	62.9	1.006	0.05	0.757	0.905



FCC SAR TEST REPORT

Report No. : FA090426-01

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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 48_Ant 8	20M	QPSK	1	0	Bottom Face	0mm	Tablet	WNC	56640	3690	15.52	16.60	1.282	62.9	1.006	-0.1	0.058	0.075
	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom Face	0mm	Tablet	WNC	56640	3690	15.59	16.60	1.262	62.9	1.006	-0.1	0.047	0.060
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	56640	3690	15.52	16.60	1.282	62.9	1.006	-0.08	0.286	0.369
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	55340	3560	15.48	16.60	1.294	62.9	1.006	0.02	0.332	0.432
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	55830	3609	15.38	16.60	1.324	62.9	1.006	-0.02	0.312	0.416
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	WNC	56150	3641	15.37	16.60	1.327	62.9	1.006	0.07	0.275	0.368
	LTE Band 48_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	WNC	56640	3690	15.59	16.60	1.262	62.9	1.006	0.03	0.226	0.287
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 2	0mm	Tablet	WNC	56640	3690	15.52	16.60	1.282	62.9	1.006	-0.07	0.150	0.194
	LTE Band 48_Ant 8	20M	QPSK	50	0	Edge 2	0mm	Tablet	WNC	56640	3690	15.59	16.60	1.262	62.9	1.006	-0.08	0.143	0.182
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	56640	3690	15.52	16.60	1.282	62.9	1.006	0	0.808	1.042
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	55340	3560	15.48	16.60	1.294	62.9	1.006	-0.1	0.633	0.824
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	55830	3609	15.38	16.60	1.324	62.9	1.006	-0.01	0.696	0.927
	LTE Band 48_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	56150	3641	15.37	16.60	1.327	62.9	1.006	0.09	0.746	0.997
	LTE Band 48_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	56640	3690	15.59	16.60	1.262	62.9	1.006	-0.09	0.818	1.039
	LTE Band 48_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	55340	3560	15.53	16.60	1.279	62.9	1.006	0.02	0.569	0.732
	LTE Band 48_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	55830	3609	15.39	16.60	1.321	62.9	1.006	-0.09	0.569	0.756
	LTE Band 48_Ant 8	20M	QPSK	50	0	Edge 1	0mm	Tablet	HB	56150	3641	15.44	16.60	1.306	62.9	1.006	-0.01	0.623	0.818
	LTE Band 48_Ant 8	20M	QPSK	100	0	Edge 1	0mm	Tablet	HB	56640	3690	15.58	16.60	1.265	62.9	1.006	0.01	0.668	0.850
	LTE Band 48_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	56640	3690	15.52	16.60	1.282	62.9	1.006	0	0.300	0.388
	LTE Band 48_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	55340	3560	15.48	16.60	1.294	62.9	1.006	0.05	0.309	0.403
	LTE Band 48_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	55830	3609	15.38	16.60	1.324	62.9	1.006	-0.05	0.314	0.419
	LTE Band 48_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	WNC	56150	3641	15.37	16.60	1.327	62.9	1.006	-0.02	0.286	0.382
	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	56640	3690	15.59	16.60	1.262	62.9	1.006	-0.04	0.307	0.390
	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	55340	3560	15.53	16.60	1.279	62.9	1.006	0	0.323	0.416
	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	55830	3609	15.39	16.60	1.321	62.9	1.006	0.05	0.314	0.418
	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	56150	3641	15.44	16.60	1.306	62.9	1.006	0.01	0.299	0.392
	LTE Band 48_Ant 8	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	WNC	56640	3690	15.58	16.60	1.265	62.9	1.006	0.08	0.307	0.391
	LTE Band 48_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	56640	3690	15.52	16.60	1.282	62.9	1.006	0.04	0.769	0.992
	LTE Band 48_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	55340	3560	15.48	16.60	1.294	62.9	1.006	0.07	0.607	0.790
	LTE Band 48_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	55830	3609	15.38	16.60	1.324	62.9	1.006	-0.09	0.695	0.925
	LTE Band 48_Ant 8	20M	QPSK	1	0	Bottom of Laptop	0mm	Laptop	HB	56150	3641	15.37	16.60	1.327	62.9	1.006	0.04	0.769	1.027
	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	HB	56640	3690	15.59	16.60	1.262	62.9	1.006	-0.02	0.791	1.004
	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	HB	55340	3560	15.53	16.60	1.279	62.9	1.006	-0.07	0.620	0.799
	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	HB	55830	3609	15.39	16.60	1.321	62.9	1.006	0.05	0.704	0.936
16	LTE Band 48_Ant 8	20M	QPSK	50	0	Bottom of Laptop	0mm	Laptop	HB	56150	3641	15.44	16.60	1.306	62.9	1.006	-0.08	0.795	1.045
	LTE Band 48_Ant 8	20M	QPSK	100	0	Bottom of Laptop	0mm	Laptop	HB	56640	3690	15.58	16.60	1.265	62.9	1.006	0.08	0.780	0.993
	LTE Band 48C_Ant 8	20M	QPSK	1	0	Edge 1	0mm	Tablet	HB	56640	3690	15.51	16.60	1.285	62.9	1.006	0.1	0.739	0.956

**<5GNR SAR>**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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_Ant 5	20M	BPSK	1	53	Bottom Face	0mm	Tablet	WNC	380000	1900	17.78	18.40	1.153	-0.01	0.195	0.225
	FR1 N2_Ant 5	20M	BPSK	50	56	Bottom Face	0mm	Tablet	WNC	372000	1860	17.72	18.40	1.169	-0.05	0.222	0.260
	FR1 N2_Ant 5	20M	BPSK	1	53	Edge 1	0mm	Tablet	WNC	376000	1880	17.78	18.40	1.153	-0.12	1.000	1.153
	FR1 N2_Ant 5	20M	BPSK	1	53	Edge 1	0mm	Tablet	WNC	372000	1860	17.77	18.40	1.156	0.05	0.942	1.089
	FR1 N2_Ant 5	20M	BPSK	1	53	Edge 1	0mm	Tablet	WNC	376000	1880	17.77	18.40	1.156	0.08	0.981	1.134
	FR1 N2_Ant 5	20M	BPSK	50	28	Edge 1	0mm	Tablet	WNC	372000	1860	17.72	18.40	1.169	-0.02	0.976	1.141
	FR1 N2_Ant 5	20M	BPSK	50	28	Edge 1	0mm	Tablet	WNC	376000	1880	17.66	18.40	1.186	-0.04	0.971	1.151
	FR1 N2_Ant 5	20M	BPSK	50	28	Edge 1	0mm	Tablet	WNC	380000	1900	17.70	18.40	1.175	-0.06	0.976	1.147
	FR1 N2_Ant 5	20M	BPSK	100	0	Edge 1	0mm	Tablet	WNC	380000	1900	17.71	18.40	1.172	-0.03	0.826	0.968
	FR1 N2_Ant 5	20M	BPSK	1	53	Edge 2	0mm	Tablet	WNC	380000	1900	17.78	18.40	1.153	0.02	0.302	0.348
	FR1 N2_Ant 5	20M	BPSK	50	28	Edge 2	0mm	Tablet	WNC	372000	1860	17.72	18.40	1.169	0.08	0.303	0.354
	FR1 N2_Ant 5	20M	BPSK	1	53	Edge 1	0mm	Tablet	HB	376000	1880	17.78	18.40	1.153	0.08	0.881	1.016
	FR1 N2_Ant 8	20M	BPSK	1	53	Bottom Face	0mm	Tablet	WNC	372000	1860	19.76	20.80	1.271	-0.02	0.180	0.229
	FR1 N2_Ant 8	20M	BPSK	50	28	Bottom Face	0mm	Tablet	WNC	372000	1860	19.51	20.80	1.346	-0.05	0.158	0.213
17	FR1 N2_Ant 8	20M	BPSK	1	53	Edge 1	0mm	Tablet	WNC	372000	1860	19.76	20.80	1.271	-0.1	0.941	1.196
	FR1 N2_Ant 8	20M	BPSK	1	53	Edge 1	0mm	Tablet	WNC	376000	1880	19.36	20.80	1.393	0.05	0.741	1.032
	FR1 N2_Ant 8	20M	BPSK	1	53	Edge 1	0mm	Tablet	WNC	380000	1900	19.44	20.80	1.368	0.04	0.519	0.710
	FR1 N2_Ant 8	20M	BPSK	50	28	Edge 1	0mm	Tablet	WNC	372000	1860	19.51	20.80	1.346	0.09	0.868	1.168
	FR1 N2_Ant 8	20M	BPSK	50	28	Edge 1	0mm	Tablet	WNC	376000	1880	19.29	20.80	1.416	0.05	0.824	1.167
	FR1 N2_Ant 8	20M	BPSK	50	28	Edge 1	0mm	Tablet	WNC	380000	1900	19.33	20.80	1.403	0.06	0.834	1.170
	FR1 N2_Ant 8	20M	BPSK	100	0	Edge 1	0mm	Tablet	WNC	372000	1860	19.48	20.80	1.355	0.04	0.856	1.160
	FR1 N2_Ant 8	20M	BPSK	1	53	Edge 2	0mm	Tablet	WNC	372000	1860	19.76	20.80	1.271	-0.05	0.430	0.546
	FR1 N2_Ant 8	20M	BPSK	50	28	Edge 2	0mm	Tablet	WNC	372000	1860	19.51	20.80	1.346	0.1	0.446	0.600
	FR1 N2_Ant 8	20M	BPSK	1	53	Edge 1	0mm	Tablet	HB	372000	1860	19.76	20.80	1.271	0.02	0.699	0.888
	FR1 N2_Ant 8	20M	BPSK	1	53	Bottom of Laptop	0mm	Laptop	WNC	372000	1860	19.76	20.80	1.271	0.06	0.852	1.083
	FR1 N2_Ant 8	20M	BPSK	1	53	Bottom of Laptop	0mm	Laptop	WNC	376000	1880	19.36	20.80	1.393	-0.03	0.833	1.160
	FR1 N2_Ant 8	20M	BPSK	1	53	Bottom of Laptop	0mm	Laptop	WNC	380000	1900	19.44	20.80	1.368	-0.05	0.849	1.161
	FR1 N2_Ant 8	20M	BPSK	50	28	Bottom of Laptop	0mm	Laptop	WNC	372000	1860	19.51	20.80	1.346	-0.04	0.848	1.141
	FR1 N2_Ant 8	20M	BPSK	50	28	Bottom of Laptop	0mm	Laptop	WNC	376000	1880	19.29	20.80	1.416	-0.02	0.754	1.068
	FR1 N2_Ant 8	20M	BPSK	50	28	Bottom of Laptop	0mm	Laptop	WNC	380000	1900	19.33	20.80	1.403	-0.06	0.746	1.046
	FR1 N2_Ant 8	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	WNC	372000	1860	19.48	20.80	1.355	0.05	0.763	1.034
	FR1 N2_Ant 8	20M	BPSK	1	53	Bottom of Laptop	0mm	Laptop	HB	380000	1900	19.44	20.80	1.368	-0.05	0.845	1.156
	FR1 N5_Ant 5	20M	BPSK	1	53	Bottom Face	0mm	Tablet	WNC	167300	836.5	19.58	20.60	1.265	-0.02	0.161	0.204
	FR1 N5_Ant 5	20M	BPSK	50	0	Bottom Face	0mm	Tablet	WNC	167300	836.5	19.46	20.60	1.300	-0.03	0.158	0.205
18	FR1 N5_Ant 5	20M	BPSK	1	53	Edge 1	0mm	Tablet	WNC	167300	836.5	19.58	20.60	1.265	-0.15	0.813	1.028
	FR1 N5_Ant 5	20M	BPSK	50	0	Edge 1	0mm	Tablet	WNC	167300	836.5	19.46	20.60	1.300	-0.05	0.774	1.006
	FR1 N5_Ant 5	20M	BPSK	100	0	Edge 1	0mm	Tablet	WNC	167300	836.5	19.47	20.60	1.297	-0.08	0.785	1.018
	FR1 N5_Ant 5	20M	BPSK	1	53	Edge 2	0mm	Tablet	WNC	167300	836.5	19.58	20.60	1.265	-0.01	0.102	0.129
	FR1 N5_Ant 5	20M	BPSK	50	0	Edge 2	0mm	Tablet	WNC	167300	836.5	19.46	20.60	1.300	0.02	0.100	0.130
	FR1 N5_Ant 5	20M	BPSK	1	53	Edge 1	0mm	Tablet	HB	167300	836.5	19.58	20.60	1.265	-0.06	0.757	0.957



FCC SAR TEST REPORT

Report No. : FA090426-01

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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 N7_Ant 8	20M	BPSK	1	53	Bottom Face	0mm	Tablet	WNC	507000	2535	16.77	17.60	1.211	-0.02	0.088	0.107
	FR1 N7_Ant 8	20M	BPSK	50	28	Bottom Face	0mm	Tablet	WNC	507000	2535	16.45	17.60	1.303	-0.05	0.086	0.112
	FR1 N7_Ant 8	20M	BPSK	1	53	Edge 1	0mm	Tablet	WNC	507000	2535	16.77	17.60	1.211	0.02	0.611	0.740
	FR1 N7_Ant 8	20M	BPSK	50	28	Edge 1	0mm	Tablet	WNC	507000	2535	16.45	17.60	1.303	0.05	0.564	0.735
	FR1 N7_Ant 8	20M	BPSK	1	53	Edge 2	0mm	Tablet	WNC	507000	2535	16.77	17.60	1.211	0.07	0.119	0.144
	FR1 N7_Ant 8	20M	BPSK	50	28	Edge 2	0mm	Tablet	WNC	507000	2535	16.45	17.60	1.303	0.08	0.128	0.167
	FR1 N7_Ant 8	20M	BPSK	1	53	Edge 1	0mm	Tablet	HB	507000	2535	16.77	17.60	1.211	0.04	0.751	0.909
	FR1 N7_Ant 8	20M	BPSK	1	53	Edge 1	0mm	Tablet	HB	502000	2510	16.41	17.60	1.315	-0.01	0.819	1.077
	FR1 N7_Ant 8	20M	BPSK	1	53	Edge 1	0mm	Tablet	HB	512000	2560	16.72	17.60	1.225	-0.09	0.870	1.065
	FR1 N7_Ant 8	20M	BPSK	50	28	Edge 1	0mm	Tablet	HB	507000	2535	16.45	17.60	1.303	0.06	0.671	0.874
	FR1 N7_Ant 8	20M	BPSK	50	28	Edge 1	0mm	Tablet	HB	502000	2510	16.34	17.60	1.337	-0.18	0.741	0.990
	FR1 N7_Ant 8	20M	BPSK	50	28	Edge 1	0mm	Tablet	HB	512000	2560	16.34	17.60	1.337	-0.09	0.725	0.969
	FR1 N7_Ant 8	20M	BPSK	100	0	Edge 1	0mm	Tablet	HB	512000	2560	16.43	17.60	1.309	-0.04	0.740	0.969
	FR1 N7_Ant 8	20M	BPSK	1	53	Bottom of Laptop	0mm	Laptop	WNC	507000	2535	16.77	17.60	1.211	0.05	0.465	0.563
	FR1 N7_Ant 8	20M	BPSK	50	28	Bottom of Laptop	0mm	Laptop	WNC	507000	2535	16.45	17.60	1.303	0.09	0.445	0.580
	FR1 N7_Ant 8	20M	BPSK	1	53	Bottom of Laptop	0mm	Laptop	HB	507000	2535	16.77	17.60	1.211	0.08	0.899	1.088
	FR1 N7_Ant 8	20M	BPSK	1	53	Bottom of Laptop	0mm	Laptop	HB	502000	2510	16.41	17.60	1.315	-0.06	0.902	1.186
19	FR1 N7_Ant 8	20M	BPSK	1	53	Bottom of Laptop	0mm	Laptop	HB	512000	2560	16.72	17.60	1.225	-0.01	0.977	1.196
	FR1 N7_Ant 8	20M	BPSK	50	28	Bottom of Laptop	0mm	Laptop	HB	507000	2535	16.45	17.60	1.303	0.05	0.874	1.139
	FR1 N7_Ant 8	20M	BPSK	50	28	Bottom of Laptop	0mm	Laptop	HB	502000	2510	16.34	17.60	1.337	-0.08	0.881	1.178
	FR1 N7_Ant 8	20M	BPSK	50	28	Bottom of Laptop	0mm	Laptop	HB	512000	2560	16.34	17.60	1.337	0.15	0.843	1.127
	FR1 N7_Ant 8	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	HB	507000	2535	16.34	17.60	1.337	0.06	0.814	1.088
	FR1 N12_Ant 5	15M	BPSK	1	1	Bottom Face	0mm	Tablet	WNC	141500	707.5	18.27	19.10	1.211	-0.02	0.099	0.120
	FR1 N12_Ant 5	15M	BPSK	36	0	Bottom Face	0mm	Tablet	WNC	141500	707.5	18.12	19.10	1.253	-0.05	0.097	0.122
20	FR1 N12_Ant 5	15M	BPSK	1	1	Edge 1	0mm	Tablet	WNC	141500	707.5	18.27	19.10	1.211	-0.11	0.851	1.030
	FR1 N12_Ant 5	15M	BPSK	36	0	Edge 1	0mm	Tablet	WNC	141500	707.5	18.12	19.10	1.253	-0.06	0.812	1.018
	FR1 N12_Ant 5	15M	BPSK	75	0	Edge 1	0mm	Tablet	WNC	141500	707.5	18.04	19.10	1.276	0.01	0.802	1.024
	FR1 N12_Ant 5	15M	BPSK	1	1	Edge 2	0mm	Tablet	WNC	141500	707.5	18.27	19.10	1.211	0.05	0.089	0.108
	FR1 N12_Ant 5	15M	BPSK	36	0	Edge 2	0mm	Tablet	WNC	141500	707.5	18.12	19.10	1.253	0.01	0.093	0.117
	FR1 N12_Ant 5	15M	BPSK	1	1	Edge 1	0mm	Tablet	HB	141500	707.5	18.27	19.10	1.211	-0.06	0.826	1.000
	FR1 N41_Ant 8	100M	BPSK	1	137	Bottom Face	0mm	Tablet	WNC	518598	2592.99	16.42	18.20	1.507	-0.02	0.084	0.127
	FR1 N41_Ant 8	100M	BPSK	135	69	Bottom Face	0mm	Tablet	WNC	518598	2592.99	16.86	18.20	1.361	-0.04	0.064	0.087
	FR1 N41_Ant 8	100M	BPSK	1	137	Edge 1	0mm	Tablet	WNC	518598	2592.99	16.42	18.20	1.507	-0.01	0.397	0.598
	FR1 N41_Ant 8	100M	BPSK	135	69	Edge 1	0mm	Tablet	WNC	518598	2592.99	16.86	18.20	1.361	0	0.394	0.536
	FR1 N41_Ant 8	100M	BPSK	1	137	Edge 2	0mm	Tablet	WNC	518598	2592.99	16.42	18.20	1.507	0.02	0.164	0.247
	FR1 N41_Ant 8	100M	BPSK	135	69	Edge 2	0mm	Tablet	WNC	518598	2592.99	16.86	18.20	1.361	0.05	0.089	0.121
	FR1 N41_Ant 8	100M	BPSK	1	137	Edge 1	0mm	Tablet	HB	518598	2592.99	16.42	18.20	1.507	-0.05	0.700	1.055
	FR1 N41_Ant 8	100M	BPSK	135	69	Edge 1	0mm	Tablet	HB	518598	2592.99	16.86	18.20	1.361	0.09	0.684	0.931
	FR1 N41_Ant 8	100M	BPSK	135	69	Edge 1	0mm	Tablet	HB	518598	2592.99	16.86	18.20	1.361	-0.07	0.702	0.956
	FR1 N41_Ant 8	100M	BPSK	1	137	Bottom of Laptop	0mm	Laptop	WNC	518598	2592.99	16.42	18.20	1.507	-0.04	0.646	0.973
	FR1 N41_Ant 8	100M	BPSK	135	69	Bottom of Laptop	0mm	Laptop	WNC	518598	2592.99	16.86	18.20	1.361	0.03	0.634	0.863
	FR1 N41_Ant 8	100M	BPSK	270	0	Bottom of Laptop	0mm	Laptop	WNC	518598	2592.99	16.37	18.20	1.524	-0.08	0.626	0.954
	FR1 N41_Ant 8	100M	BPSK	1	137	Bottom of Laptop	0mm	Laptop	HB	518598	2592.99	16.42	18.20	1.507	0.07	0.722	1.088
21	FR1 N41_Ant 8	100M	BPSK	135	69	Bottom of Laptop	0mm	Laptop	HB	518598	2592.99	16.86	18.20	1.361	-0.08	0.819	1.115
	FR1 N41_Ant 8	100M	BPSK	270	0	Bottom of Laptop	0mm	Laptop	HB	518598	2592.99	16.37	18.20	1.524	-0.01	0.626	0.954



FCC SAR TEST REPORT

Report No. : FA090426-01

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Configure	Antenna Vendor	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 N66_Ant 5	20M	BPSK	1	1	Bottom Face	0mm	Tablet	WNC	354000	1770	16.10	17.20	1.288	-0.02	0.177	0.228
	FR1 N66_Ant 5	20M	BPSK	50	0	Bottom Face	0mm	Tablet	WNC	354000	1770	16.06	17.20	1.300	-0.05	0.185	0.241
	FR1 N66_Ant 5	20M	BPSK	1	1	Edge 1	0mm	Tablet	WNC	354000	1770	16.10	17.20	1.288	0.01	0.721	0.929
	FR1 N66_Ant 5	20M	BPSK	1	1	Edge 1	0mm	Tablet	WNC	344000	1720	15.98	17.20	1.324	0.05	0.656	0.869
	FR1 N66_Ant 5	20M	BPSK	1	1	Edge 1	0mm	Tablet	WNC	349000	1745	15.97	17.20	1.327	-0.06	0.589	0.782
	FR1 N66_Ant 5	20M	BPSK	50	0	Edge 1	0mm	Tablet	WNC	354000	1770	16.06	17.20	1.300	-0.08	0.786	1.022
	FR1 N66_Ant 5	20M	BPSK	50	0	Edge 1	0mm	Tablet	WNC	344000	1720	15.79	17.20	1.384	0.03	0.684	0.946
	FR1 N66_Ant 5	20M	BPSK	50	0	Edge 1	0mm	Tablet	WNC	349000	1745	15.89	17.20	1.352	0.02	0.664	0.898
	FR1 N66_Ant 5	20M	BPSK	100	0	Edge 1	0mm	Tablet	WNC	349000	1745	15.94	17.20	1.337	0	0.634	0.847
	FR1 N66_Ant 5	20M	BPSK	1	1	Edge 2	0mm	Tablet	WNC	354000	1770	16.10	17.20	1.288	0.05	0.345	0.444
	FR1 N66_Ant 5	20M	BPSK	50	0	Edge 2	0mm	Tablet	WNC	354000	1770	16.06	17.20	1.300	-0.08	0.366	0.476
22	FR1 N66_Ant 5	20M	BPSK	1	1	Edge 1	0mm	Tablet	HB	354000	1770	16.10	17.20	1.288	-0.1	0.925	1.192
	FR1 N66_Ant 5	20M	BPSK	1	1	Edge 1	0mm	Tablet	HB	344000	1720	15.98	17.20	1.324	-0.07	0.893	1.183
	FR1 N66_Ant 5	20M	BPSK	1	1	Edge 1	0mm	Tablet	HB	349000	1745	15.97	17.20	1.327	0.08	0.896	1.189
	FR1 N66_Ant 5	20M	BPSK	50	0	Edge 1	0mm	Tablet	HB	354000	1770	16.06	17.20	1.300	0.06	0.795	1.034
	FR1 N66_Ant 5	20M	BPSK	50	0	Edge 1	0mm	Tablet	HB	344000	1720	15.79	17.20	1.384	-0.15	0.769	1.064
	FR1 N66_Ant 5	20M	BPSK	50	0	Edge 1	0mm	Tablet	HB	349000	1745	15.89	17.20	1.352	0.03	0.789	1.067
	FR1 N66_Ant 5	20M	BPSK	100	0	Edge 1	0mm	Tablet	HB	349000	1745	15.94	17.20	1.337	0.01	0.771	1.031
	FR1 N66_Ant 8	20M	BPSK	1	1	Bottom Face	0mm	Tablet	WNC	344000	1720	20.94	21.90	1.247	-0.02	0.195	0.243
	FR1 N66_Ant 8	20M	BPSK	50	0	Bottom Face	0mm	Tablet	WNC	344000	1720	21.07	21.90	1.211	-0.05	0.124	0.150
	FR1 N66_Ant 8	20M	BPSK	1	1	Edge 1	0mm	Tablet	WNC	344000	1720	20.94	21.90	1.247	0.04	0.608	0.758
	FR1 N66_Ant 8	20M	BPSK	50	0	Edge 1	0mm	Tablet	WNC	344000	1720	21.07	21.90	1.211	0	0.676	0.818
	FR1 N66_Ant 8	20M	BPSK	50	0	Edge 1	0mm	Tablet	WNC	349000	1745	20.69	21.90	1.321	0.05	0.754	0.996
	FR1 N66_Ant 8	20M	BPSK	50	0	Edge 1	0mm	Tablet	WNC	354000	1770	20.74	21.90	1.306	-0.08	0.541	0.707
	FR1 N66_Ant 8	20M	BPSK	100	0	Edge 1	0mm	Tablet	WNC	344000	1720	20.99	21.90	1.233	0.04	0.523	0.645
	FR1 N66_Ant 8	20M	BPSK	1	1	Edge 2	0mm	Tablet	WNC	344000	1720	20.94	21.90	1.247	0.06	0.571	0.712
	FR1 N66_Ant 8	20M	BPSK	50	0	Edge 2	0mm	Tablet	WNC	344000	1720	21.07	21.90	1.211	-0.09	0.346	0.419
	FR1 N66_Ant 8	20M	BPSK	1	1	Edge 1	0mm	Tablet	HB	344000	1720	20.94	21.90	1.247	-0.14	0.955	1.191
	FR1 N66_Ant 8	20M	BPSK	1	1	Edge 1	0mm	Tablet	HB	349000	1745	20.84	21.90	1.276	0.03	0.845	1.079
	FR1 N66_Ant 8	20M	BPSK	1	1	Edge 1	0mm	Tablet	HB	354000	1770	20.71	21.90	1.315	0.02	0.741	0.975
	FR1 N66_Ant 8	20M	BPSK	50	0	Edge 1	0mm	Tablet	HB	344000	1720	21.07	21.90	1.211	0.06	0.879	1.064
	FR1 N66_Ant 8	20M	BPSK	50	0	Edge 1	0mm	Tablet	HB	349000	1745	20.69	21.90	1.321	0.14	0.854	1.128
	FR1 N66_Ant 8	20M	BPSK	50	0	Edge 1	0mm	Tablet	HB	354000	1770	20.74	21.90	1.306	0.08	0.799	1.044
	FR1 N66_Ant 8	20M	BPSK	100	0	Edge 1	0mm	Tablet	HB	344000	1720	20.99	21.90	1.233	-0.06	0.785	0.968
	FR1 N66_Ant 8	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	WNC	344000	1720	20.94	21.90	1.247	0.07	0.900	1.123
	FR1 N66_Ant 8	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	WNC	349000	1745	20.84	21.90	1.276	-0.13	0.905	1.155
	FR1 N66_Ant 8	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	WNC	354000	1770	20.71	21.90	1.315	0.02	0.900	1.184
	FR1 N66_Ant 8	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	344000	1720	21.07	21.90	1.211	-0.04	0.809	0.979
	FR1 N66_Ant 8	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	349000	1745	20.69	21.90	1.321	0.05	0.876	1.157
	FR1 N66_Ant 8	20M	BPSK	50	0	Bottom of Laptop	0mm	Laptop	WNC	354000	1770	20.74	21.90	1.306	0.01	0.818	1.068
	FR1 N66_Ant 8	20M	BPSK	100	0	Bottom of Laptop	0mm	Laptop	WNC	344000	1720	20.99	21.90	1.233	-0.02	0.819	1.010
	FR1 N66_Ant 8	20M	BPSK	1	1	Bottom of Laptop	0mm	Laptop	HB	354000	1770	20.71	21.90	1.315	0	0.633	0.833



15.2 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Configure	Antenna Vendor	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)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 5_Ant 5	10M_QPSK_50_0	Edge 1	0mm	Tablet	WNC	20525	836.5	21.03	21.70	1.167			-0.08	1.020	-	1.190
2nd	LTE Band 5_Ant 5	10M_QPSK_50_0	Edge 1	0mm	Tablet	WNC	20525	836.5	21.03	21.70	1.167			0.02	0.996	1.02	1.162
1st	LTE Band 13_Ant 5	10M_QPSK_50_0	Edge 1	0mm	Tablet	WNC	23230	782	18.74	19.70	1.247			-0.1	0.954	-	1.190
2nd	LTE Band 13_Ant 5	10M_QPSK_50_0	Edge 1	0mm	Tablet	WNC	23230	782	18.74	19.70	1.247			0.07	0.951	1.00	1.186
1st	LTE Band 30_Ant 5	10M_QPSK_50_0	Edge 1	0mm	Tablet	WNC	27710	2310	14.84	15.60	1.191			-0.16	0.885	-	1.054
2nd	LTE Band 30_Ant 5	10M_QPSK_50_0	Edge 1	0mm	Tablet	WNC	27710	2310	14.84	15.60	1.191			0.09	0.874	1.01	1.041
1st	LTE Band 42_Ant 8	20M_QPSK_50_0	Bottom of Laptop	0mm	Laptop	HB	43490	3590	16.50	17.30	1.202	62.9	1.006	-0.08	0.805	-	0.974
2nd	LTE Band 42_Ant 8	20M_QPSK_50_0	Bottom of Laptop	0mm	Laptop	HB	43490	3590	16.50	17.30	1.202	62.9	1.006	0.07	0.798	1.01	0.965
1st	LTE Band 48_Ant 8	20M_QPSK_50_0	Edge 1	0mm	Tablet	HB	56640	3690	15.59	16.60	1.262	62.9	1.006	-0.09	0.818	-	1.039
2nd	LTE Band 48_Ant 8	20M_QPSK_50_0	Edge 1	0mm	Tablet	HB	56640	3690	15.59	16.60	1.262	62.9	1.006	0.04	0.804	1.02	1.021
1st	FR1 N2_Ant 5	20M_QPSK_1_53	Edge 1	0mm	Tablet	WNC	376000	1880	17.78	18.40	1.153			-0.12	1.000	-	1.153
2nd	FR1 N2_Ant 5	20M_QPSK_1_53	Edge 1	0mm	Tablet	WNC	376000	1880	17.78	18.40	1.153			0.05	0.995	1.01	1.148
1st	FR1 N7_Ant 8	20M_QPSK_1_53	Bottom of Laptop	0mm	Laptop	HB	512000	2560	16.72	17.60	1.225			-0.01	0.977	-	1.196
2nd	FR1 N7_Ant 8	20M_QPSK_1_53	Bottom of Laptop	0mm	Laptop	HB	512000	2560	16.72	17.60	1.225			0.02	0.956	1.02	1.171
1st	FR1 N66_Ant 8	20M_BPSK_1_1	Bottom of Laptop	0mm	Laptop	WNC	349000	1745	20.84	21.90	1.276			-0.13	0.905	-	1.155
2nd	FR1 N66_Ant 8	20M_BPSK_1_1	Bottom of Laptop	0mm	Laptop	WNC	349000	1745	20.84	21.90	1.276			0.04	0.901	1.00	1.150

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR < 1.45 W/kg, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

15.3 LTE Band 41 Power Class 2 and Power Class 3 Linearity

This device support Power Class 2 and Power Class 3 operations for LTE Band 41. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in Power Class 2. When the reported SAR vs. output power is linearly scaled with $< 10\%$ discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required

	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	16.5	18.1
Reported 1g SAR (W/kg)	1.099	1.075
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	28.28	27.96
Linearity SAR(W/kg)	1.09	
% deviation from expected linearity		-1.07%

16. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN + WLAN2.4GHz Ant 1 / WLAN 2.4GHz Ant 2 + FR1	Yes
2.	WWAN + WLAN2.4GHz Ant 2 + Bluetooth Ant 1 + FR1	Yes
3.	WWAN + WLAN5GHz Ant 1 / WLAN5GHz Ant 2 + FR1	Yes
4.	WWAN + WLAN5GHz Ant 2 + Bluetooth Ant 1 + FR1	Yes
5.	WWAN + 2.4GHz WLAN Ant 1+2 + FR1	Yes
6.	WWAN + 5GHz WLAN Ant 1+2 + FR1	Yes
7.	WWAN + Bluetooth Ant 1 + 5GHz WLAN Ant 1+2 + FR1	Yes

General Note:

- For Intel AX201NGW, the 2.4GHz/5 GHz WLAN and Bluetooth SAR results are referenced from Intel SAR report, report number: 200904-01.TR01/TR02 (FCC ID: PD9AX201NG) and these SAR results are also used to perform simultaneous transmission analysis.
- The Scaled SAR summation is calculated based on the same configuration and test position.
- The worst case reported SAR from each antenna and test positions used for SAR summation. Therefore, the following summations represent the absolute worst cases for simultaneous transmission for this device.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - Scalar SAR summation $< 1.6\text{W/kg}$.
 - $\text{SPLSR} = (\text{SAR}_1 + \text{SAR}_2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - If $\text{SPLSR} \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band SAR $< 1.6\text{W/kg}$.
 - The SPLSR calculated results please refer to section 16.2.

16.1 Body Exposure Conditions

Ant 5

Exposure Position	1	2	3	4	5	6	7	8	1+2+3 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+6+7+8 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	5GHz WLAN Ant 1	5GHz WLAN Ant 2	Bluetooth Ant 1	5GHz WLAN Ant 1+2(1)	5GHz WLAN Ant 1+2(2)							
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)							
Bottom Face at 0mm	0.260	0.060	0.050	0.270	0.270	0.060			0.370	0.370	0.590	0.530	0.320		
Edge 1 at 0mm	1.198	1.380	0.500	1.200	0.980	0.200	0.590	0.460	3.078	1.898	2.378	2.398	2.448	0.04	Case 1
Edge 2 at 0mm	0.476								0.476	0.476	0.476	0.476	0.476		

Ant 8

Exposure Position	1	2	3	4	5	6	7	8	1+2+3 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+5+6 Summed 1g SAR (W/kg)	1+7+8 Summed 1g SAR (W/kg)	1+6+7+8 Summed 1g SAR (W/kg)	SPLSR	Case No
	Maximum WWAN	2.4GHz WLAN Ant 1	2.4GHz WLAN Ant 2	5GHz WLAN Ant 1	5GHz WLAN Ant 2	Bluetooth Ant 1	5GHz WLAN Ant 1+2(1)	5GHz WLAN Ant 1+2(2)							
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)							
Bottom Face at 0mm	0.243	0.060	0.050	0.270	0.270	0.060			0.353	0.363	0.573	0.243	0.303		
Edge 1 at 0mm	1.196	1.380	0.050	1.200	0.980	0.200	0.590	0.460	2.626	2.776	2.376	2.246	2.446	0.04	Case 2
Edge 2 at 0mm	0.712								0.712	0.712	0.712	0.712	0.712		
Bottom of Laptop at 0mm	1.196								1.196	1.196	1.196	1.196	1.196		

16.2 SPLSR Evaluation and Analysis

General Note:

1. The SPLSR analysis is used the worst case reported SAR from each antenna and test positions with the minimum distance between the each transmit antenna Therefore, the following calculation represent the absolute worst cases for SPLSR analysis for this device.
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

	Band	Position	SAR (W/kg)	Gap	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)				
Case 1	Maximum WWAN Ant 5	Edge 1	1.198	0mm	174.47	2.58	0.02	Not required
	2.4GHz WLAN_Ant 1		1.38	0mm				
	Maximum WWAN Ant 5	Edge 1	1.198	0mm	97.43	1.70	0.02	Not required
	2.4GHz WLAN_Ant 2		0.5	0mm				
	Maximum WWAN Ant 5	Edge 1	1.198	0mm	174.47	2.40	0.02	Not required
	5GHz WLAN_Ant 1		1.2	0mm				
	Maximum WWAN Ant 5	Edge 1	1.198	0mm	97.43	2.18	0.03	Not required
	5GHz WLAN_Ant 2		0.98	0mm				
	Maximum WWAN Ant 5	Edge 1	1.198	0mm	174.47	1.99	0.02	Not required
	5GHz WLAN Ant 1+2(1) + BT Ant 1		0.79	0mm				
	Maximum WWAN Ant 5	Edge 1	1.198	0mm	97.43	1.66	0.02	Not required
	5GHz WLAN Ant 1+2(2)		0.46	0mm				
	2.4GHz WLAN_Ant 1	Edge 1	1.38	0mm	59.07	1.88	0.04	Not required
	2.4GHz WLAN_Ant 2		0.5	0mm				
	2.4GHz WLAN_Ant 2	Edge 1	0.5	0mm	59.07	0.70	0.01	Not required
	Bluetooth Ant 1		0.2	0mm				
	5GHz WLAN_Ant 2	Edge 1	0.98	0mm	59.07	1.18	0.02	Not required
	Bluetooth Ant 1		0.2	0mm				
	5GHz WLAN Ant 1+2(1) + BT Ant 1	Edge 1	0.79	0mm	59.07	1.25	0.02	Not required
	5GHz WLAN Ant 1+2(2)		0.46	0mm				

	Band	Position	SAR (W/kg)	Gap	Minimum distance (mm)	Summed SAR (W/kg)	SPLSR Results	Simultaneous SAR
				(mm)				
Case 2	Maximum WWAN Ant 8	Edge 1	1.196	0mm	161.82	2.58	0.03	Not required
	2.4GHz WLAN_Ant 1		1.38	0mm				
	Maximum WWAN Ant 8	Edge 1	1.196	0mm	84.78	1.70	0.03	Not required
	2.4GHz WLAN_Ant 2		0.5	0mm				
	Maximum WWAN Ant 8	Edge 1	1.196	0mm	161.82	2.40	0.02	Not required
	5GHz WLAN_Ant 1		1.2	0mm				
	Maximum WWAN Ant 8	Edge 1	1.196	0mm	84.78	2.18	0.04	Not required
	5GHz WLAN_Ant 2		0.98	0mm				
	Maximum WWAN Ant 8	Edge 1	1.196	0mm	161.82	1.99	0.02	Not required
	5GHz WLAN Ant 1+2(1) + BT Ant 1		0.79	0mm				
	Maximum WWAN Ant 8	Edge 1	1.196	0mm	84.78	1.66	0.03	Not required
	5GHz WLAN Ant 1+2(2)		0.46	0mm				
	2.4GHz WLAN_Ant 1	Edge 1	1.38	0mm	59.07	1.88	0.04	Not required
	2.4GHz WLAN_Ant 2		0.5	0mm				
	2.4GHz WLAN_Ant 2	Edge 1	0.5	0mm	59.07	0.70	0.01	Not required
	Bluetooth Ant 1		0.2	0mm				
	5GHz WLAN_Ant 2	Edge 1	0.98	0mm	59.07	1.18	0.02	Not required
	Bluetooth Ant 1		0.2	0mm				
	5GHz WLAN Ant 1+2(1) + BT Ant 1	Edge 1	0.79	0mm	59.07	1.25	0.02	Not required
	5GHz WLAN Ant 1+2(2)		0.46	0mm				

Test Engineer : Ginger Chiang, Charles Shen and Jack Yang

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 648474 D04 v01r03, "SAR Evaluation Considerations for Wireless Handsets", Oct 2015.
- [8] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [9] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [10] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [11] FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [12] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [13] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.