FCC SAR Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT1929-4(SS)
MARKETING NAME	:	Moto Z3 Play
FCC ID	:	IHDT56XE1
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

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

Reviewed by: Eric Huang / Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

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Table of Contents

1. Statement of Compliance 4
2. Administration Data 5
3. Guidance Applied 5
4. Equipment Under Test (EUT) Information 6
4.1 General Information 6
4.2 General LTE SAR Test and Reporting Considerations 8
4.3 Proximity Sensor Triggering Test 11
5. RF Exposure Limits 17
5.1 Uncontrolled Environment 17
5.2 Controlled Environment 17
6. Specific Absorption Rate (SAR) 18
6.1 Introduction 18
6.2 SAR Definition 18
7. System Description and Setup 19
7.1 E-Field Probe 20
7.2 Data Acquisition Electronics (DAE) 20
7.3 Phantom 21
7.4 Device Holder 22
8. Measurement Procedures 23
8.1 Spatial Peak SAR Evaluation 23
8.2 Power Reference Measurement 24
8.3 Area Scan 24
8.4 Zoom Scan 25
8.5 Volume Scan Procedures 25
8.6 Power Drift Monitoring 25
9. Test Equipment List 26
10. System Verification 27
10.1 Tissue Simulating Liquids 27
10.2 Tissue Verification 28
10.3 System Performance Check Results 30
11. RF Exposure Positions 32
11.1 Ear and handset reference point 32
11.2 Definition of the cheek position 33
11.3 Definition of the tilt position 34
11.4 Body Worn Accessory 35
11.5 Product Specific 35
11.6 Wireless Router 36
12. Conducted RF Output Power (Unit: dBm) 37
13. Antenna Location 172
14. SAR Test Results 173
14.1 Head SAR 175
14.2 Hotspot SAR 181
14.3 Product Specific SAR 189
14.4 Body Worn Accessory SAR 191
14.5 Repeated SAR Measurement 197
14.6 LTE Band 41 Power Class 2 and Power Class 3 Linearity 198
15. Simultaneous Transmission Analysis 199
15.1 Head Exposure Conditions 200
15.2 Hotspot Exposure Conditions 202
15.3 Body-Worn Accessory Exposure Conditions 205
15.4 Product Specific Conditions 206
15.5 SPLSR Evaluation and Analysis 208
16. Supplemental tuner tests results 234
16.1 Supplemental Head SAR results 234
16.2 Supplemental Body SAR results 236
17. Uncertainty Assessment 237
18. References 238
Appendix A. Plots of System Performance Check
Appendix B. Plots of High SAR Measurement
Appendix C. DASY Calibration Certificate
Appendix D. Test Setup Photos

Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA811821	Rev. 01	Initial issue of report	Mar. 06, 2018

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Motorola Mobility LLC, Mobile Cellular Phone , XT1929-4(SS)**, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary				Highest Simultaneous Transmission 1g SAR (W/kg)
		Head (Separation 0mm)	Body-worn (Separation 5mm)	Hotspot (Separation 5mm)	Product Specific (Separation 0mm)	
		1g SAR (W/kg)			10g SAR (W/kg)	
Licensed	GSM850	0.18	0.68	0.68		1.57
	GSM1900	0.13	1.15	1.14	1.38	
	WCDMA II	0.28	1.18	1.12	3.02	
	WCDMA IV	0.31	0.99	1.18	3.15	
	WCDMA V	0.41	0.90	0.90		
	CDMA BC0	0.30	1.03	0.98		
	CDMA BC1	0.35	1.07	1.00	2.80	
	CDMA BC10	0.36	0.97	0.97		
	LTE Band 7	0.80	1.10	1.10	3.19	
	LTE Band 12 / 17	0.32	1.16	1.16		
	LTE Band 13	0.24	1.14	1.14		
	LTE Band 14	0.36	1.07	1.07		
	LTE Band 2 / 25	0.26	1.08	1.15	2.63	
	LTE Band 5 / 26	0.36	0.92	0.92		
	LTE Band 30	0.34	1.07	1.07	3.06	
	LTE Band 38 / 41	0.62	1.12	1.12	3.20	
	LTE Band 4 / 66	0.25	0.71	1.06	3.14	
	LTE Band 71	0.20	0.87	0.87		
DTS	2.4GHz WLAN	1.13	1.01	1.20	1.48	1.57
NII	5GHz WLAN	1.18	1.02	0.73	2.87	1.56
DSS	Bluetooth	0.14	0.06	0.08		1.21
Date of Testing:		2018/2/15 ~ 2018/3/10				

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.

2. Administration Data

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.

Testing Laboratory	
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Applicant	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

3. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- 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 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1929-4(SS)
Marketing Name	Moto Z3 Play
FCC ID	IHDT56XE1
IMEI Code	351886090018877
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz CDMA 2000 BC10: 817.9 MHz ~ 823.1 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 14: 790.5 MHz ~ 795.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A) LTE: QPSK, 16QAM, 64QAM WLAN 2.4GHz : 802.11b/g/n HT20 WLAN 5GHz : 802.11a/n/ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE NFC:ASK

Product Feature & Specification	
HW Version	DVT2
SW Version	OPW28.22
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, this technique is employed in the GSM, WCDMA and LTE modes but not supports LTE B7/B30/B38/B41. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner are included in the operational description and supplemental data for additional information on section16.
2. This device 2.4GHz / 5.8GHz WLAN supports Hotspot operation.
3. When operating in a call in talk position at the head, the device utilizes the At-Head power table. When operating in a body-worn condition, with proximity of the user's body at the front or back of the device, the device operates in the Body-Worn power table. If neither the At-Head or Body-Worn condition is detected, but the device is operating in WiFi Hotspot mode, the device utilizes the Hotspot power table. When operating in any other radiated condition, the device uses the Default power table.
4. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. The control logic is such that, when this front or back body-worn condition is detected and the device is operating in a mode where on-body operation may be expected, the conducted power is applied in the Body-Worn power table. In this condition (user's body detected at front or back face of the device), the Body-Worn power table is applied regardless whether or not the Wi-Fi hotspot mode is active.
5. Note that the Body-Worn Reduced power tables and detection schemes described above are sufficient to assure that body-worn SAR limits are met, regardless whether the Wi-Fi hotspot feature is active or not. However, because FCC has an additional specific test definition and limit for Wi-Fi hotspot mode operation, the additional Hotspot power table is applied if hand-held operation is indicated (i.e., not At-Head or Body-Worn) when the Wi-Fi hotspot feature is active. This ensures the 4 edges of the device comply with the letter of the Wi-Fi Hotspot requirement.
6. The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna (if that antenna may require reduced power relative the Default power table in order to meet extremity SAR limits). The control logic is such that, if the Body-Worn, At-Head or WiFi Hotspot conditions are not detected, but tissue (as a finger or hand, for example) is detected near the transmitting antenna, the Handheld Reduced power table will be applied
7. Reduced power for different RF exposure conditions:

   Head: If audio is present at the earpiece, the device will reduce output powers on the WLAN transmitter for held-to-ear and detail descriptions of the power reduction mechanism are included in the operational description.

   Body worn: The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device, when operating in near-body condition by end user, the device will reduced maximum output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC0 / BC1 / BC10, LTE B2 / B4 / B5 / B7 / B14 / B25 / B26 / B30 / B66 / B38 / B41 and WLAN transmitter and detail descriptions of the power reduction mechanism are included in the operational description.

   Hotspot: When the mobile hotspot session is turn on by end user, the device will reduced output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC0 / BC1 / BC10, LTE B2 / B4 / B5 / B7 / B14 / B25 / B26 / B30 / B66 / B38 / B41 and WLAN transmitter and detail descriptions of the power reduction mechanism are included in the operational description.

   Handheld: The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna, the device will reduced output powers on the GSM1900, WCDMA B2 / B4, CDMA BC1 and LTE B2 / B4 / B5 / B7 / B14 / B25 / B26 / B30 / B66 / B38 / B41 transmitter and detail descriptions of the power reduction mechanism are included in the operational description.

4.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	IHDT56XE1
Equipment Name	Mobile Cellular Phone
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 14: 790.5 MHz ~ 795.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz
Channel Bandwidth	LTE Band 02:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 04:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 05:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 07: 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 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM / 64QAM
LTE Voice / Data requirements	Voice and Data
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, when operating in hotspot mode or Near-body or Product Specific that LTE B2 / B4 / B5 / B7 / B14 / B25 / B26 / B30 / B66 / B38 / B41 power reduction applied to satisfy SAR compliance.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations as below page and the detail power verification please referred to section 12.
LTE Carrier Aggregation Additional Information	(1) This device supports LTE Carrier Aggregation (CA) in the uplink for LTE Band 41 with two component carriers in the uplink. SAR Measurements and conducted powers were evaluated per FCC Guidance. (2) This device supports maximum of 3 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

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

LTE Band 2

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

LTE Band 4

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

LTE Band 5

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

LTE Band 7

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

LTE Band 12

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

LTE Band 13

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

LTE Band 14

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

LTE Band 17

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

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

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

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

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

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

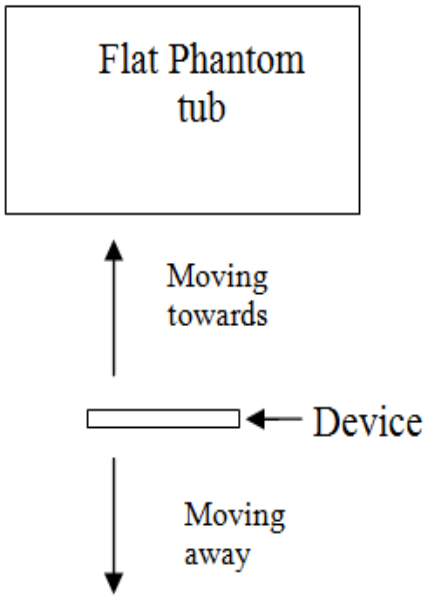
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047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

LTE Band 71								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	133147	665.5	133172	668	133197	670.5	133222	673
M	133247	675.5	133272	678	133297	680.5	133322	683
H	133447	695.5	133422	693	133397	690.5	133372	688

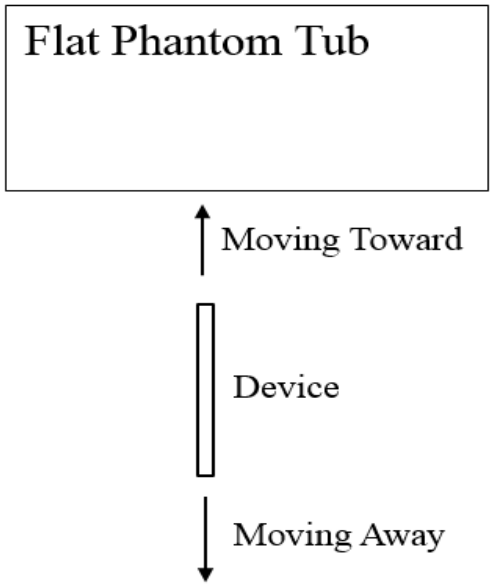
4.3 Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (2600MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. The output power will reduce to body worn power level when top and bottom sensor pad be detected.
4. The sensors used to detect the proximity of the user's body (Body-Worn condition) at the front or back surface of the device use a detection threshold distance. The data shown in the sections below shows the distance(s).
5. The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna (if that antenna may require reduced power relative the Default power table in order to meet extremity SAR limits). The control logic is such that, if the Body-Worn, At-Head or WiFi Hotspot conditions are not detected, but tissue (as a finger or hand, for example) is detected near the transmitting antenna, the Handheld Reduced power table will be applied
6. When the sensor is active, the device will reduced maximum output powers on the GSM1900, WCDMA B2 / B4 / B5, CDMA BC0 / BC1 / BC10 and LTE B2 / B4 / B5 / B7 / B14 / B25 / B26 / B30 / B66 / B38 / B41 transmitter.



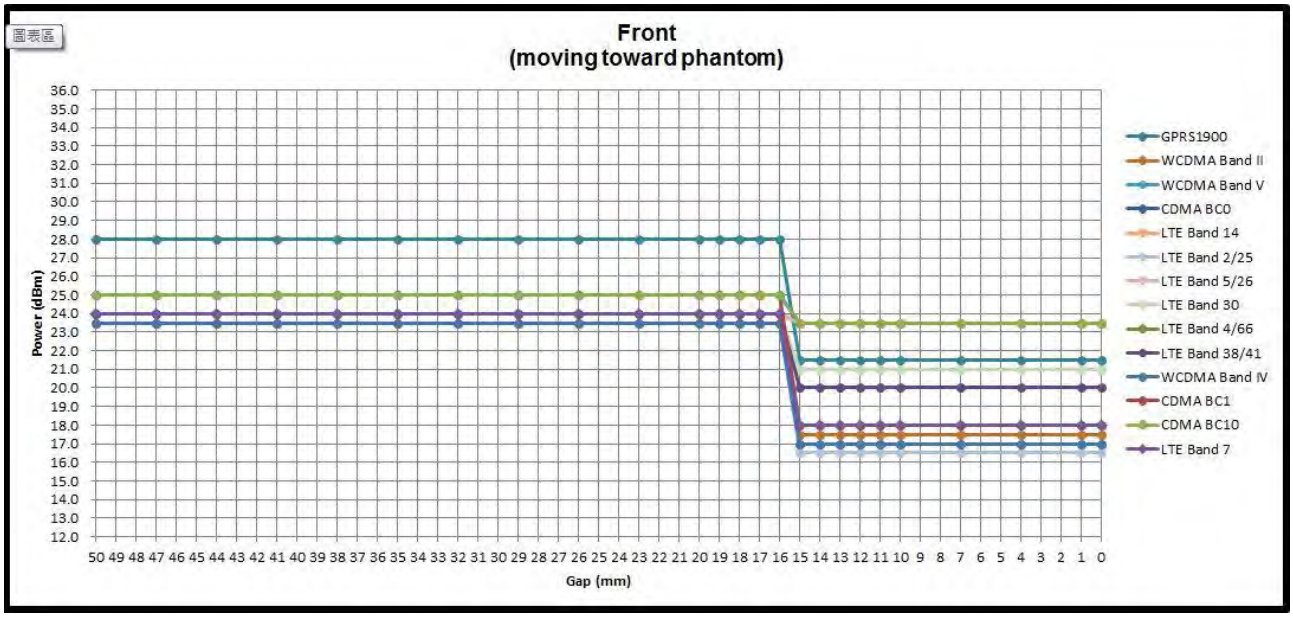
Sensor detection test set-up, front and back faces

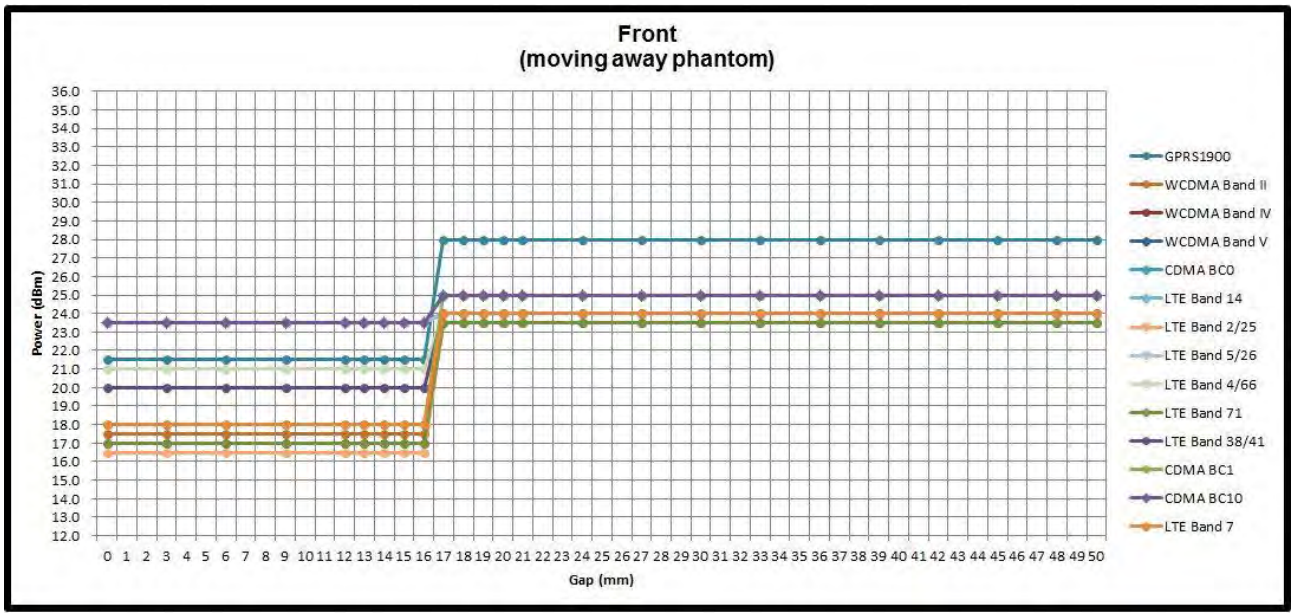


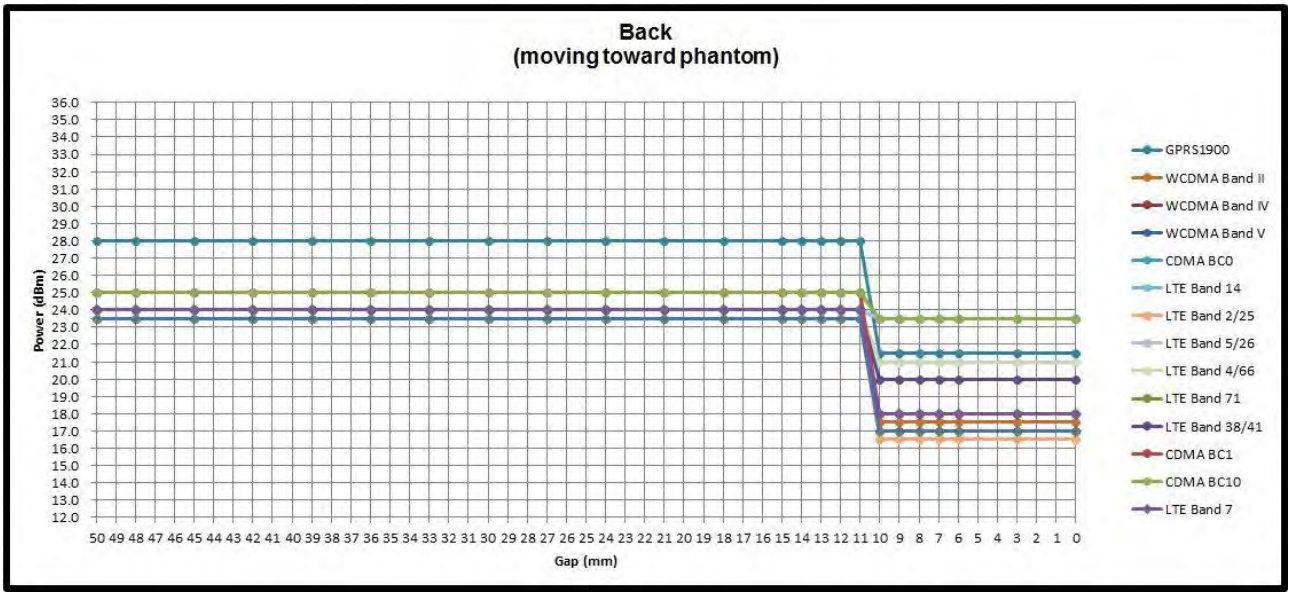
Sensor detection test set-up, bottom face, left side, right side

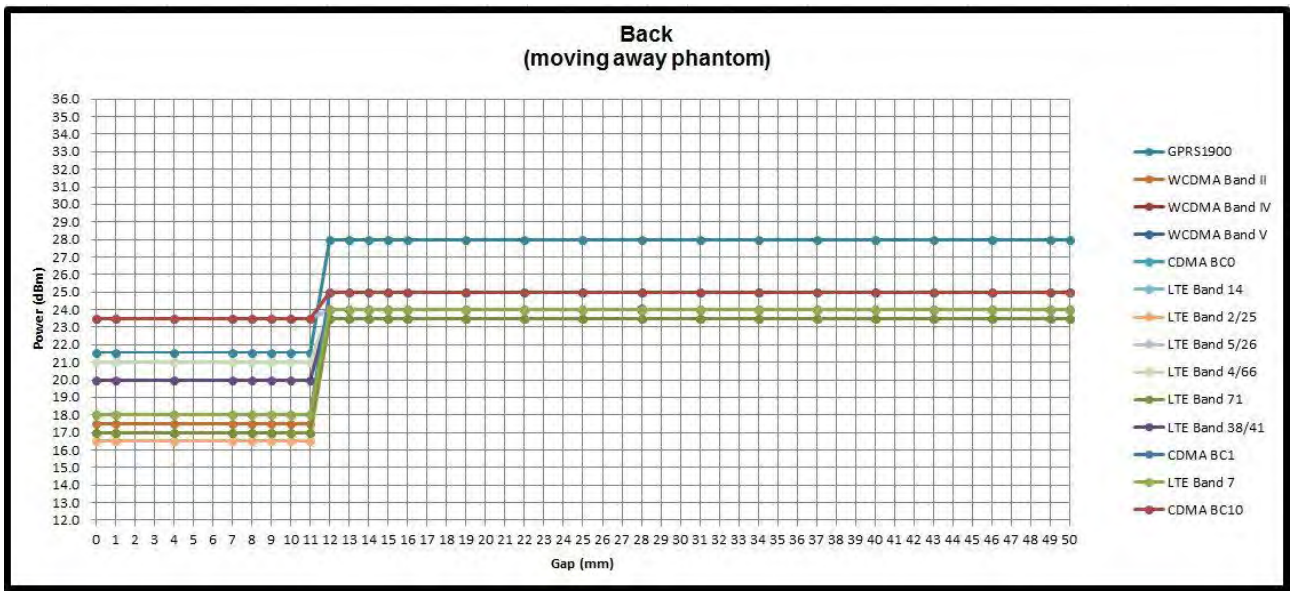
Proximity Sensor Trigger Distance (mm)										
Position	Front		Back		Bottom Side		Right Side		Left Side	
Position	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	15	16	10	11	5	6	5	6	5	6

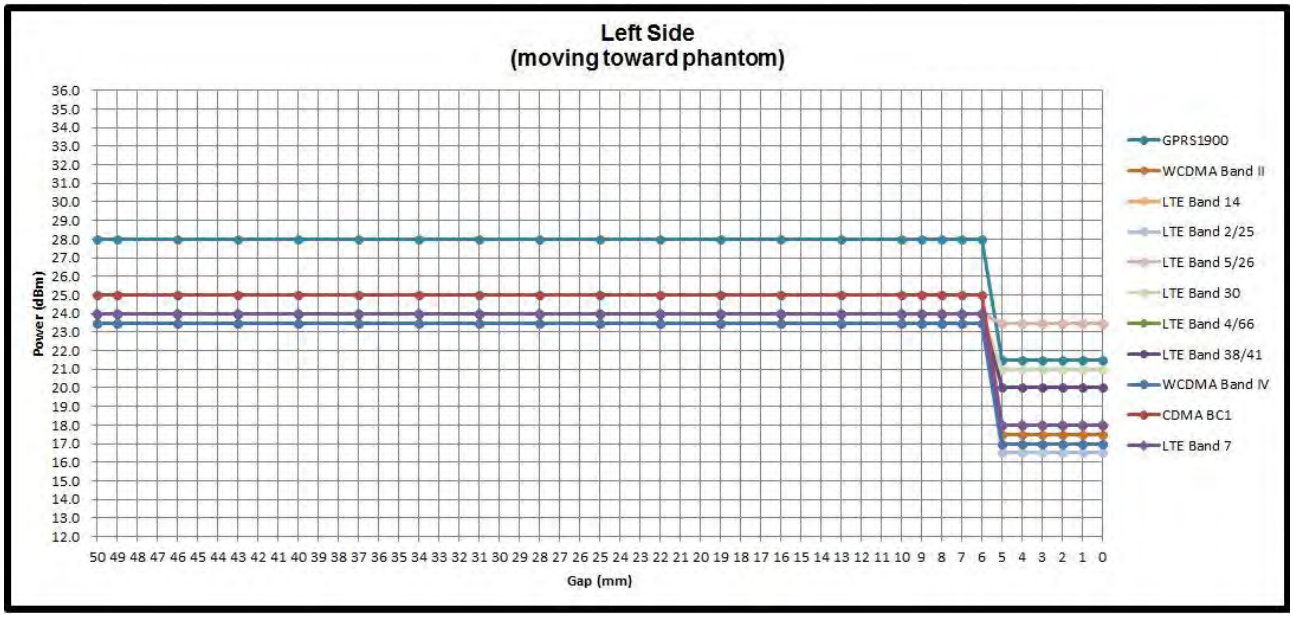
<Sensor triggers distance V.S Measure power>

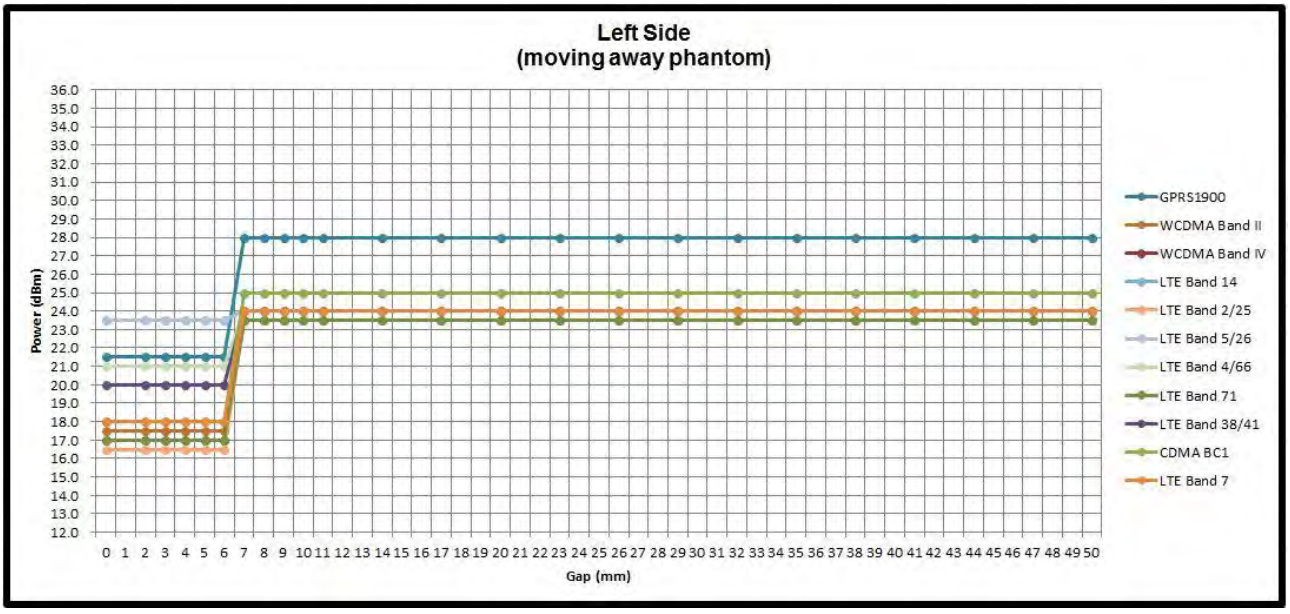


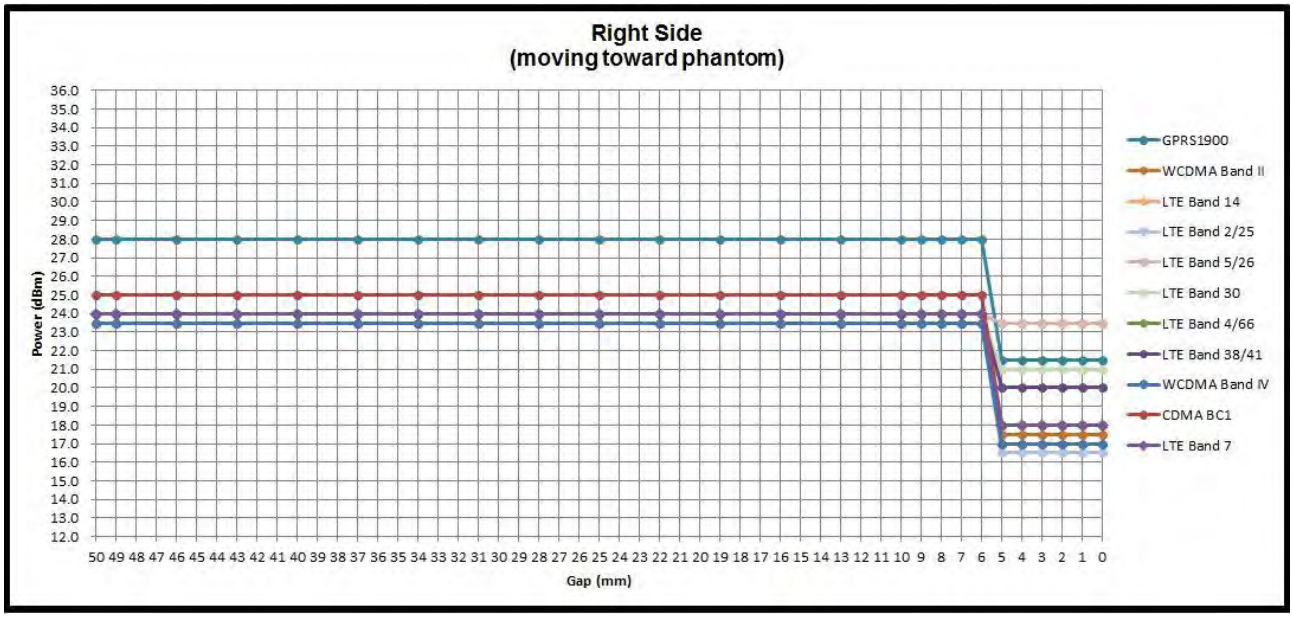


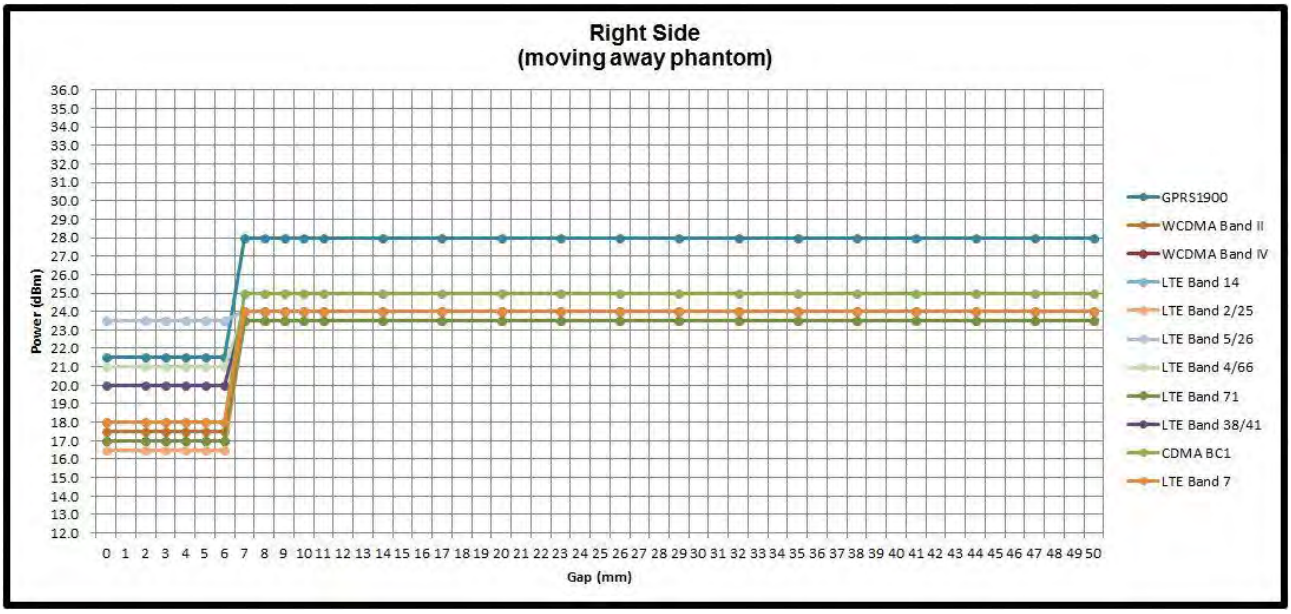

Back
(moving toward phantom)
Power (dBm)
Gap (mm)
GPRS1900
WCDMA Band II
WCDMA Band IV
WCDMA Band V
CDMA BC0
LTE Band 14
LTE Band 2/25
LTE Band 5/26
LTE Band 4/66
LTE Band 71
LTE Band 38/41
CDMA BC1
CDMA BC10
LTE Band 7

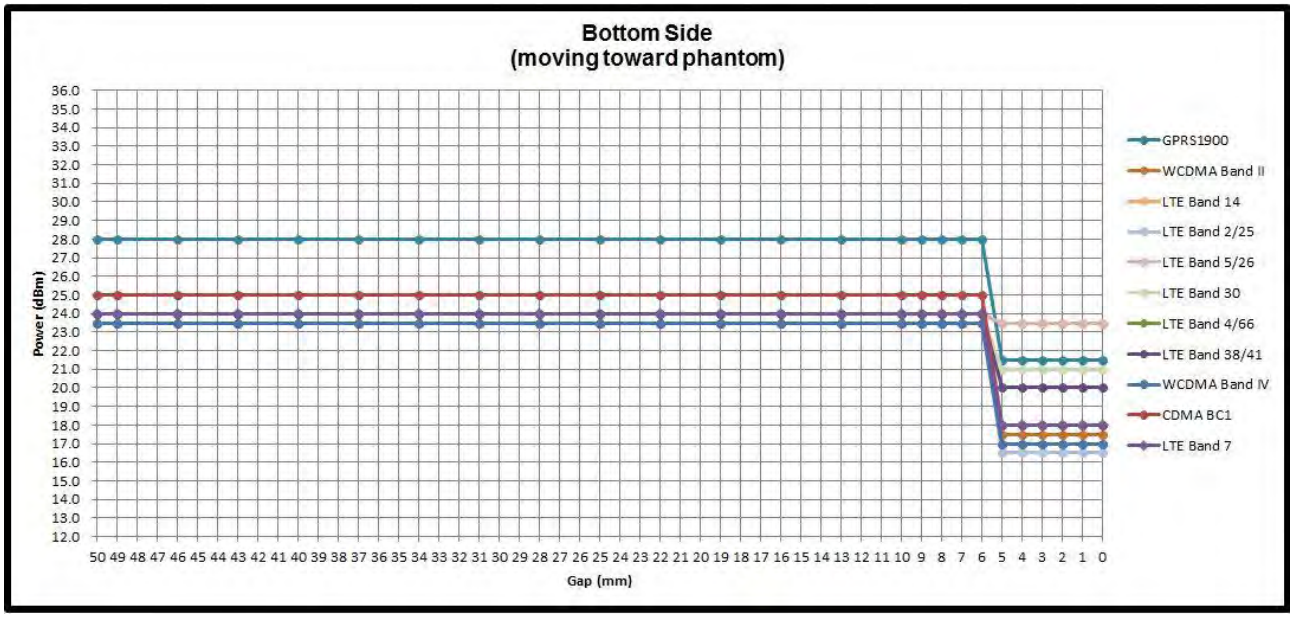

Back
(moving away phantom)
Power (dBm)
Gap (mm)
GPRS1900
WCDMA Band II
WCDMA Band IV
WCDMA Band V
CDMA BC0
LTE Band 14
LTE Band 2/25
LTE Band 5/26
LTE Band 4/66
LTE Band 71
LTE Band 38/41
CDMA BC1
LTE Band 7
CDMA BC10

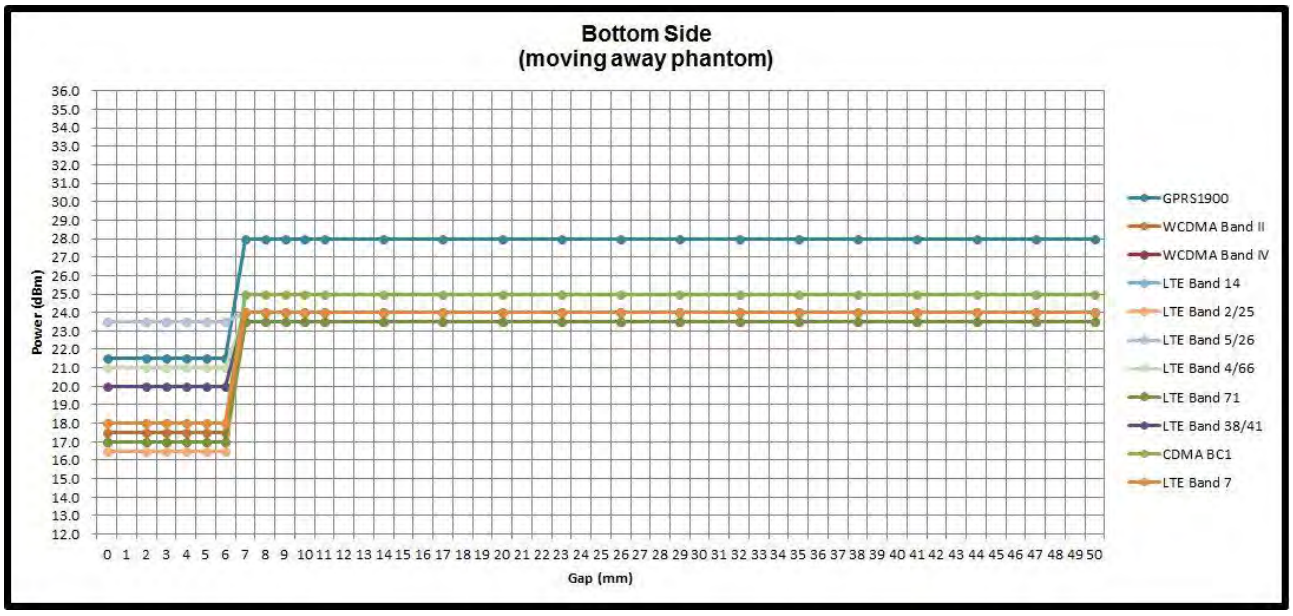

Left Side
(moving toward phantom)
Power (dBm)
Gap (mm)
GPRS1900
WCDMA Band II
LTE Band 14
LTE Band 2/25
LTE Band 5/26
LTE Band 30
LTE Band 4/66
LTE Band 38/41
WCDMA Band IV
CDMA BC1
LTE Band 7


Left Side
(moving away phantom)
Power (dBm)
Gap (mm)
GPRS1900
WCDMA Band II
WCDMA Band IV
LTE Band 14
LTE Band 2/25
LTE Band 5/26
LTE Band 4/66
LTE Band 71
LTE Band 38/41
CDMA BC1
LTE Band 7


Right Side
(moving toward phantom)
Power (dBm)
Gap (mm)
GPRS1900
WCDMA Band II
LTE Band 14
LTE Band 2/25
LTE Band 5/26
LTE Band 30
LTE Band 4/66
LTE Band 38/41
WCDMA Band IV
CDMA BC1
LTE Band 7


Right Side
(moving away phantom)
Power (dBm)
Gap (mm)
GPRS1900
WCDMA Band II
WCDMA Band IV
LTE Band 14
LTE Band 2/25
LTE Band 5/26
LTE Band 4/66
LTE Band 71
LTE Band 38/41
CDMA BC1
LTE Band 7


Bottom Side
(moving toward phantom)
Power (dBm)
Gap (mm)
GPRS1900
WCDMA Band II
LTE Band 14
LTE Band 2/25
LTE Band 5/26
LTE Band 30
LTE Band 4/66
LTE Band 38/41
WCDMA Band IV
CDMA BC1
LTE Band 7


Bottom Side
(moving away phantom)
Power (dBm)
Gap (mm)
GPRS1900
WCDMA Band II
WCDMA Band IV
LTE Band 14
LTE Band 2/25
LTE Band 5/26
LTE Band 4/66
LTE Band 71
LTE Band 38/41
CDMA BC1
LTE Band 7

5. RF Exposure Limits

5.1 Uncontrolled Environment

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

5.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

6. Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

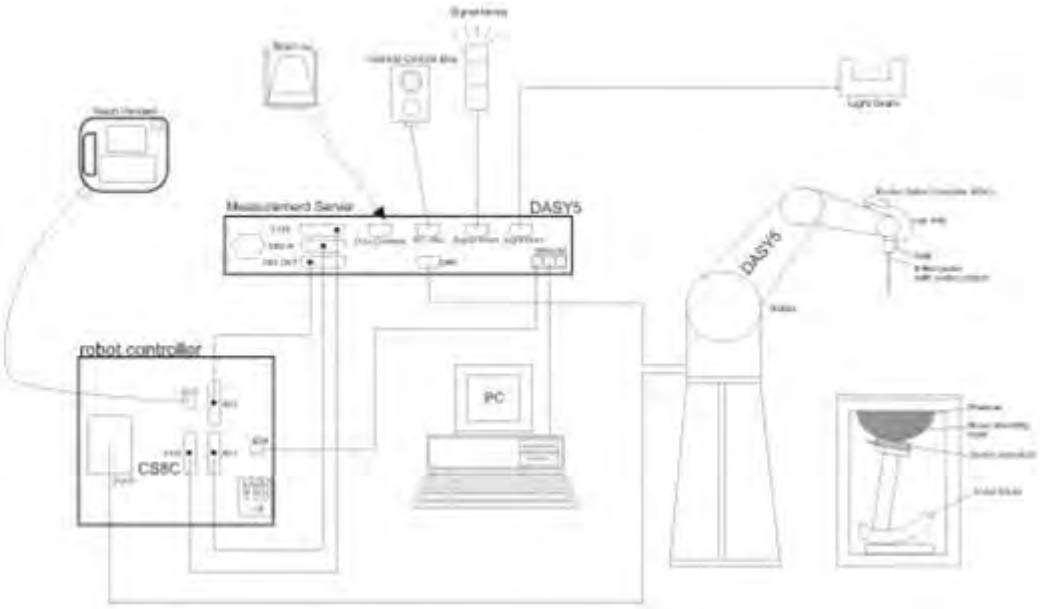
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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



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

7.1 E-Field Probe

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

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	10 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)	
Directivity	±0.2 dB in TSL (rotation around probe axis) ±0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 μW/g – >100 mW/g; Linearity: ±0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<EX3DV4 Probe>

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

7.2 Data Acquisition Electronics (DAE)

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

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

Fig 5.1 Photo of DAE

7.3 Phantom

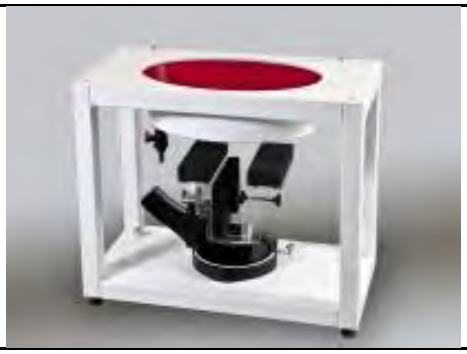
<SAM Twin Phantom>

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

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

<ELI Phantom>

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



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

7.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

8. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

8.1 Spatial Peak SAR Evaluation

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

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

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

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

8.2 Power Reference Measurement

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

8.3 Area Scan

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

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

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

8.4 Zoom Scan

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

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

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

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

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

8.5 Volume Scan Procedures

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

8.6 Power Drift Monitoring

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

9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	May. 22, 2017	May. 21, 2018
SPEAG	835MHz System Validation Kit	D835V2	499	Mar. 21, 2017	Mar. 20, 2018
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 15, 2017	Nov. 14, 2018
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Sep. 28, 2017	Sep. 27, 2018
SPEAG	2300MHz System Validation Kit	D2300V2	1006	Jan. 17, 2018	Jan. 16, 2019
SPEAG	2450MHz System Validation Kit	D2450V2	736	Sep. 18, 2017	Sep. 17, 2018
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Sep. 18, 2017	Sep. 17, 2018
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 26, 2017	Sep. 25, 2018
SPEAG	Data Acquisition Electronics	DAE3	393	Aug. 10, 2017	Aug. 09, 2018
SPEAG	Data Acquisition Electronics	DAE3	495	May. 22, 2017	May. 21, 2018
SPEAG	Data Acquisition Electronics	DAE4	1399	Nov. 16, 2017	Nov. 15, 2018
SPEAG	Data Acquisition Electronics	DAE4	854	May. 02, 2017	May. 01, 2018
SPEAG	Data Acquisition Electronics	DAE4	853	Jul. 19, 2017	Jul. 18, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	3578	May. 05, 2017	May. 04, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	May. 24, 2017	May. 23, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	3931	Sep. 29, 2017	Sep. 28, 2018
SPEAG	Dosimetric E-Field Probe	ES3DV3	3169	May. 11, 2017	May. 10, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	7306	Jul. 24, 2017	Jul. 23, 2018
SPEAG	Dosimetric E-Field Probe	EX3DV4	3976	Jan. 23, 2018	Jan. 22, 2019
Gencom	Thermometer	TE1	TM685-1	Mar. 21, 2017	Mar. 20, 2018
Gencom	Thermometer	TE1	TM685-2	Mar. 21, 2017	Mar. 20, 2018
WonDer	Thermometer	WD-5016	TM642-1	Mar. 17, 2017	Mar. 16, 2018
WonDer	Thermometer	WD-5016	TM642-2	Mar. 17, 2017	Mar. 16, 2018
WonDer	Thermometer	WD-5016	TM281-1	Mar. 17, 2017	Mar. 16, 2018
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Apr. 20, 2017	Apr. 19, 2018
Agilent	Wireless Communication Test Set	E5515C	MY50266977	May. 30, 2017	May. 29, 2018
R&S	BT Base Station	CBT32	100522	Mar. 14, 2017	Mar. 13, 2018
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Dec. 07, 2017	Dec. 06, 2018
Agilent	ENA Network Analyzer	E5071C	MY46316648	Jan. 17, 2018	Jan. 16, 2019
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 26, 2017	Sep. 25, 2018
LINE SEIKI	Digital Thermometer	LKMelectronic	DTM3000SPEZIAL	Sep. 06, 2017	Sep. 05, 2018
Anritsu	Power Meter	ML2495A	1419002	May. 15, 2017	May. 14, 2018
Anritsu	Power Sensor	MA2411B	1339124	May. 15, 2017	May. 14, 2018
Anritsu	Power Meter	ML2495A	1218006	Oct. 06, 2017	Oct. 05, 2018
Anritsu	Power Sensor	MA2411B	1207363	Oct. 06, 2017	Oct. 05, 2018
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 23, 2017	Aug. 22, 2018
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 26, 2017	Jun. 25, 2018
Mini-Circuits	Power Amplifier	ZVE-8G+	D120604	Mar. 18, 2017	Mar. 17, 2018
Mini-Circuits	Power Amplifier	ZHL-42W+	QA1344002	Mar. 18, 2017	Mar. 17, 2018
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.

10. System Verification

10.1 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.

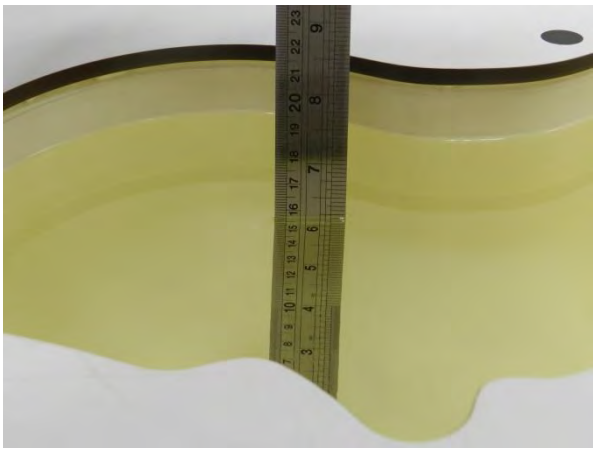


Fig 10.1Photo of Liquid Height for Head SAR

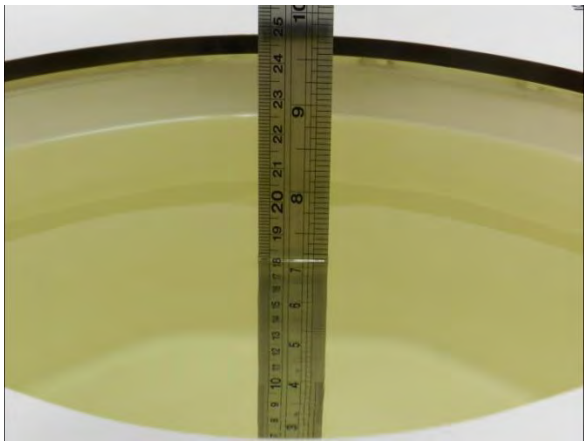


Fig 10.2 Photo of Liquid Height for Body SAR

10.2 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 (εr)
For Head								
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
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

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)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	HSL	22.5	0.892	42.916	0.89	41.90	0.22	2.42	±5	2018/2/16
750	MSL	22.6	0.971	53.835	0.96	55.50	1.15	-3.00	±5	2018/2/17
835	HSL	22.5	0.888	41.364	0.90	41.50	-1.33	-0.33	±5	2018/2/16
835	MSL	22.2	0.975	55.780	0.97	55.20	0.52	1.05	±5	2018/2/17
835	MSL	22.4	0.977	56.391	0.97	55.20	0.72	2.16	±5	2018/2/19
1750	HSL	22.4	1.343	41.090	1.37	40.10	-1.97	2.47	±5	2018/2/15
1750	HSL	22.4	1.346	41.190	1.37	40.10	-1.75	2.72	±5	2018/2/26
1750	MSL	22.3	1.508	54.719	1.49	53.40	1.21	2.47	±5	2018/2/18
1900	HSL	22.4	1.411	40.419	1.40	40.00	0.79	1.05	±5	2018/2/15
1900	HSL	22.8	1.423	40.155	1.40	40.00	1.64	0.39	±5	2018/2/18
1900	HSL	22.2	1.432	41.123	1.40	40.00	2.29	2.81	±5	2018/2/26
1900	HSL	22.3	1.416	40.239	1.40	40.00	1.14	0.60	±5	2018/3/10
1900	MSL	22.8	1.537	54.683	1.52	53.30	1.12	2.59	±5	2018/2/18
1900	MSL	22.3	1.511	55.661	1.52	53.30	-0.59	4.43	±5	2018/2/19
1900	MSL	22.5	1.569	53.525	1.52	53.30	3.22	0.42	±5	2018/2/19
1900	MSL	22.3	1.578	54.868	1.52	53.30	3.82	2.94	±5	2018/3/10
2300	HSL	22.4	1.671	39.131	1.67	39.50	0.06	-0.93	±5	2018/2/27
2300	MSL	22.3	1.826	53.844	1.81	52.90	0.88	1.78	±5	2018/2/20
2300	MSL	22.5	1.831	54.004	1.81	52.90	1.16	2.09	±5	2018/2/25
2450	HSL	22.4	1.814	38.994	1.80	39.20	0.78	-0.53	±5	2018/2/18
2450	HSL	22.5	1.816	39.572	1.80	39.20	0.89	0.95	±5	2018/2/25
2450	MSL	22.1	2.008	53.521	1.95	52.70	2.97	1.56	±5	2018/2/19
2450	MSL	22.5	1.990	54.483	1.95	52.70	2.05	3.38	±5	2018/2/25
2600	HSL	22.1	1.944	38.185	1.96	39.00	-0.82	-2.09	±5	2018/2/26
2600	MSL	22.5	2.197	53.758	2.16	52.50	1.71	2.40	±5	2018/2/20
2600	MSL	22.3	2.220	52.450	2.16	52.50	2.78	-0.10	±5	2018/2/23
5250	HSL	22.2	4.597	36.888	4.71	35.95	-2.40	2.61	±5	2018/2/20
5250	MSL	22.2	5.477	48.057	5.36	48.95	2.18	-1.82	±5	2018/2/20
5600	HSL	22.2	4.944	36.412	5.07	35.50	-2.49	2.57	±5	2018/2/20
5600	MSL	22.2	5.946	47.463	5.77	48.50	3.05	-2.14	±5	2018/2/20
5750	HSL	22.2	5.101	36.194	5.22	35.35	-2.28	2.39	±5	2018/2/20
5750	MSL	22.2	6.157	47.219	5.94	48.28	3.65	-2.20	±5	2018/2/20

10.3 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)	Tissue Type	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 (%)
2018/2/16	750	HSL	250	D750V3-1012	ES3DV3 - SN3169	DAE3 Sn495	2.05	8.22	8.20	-0.24
2018/2/17	750	MSL	250	D750V3-1012	EX3DV4 - SN3925	DAE4 Sn853	2.17	8.71	8.68	-0.34
2018/2/16	835	HSL	250	D835V2-499	EX3DV4 - SN3931	DAE4 Sn1399	2.50	9.45	10.00	5.82
2018/2/17	835	MSL	250	D835V2-499	EX3DV4 - SN3931	DAE4 Sn1399	2.52	9.67	10.08	4.24
2018/2/19	835	MSL	250	D835V2-499	EX3DV4 - SN3931	DAE4 Sn1399	2.53	9.67	10.12	4.65
2018/2/15	1750	HSL	250	D1750V2-1068	EX3DV4 - SN3931	DAE4 Sn1399	8.82	36.70	35.28	-3.87
2018/2/26	1750	HSL	250	D1750V2-1068	EX3DV4 - SN7306	DAE4 Sn854	9.32	36.70	37.28	1.58
2018/2/18	1750	MSL	250	D1750V2-1068	EX3DV4 - SN3931	DAE4 Sn1399	8.63	37.20	34.52	-7.20
2018/2/15	1900	HSL	250	D1900V2-5d041	EX3DV4 - SN3931	DAE4 Sn1399	10.00	40.50	40.00	-1.23
2018/2/18	1900	HSL	250	D1900V2-5d041	EX3DV4 - SN3925	DAE4 Sn853	9.67	40.50	38.68	-4.49
2018/2/26	1900	HSL	250	D1900V2-5d041	EX3DV4 - SN7306	DAE4 Sn854	10.90	40.50	43.60	7.65
2018/3/10	1900	HSL	250	D1900V2-5d041	EX3DV4 - SN3976	DAE3 Sn495	9.76	40.50	39.04	-3.60
2018/2/18	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN3925	DAE4 Sn853	10.10	40.70	40.40	-0.74
2018/2/19	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN3931	DAE4 Sn1399	9.82	40.70	39.28	-3.49
2018/2/19	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN3925	DAE4 Sn853	9.70	40.70	38.80	-4.67
2018/3/10	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN3976	DAE3 Sn495	10.50	40.70	42	3.19
2018/2/27	2300	HSL	250	D2300V2-1006	EX3DV4 - SN3931	DAE4 Sn1399	12.50	48.70	50.00	2.67
2018/2/20	2300	MSL	250	D2300V2-1006	EX3DV4 - SN3578	DAE3 Sn393	11.90	47.30	47.60	0.63
2018/2/25	2300	MSL	250	D2300V2-1006	EX3DV4 - SN3931	DAE4 Sn1399	12.30	47.30	49.20	4.02
2018/2/18	2450	HSL	250	D2450V2-736	EX3DV4 - SN3925	DAE4 Sn853	13.10	52.40	52.40	0.00
2018/2/25	2450	HSL	250	D2450V2-736	EX3DV4 - SN7306	DAE4 Sn854	12.80	52.40	51.20	-2.29
2018/2/19	2450	MSL	250	D2450V2-736	EX3DV4 - SN3925	DAE4 Sn853	13.50	50.80	54.00	6.30
2018/2/25	2450	MSL	250	D2450V2-736	EX3DV4 - SN7306	DAE4 Sn854	13.10	50.80	52.40	3.15
2018/2/26	2600	HSL	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	14.10	56.80	56.40	-0.70
2018/2/20	2600	MSL	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	14.10	55.00	56.40	2.55
2018/2/23	2600	MSL	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	14.70	55.00	58.80	6.91
2018/2/20	5250	HSL	100	D5GHzV2-1006-5250	EX3DV4 - SN3925	DAE4 Sn853	7.89	78.30	78.90	0.77
2018/2/20	5250	MSL	100	D5GHzV2-1006-5250	EX3DV4 - SN3925	DAE4 Sn853	7.81	77.00	78.10	1.43
2018/2/20	5600	HSL	100	D5GHzV2-1006-5600	EX3DV4 - SN3925	DAE4 Sn853	8.93	85.00	89.30	5.06
2018/2/20	5600	MSL	100	D5GHzV2-1006-5600	EX3DV4 - SN3925	DAE4 Sn853	8.30	80.10	83.00	3.62
2018/2/20	5750	HSL	100	D5GHzV2-1006-5750	EX3DV4 - SN3925	DAE4 Sn853	8.01	78.50	80.10	2.04
2018/2/20	5750	MSL	100	D5GHzV2-1006-5750	EX3DV4 - SN3925	DAE4 Sn853	7.51	75.10	75.10	0.00

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2018/2/18	1750	MSL	250	D1750V2-1068	EX3DV4 - SN3931	DAE4 Sn1399	4.74	19.70	18.96	-3.76
2018/2/19	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN3931	DAE4 Sn1399	5.15	21.40	20.6	-3.74
2018/2/19	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN3925	DAE4 Sn853	5.07	21.40	20.28	-5.23
2018/3/10	1900	MSL	250	D1900V2-5d041	EX3DV4 - SN3976	DAE3 Sn495	5.50	21.40	22	2.80
2018/2/20	2300	MSL	250	D2300V2-1006	EX3DV4 - SN3578	DAE3 Sn393	5.28	22.80	21.12	-7.37
2018/2/19	2450	MSL	250	D2450V2-736	EX3DV4 - SN3925	DAE4 Sn853	6.29	23.60	25.16	6.61
2018/2/25	2450	MSL	250	D2450V2-736	EX3DV4 - SN7306	DAE4 Sn854	5.98	23.60	23.92	1.36
2018/2/20	2600	MSL	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	6.31	24.50	25.24	3.02
2018/2/23	2600	MSL	250	D2600V2-1008	EX3DV4 - SN3931	DAE4 Sn1399	6.52	24.50	26.08	6.45
2018/2/20	5250	MSL	100	D5GHzV2-1006-5250	EX3DV4 - SN3925	DAE4 Sn853	2.13	21.30	21.3	0.00
2018/2/20	5600	MSL	100	D5GHzV2-1006-5600	EX3DV4 - SN3925	DAE4 Sn853	2.26	22.40	22.6	0.89
2018/2/20	5750	MSL	100	D5GHzV2-1006-5750	EX3DV4 - SN3925	DAE4 Sn853	2.00	20.80	20	-3.85

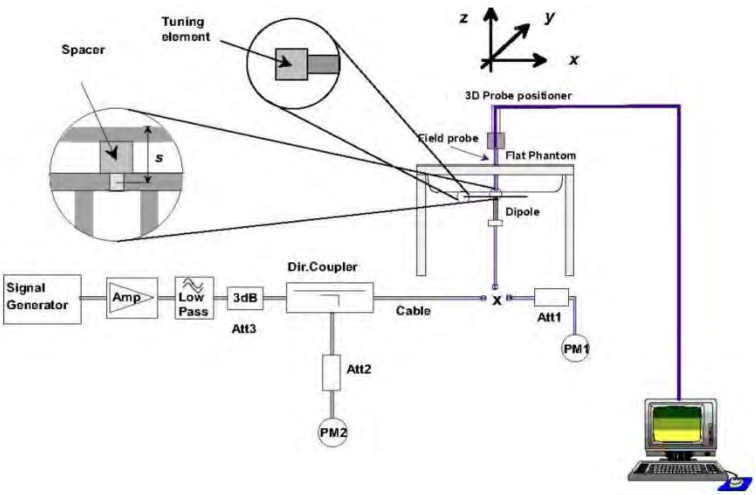


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 Ear and handset reference point

Figure 9.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

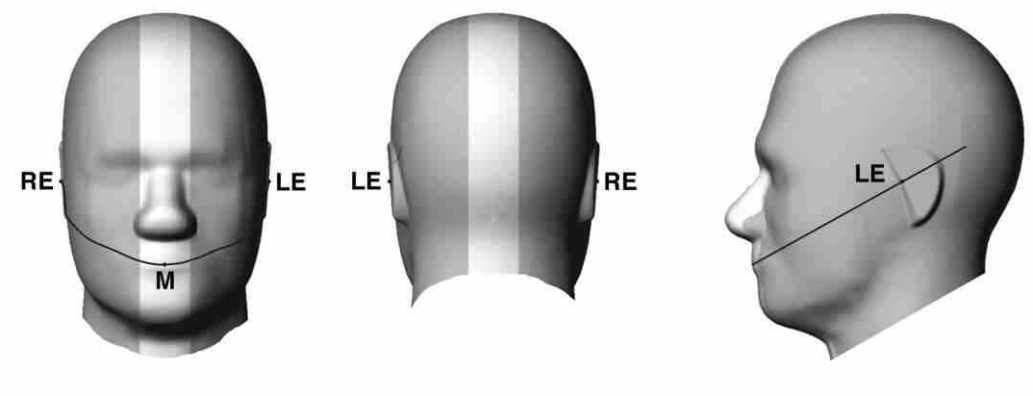


Fig 9.1.1 Front, back, and side views of SAM twin phantom

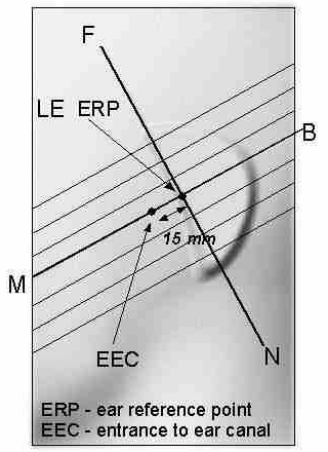


Fig 9.1.2 Close-up side view of phantom showing the ear region.

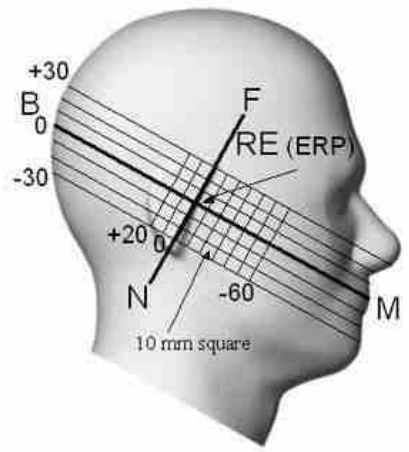


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width wt of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width wb of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.

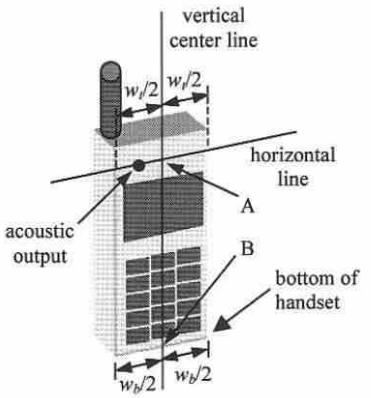


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

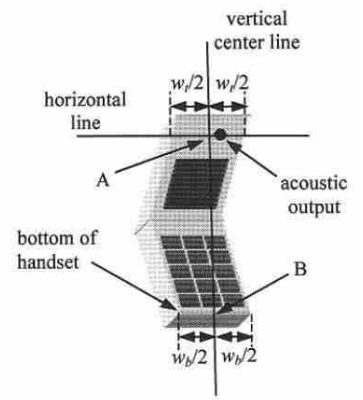


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

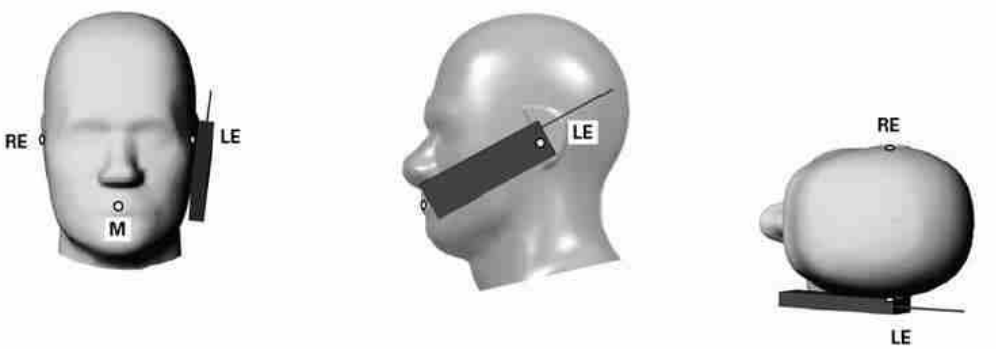


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

11.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

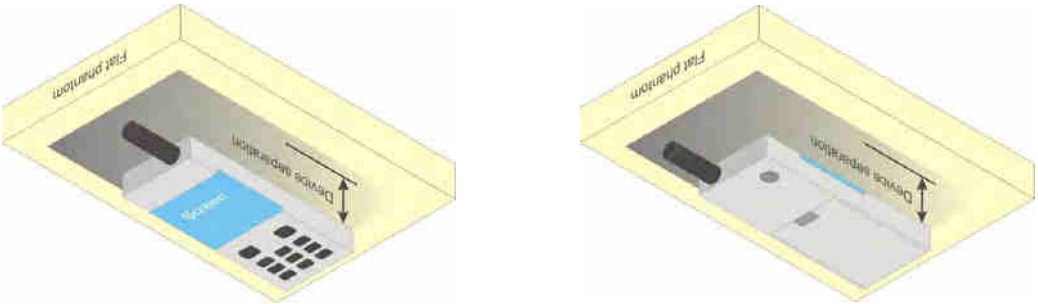


Fig 9.4 Body Worn Position

11.5 Product Specific

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

11.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets (L x W ≥ 9 cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined form general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.

12. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

General Note:

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (2Tx slots) for GSM850 and GPRS (3Tx slots) for GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode

<Default Power Mode>

GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GSM 1 Tx slot	31.91	32.48	32.78	33.50	22.91	23.48	23.78	24.50
GPRS 1 Tx slot	31.92	32.49	32.80	33.50	22.92	23.49	23.80	24.50
GPRS 2 Tx slots	30.31	31.04	31.55	32.00	24.31	25.04	25.55	26.00
GPRS 3 Tx slots	28.20	29.03	29.48	30.00	23.94	24.77	25.22	25.74
GPRS 4 Tx slots	26.33	27.19	27.86	28.00	23.33	24.19	24.86	25.00
EDGE 1 Tx slot	26.00	26.12	26.16	27.00	17.00	17.12	17.16	18.00
EDGE 2 Tx slots	24.78	24.92	24.96	26.00	18.78	18.92	18.96	20.00
EDGE 3 Tx slots	23.10	23.20	23.23	24.50	18.84	18.94	18.97	20.24
EDGE 4 Tx slots	21.44	21.53	21.62	22.50	18.44	18.53	18.62	19.50

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	29.72	29.56	29.35	30.50	20.72	20.56	20.35	21.50
GPRS 1 Tx slot	29.73	29.58	29.36	30.50	20.73	20.58	20.36	21.50
GPRS 2 Tx slots	28.35	28.38	28.32	29.50	22.35	22.38	22.32	23.50
GPRS 3 Tx slots	26.74	26.82	26.87	28.00	22.48	22.56	22.61	23.74
GPRS 4 Tx slots	24.86	25.04	25.17	26.50	21.86	22.04	22.17	23.50
EDGE 1 Tx slot	25.23	25.39	25.48	26.00	16.23	16.39	16.48	17.00
EDGE 2 Tx slots	24.31	24.26	24.28	25.00	18.31	18.26	18.28	19.00
EDGE 3 Tx slots	22.71	22.64	22.63	23.00	18.45	18.38	18.37	18.74
EDGE 4 Tx slots	21.07	21.04	21.08	22.00	18.07	18.04	18.08	19.00

<Near-body Power Mode>

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	23.81	23.84	23.95	24.00	14.81	14.84	14.95	15.00
GPRS 1 Tx slot	23.84	23.86	23.97	24.00	14.84	14.86	14.97	15.00
GPRS 2 Tx slots	22.56	22.55	22.67	23.00	16.56	16.55	16.67	17.00
GPRS 3 Tx slots	20.93	20.95	21.05	21.50	16.67	16.69	16.79	17.24
GPRS 4 Tx slots	19.44	19.45	19.54	20.00	16.44	16.45	16.54	17.00
EDGE 1 Tx slot	20.84	20.65	20.83	21.00	11.84	11.65	11.83	12.00
EDGE 2 Tx slots	19.77	19.57	19.75	20.00	13.77	13.57	13.75	14.00
EDGE 3 Tx slots	17.98	17.93	17.99	18.00	13.72	13.67	13.73	13.74
EDGE 4 Tx slots	16.96	16.72	16.96	17.00	13.96	13.72	13.96	14.00

<Hotspot Power Mode>

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	22.60	22.61	22.72	23.00	13.60	13.61	13.72	14.00
GPRS 1 Tx slot	22.61	22.63	22.74	23.00	13.61	13.63	13.74	14.00
GPRS 2 Tx slots	21.50	21.49	21.59	22.00	15.50	15.49	15.59	16.00
GPRS 3 Tx slots	19.58	19.60	19.68	20.50	15.32	15.34	15.42	16.24
GPRS 4 Tx slots	18.64	18.66	18.76	19.00	15.64	15.66	15.76	16.00
EDGE 1 Tx slot	20.84	20.65	20.83	21.00	11.84	11.65	11.83	12.00
EDGE 2 Tx slots	19.77	19.57	19.75	20.00	13.77	13.57	13.75	14.00
EDGE 3 Tx slots	17.98	17.93	17.99	18.00	13.72	13.67	13.73	13.74
EDGE 4 Tx slots	16.96	16.72	16.96	17.00	13.96	13.72	13.96	14.00

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c. For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c.

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

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

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

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

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

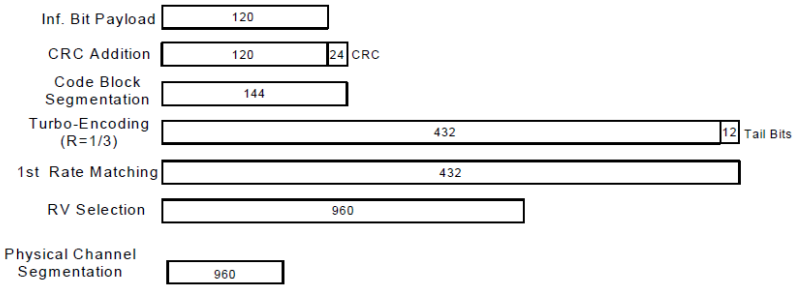


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

<Default Power Mode >

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	22.75	22.70	22.71	23.50	22.61	22.60	22.73	23.50	22.64	22.75	22.58	24.00
3GPP Rel 99	RMC 12.2Kbps	22.76	22.71	22.73	23.50	22.62	22.60	22.74	23.50	22.64	22.76	22.60	24.00
3GPP Rel 6	HSDPA Subtest-1	21.65	21.73	21.77	22.50	21.53	21.56	21.54	22.50	21.67	21.74	21.57	23.00
3GPP Rel 6	HSDPA Subtest-2	21.74	21.77	21.76	22.50	21.55	21.57	21.56	22.50	21.71	21.75	21.64	23.00
3GPP Rel 6	HSDPA Subtest-3	21.17	21.21	21.27	22.00	21.01	21.11	21.06	22.00	21.18	21.31	21.06	22.50
3GPP Rel 6	HSDPA Subtest-4	21.16	21.26	21.33	22.00	21.01	21.10	21.09	22.00	21.15	20.93	21.11	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.62	21.63	21.75	22.50	21.50	21.51	21.45	22.00	21.66	21.72	21.53	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.67	21.72	21.72	22.50	21.51	21.56	21.47	22.50	21.66	21.73	21.63	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.11	21.15	21.25	22.00	20.91	21.04	20.96	21.50	21.09	21.28	20.98	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.16	21.20	21.27	22.00	20.99	21.10	21.01	21.50	21.08	20.92	21.02	22.50
3GPP Rel 6	HSUPA Subtest-1	21.86	21.76	21.82	22.50	21.56	21.64	21.63	22.50	21.70	21.80	21.58	23.00
3GPP Rel 6	HSUPA Subtest-2	19.91	19.76	19.83	20.50	19.61	19.64	19.54	20.50	19.67	19.77	19.60	21.00
3GPP Rel 6	HSUPA Subtest-3	20.88	20.75	20.84	21.50	20.57	20.68	20.65	21.50	20.68	20.78	20.59	22.00
3GPP Rel 6	HSUPA Subtest-4	19.84	19.80	19.87	20.50	19.57	19.73	19.68	20.50	19.68	19.76	19.58	21.00
3GPP Rel 6	HSUPA Subtest-5	21.80	21.80	21.80	22.50	21.60	21.60	21.51	22.50	21.70	21.80	21.60	23.00

<Near-body Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	16.38	16.32	16.28	17.50	15.20	15.21	15.26	17.00	22.18	22.22	22.14	23.50
3GPP Rel 99	RMC 12.2Kbps	16.46	16.33	16.30	17.50	15.45	15.44	15.53	17.00	22.20	22.26	22.15	23.50
3GPP Rel 6	HSDPA Subtest-1	15.04	14.96	15.07	16.50	14.09	14.09	14.24	16.00	20.53	20.64	20.46	22.50
3GPP Rel 6	HSDPA Subtest-2	15.03	14.98	15.06	16.50	14.08	14.09	14.25	16.00	20.52	20.65	20.45	22.50
3GPP Rel 6	HSDPA Subtest-3	14.52	14.51	14.58	16.00	13.58	13.59	13.69	15.50	20.04	20.15	19.95	22.00
3GPP Rel 6	HSDPA Subtest-4	14.51	14.50	14.57	16.00	13.56	13.59	13.68	15.50	20.02	20.14	19.93	22.00
3GPP Rel 8	DC-HSDPA Subtest-1	15.03	14.95	15.06	16.50	14.06	14.05	14.32	16.00	20.51	20.61	20.44	22.50
3GPP Rel 8	DC-HSDPA Subtest-2	15.02	14.96	15.05	16.50	14.05	14.08	14.32	16.00	20.50	20.63	20.42	22.50
3GPP Rel 8	DC-HSDPA Subtest-3	14.51	14.49	14.56	16.00	13.56	13.56	13.65	15.50	20.02	20.14	19.93	22.00
3GPP Rel 8	DC-HSDPA Subtest-4	14.49	14.46	14.53	16.00	13.55	13.54	13.63	15.50	20.01	20.12	19.90	22.00
3GPP Rel 6	HSUPA Subtest-1	15.02	14.98	15.08	16.50	14.09	14.05	14.11	16.00	20.52	20.61	20.47	22.50
3GPP Rel 6	HSUPA Subtest-2	13.01	12.97	13.07	14.50	12.09	12.15	12.30	14.00	18.56	18.64	18.45	20.50
3GPP Rel 6	HSUPA Subtest-3	14.03	13.96	14.07	15.50	13.08	13.17	13.23	15.00	19.55	19.64	19.46	21.50
3GPP Rel 6	HSUPA Subtest-4	13.03	12.98	13.08	14.50	12.08	12.14	12.21	14.00	18.54	18.64	18.43	20.50
3GPP Rel 6	HSUPA Subtest-5	15.03	14.99	15.09	16.50	14.01	14.07	14.23	16.00	20.52	20.61	20.45	22.50

<Hotspot Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	13.85	13.82	13.78	15.50	15.20	15.21	15.26	16.50	21.52	21.61	21.44	23.50
3GPP Rel 99	RMC 12.2Kbps	13.95	13.83	13.79	15.50	15.45	15.44	15.53	16.50	22.20	22.26	22.15	23.50
3GPP Rel 6	HSDPA Subtest-1	12.76	12.71	12.85	14.50	14.09	14.09	14.24	15.50	20.53	20.64	20.46	22.50
3GPP Rel 6	HSDPA Subtest-2	12.78	12.76	12.88	14.50	14.08	14.09	14.25	15.50	20.52	20.65	20.45	22.50
3GPP Rel 6	HSDPA Subtest-3	12.28	12.26	12.35	14.00	13.58	13.59	13.69	15.00	20.04	20.15	19.95	22.00
3GPP Rel 6	HSDPA Subtest-4	12.28	12.27	12.36	14.00	13.56	13.59	13.68	15.00	20.02	20.14	19.93	22.00
3GPP Rel 8	DC-HSDPA Subtest-1	12.74	12.69	12.84	14.50	14.06	14.05	14.32	15.50	20.51	20.61	20.44	22.50
3GPP Rel 8	DC-HSDPA Subtest-2	12.74	12.73	12.83	14.50	14.05	14.08	14.32	15.50	20.50	20.63	20.42	22.50
3GPP Rel 8	DC-HSDPA Subtest-3	12.26	12.25	12.33	14.00	13.56	13.56	13.65	15.00	20.02	20.14	19.93	22.00
3GPP Rel 8	DC-HSDPA Subtest-4	12.25	12.25	12.35	14.00	13.55	13.54	13.63	15.00	20.01	20.12	19.90	22.00
3GPP Rel 6	HSUPA Subtest-1	12.75	12.73	12.80	14.50	14.09	14.05	14.11	15.50	20.52	20.61	20.47	22.50
3GPP Rel 6	HSUPA Subtest-2	10.74	10.73	10.79	12.50	12.09	12.15	12.30	13.50	18.56	18.64	18.45	20.50
3GPP Rel 6	HSUPA Subtest-3	11.75	11.76	11.78	13.50	13.08	13.17	13.23	14.50	19.55	19.64	19.46	21.50
3GPP Rel 6	HSUPA Subtest-4	10.72	10.73	10.81	12.50	12.08	12.14	12.21	13.50	18.54	18.64	18.43	20.50
3GPP Rel 6	HSUPA Subtest-5	12.78	12.76	12.85	14.50	14.01	14.07	14.23	15.50	20.52	20.61	20.45	22.50

<Product Specific Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	22.22	22.19	22.28	23.00	21.86	21.80	21.96	22.00
3GPP Rel 99	RMC 12.2Kbps	22.23	22.21	22.31	23.00	21.87	21.82	22.00	22.00
3GPP Rel 6	HSDPA Subtest-1	21.05	21.02	21.09	22.00	20.59	20.67	20.82	21.00
3GPP Rel 6	HSDPA Subtest-2	21.04	21.03	21.08	22.00	20.59	20.68	20.83	21.00
3GPP Rel 6	HSDPA Subtest-3	20.57	20.55	20.61	21.50	20.08	20.19	20.32	20.50
3GPP Rel 6	HSDPA Subtest-4	20.55	20.54	20.59	21.50	20.07	20.18	20.30	20.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.03	21.00	21.07	22.00	20.57	20.65	20.81	21.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.03	21.02	21.05	22.00	20.56	20.65	20.80	21.00
3GPP Rel 8	DC-HSDPA Subtest-3	20.56	20.53	20.59	21.50	20.06	20.17	20.30	20.50
3GPP Rel 8	DC-HSDPA Subtest-4	20.52	20.51	20.57	21.50	20.04	20.17	20.28	20.50
3GPP Rel 6	HSUPA Subtest-1	21.03	20.99	21.09	22.00	20.58	20.66	20.82	21.00
3GPP Rel 6	HSUPA Subtest-2	19.04	18.99	19.08	20.00	18.56	18.67	18.81	19.00
3GPP Rel 6	HSUPA Subtest-3	20.02	20.01	20.06	21.00	19.57	19.68	19.80	20.00
3GPP Rel 6	HSUPA Subtest-4	19.05	19.01	19.09	20.00	18.54	18.66	18.82	19.00
3GPP Rel 6	HSUPA Subtest-5	21.02	20.96	21.07	22.00	20.56	20.65	20.80	21.00

<CDMA2000 Conducted Power>

General Note:

1. Per KDB 941225 D01v03r01, SAR for head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

<Default Power Mode>

Band	CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)	CDMA BC10			Tune-up Limit (dBm)
TX Channel	1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55	23.85	23.95	23.98	25.00	23.72	23.60	23.52	25.00	23.74	23.82	23.80	25.00
RC3 SO55	23.86	23.96	23.99	25.00	23.75	23.63	23.52	25.00	23.74	23.83	23.81	25.00
RC3 SO32 (F+SCH)	23.84	23.95	23.98	25.00	23.74	23.63	23.50	25.00	23.75	23.82	23.80	25.00
RC3 SO32 (+SCH)	23.85	23.95	23.96	25.00	23.72	23.64	23.52	25.00	23.74	23.83	23.80	25.00
RTAP 153.6Kbps	23.82	23.97	24.00	25.00	23.80	23.62	23.55	25.00	23.58	23.65	23.60	25.00
RETAP 4096Bits	23.85	23.97	23.90	25.00	23.79	23.63	23.54	25.00	23.57	23.64	23.57	25.00

<Near-body Power Mode>

Band	CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)	CDMA BC10			Tune-up Limit (dBm)
TX Channel	1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55	22.66	22.76	22.85	23.50	16.50	16.54	16.60	18.00	22.53	22.57	22.49	23.50
RC3 SO55	22.67	22.78	22.86	23.50	16.62	16.51	16.52	18.00	22.50	22.58	22.44	23.50
RC3 SO32 (F+SCH)	22.68	22.79	22.87	23.50	16.67	16.65	16.63	18.00	22.60	22.67	22.64	23.50
RC3 SO32 (+SCH)	22.69	22.76	22.85	23.50	16.53	16.55	16.30	18.00	22.52	22.59	22.47	23.50
RTAP 153.6Kbps	22.71	22.77	22.78	23.50	16.66	16.63	16.31	18.00	22.55	22.62	22.57	23.50
RETAP 4096Bits	22.66	22.73	22.84	23.50	16.54	16.59	16.21	18.00	22.54	22.55	22.49	23.50

<Hotspot Power Mode>

Band	CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)	CDMA BC10			Tune-up Limit (dBm)
TX Channel	1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55	22.66	22.76	22.85	23.50	14.76	14.55	14.60	15.50	22.53	22.57	22.49	23.50
RC3 SO55	22.67	22.78	22.86	23.50	14.66	14.53	14.51	15.50	22.50	22.58	22.44	23.50
RC3 SO32 (F+SCH)	22.68	22.79	22.87	23.50	14.63	14.58	14.55	15.50	22.60	22.67	22.64	23.50
RC3 SO32 (+SCH)	22.69	22.76	22.85	23.50	14.61	14.57	14.49	15.50	22.52	22.59	22.47	23.50
RTAP 153.6Kbps	22.71	22.77	22.78	23.50	14.65	14.65	14.63	15.50	22.55	22.62	22.57	23.50
RETAP 4096Bits	22.66	22.73	22.84	23.50	14.63	14.49	14.61	15.50	22.54	22.55	22.49	23.50

<Product Specific Power Mode>

Band	CDMA BC1			Tune-up Limit (dBm)
TX Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	21.12	21.17	21.15	23.00
RC3 SO55	21.20	21.13	21.10	23.00
RC3 SO32 (F+SCH)	21.18	21.14	21.16	23.00
RC3 SO32 (+SCH)	21.17	21.15	21.16	23.00
RTAP 153.6Kbps	21.22	21.17	21.19	23.00
RETAP 4096Bits	21.19	21.16	21.18	23.00

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B17 / B26 / B38 / B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2 / 4 / 5 / 17 / 38 SAR test was covered by Band 12 / 25 / 26 / 41 / 66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.

64QAM

16QAM

<Default Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.25	23.16	22.82	23.5	0
20	QPSK	1	49	22.84	22.72	22.73		
20	QPSK	1	99	23.03	22.91	22.77		
20	QPSK	50	0	21.97	21.85	21.80	22.5	1
20	QPSK	50	24	21.92	21.83	21.82		
20	QPSK	50	50	21.91	21.82	21.79		
20	QPSK	100	0	21.96	21.84	21.74		
20	16QAM	1	0	22.42	22.41	22.14	22.5	1
20	16QAM	1	49	22.17	22.07	22.11		
20	16QAM	1	99	22.40	22.25	22.07		
20	16QAM	50	0	21.08	20.97	20.89	21.5	2
20	16QAM	50	24	21.07	20.91	20.92		
20	16QAM	50	50	21.05	20.90	20.89		
20	16QAM	100	0	21.04	20.95	20.83		
20	64QAM	1	0	21.50	21.46	21.04	21.5	2
20	64QAM	1	49	21.11	21.00	21.03		
20	64QAM	1	99	21.31	21.17	21.02		
20	64QAM	50	0	20.08	19.96	19.91	20.5	3
20	64QAM	50	24	20.09	19.92	19.95		
20	64QAM	50	50	20.05	19.91	19.91		
20	64QAM	100	0	20.07	19.94	19.86		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.09	22.90	22.94	23.5	0
15	QPSK	1	37	22.95	22.75	22.77		
15	QPSK	1	74	22.89	22.80	22.83		
15	QPSK	36	0	22.08	21.87	21.87	22.5	1
15	QPSK	36	20	21.97	21.87	21.85		
15	QPSK	36	39	21.92	21.80	21.84		
15	QPSK	75	0	21.91	21.86	21.84		
15	16QAM	1	0	22.44	22.25	22.26	22.5	1
15	16QAM	1	37	22.30	22.08	22.10		
15	16QAM	1	74	22.28	22.16	22.09		
15	16QAM	36	0	21.18	20.98	20.97	21.5	2
15	16QAM	36	20	21.07	20.96	20.94		
15	16QAM	36	39	21.04	20.91	20.93		
15	16QAM	75	0	21.06	20.97	20.94		
15	64QAM	1	0	21.39	21.21	21.19	21.5	2
15	64QAM	1	37	21.21	21.03	21.04		
15	64QAM	1	74	21.15	21.08	21.06		
15	64QAM	36	0	20.20	20.00	20.00	20.5	3
15	64QAM	36	20	20.08	20.01	19.99		
15	64QAM	36	39	20.05	19.96	19.96		
15	64QAM	75	0	20.03	19.97	19.95		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.23	23.05	22.83	23.5	0
10	QPSK	1	25	22.94	22.76	22.76		
10	QPSK	1	49	23.09	23.01	22.77		
10	QPSK	25	0	22.03	21.87	21.83	22.5	1
10	QPSK	25	12	22.00	21.84	21.80		
10	QPSK	25	25	21.90	21.83	21.80		
10	QPSK	50	0	21.92	21.85	21.85		
10	16QAM	1	0	22.48	22.40	22.21	22.5	1
10	16QAM	1	25	22.31	22.13	22.11		
10	16QAM	1	49	22.44	22.35	22.06		
10	16QAM	25	0	21.14	20.95	20.92	21.5	2
10	16QAM	25	12	21.11	20.94	20.91		
10	16QAM	25	25	21.00	20.93	20.90		
10	16QAM	50	0	21.00	20.95	20.91		
10	64QAM	1	0	21.46	21.32	21.10	21.5	2
10	64QAM	1	25	21.21	21.03	21.02		
10	64QAM	1	49	21.31	21.26	21.01		
10	64QAM	25	0	20.13	19.95	19.96	20.5	3
10	64QAM	25	12	20.12	19.95	19.95		
10	64QAM	25	25	20.01	19.94	19.94		
10	64QAM	50	0	20.03	19.98	19.94		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.99	22.80	22.77	23.5	0
5	QPSK	1	12	22.92	22.75	22.74		
5	QPSK	1	24	22.97	22.77	22.79		
5	QPSK	12	0	21.97	21.80	21.81	22.5	1
5	QPSK	12	7	21.97	21.81	21.82		
5	QPSK	12	13	21.93	21.81	21.80		
5	QPSK	25	0	21.93	21.77	21.77		
5	16QAM	1	0	22.31	22.19	22.13	22.5	1
5	16QAM	1	12	22.27	22.11	22.08		
5	16QAM	1	24	22.31	22.13	22.12		
5	16QAM	12	0	21.06	20.92	20.89	21.5	2
5	16QAM	12	7	21.07	20.90	20.89		
5	16QAM	12	13	21.06	20.91	20.86		
5	16QAM	25	0	21.04	20.87	20.84		
5	64QAM	1	0	21.27	21.06	21.06	21.5	2
5	64QAM	1	12	21.18	21.01	20.98		
5	64QAM	1	24	21.23	21.04	20.99		
5	64QAM	12	0	20.10	19.98	19.92	20.5	3
5	64QAM	12	7	20.10	19.93	19.95		
5	64QAM	12	13	20.11	19.96	19.91		
5	64QAM	25	0	20.05	19.88	19.90		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.95	22.78	22.78	23.5	0
3	QPSK	1	8	22.91	22.76	22.76		
3	QPSK	1	14	22.83	22.75	22.74		
3	QPSK	8	0	21.87	21.82	21.77	22.5	1
3	QPSK	8	4	21.96	21.72	21.82		
3	QPSK	8	7	21.94	21.79	21.79		
3	QPSK	15	0	21.95	21.78	21.78		
3	16QAM	1	0	22.24	22.05	22.07	22.5	1
3	16QAM	1	8	22.26	22.11	22.06		
3	16QAM	1	14	22.23	22.08	21.97		
3	16QAM	8	0	21.11	20.94	20.90	21.5	2
3	16QAM	8	4	21.11	20.95	20.95		
3	16QAM	8	7	21.01	20.75	20.93		
3	16QAM	15	0	21.05	20.89	20.90		
3	64QAM	1	0	21.21	21.08	21.01	21.5	2
3	64QAM	1	8	21.18	21.04	20.99		
3	64QAM	1	14	21.20	21.02	20.99		
3	64QAM	8	0	20.09	19.96	19.92	20.5	3
3	64QAM	8	4	20.11	19.96	19.92		
3	64QAM	8	7	20.07	19.94	19.93		
3	64QAM	15	0	20.05	19.88	19.89		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.86	22.68	22.68	23.5	0
1.4	QPSK	1	3	22.91	22.75	22.75		
1.4	QPSK	1	5	22.85	22.67	22.67		
1.4	QPSK	3	0	22.88	22.73	22.68		
1.4	QPSK	3	1	22.92	22.76	22.74		
1.4	QPSK	3	3	22.89	22.73	22.71		
1.4	QPSK	6	0	21.87	21.71	21.69	22.5	1
1.4	16QAM	1	0	22.18	22.03	21.95	22.5	1
1.4	16QAM	1	3	22.24	22.10	22.02		
1.4	16QAM	1	5	22.16	22.01	21.94		
1.4	16QAM	3	0	22.00	21.84	21.78		
1.4	16QAM	3	1	22.01	21.87	21.79		
1.4	16QAM	3	3	21.96	21.82	21.76		
1.4	16QAM	6	0	21.05	20.88	20.83	21.5	2
1.4	64QAM	1	0	21.14	20.98	20.91	21.5	2
1.4	64QAM	1	3	21.15	21.01	20.96		
1.4	64QAM	1	5	21.10	20.93	20.90		
1.4	64QAM	3	0	21.11	20.95	20.89		
1.4	64QAM	3	1	21.16	21.01	20.95		
1.4	64QAM	3	3	21.11	20.95	20.90		
1.4	64QAM	6	0	19.97	19.81	19.80	20.5	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	22.83	22.84	22.80	23.5	0
20	QPSK	1	49	22.65	22.59	22.65		
20	QPSK	1	99	22.65	22.57	22.63		
20	QPSK	50	0	21.79	21.75	21.71	22.5	1
20	QPSK	50	24	21.75	21.70	21.62		
20	QPSK	50	50	21.69	21.60	21.70		
20	QPSK	100	0	21.75	21.69	21.67		
20	16QAM	1	0	22.22	22.19	22.15	22.5	1
20	16QAM	1	49	22.00	21.96	22.03		
20	16QAM	1	99	22.00	21.95	21.94		
20	16QAM	50	0	20.89	20.85	20.79	21.5	2
20	16QAM	50	24	20.84	20.79	20.73		
20	16QAM	50	50	20.81	20.70	20.80		
20	16QAM	100	0	20.83	20.79	20.74		
20	64QAM	1	0	21.12	21.08	21.04	21.5	2
20	64QAM	1	49	20.89	20.85	20.92		
20	64QAM	1	99	20.88	20.83	20.83		
20	64QAM	50	0	19.90	19.86	19.83	20.5	3
20	64QAM	50	24	19.85	19.79	19.74		
20	64QAM	50	50	19.82	19.73	19.80		
20	64QAM	100	0	19.87	19.80	19.77		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.79	22.83	22.78	23.5	0
15	QPSK	1	37	22.68	22.63	22.66		
15	QPSK	1	74	22.76	22.65	22.70		
15	QPSK	36	0	21.81	21.75	21.68	22.5	1
15	QPSK	36	20	21.77	21.67	21.78		
15	QPSK	36	39	21.76	21.64	21.68		
15	QPSK	75	0	21.77	21.71	21.64		
15	16QAM	1	0	22.23	22.16	22.13	22.5	1
15	16QAM	1	37	22.01	21.97	21.99		
15	16QAM	1	74	22.08	21.99	21.97		
15	16QAM	36	0	20.94	20.82	20.80	21.5	2
15	16QAM	36	20	20.89	20.84	20.87		
15	16QAM	36	39	20.84	20.80	20.81		
15	16QAM	75	0	20.88	20.78	20.76		
15	64QAM	1	0	21.14	21.10	21.07	21.5	2
15	64QAM	1	37	20.97	20.90	20.94		
15	64QAM	1	74	21.00	20.91	20.91		
15	64QAM	36	0	19.94	19.91	19.86	20.5	3
15	64QAM	36	20	19.90	19.86	19.90		
15	64QAM	36	39	19.87	19.82	19.84		
15	64QAM	75	0	19.89	19.82	19.75		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.81	22.73	22.78	23.5	0
10	QPSK	1	25	22.73	22.64	22.67		
10	QPSK	1	49	22.75	22.62	22.64		
10	QPSK	25	0	21.83	21.71	21.79	22.5	1
10	QPSK	25	12	21.77	21.68	21.76		
10	QPSK	25	25	21.77	21.64	21.69		
10	QPSK	50	0	21.77	21.69	21.72		
10	16QAM	1	0	22.10	22.10	22.13	22.5	1
10	16QAM	1	25	22.07	21.98	21.94		
10	16QAM	1	49	22.10	21.96	21.99		
10	16QAM	25	0	20.92	20.84	20.87	21.5	2
10	16QAM	25	12	20.85	20.79	20.81		
10	16QAM	25	25	20.86	20.78	20.78		
10	16QAM	50	0	20.88	20.80	20.82		
10	64QAM	1	0	21.02	21.01	21.08	21.5	2
10	64QAM	1	25	20.94	20.91	20.90		
10	64QAM	1	49	20.99	20.88	20.91		
10	64QAM	25	0	19.91	19.86	19.89	20.5	3
10	64QAM	25	12	19.87	19.82	19.82		
10	64QAM	25	25	19.87	19.78	19.84		
10	64QAM	50	0	19.87	19.83	19.83		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.79	22.66	22.69	23.5	0
5	QPSK	1	12	22.71	22.61	22.62		
5	QPSK	1	24	22.72	22.64	22.64		
5	QPSK	12	0	21.74	21.64	21.70	22.5	1
5	QPSK	12	7	21.75	21.65	21.69		
5	QPSK	12	13	21.75	21.63	21.68		
5	QPSK	25	0	21.76	21.64	21.66		
5	16QAM	1	0	22.04	22.02	21.94	22.5	1
5	16QAM	1	12	22.04	21.96	21.90		
5	16QAM	1	24	22.08	21.96	21.92		
5	16QAM	12	0	20.86	20.77	20.79	21.5	2
5	16QAM	12	7	20.83	20.75	20.78		
5	16QAM	12	13	20.79	20.77	20.74		
5	16QAM	25	0	20.86	20.76	20.75		
5	64QAM	1	0	20.98	20.96	20.92	21.5	2
5	64QAM	1	12	20.95	20.90	20.86		
5	64QAM	1	24	20.94	20.89	20.86		
5	64QAM	12	0	19.89	19.84	19.83	20.5	3
5	64QAM	12	7	19.89	19.83	19.84		
5	64QAM	12	13	19.85	19.78	19.81		
5	64QAM	25	0	19.82	19.77	19.79		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.75	22.68	22.66	23.5	0
3	QPSK	1	8	22.71	22.62	22.54		
3	QPSK	1	14	22.62	22.63	22.64		
3	QPSK	8	0	21.77	21.67	21.67	22.5	1
3	QPSK	8	4	21.78	21.68	21.70		
3	QPSK	8	7	21.74	21.65	21.66		
3	QPSK	15	0	21.76	21.66	21.67		
3	16QAM	1	0	21.97	21.99	21.93	22.5	1
3	16QAM	1	8	22.00	21.97	21.95		
3	16QAM	1	14	21.87	21.94	21.91		
3	16QAM	8	0	20.89	20.79	20.79	21.5	2
3	16QAM	8	4	20.91	20.85	20.74		
3	16QAM	8	7	20.85	20.82	20.82		
3	16QAM	15	0	20.85	20.78	20.77		
3	64QAM	1	0	20.97	20.94	20.89	21.5	2
3	64QAM	1	8	20.86	20.91	20.88		
3	64QAM	1	14	20.85	20.89	20.78		
3	64QAM	8	0	19.87	19.80	19.82	20.5	3
3	64QAM	8	4	19.89	19.84	19.84		
3	64QAM	8	7	19.86	19.81	19.78		
3	64QAM	15	0	19.87	19.79	19.79		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.65	22.59	22.56	23.5	0
1.4	QPSK	1	3	22.71	22.64	22.64		
1.4	QPSK	1	5	22.63	22.54	22.55		
1.4	QPSK	3	0	22.69	22.63	22.61		
1.4	QPSK	3	1	22.72	22.64	22.65		
1.4	QPSK	3	3	22.68	22.60	22.62		
1.4	QPSK	6	0	21.68	21.57	21.61	22.5	1
1.4	16QAM	1	0	21.90	21.88	21.86	22.5	1
1.4	16QAM	1	3	21.98	21.96	21.91		
1.4	16QAM	1	5	21.90	21.88	21.85		
1.4	16QAM	3	0	21.73	21.68	21.68		
1.4	16QAM	3	1	21.73	21.72	21.71		
1.4	16QAM	3	3	21.70	21.68	21.67		
1.4	16QAM	6	0	20.82	20.76	20.76	21.5	2
1.4	64QAM	1	0	20.88	20.85	20.80	21.5	2
1.4	64QAM	1	3	20.93	20.90	20.87		
1.4	64QAM	1	5	20.84	20.81	20.81		
1.4	64QAM	3	0	20.88	20.83	20.81		
1.4	64QAM	3	1	20.92	20.86	20.84		
1.4	64QAM	3	3	20.86	20.83	20.84		
1.4	64QAM	6	0	19.78	19.69	19.72	20.5	3

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.84	22.83	22.66	24	0
10	QPSK	1	25	22.74	22.65	22.60		
10	QPSK	1	49	22.74	22.63	22.56		
10	QPSK	25	0	21.82	21.73	21.67	23	1
10	QPSK	25	12	21.83	21.72	21.68		
10	QPSK	25	25	21.79	21.71	21.63		
10	QPSK	50	0	21.83	21.70	21.65		
10	16QAM	1	0	22.15	22.09	22.00	23	1
10	16QAM	1	25	22.10	22.01	21.95		
10	16QAM	1	49	22.06	22.01	21.94		
10	16QAM	25	0	20.93	20.80	20.75	22	2
10	16QAM	25	12	20.89	20.85	20.78		
10	16QAM	25	25	20.86	20.82	20.72		
10	16QAM	50	0	20.90	20.83	20.76		
10	64QAM	1	0	21.12	21.00	20.96	22	2
10	64QAM	1	25	21.05	20.96	20.90		
10	64QAM	1	49	21.00	20.93	20.84		
10	64QAM	25	0	19.95	19.83	19.77	21	3
10	64QAM	25	12	19.94	19.85	19.76		
10	64QAM	25	25	19.89	19.81	19.73		
10	64QAM	50	0	19.94	19.83	19.76		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.80	22.68	22.62	24	0
5	QPSK	1	12	22.75	22.63	22.56		
5	QPSK	1	24	22.75	22.66	22.55		
5	QPSK	12	0	21.84	21.70	21.63	23	1
5	QPSK	12	7	21.86	21.72	21.64		
5	QPSK	12	13	21.79	21.70	21.58		
5	QPSK	25	0	21.80	21.71	21.61		
5	16QAM	1	0	22.16	22.04	21.96	23	1
5	16QAM	1	12	22.14	21.99	21.89		
5	16QAM	1	24	22.13	21.97	21.89		
5	16QAM	12	0	20.91	20.81	20.69	22	2
5	16QAM	12	7	20.94	20.82	20.71		
5	16QAM	12	13	20.90	20.82	20.69		
5	16QAM	25	0	20.91	20.81	20.69		
5	64QAM	1	0	21.11	20.98	20.89	22	2
5	64QAM	1	12	21.03	20.94	20.80		
5	64QAM	1	24	21.04	20.91	20.80		
5	64QAM	12	0	19.94	19.83	19.76	21	3
5	64QAM	12	7	19.98	19.86	19.78		
5	64QAM	12	13	19.93	19.83	19.73		
5	64QAM	25	0	19.93	19.80	19.71		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.83	22.68	22.59	24	0
3	QPSK	1	8	22.69	22.64	22.54		
3	QPSK	1	14	22.77	22.65	22.52		
3	QPSK	8	0	21.85	21.71	21.60	23	1
3	QPSK	8	4	21.83	21.71	21.62		
3	QPSK	8	7	21.84	21.69	21.60		
3	QPSK	15	0	21.81	21.69	21.58		
3	16QAM	1	0	22.16	22.00	21.89	23	1
3	16QAM	1	8	22.13	21.99	21.90		
3	16QAM	1	14	22.09	21.98	21.88		
3	16QAM	8	0	20.95	20.84	20.73	22	2
3	16QAM	8	4	20.97	20.85	20.75		
3	16QAM	8	7	20.98	20.84	20.70		
3	16QAM	15	0	20.82	20.77	20.70		
3	64QAM	1	0	21.10	20.95	20.84	22	2
3	64QAM	1	8	21.06	20.92	20.82		
3	64QAM	1	14	20.98	20.94	20.83		
3	64QAM	8	0	19.98	19.83	19.71	21	3
3	64QAM	8	4	19.91	19.85	19.75		
3	64QAM	8	7	19.98	19.83	19.70		
3	64QAM	15	0	19.87	19.80	19.61		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.73	22.60	22.47	24	0
1.4	QPSK	1	3	22.79	22.65	22.55		
1.4	QPSK	1	5	22.72	22.59	22.46		
1.4	QPSK	3	0	22.78	22.64	22.54		
1.4	QPSK	3	1	22.82	22.65	22.54		
1.4	QPSK	3	3	22.76	22.62	22.51		
1.4	QPSK	6	0	21.76	21.64	21.52	23	1
1.4	16QAM	1	0	22.06	21.91	21.79	23	1
1.4	16QAM	1	3	22.14	22.00	21.89		
1.4	16QAM	1	5	22.05	21.93	21.80		
1.4	16QAM	3	0	21.89	21.74	21.61		
1.4	16QAM	3	1	21.92	21.76	21.64		
1.4	16QAM	3	3	21.87	21.74	21.61		
1.4	16QAM	6	0	20.94	20.78	20.67	22	2
1.4	64QAM	1	0	21.03	20.87	20.78	22	2
1.4	64QAM	1	3	21.09	20.94	20.83		
1.4	64QAM	1	5	20.99	20.84	20.75		
1.4	64QAM	3	0	20.99	20.84	20.74		
1.4	64QAM	3	1	21.04	20.90	20.78		
1.4	64QAM	3	3	20.99	20.85	20.73		
1.4	64QAM	6	0	19.87	19.72	19.62	21	3

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	22.49	22.50	22.39	24	0
20	QPSK	1	49	22.62	22.63	22.67		
20	QPSK	1	99	22.66	22.70	22.83		
20	QPSK	50	0	21.54	21.54	21.55	23	1
20	QPSK	50	24	21.66	21.69	21.69		
20	QPSK	50	50	21.63	21.77	21.77		
20	QPSK	100	0	21.64	21.65	21.65		
20	16QAM	1	0	21.81	21.83	21.70	23	1
20	16QAM	1	49	21.96	21.94	21.99		
20	16QAM	1	99	22.01	22.02	22.09		
20	16QAM	50	0	20.61	20.65	20.63	22	2
20	16QAM	50	24	20.76	20.73	20.75		
20	16QAM	50	50	20.72	20.86	20.86		
20	16QAM	100	0	20.69	20.72	20.72		
20	64QAM	1	0	20.72	20.72	20.61	22	2
20	64QAM	1	49	20.84	20.86	20.89		
20	64QAM	1	99	20.89	20.92	21.00		
20	64QAM	50	0	19.62	19.66	19.63	21	3
20	64QAM	50	24	19.75	19.75	19.79		
20	64QAM	50	50	19.73	19.84	19.89		
20	64QAM	100	0	19.73	19.72	19.74		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.55	22.59	22.53	24	0
15	QPSK	1	37	22.62	22.65	22.64		
15	QPSK	1	74	22.74	22.68	22.78		
15	QPSK	36	0	21.54	21.55	21.61	23	1
15	QPSK	36	20	21.68	21.68	21.76		
15	QPSK	36	39	21.68	21.75	21.75		
15	QPSK	75	0	21.64	21.63	21.71		
15	16QAM	1	0	21.89	21.90	21.86	23	1
15	16QAM	1	37	21.93	21.97	21.96		
15	16QAM	1	74	22.06	22.00	22.10		
15	16QAM	36	0	20.61	20.66	20.68	22	2
15	16QAM	36	20	20.73	20.76	20.85		
15	16QAM	36	39	20.78	20.79	20.78		
15	16QAM	75	0	20.68	20.75	20.80		
15	64QAM	1	0	20.81	20.81	20.77	22	2
15	64QAM	1	37	20.86	20.88	20.88		
15	64QAM	1	74	20.95	20.89	21.01		
15	64QAM	36	0	19.65	19.69	19.71	21	3
15	64QAM	36	20	19.77	19.78	19.87		
15	64QAM	36	39	19.78	19.85	19.81		
15	64QAM	75	0	19.73	19.75	19.78		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.56	22.53	22.59	24	0
10	QPSK	1	25	22.67	22.62	22.64		
10	QPSK	1	49	22.65	22.72	22.72		
10	QPSK	25	0	21.62	21.57	21.69	23	1
10	QPSK	25	12	21.62	21.64	21.66		
10	QPSK	25	25	21.65	21.71	21.73		
10	QPSK	50	0	21.57	21.64	21.77		
10	16QAM	1	0	21.89	21.83	21.95	23	1
10	16QAM	1	25	22.01	21.96	21.97		
10	16QAM	1	49	21.98	22.04	22.06		
10	16QAM	25	0	20.73	20.67	20.74	22	2
10	16QAM	25	12	20.72	20.76	20.73		
10	16QAM	25	25	20.70	20.80	20.76		
10	16QAM	50	0	20.71	20.71	20.84		
10	64QAM	1	0	20.79	20.72	20.76	22	2
10	64QAM	1	25	20.85	20.85	20.84		
10	64QAM	1	49	20.88	20.80	20.96		
10	64QAM	25	0	19.64	19.66	19.70	21	3
10	64QAM	25	12	19.67	19.77	19.85		
10	64QAM	25	25	19.77	19.79	19.73		
10	64QAM	50	0	19.67	19.67	19.76		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.59	22.58	22.69	24	0
5	QPSK	1	12	22.64	22.61	22.76		
5	QPSK	1	24	22.70	22.68	22.82		
5	QPSK	12	0	21.66	21.59	21.74	23	1
5	QPSK	12	7	21.70	21.66	21.79		
5	QPSK	12	13	21.68	21.67	21.81		
5	QPSK	25	0	21.65	21.65	21.75		
5	16QAM	1	0	21.93	21.86	22.02	23	1
5	16QAM	1	12	21.98	21.94	22.10		
5	16QAM	1	24	22.00	21.98	22.17		
5	16QAM	12	0	20.72	20.67	20.80	22	2
5	16QAM	12	7	20.81	20.74	20.88		
5	16QAM	12	13	20.78	20.77	20.88		
5	16QAM	25	0	20.75	20.72	20.84		
5	64QAM	1	0	20.76	20.75	20.71	22	2
5	64QAM	1	12	20.82	20.83	20.87		
5	64QAM	1	24	20.91	20.88	20.95		
5	64QAM	12	0	19.60	19.59	19.69	21	3
5	64QAM	12	7	19.67	19.71	19.78		
5	64QAM	12	13	19.77	19.85	19.76		
5	64QAM	25	0	19.67	19.66	19.69		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	22.64	22.58	22.55	24	0
10	QPSK	1	25	22.62	22.57	22.64		
10	QPSK	1	49	22.64	22.77	22.78		
10	QPSK	25	0	21.70	21.65	21.55	23	1
10	QPSK	25	12	21.69	21.62	21.61		
10	QPSK	25	25	21.68	21.64	21.70		
10	QPSK	50	0	21.69	21.64	21.59		
10	16QAM	1	0	22.01	21.89	21.89	23	1
10	16QAM	1	25	21.96	21.89	21.90		
10	16QAM	1	49	21.96	21.97	22.06		
10	16QAM	25	0	20.76	20.72	20.65	22	2
10	16QAM	25	12	20.77	20.72	20.67		
10	16QAM	25	25	20.76	20.71	20.80		
10	16QAM	50	0	20.76	20.71	20.65		
10	64QAM	1	0	20.90	20.86	20.78	22	2
10	64QAM	1	25	20.91	20.84	20.89		
10	64QAM	1	49	20.92	20.97	21.02		
10	64QAM	25	0	19.77	19.72	19.68	21	3
10	64QAM	25	12	19.81	19.77	19.70		
10	64QAM	25	25	19.76	19.72	19.80		
10	64QAM	50	0	19.82	19.74	19.72		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	22.67	22.58	22.59	24	0
5	QPSK	1	12	22.65	22.57	22.62		
5	QPSK	1	24	22.68	22.58	22.74		
5	QPSK	12	0	21.70	21.62	21.63	23	1
5	QPSK	12	7	21.74	21.64	21.66		
5	QPSK	12	13	21.69	21.61	21.63		
5	QPSK	25	0	21.71	21.58	21.64		
5	16QAM	1	0	22.01	21.90	21.96	23	1
5	16QAM	1	12	21.99	21.88	21.91		
5	16QAM	1	24	22.00	21.86	22.09		
5	16QAM	12	0	20.76	20.68	20.71	22	2
5	16QAM	12	7	20.78	20.70	20.76		
5	16QAM	12	13	20.77	20.68	20.75		
5	16QAM	25	0	20.79	20.68	20.71		
5	64QAM	1	0	20.95	20.80	20.86	22	2
5	64QAM	1	12	20.92	20.81	20.89		
5	64QAM	1	24	20.91	20.80	20.99		
5	64QAM	12	0	19.83	19.76	19.77	21	3
5	64QAM	12	7	19.85	19.76	19.80		
5	64QAM	12	13	19.84	19.75	19.78		
5	64QAM	25	0	19.78	19.68	19.75		

Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	22.69	22.57	22.61	24	0
3	QPSK	1	8	22.67	22.48	22.70		
3	QPSK	1	14	22.66	22.60	22.72		
3	QPSK	8	0	21.70	21.58	21.63	23	1
3	QPSK	8	4	21.73	21.66	21.75		
3	QPSK	8	7	21.71	21.60	21.73		
3	QPSK	15	0	21.70	21.59	21.62		
3	16QAM	1	0	22.02	21.88	21.88	23	1
3	16QAM	1	8	22.02	21.89	21.97		
3	16QAM	1	14	21.95	21.85	22.04		
3	16QAM	8	0	20.85	20.72	20.72	22	2
3	16QAM	8	4	20.87	20.73	20.81		
3	16QAM	8	7	20.84	20.74	20.76		
3	16QAM	15	0	20.79	20.68	20.73		
3	64QAM	1	0	20.95	20.83	20.83	22	2
3	64QAM	1	8	20.95	20.80	20.94		
3	64QAM	1	14	20.92	20.82	20.98		
3	64QAM	8	0	19.76	19.65	19.75	21	3
3	64QAM	8	4	19.86	19.67	19.90		
3	64QAM	8	7	19.85	19.72	19.90		
3	64QAM	15	0	19.81	19.70	19.73		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.61	22.49	22.62	24	0
1.4	QPSK	1	3	22.68	22.56	22.70		
1.4	QPSK	1	5	22.62	22.50	22.62		
1.4	QPSK	3	0	22.65	22.54	22.64		
1.4	QPSK	3	1	22.69	22.57	22.68		
1.4	QPSK	3	3	22.65	22.55	22.66		
1.4	QPSK	6	0	21.64	21.53	21.65	23	1
1.4	16QAM	1	0	21.95	21.81	21.87	23	1
1.4	16QAM	1	3	22.00	21.87	21.94		
1.4	16QAM	1	5	21.96	21.78	21.98		
1.4	16QAM	3	0	21.74	21.61	21.71		
1.4	16QAM	3	1	21.78	21.65	21.74		
1.4	16QAM	3	3	21.74	21.60	21.76		
1.4	16QAM	6	0	20.80	20.69	20.82	22	2
1.4	64QAM	1	0	20.88	20.74	20.88	22	2
1.4	64QAM	1	3	20.94	20.81	20.95		
1.4	64QAM	1	5	20.90	20.73	20.88		
1.4	64QAM	3	0	20.86	20.71	20.86		
1.4	64QAM	3	1	20.91	20.78	20.89		
1.4	64QAM	3	3	20.87	20.71	20.86		
1.4	64QAM	6	0	19.73	19.64	19.76	21	3

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0	22.72			24	0
10	QPSK	1	25	22.62				
10	QPSK	1	49	22.56				
10	QPSK	25	0	21.73			23	1
10	QPSK	25	12	21.68				
10	QPSK	25	25	21.67				
10	QPSK	50	0	21.71				
10	16QAM	1	0	22.03			23	1
10	16QAM	1	25	21.97				
10	16QAM	1	49	21.95				
10	16QAM	25	0	20.81			22	2
10	16QAM	25	12	20.78				
10	16QAM	25	25	20.71				
10	16QAM	50	0	20.77				
10	64QAM	1	0	20.97			22	2
10	64QAM	1	25	20.91				
10	64QAM	1	49	20.84				
10	64QAM	25	0	19.80			21	3
10	64QAM	25	12	19.79				
10	64QAM	25	25	19.73				
10	64QAM	50	0	19.78				
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.70	22.64	22.62	24	0
5	QPSK	1	12	22.63	22.60	22.59		
5	QPSK	1	24	22.62	22.57	22.57		
5	QPSK	12	0	21.72	21.69	21.66	23	1
5	QPSK	12	7	21.73	21.69	21.65		
5	QPSK	12	13	21.66	21.66	21.65		
5	QPSK	25	0	21.70	21.64	21.61		
5	16QAM	1	0	22.02	21.98	21.96	23	1
5	16QAM	1	12	21.99	21.93	21.93		
5	16QAM	1	24	21.98	21.92	21.92		
5	16QAM	12	0	20.80	20.76	20.73	22	2
5	16QAM	12	7	20.79	20.75	20.75		
5	16QAM	12	13	20.78	20.76	20.68		
5	16QAM	25	0	20.78	20.74	20.72		
5	64QAM	1	0	20.94	20.91	20.90	22	2
5	64QAM	1	12	20.92	20.88	20.86		
5	64QAM	1	24	20.87	20.85	20.82		
5	64QAM	12	0	19.85	19.80	19.76	21	3
5	64QAM	12	7	19.86	19.82	19.78		
5	64QAM	12	13	19.79	19.78	19.74		
5	64QAM	25	0	19.76	19.76	19.72		

<LTE Band 14>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23330				
Frequency (MHz)				793				
10	QPSK	1	0	22.71			24	0
10	QPSK	1	25	22.56				
10	QPSK	1	49	22.47				
10	QPSK	25	0	21.67			23	1
10	QPSK	25	12	21.60				
10	QPSK	25	25	21.57				
10	QPSK	50	0	21.60				
10	16QAM	1	0	22.06			23	1
10	16QAM	1	25	21.90				
10	16QAM	1	49	21.79				
10	16QAM	25	0	20.71			22	2
10	16QAM	25	12	20.71				
10	16QAM	25	25	20.68				
10	16QAM	50	0	20.71				
10	64QAM	1	0	21.01			22	2
10	64QAM	1	25	20.83				
10	64QAM	1	49	20.76				
10	64QAM	25	0	19.74			21	3
10	64QAM	25	12	19.74				
10	64QAM	25	25	19.64				
10	64QAM	50	0	19.74				
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	22.70	22.61	22.55	24	0
5	QPSK	1	12	22.56	22.52	22.47		
5	QPSK	1	24	22.54	22.49	22.44		
5	QPSK	12	0	21.74	21.61	21.58	23	1
5	QPSK	12	7	21.65	21.62	21.54		
5	QPSK	12	13	21.60	21.53	21.51		
5	QPSK	25	0	21.58	21.57	21.50		
5	16QAM	1	0	22.00	21.91	21.85	23	1
5	16QAM	1	12	21.88	21.85	21.82		
5	16QAM	1	24	21.87	21.81	21.74		
5	16QAM	12	0	20.83	20.70	20.69	22	2
5	16QAM	12	7	20.75	20.69	20.66		
5	16QAM	12	13	20.68	20.67	20.62		
5	16QAM	25	0	20.71	20.67	20.60		
5	64QAM	1	0	20.97	20.86	20.80	22	2
5	64QAM	1	12	20.81	20.79	20.74		
5	64QAM	1	24	20.80	20.76	20.70		
5	64QAM	12	0	19.86	19.76	19.69	21	3
5	64QAM	12	7	19.78	19.75	19.71		
5	64QAM	12	13	19.72	19.69	19.63		
5	64QAM	25	0	19.72	19.66	19.63		

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	22.72	22.73	22.68	24	0
10	QPSK	1	25	22.69	22.58	22.56		
10	QPSK	1	49	22.62	22.60	22.58		
10	QPSK	25	0	21.71	21.72	21.67	23	1
10	QPSK	25	12	21.74	21.73	21.73		
10	QPSK	25	25	21.73	21.64	21.62		
10	QPSK	50	0	21.71	21.71	21.68		
10	16QAM	1	0	22.06	22.03	22.01	23	1
10	16QAM	1	25	22.02	21.87	21.89		
10	16QAM	1	49	21.96	21.93	21.92		
10	16QAM	25	0	20.81	20.79	20.80	22	2
10	16QAM	25	12	20.84	20.83	20.80		
10	16QAM	25	25	20.83	20.73	20.68		
10	16QAM	50	0	20.81	20.81	20.80		
10	64QAM	1	0	20.96	20.94	20.92	22	2
10	64QAM	1	25	20.94	20.81	20.78		
10	64QAM	1	49	20.89	20.87	20.85		
10	64QAM	25	0	19.84	19.79	19.79	21	3
10	64QAM	25	12	19.85	19.81	19.85		
10	64QAM	25	25	19.84	19.73	19.71		
10	64QAM	50	0	19.86	19.81	19.84		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	22.69	22.65	22.53	24	0
5	QPSK	1	12	22.68	22.53	22.51		
5	QPSK	1	24	22.71	22.57	22.53		
5	QPSK	12	0	21.71	21.67	21.55	23	1
5	QPSK	12	7	21.74	21.72	21.58		
5	QPSK	12	13	21.71	21.61	21.57		
5	QPSK	25	0	21.73	21.69	21.55		
5	16QAM	1	0	22.06	21.97	21.81	23	1
5	16QAM	1	12	22.00	21.86	21.85		
5	16QAM	1	24	22.03	21.86	21.84		
5	16QAM	12	0	20.80	20.77	20.62	22	2
5	16QAM	12	7	20.82	20.79	20.65		
5	16QAM	12	13	20.80	20.67	20.63		
5	16QAM	25	0	20.83	20.77	20.63		
5	64QAM	1	0	20.94	20.93	20.78	22	2
5	64QAM	1	12	20.92	20.78	20.79		
5	64QAM	1	24	20.97	20.81	20.79		
5	64QAM	12	0	19.87	19.80	19.69	21	3
5	64QAM	12	7	19.89	19.84	19.74		
5	64QAM	12	13	19.87	19.74	19.72		
5	64QAM	25	0	19.83	19.76	19.67		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	23.26	23.15	22.99	23.5	0
20	QPSK	1	49	22.92	22.84	22.80		
20	QPSK	1	99	23.02	23.02	22.89		
20	QPSK	50	0	22.07	21.97	21.97	22.5	1
20	QPSK	50	24	21.93	21.90	21.93		
20	QPSK	50	50	21.93	21.90	21.92		
20	QPSK	100	0	21.95	21.95	21.96		
20	16QAM	1	0	22.48	22.49	22.34	22.5	1
20	16QAM	1	49	22.26	22.18	22.19		
20	16QAM	1	99	22.40	22.34	22.21		
20	16QAM	50	0	21.21	21.06	21.04	21.5	2
20	16QAM	50	24	21.04	21.02	21.00		
20	16QAM	50	50	21.01	21.01	21.00		
20	16QAM	100	0	21.04	21.07	21.04		
20	64QAM	1	0	21.47	21.36	21.25	21.5	2
20	64QAM	1	49	21.18	21.07	21.07		
20	64QAM	1	99	21.27	21.27	21.13		
20	64QAM	50	0	20.21	20.10	20.08	20.5	3
20	64QAM	50	24	20.06	20.02	20.05		
20	64QAM	50	50	20.03	20.01	20.02		
20	64QAM	100	0	20.05	20.08	20.07		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.07	22.97	22.98	23.5	0
15	QPSK	1	37	22.92	22.84	22.81		
15	QPSK	1	74	22.89	22.90	22.94		
15	QPSK	36	0	22.05	21.98	21.96	22.5	1
15	QPSK	36	20	22.04	21.93	21.94		
15	QPSK	36	39	21.92	21.94	21.94		
15	QPSK	75	0	21.92	21.95	21.95		
15	16QAM	1	0	22.45	22.36	22.35	22.5	1
15	16QAM	1	37	22.29	22.20	22.13		
15	16QAM	1	74	22.28	22.23	22.22		
15	16QAM	36	0	21.19	21.08	21.06	21.5	2
15	16QAM	36	20	21.15	21.04	21.03		
15	16QAM	36	39	21.06	21.05	21.03		
15	16QAM	75	0	21.06	21.06	21.03		
15	64QAM	1	0	21.34	21.29	21.28	21.5	2
15	64QAM	1	37	21.19	21.12	21.07		
15	64QAM	1	74	21.19	21.16	21.19		
15	64QAM	36	0	20.23	20.13	20.10	20.5	3
15	64QAM	36	20	20.19	20.09	20.04		
15	64QAM	36	39	20.06	20.07	20.07		
15	64QAM	75	0	20.07	20.04	20.05		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.16	23.12	22.87	23.5	0
10	QPSK	1	25	22.90	22.84	22.83		
10	QPSK	1	49	23.12	23.08	22.88		
10	QPSK	25	0	22.01	21.94	21.92	22.5	1
10	QPSK	25	12	21.97	21.91	21.89		
10	QPSK	25	25	21.97	21.91	21.91		
10	QPSK	50	0	21.98	21.92	21.90		
10	16QAM	1	0	22.47	22.48	22.24	22.5	1
10	16QAM	1	25	22.27	22.21	22.17		
10	16QAM	1	49	22.47	22.42	22.20		
10	16QAM	25	0	21.11	21.04	21.00	21.5	2
10	16QAM	25	12	21.08	21.01	20.99		
10	16QAM	25	25	21.07	21.02	21.02		
10	16QAM	50	0	21.08	21.05	21.00		
10	64QAM	1	0	21.43	21.40	21.12	21.5	2
10	64QAM	1	25	21.16	21.10	21.04		
10	64QAM	1	49	21.38	21.34	21.13		
10	64QAM	25	0	20.11	20.04	20.04	20.5	3
10	64QAM	25	12	20.11	20.05	20.03		
10	64QAM	25	25	20.08	20.01	20.01		
10	64QAM	50	0	20.10	20.02	20.02		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	22.94	22.89	22.83	23.5	0
5	QPSK	1	12	22.86	22.82	22.80		
5	QPSK	1	24	22.90	22.84	22.85		
5	QPSK	12	0	21.93	21.88	21.88	22.5	1
5	QPSK	12	7	21.94	21.87	21.88		
5	QPSK	12	13	21.90	21.86	21.87		
5	QPSK	25	0	21.94	21.83	21.87		
5	16QAM	1	0	22.28	22.23	22.17	22.5	1
5	16QAM	1	12	22.21	22.17	22.17		
5	16QAM	1	24	22.22	22.18	22.13		
5	16QAM	12	0	21.03	21.02	20.94	21.5	2
5	16QAM	12	7	21.04	20.97	20.97		
5	16QAM	12	13	21.05	21.00	20.97		
5	16QAM	25	0	21.03	20.94	20.96		
5	64QAM	1	0	21.22	21.17	21.08	21.5	2
5	64QAM	1	12	21.13	21.09	21.07		
5	64QAM	1	24	21.18	21.11	21.08		
5	64QAM	12	0	20.10	20.01	20.02	20.5	3
5	64QAM	12	7	20.08	20.03	20.04		
5	64QAM	12	13	20.08	20.02	20.01		
5	64QAM	25	0	20.04	19.98	19.97		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.88	22.75	22.82	23.5	0
3	QPSK	1	8	22.87	22.84	22.81		
3	QPSK	1	14	22.87	22.84	22.83		
3	QPSK	8	0	21.95	21.88	21.86	22.5	1
3	QPSK	8	4	21.93	21.89	21.91		
3	QPSK	8	7	21.93	21.87	21.88		
3	QPSK	15	0	21.94	21.88	21.87		
3	16QAM	1	0	22.22	22.17	22.14	22.5	1
3	16QAM	1	8	22.21	22.18	22.11		
3	16QAM	1	14	22.18	22.16	22.04		
3	16QAM	8	0	21.08	21.01	20.99	21.5	2
3	16QAM	8	4	21.11	21.06	21.04		
3	16QAM	8	7	21.04	21.00	21.01		
3	16QAM	15	0	21.02	20.98	20.98		
3	64QAM	1	0	21.15	20.97	21.08	21.5	2
3	64QAM	1	8	21.15	21.12	21.08		
3	64QAM	1	14	21.16	21.12	21.08		
3	64QAM	8	0	20.06	20.03	20.01	20.5	3
3	64QAM	8	4	20.09	20.05	20.04		
3	64QAM	8	7	20.05	19.99	20.02		
3	64QAM	15	0	20.03	19.99	19.97		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	22.81	22.77	22.74	23.5	0
1.4	QPSK	1	3	22.87	22.84	22.82		
1.4	QPSK	1	5	22.82	22.76	22.74		
1.4	QPSK	3	0	22.82	22.81	22.78		
1.4	QPSK	3	1	22.86	22.85	22.81		
1.4	QPSK	3	3	22.83	22.79	22.79		
1.4	QPSK	6	0	21.86	21.80	21.80	22.5	1
1.4	16QAM	1	0	22.16	22.14	22.02	22.5	1
1.4	16QAM	1	3	22.22	22.16	22.11		
1.4	16QAM	1	5	22.14	22.09	22.02		
1.4	16QAM	3	0	21.94	21.90	21.87		
1.4	16QAM	3	1	22.00	21.96	21.89		
1.4	16QAM	3	3	21.94	21.92	21.85		
1.4	16QAM	6	0	21.01	20.96	20.96	21.5	2
1.4	64QAM	1	0	21.07	21.09	21.02	21.5	2
1.4	64QAM	1	3	21.14	21.11	21.07		
1.4	64QAM	1	5	21.09	21.03	21.00		
1.4	64QAM	3	0	21.07	21.03	20.99		
1.4	64QAM	3	1	21.12	21.08	21.04		
1.4	64QAM	3	3	21.06	21.02	21.00		
1.4	64QAM	6	0	19.96	19.92	19.91	20.5	3

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	22.54	22.52	22.53	24	0
15	QPSK	1	37	22.67	22.73	22.46		
15	QPSK	1	74	22.54	22.41	22.33		
15	QPSK	36	0	21.40	21.64	21.54	23	1
15	QPSK	36	20	21.62	21.57	21.50		
15	QPSK	36	39	21.62	21.50	21.39		
15	QPSK	75	0	21.54	21.58	21.48		
15	16QAM	1	0	21.90	21.87	21.87	23	1
15	16QAM	1	37	21.87	21.88	21.82		
15	16QAM	1	74	21.94	21.78	21.69		
15	16QAM	36	0	20.70	20.70	20.60	22	2
15	16QAM	36	20	20.71	20.66	20.60		
15	16QAM	36	39	20.73	20.57	20.51		
15	16QAM	75	0	20.66	20.61	20.56		
15	64QAM	1	0	20.83	20.79	20.82	22	2
15	64QAM	1	37	20.82	20.81	20.74		
15	64QAM	1	74	20.83	20.70	20.62		
15	64QAM	36	0	19.75	19.71	19.63	21	3
15	64QAM	36	20	19.74	19.69	19.63		
15	64QAM	36	39	19.75	19.63	19.52		
15	64QAM	75	0	19.66	19.65	19.55		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	22.67	22.71	22.66	24	0
10	QPSK	1	25	22.65	22.69	22.62		
10	QPSK	1	49	22.66	22.68	22.56		
10	QPSK	25	0	21.84	21.77	21.67	23	1
10	QPSK	25	12	21.83	21.78	21.63		
10	QPSK	25	25	21.79	21.72	21.61		
10	QPSK	50	0	21.82	21.74	21.65		
10	16QAM	1	0	22.10	22.08	22.02	23	1
10	16QAM	1	25	22.12	22.09	21.97		
10	16QAM	1	49	22.14	22.09	21.94		
10	16QAM	25	0	20.92	20.88	20.79	22	2
10	16QAM	25	12	20.93	20.87	20.76		
10	16QAM	25	25	20.90	20.84	20.71		
10	16QAM	50	0	20.90	20.89	20.76		
10	64QAM	1	0	21.01	20.96	20.94	22	2
10	64QAM	1	25	21.01	21.01	20.88		
10	64QAM	1	49	21.03	20.99	20.83		
10	64QAM	25	0	19.93	19.88	19.77	21	3
10	64QAM	25	12	19.94	19.89	19.78		
10	64QAM	25	25	19.89	19.84	19.72		
10	64QAM	50	0	19.91	19.86	19.74		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	22.70	22.64	22.59	24	0
5	QPSK	1	12	22.66	22.69	22.56		
5	QPSK	1	24	22.68	22.71	22.54		
5	QPSK	12	0	21.72	21.74	21.58	23	1
5	QPSK	12	7	21.75	21.76	21.60		
5	QPSK	12	13	21.81	21.70	21.55		
5	QPSK	25	0	21.80	21.73	21.58		
5	16QAM	1	0	22.06	22.08	21.91	23	1
5	16QAM	1	12	22.02	22.04	21.92		
5	16QAM	1	24	22.14	22.05	21.91		
5	16QAM	12	0	20.85	20.85	20.67	22	2
5	16QAM	12	7	20.84	20.85	20.68		
5	16QAM	12	13	20.88	20.81	20.66		
5	16QAM	25	0	20.90	20.79	20.68		
5	64QAM	1	0	21.00	21.01	20.87	22	2
5	64QAM	1	12	20.91	20.97	20.82		
5	64QAM	1	24	21.05	20.96	20.80		
5	64QAM	12	0	19.88	19.89	19.73	21	3
5	64QAM	12	7	19.88	19.88	19.74		
5	64QAM	12	13	19.94	19.83	19.71		
5	64QAM	25	0	19.91	19.82	19.69		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	22.72	22.71	22.59	24	0
3	QPSK	1	8	22.68	22.72	22.55		
3	QPSK	1	14	22.68	22.71	22.54		
3	QPSK	8	0	21.74	21.74	21.48	23	1
3	QPSK	8	4	21.76	21.74	21.59		
3	QPSK	8	7	21.74	21.72	21.57		
3	QPSK	15	0	21.74	21.74	21.57		
3	16QAM	1	0	22.06	22.07	21.92	23	1
3	16QAM	1	8	22.05	22.06	21.91		
3	16QAM	1	14	22.02	22.05	21.90		
3	16QAM	8	0	20.90	20.88	20.71	22	2
3	16QAM	8	4	20.91	20.91	20.73		
3	16QAM	8	7	20.86	20.86	20.72		
3	16QAM	15	0	20.84	20.84	20.67		
3	64QAM	1	0	21.00	21.02	20.84	22	2
3	64QAM	1	8	20.97	20.98	20.82		
3	64QAM	1	14	20.97	20.92	20.80		
3	64QAM	8	0	19.91	19.88	19.69	21	3
3	64QAM	8	4	19.89	19.91	19.66		
3	64QAM	8	7	19.86	19.87	19.69		
3	64QAM	15	0	19.85	19.76	19.67		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	22.65	22.67	22.51	24	0
1.4	QPSK	1	3	22.72	22.72	22.55		
1.4	QPSK	1	5	22.64	22.67	22.46		
1.4	QPSK	3	0	22.69	22.69	22.53		
1.4	QPSK	3	1	22.72	22.70	22.56		
1.4	QPSK	3	3	22.68	22.66	22.52		
1.4	QPSK	6	0	21.70	21.66	21.51	23	1
1.4	16QAM	1	0	21.99	22.04	21.81	23	1
1.4	16QAM	1	3	22.05	22.08	21.92		
1.4	16QAM	1	5	21.97	22.02	21.81		
1.4	16QAM	3	0	21.80	21.81	21.62		
1.4	16QAM	3	1	21.82	21.84	21.65		
1.4	16QAM	3	3	21.78	21.77	21.61		
1.4	16QAM	6	0	20.85	20.82	20.66	22	2
1.4	64QAM	1	0	20.93	20.94	20.76	22	2
1.4	64QAM	1	3	21.00	20.99	20.83		
1.4	64QAM	1	5	20.91	20.89	20.74		
1.4	64QAM	3	0	20.93	20.92	20.76		
1.4	64QAM	3	1	20.95	20.95	20.79		
1.4	64QAM	3	3	20.91	20.92	20.76		
1.4	64QAM	6	0	19.80	19.76	19.60	21	3

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					27710			
Frequency (MHz)					2310			
10	QPSK	1	0		22.71		24	0
10	QPSK	1	25		22.68			
10	QPSK	1	49		22.67			
10	QPSK	25	0		21.77		23	1
10	QPSK	25	12		21.75			
10	QPSK	25	25		21.69			
10	QPSK	50	0		21.73			
10	16QAM	1	0		22.06		23	1
10	16QAM	1	25		21.93			
10	16QAM	1	49		21.95			
10	16QAM	25	0		20.77		22	2
10	16QAM	25	12		20.85			
10	16QAM	25	25		20.85			
10	16QAM	50	0		20.83			
10	64QAM	1	0		21.05		22	2
10	64QAM	1	25		20.96			
10	64QAM	1	49		20.82			
10	64QAM	25	0		19.98		21	3
10	64QAM	25	12		19.86			
10	64QAM	25	25		19.88			
10	64QAM	50	0		19.91			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	22.65	22.65	22.70	24	0
5	QPSK	1	12	22.59	22.67	22.65		
5	QPSK	1	24	22.63	22.64	22.66		
5	QPSK	12	0	21.72	21.72	21.78	23	1
5	QPSK	12	7	21.29	21.74	21.82		
5	QPSK	12	13	21.73	21.76	21.73		
5	QPSK	25	0	21.65	21.73	21.80		
5	16QAM	1	0	21.88	21.91	22.00	23	1
5	16QAM	1	12	21.91	21.93	21.91		
5	16QAM	1	24	21.86	21.90	22.02		
5	16QAM	12	0	20.76	20.79	20.85	22	2
5	16QAM	12	7	20.79	20.83	20.87		
5	16QAM	12	13	20.78	20.82	20.77		
5	16QAM	25	0	20.69	20.79	20.85		
5	64QAM	1	0	21.00	21.18	21.10	22	2
5	64QAM	1	12	20.80	20.92	20.89		
5	64QAM	1	24	21.03	20.96	20.97		
5	64QAM	12	0	19.90	19.99	19.88	21	3
5	64QAM	12	7	19.82	19.91	19.94		
5	64QAM	12	13	19.91	19.91	19.86		
5	64QAM	25	0	19.88	19.86	19.84		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	22.83	22.87	22.93	23.5	0
20	QPSK	1	49	22.59	22.69	22.69		
20	QPSK	1	99	22.69	22.67	22.69		
20	QPSK	50	0	21.76	21.84	21.85	22.5	1
20	QPSK	50	24	21.80	21.80	21.79		
20	QPSK	50	50	21.75	21.78	21.76		
20	QPSK	100	0	21.82	21.83	21.84		
20	16QAM	1	0	21.97	21.94	21.96	22.5	1
20	16QAM	1	49	21.91	21.93	21.95		
20	16QAM	1	99	21.98	21.92	21.98		
20	16QAM	50	0	20.85	20.99	20.95	21.5	2
20	16QAM	50	24	20.90	20.91	20.90		
20	16QAM	50	50	20.84	20.83	20.88		
20	16QAM	100	0	20.92	20.91	20.89		
20	64QAM	1	0	20.95	20.92	20.93	21.5	2
20	64QAM	1	49	20.82	20.98	20.94		
20	64QAM	1	99	20.94	20.92	20.95		
20	64QAM	50	0	19.88	19.91	19.98	20.5	3
20	64QAM	50	24	19.91	19.92	19.93		
20	64QAM	50	50	19.88	19.88	19.88		
20	64QAM	100	0	19.93	19.94	19.91		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	22.83	22.92	22.90	23.5	0
15	QPSK	1	37	22.64	22.72	22.71		
15	QPSK	1	74	22.76	22.75	22.74		
15	QPSK	36	0	21.77	21.85	21.86	22.5	1
15	QPSK	36	20	21.71	21.84	21.83		
15	QPSK	36	39	21.82	21.76	21.78		
15	QPSK	75	0	21.83	21.83	21.79		
15	16QAM	1	0	21.95	21.99	21.86	22.5	1
15	16QAM	1	37	21.94	21.92	21.83		
15	16QAM	1	74	21.92	21.94	21.92		
15	16QAM	36	0	20.86	20.97	20.96	21.5	2
15	16QAM	36	20	20.83	20.90	20.89		
15	16QAM	36	39	20.91	20.85	20.90		
15	16QAM	75	0	20.94	20.95	20.90		
15	64QAM	1	0	20.98	20.93	20.98	21.5	2
15	64QAM	1	37	20.88	20.94	20.97		
15	64QAM	1	74	20.96	20.98	20.98		
15	64QAM	36	0	19.92	19.93	19.97	20.5	3
15	64QAM	36	20	19.87	19.94	19.95		
15	64QAM	36	39	19.94	19.93	19.92		
15	64QAM	75	0	19.93	19.95	19.94		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	22.72	22.81	22.75	23.5	0
10	QPSK	1	25	22.64	22.71	22.67		
10	QPSK	1	49	22.62	22.70	22.69		
10	QPSK	25	0	21.70	21.80	21.80	22.5	1
10	QPSK	25	12	21.70	21.81	21.79		
10	QPSK	25	25	21.68	21.73	21.71		
10	QPSK	50	0	21.69	21.80	21.78		
10	16QAM	1	0	21.97	21.96	21.98	22.5	1
10	16QAM	1	25	21.95	21.95	21.95		
10	16QAM	1	49	21.95	21.94	21.97		
10	16QAM	25	0	20.79	20.91	20.91	21.5	2
10	16QAM	25	12	20.77	20.89	20.85		
10	16QAM	25	25	20.76	20.83	20.82		
10	16QAM	50	0	20.82	20.88	20.90		
10	64QAM	1	0	20.96	20.98	20.95	21.5	2
10	64QAM	1	25	20.88	20.94	20.95		
10	64QAM	1	49	20.88	20.92	20.96		
10	64QAM	25	0	19.80	19.93	19.87	20.5	3
10	64QAM	25	12	19.83	19.89	19.87		
10	64QAM	25	25	19.75	19.88	19.86		
10	64QAM	50	0	19.81	19.89	19.85		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	22.66	22.74	22.72	23.5	0
5	QPSK	1	12	22.62	22.69	22.68		
5	QPSK	1	24	22.62	22.70	22.70		
5	QPSK	12	0	21.66	21.75	21.73	22.5	1
5	QPSK	12	7	21.69	21.79	21.74		
5	QPSK	12	13	21.65	21.71	21.75		
5	QPSK	25	0	21.64	21.73	21.73		
5	16QAM	1	0	21.97	21.98	21.99	22.5	1
5	16QAM	1	12	21.92	21.99	21.96		
5	16QAM	1	24	21.96	21.99	21.98		
5	16QAM	12	0	20.78	20.88	20.84	21.5	2
5	16QAM	12	7	20.75	20.86	20.85		
5	16QAM	12	13	20.73	20.79	20.84		
5	16QAM	25	0	20.78	20.82	20.84		
5	64QAM	1	0	20.92	20.95	20.98	21.5	2
5	64QAM	1	12	20.86	20.95	20.97		
5	64QAM	1	24	20.88	20.94	20.99		
5	64QAM	12	0	19.79	19.91	19.93	20.5	3
5	64QAM	12	7	19.85	19.92	19.92		
5	64QAM	12	13	19.79	19.90	19.91		
5	64QAM	25	0	19.78	19.86	19.88		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	22.66	22.72	22.71	23.5	0
3	QPSK	1	8	22.61	22.68	22.67		
3	QPSK	1	14	22.61	22.65	22.66		
3	QPSK	8	0	21.65	21.76	21.76	22.5	1
3	QPSK	8	4	21.67	21.75	21.74		
3	QPSK	8	7	21.65	21.73	21.76		
3	QPSK	15	0	21.66	21.72	21.62		
3	16QAM	1	0	21.95	21.95	21.98	22.5	1
3	16QAM	1	8	21.94	21.98	21.96		
3	16QAM	1	14	21.91	21.96	22.00		
3	16QAM	8	0	20.79	20.85	20.89	21.5	2
3	16QAM	8	4	20.81	20.87	20.89		
3	16QAM	8	7	20.71	20.87	20.91		
3	16QAM	15	0	20.77	20.84	20.83		
3	64QAM	1	0	20.88	20.91	20.95	21.5	2
3	64QAM	1	8	20.88	20.91	20.98		
3	64QAM	1	14	20.86	20.92	20.97		
3	64QAM	8	0	19.81	19.89	19.86	20.5	3
3	64QAM	8	4	19.83	19.90	19.91		
3	64QAM	8	7	19.79	19.87	19.85		
3	64QAM	15	0	19.77	19.86	19.85		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	22.58	22.63	22.63	23.5	0
1.4	QPSK	1	3	22.63	22.71	22.70		
1.4	QPSK	1	5	22.54	22.61	22.62		
1.4	QPSK	3	0	22.60	22.66	22.70		
1.4	QPSK	3	1	22.63	22.69	22.71		
1.4	QPSK	3	3	22.58	22.65	22.69		
1.4	QPSK	6	0	21.58	21.69	21.68	22.5	1
1.4	16QAM	1	0	21.86	21.93	21.98	22.5	1
1.4	16QAM	1	3	21.96	21.97	21.97		
1.4	16QAM	1	5	21.87	21.91	22.00		
1.4	16QAM	3	0	21.65	21.70	21.80		
1.4	16QAM	3	1	21.70	21.74	21.81		
1.4	16QAM	3	3	21.65	21.70	21.78		
1.4	16QAM	6	0	20.75	20.85	20.86	21.5	2
1.4	64QAM	1	0	20.83	20.88	20.95	21.5	2
1.4	64QAM	1	3	20.86	20.93	21.00		
1.4	64QAM	1	5	20.79	20.87	20.94		
1.4	64QAM	3	0	20.83	20.87	20.88		
1.4	64QAM	3	1	20.85	20.91	20.95		
1.4	64QAM	3	3	20.79	20.89	20.92		
1.4	64QAM	6	0	19.68	19.78	19.79	20.5	3

<LTE Band 71>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				133222	133322	133372		
Frequency (MHz)				673	683	688		
20	QPSK	1	0	23.10	23.18	23.01	24	0
20	QPSK	1	49	23.00	22.88	22.91		
20	QPSK	1	99	22.82	22.80	22.79		
20	QPSK	50	0	22.02	22.10	21.97	23	1
20	QPSK	50	24	22.05	21.95	21.86		
20	QPSK	50	50	21.93	21.83	21.87		
20	QPSK	100	0	21.99	22.01	21.87		
20	16QAM	1	0	22.43	22.29	22.31	23	1
20	16QAM	1	49	22.29	22.23	22.22		
20	16QAM	1	99	22.18	22.03	22.08		
20	16QAM	50	0	21.20	21.09	21.01	22	2
20	16QAM	50	24	21.13	21.04	20.95		
20	16QAM	50	50	21.05	20.91	20.96		
20	16QAM	100	0	21.09	20.97	20.92		
20	64QAM	1	0	21.39	21.37	21.24	22	2
20	64QAM	1	49	21.24	21.14	21.17		
20	64QAM	1	99	21.10	21.03	21.04		
20	64QAM	50	0	20.21	20.10	20.06	21	3
20	64QAM	50	24	20.15	20.03	19.98		
20	64QAM	50	50	20.05	19.89	19.98		
20	64QAM	100	0	20.11	19.99	19.93		
Channel				133197	133297	133397	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				670.5	680.5	690.5		
15	QPSK	1	0	23.14	23.06	22.93	24	0
15	QPSK	1	37	23.02	22.89	22.87		
15	QPSK	1	74	22.91	22.89	22.82		
15	QPSK	36	0	22.09	21.97	21.87	23	1
15	QPSK	36	20	22.06	21.96	21.92		
15	QPSK	36	39	21.97	21.85	21.82		
15	QPSK	75	0	22.03	21.96	21.91		
15	16QAM	1	0	22.47	22.26	22.23	23	1
15	16QAM	1	37	22.23	22.28	22.12		
15	16QAM	1	74	22.27	22.18	22.14		
15	16QAM	36	0	21.17	21.05	20.96	22	2
15	16QAM	36	20	21.13	21.06	21.01		
15	16QAM	36	39	21.08	20.93	20.88		
15	16QAM	75	0	21.15	21.02	20.97		
15	64QAM	1	0	21.39	21.30	21.19	22	2
15	64QAM	1	37	21.25	21.23	21.09		
15	64QAM	1	74	21.17	21.10	21.09		
15	64QAM	36	0	20.25	20.10	19.99	21	3
15	64QAM	36	20	20.17	20.05	20.07		
15	64QAM	36	39	20.11	19.97	19.96		
15	64QAM	75	0	20.09	20.02	19.99		

Channel				133172	133272	133422	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				668	678	693		
10	QPSK	1	0	23.16	22.99	22.95	24	0
10	QPSK	1	25	23.03	22.90	22.84		
10	QPSK	1	49	22.92	22.92	22.81		
10	QPSK	25	0	22.11	21.97	21.92	23	1
10	QPSK	25	12	22.11	21.95	21.88		
10	QPSK	25	25	22.04	21.90	21.82		
10	QPSK	50	0	22.07	21.94	21.87		
10	16QAM	1	0	22.49	22.30	22.22	23	1
10	16QAM	1	25	22.46	22.28	22.09		
10	16QAM	1	49	22.24	22.22	22.08		
10	16QAM	25	0	21.19	21.05	21.00	22	2
10	16QAM	25	12	21.16	21.03	21.00		
10	16QAM	25	25	21.11	21.01	20.92		
10	16QAM	50	0	21.16	21.04	20.95		
10	64QAM	1	0	21.40	21.26	21.10	22	2
10	64QAM	1	25	21.29	21.13	21.07		
10	64QAM	1	49	21.20	21.11	21.02		
10	64QAM	25	0	20.21	20.09	20.04	21	3
10	64QAM	25	12	20.21	20.05	20.00		
10	64QAM	25	25	20.09	19.99	19.90		
10	64QAM	50	0	20.18	20.06	20.00		
Channel				133147	133247	133447	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				665.5	675.5	695.5		
5	QPSK	1	0	23.12	22.98	22.87	24	0
5	QPSK	1	12	23.08	22.92	22.91		
5	QPSK	1	24	23.01	22.85	22.85		
5	QPSK	12	0	22.17	21.98	21.86	23	1
5	QPSK	12	7	22.15	21.99	21.97		
5	QPSK	12	13	22.06	21.94	21.88		
5	QPSK	25	0	22.11	21.93	21.85		
5	16QAM	1	0	22.46	22.32	22.11	23	1
5	16QAM	1	12	22.39	22.30	22.21		
5	16QAM	1	24	22.39	22.18	22.11		
5	16QAM	12	0	21.21	21.08	20.98	22	2
5	16QAM	12	7	21.26	21.06	21.07		
5	16QAM	12	13	21.17	21.00	20.99		
5	16QAM	25	0	21.18	21.04	20.94		
5	64QAM	1	0	21.41	21.23	21.07	22	2
5	64QAM	1	12	21.31	21.19	21.13		
5	64QAM	1	24	21.26	21.14	21.10		
5	64QAM	12	0	20.29	20.12	19.99	21	3
5	64QAM	12	7	20.27	20.13	20.12		
5	64QAM	12	13	20.24	20.06	20.04		
5	64QAM	25	0	20.23	20.08	19.94		

<Near-Body Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	15.85	15.67	15.39	16.5	0
20	QPSK	1	49	15.68	15.48	15.37		
20	QPSK	1	99	15.60	15.43	15.37		
20	QPSK	50	0	15.22	15.11	15.04	16.5	0
20	QPSK	50	24	15.17	15.07	15.02		
20	QPSK	50	50	15.15	15.06	14.96		
20	QPSK	100	0	15.19	15.04	14.95		
20	16QAM	1	0	15.24	15.11	14.79	16.5	0
20	16QAM	1	49	14.87	14.74	14.81		
20	16QAM	1	99	15.03	14.88	14.82		
20	16QAM	50	0	14.96	14.82	14.73	15.5	1
20	16QAM	50	24	14.91	14.80	14.77		
20	16QAM	50	50	14.88	14.77	14.74		
20	16QAM	100	0	14.93	14.82	14.71		
20	64QAM	1	0	15.14	15.01	14.69	15.5	1
20	64QAM	1	49	14.77	14.64	14.67		
20	64QAM	1	99	14.93	14.78	14.66		
20	64QAM	50	0	14.86	14.72	14.63	15.5	1
20	64QAM	50	24	14.81	14.70	14.67		
20	64QAM	50	50	14.78	14.67	14.64		
20	64QAM	100	0	14.83	14.72	14.61		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	15.65	15.39	15.39	16.5	0
15	QPSK	1	37	15.48	15.32	15.35		
15	QPSK	1	74	15.42	15.31	15.25		
15	QPSK	36	0	15.35	15.10	15.05	16.5	0
15	QPSK	36	20	15.22	15.08	15.04		
15	QPSK	36	39	15.16	15.04	15.02		
15	QPSK	75	0	15.21	15.09	15.03		
15	16QAM	1	0	15.19	14.96	14.95	16.5	0
15	16QAM	1	37	15.07	14.89	14.88		
15	16QAM	1	74	14.97	14.86	14.86		
15	16QAM	36	0	15.18	14.94	14.91	15.5	1
15	16QAM	36	20	15.03	14.92	14.88		
15	16QAM	36	39	15.02	14.87	14.85		
15	16QAM	75	0	15.03	14.90	14.84		
15	64QAM	1	0	15.05	14.82	14.81	15.5	1
15	64QAM	1	37	14.93	14.75	14.74		
15	64QAM	1	74	14.83	14.72	14.72		
15	64QAM	36	0	15.04	14.80	14.77	15.5	1
15	64QAM	36	20	14.89	14.78	14.74		
15	64QAM	36	39	14.88	14.73	14.71		
15	64QAM	75	0	14.89	14.76	14.70		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	15.46	15.45	15.33	16.5	0
10	QPSK	1	25	15.44	15.27	15.20		
10	QPSK	1	49	15.37	15.40	15.28		
10	QPSK	25	0	15.33	15.09	15.02	16.5	0
10	QPSK	25	12	15.25	15.07	14.99		
10	QPSK	25	25	15.20	15.04	14.99		
10	QPSK	50	0	15.15	15.04	14.98		
10	16QAM	1	0	15.27	15.09	14.88	16.5	0
10	16QAM	1	25	15.07	14.83	14.80		
10	16QAM	1	49	15.18	15.04	14.79		
10	16QAM	25	0	15.12	14.88	14.84	15.5	1
10	16QAM	25	12	15.09	14.86	14.86		
10	16QAM	25	25	14.96	14.85	14.82		
10	16QAM	50	0	15.00	14.88	14.83		
10	64QAM	1	0	15.20	15.07	14.86	15.5	1
10	64QAM	1	25	15.05	14.81	14.78		
10	64QAM	1	49	15.16	15.02	14.77		
10	64QAM	25	0	15.10	14.86	14.82	15.5	1
10	64QAM	25	12	15.07	14.84	14.84		
10	64QAM	25	25	14.94	14.83	14.80		
10	64QAM	50	0	14.98	14.86	14.81		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	15.46	15.37	15.23	16.5	0
5	QPSK	1	12	15.42	15.34	15.22		
5	QPSK	1	24	15.41	15.33	15.26		
5	QPSK	12	0	15.30	15.07	15.02	16.5	0
5	QPSK	12	7	15.27	15.06	15.05		
5	QPSK	12	13	15.28	15.04	15.04		
5	QPSK	25	0	15.22	15.01	14.99		
5	16QAM	1	0	15.13	14.88	14.82	16.5	0
5	16QAM	1	12	15.09	14.84	14.80		
5	16QAM	1	24	15.10	14.87	14.79		
5	16QAM	12	0	15.10	14.87	14.85	15.5	1
5	16QAM	12	7	15.09	14.90	14.86		
5	16QAM	12	13	15.09	14.86	14.82		
5	16QAM	25	0	15.07	14.84	14.81		
5	64QAM	1	0	15.10	14.85	14.79	15.5	1
5	64QAM	1	12	15.06	14.81	14.77		
5	64QAM	1	24	15.07	14.84	14.76		
5	64QAM	12	0	15.07	14.84	14.82	15.5	1
5	64QAM	12	7	15.06	14.87	14.83		
5	64QAM	12	13	15.06	14.83	14.79		
5	64QAM	25	0	15.04	14.81	14.78		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	15.50	15.26	15.25	16.5	0
3	QPSK	1	8	15.52	15.31	15.21		
3	QPSK	1	14	15.41	15.21	15.21		
3	QPSK	8	0	15.30	15.06	15.05	16.5	0
3	QPSK	8	4	15.35	15.14	15.07		
3	QPSK	8	7	15.31	15.08	15.03		
3	QPSK	15	0	15.22	14.97	14.94		
3	16QAM	1	0	15.04	14.85	14.82	16.5	0
3	16QAM	1	8	15.06	14.83	14.75		
3	16QAM	1	14	15.02	14.83	14.77		
3	16QAM	8	0	15.07	14.85	14.79	15.5	1
3	16QAM	8	4	15.11	14.88	14.85		
3	16QAM	8	7	15.08	14.82	14.78		
3	16QAM	15	0	15.04	14.83	14.76		
3	64QAM	1	0	15.02	14.83	14.80	15.5	1
3	64QAM	1	8	15.04	14.81	14.73		
3	64QAM	1	14	15.00	14.81	14.75		
3	64QAM	8	0	15.05	14.83	14.77	15.5	1
3	64QAM	8	4	15.09	14.86	14.83		
3	64QAM	8	7	15.06	14.80	14.76		
3	64QAM	15	0	15.02	14.81	14.74		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	15.34	15.30	15.24	16.5	0
1.4	QPSK	1	3	15.39	15.21	15.19		
1.4	QPSK	1	5	15.36	15.21	15.11		
1.4	QPSK	3	0	15.26	15.06	14.99		
1.4	QPSK	3	1	15.24	14.99	14.95		
1.4	QPSK	3	3	15.21	14.94	14.88		
1.4	QPSK	6	0	15.25	15.03	14.98	16.5	0
1.4	16QAM	1	0	15.02	14.75	14.71	16.5	0
1.4	16QAM	1	3	15.04	14.77	14.79		
1.4	16QAM	1	5	14.94	14.67	14.70		
1.4	16QAM	3	0	15.01	14.76	14.74		
1.4	16QAM	3	1	15.02	14.83	14.78		
1.4	16QAM	3	3	15.01	14.79	14.73		
1.4	16QAM	6	0	14.98	14.75	14.68	15.5	1
1.4	64QAM	1	0	14.99	14.72	14.68	15.5	1
1.4	64QAM	1	3	15.01	14.74	14.76		
1.4	64QAM	1	5	14.91	14.64	14.67		
1.4	64QAM	3	0	14.98	14.73	14.71		
1.4	64QAM	3	1	14.99	14.80	14.75		
1.4	64QAM	3	3	14.98	14.76	14.70		
1.4	64QAM	6	0	14.95	14.72	14.65	15.5	1

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	15.72	15.65	15.45	17	0
20	QPSK	1	49	15.54	15.39	15.46		
20	QPSK	1	99	15.43	15.41	15.49		
20	QPSK	50	0	15.40	15.32	15.25	17	0
20	QPSK	50	24	15.35	15.24	15.19		
20	QPSK	50	50	15.29	15.17	15.23		
20	QPSK	100	0	15.34	15.20	15.20		
20	16QAM	1	0	15.30	15.26	15.16	17	0
20	16QAM	1	49	15.14	15.05	15.07		
20	16QAM	1	99	15.11	15.01	15.08		
20	16QAM	50	0	15.26	15.18	15.14	17	0
20	16QAM	50	24	15.20	15.14	15.05		
20	16QAM	50	50	15.18	15.10	15.11		
20	16QAM	100	0	15.20	15.15	15.10		
20	64QAM	1	0	15.46	15.58	15.44	17	0
20	64QAM	1	49	15.52	15.38	15.43		
20	64QAM	1	99	15.42	15.30	15.41		
20	64QAM	50	0	15.42	15.36	15.24	17	0
20	64QAM	50	24	15.37	15.29	15.22		
20	64QAM	50	50	15.32	15.24	15.27		
20	64QAM	100	0	15.35	15.30	15.21		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	15.70	15.61	15.45	17	0
15	QPSK	1	37	15.62	15.34	15.43		
15	QPSK	1	74	15.52	15.43	15.49		
15	QPSK	36	0	15.41	15.28	15.17	17	0
15	QPSK	36	20	15.38	15.23	15.25		
15	QPSK	36	39	15.34	15.14	15.23		
15	QPSK	75	0	15.36	15.20	15.17		
15	16QAM	1	0	15.28	15.25	15.14	17	0
15	16QAM	1	37	15.15	15.02	15.08		
15	16QAM	1	74	15.17	15.06	15.08		
15	16QAM	36	0	15.25	15.19	15.07	17	0
15	16QAM	36	20	15.22	15.12	15.17		
15	16QAM	36	39	15.18	15.08	15.09		
15	16QAM	75	0	15.23	15.13	15.03		
15	64QAM	1	0	15.52	15.63	15.44	17	0
15	64QAM	1	37	15.52	15.34	15.40		
15	64QAM	1	74	15.52	15.34	15.43		
15	64QAM	36	0	15.44	15.34	15.27	17	0
15	64QAM	36	20	15.40	15.27	15.31		
15	64QAM	36	39	15.39	15.25	15.27		
15	64QAM	75	0	15.40	15.29	15.19		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	15.63	15.52	15.49	17	0
10	QPSK	1	25	15.57	15.39	15.41		
10	QPSK	1	49	15.59	15.30	15.41		
10	QPSK	25	0	15.37	15.22	15.24	17	0
10	QPSK	25	12	15.35	15.17	15.23		
10	QPSK	25	25	15.34	15.17	15.20		
10	QPSK	50	0	15.32	15.22	15.24		
10	16QAM	1	0	15.21	15.12	15.14	17	0
10	16QAM	1	25	15.19	15.05	15.08		
10	16QAM	1	49	15.14	15.01	15.02		
10	16QAM	25	0	15.19	15.15	15.11	17	0
10	16QAM	25	12	15.19	15.12	15.13		
10	16QAM	25	25	15.16	15.10	15.09		
10	16QAM	50	0	15.20	15.11	15.11		
10	64QAM	1	0	15.53	15.44	15.44	17	0
10	64QAM	1	25	15.52	15.34	15.36		
10	64QAM	1	49	15.51	15.34	15.35		
10	64QAM	25	0	15.35	15.29	15.28	17	0
10	64QAM	25	12	15.36	15.24	15.28		
10	64QAM	25	25	15.32	15.21	15.24		
10	64QAM	50	0	15.34	15.26	15.24		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	15.60	15.38	15.48	17	0
5	QPSK	1	12	15.57	15.32	15.49		
5	QPSK	1	24	15.61	15.36	15.46		
5	QPSK	12	0	15.39	15.20	15.20	17	0
5	QPSK	12	7	15.38	15.18	15.25		
5	QPSK	12	13	15.36	15.12	15.19		
5	QPSK	25	0	15.33	15.19	15.20		
5	16QAM	1	0	15.21	15.07	15.10	17	0
5	16QAM	1	12	15.14	15.04	15.04		
5	16QAM	1	24	15.16	15.07	15.06		
5	16QAM	12	0	15.21	15.08	15.09	17	0
5	16QAM	12	7	15.22	15.09	15.12		
5	16QAM	12	13	15.19	15.09	15.06		
5	16QAM	25	0	15.17	15.07	15.06		
5	64QAM	1	0	15.56	15.34	15.39	17	0
5	64QAM	1	12	15.52	15.36	15.40		
5	64QAM	1	24	15.53	15.22	15.36		
5	64QAM	12	0	15.41	15.23	15.29	17	0
5	64QAM	12	7	15.39	15.21	15.31		
5	64QAM	12	13	15.40	15.17	15.27		
5	64QAM	25	0	15.34	15.20	15.22		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	15.53	15.30	15.44	17	0
3	QPSK	1	8	15.53	15.27	15.39		
3	QPSK	1	14	15.58	15.23	15.38		
3	QPSK	8	0	15.38	15.12	15.23	17	0
3	QPSK	8	4	15.42	15.22	15.26		
3	QPSK	8	7	15.35	15.20	15.22		
3	QPSK	15	0	15.30	15.18	15.18		
3	16QAM	1	0	15.16	15.03	15.05	17	0
3	16QAM	1	8	15.15	15.03	15.01		
3	16QAM	1	14	15.14	15.02	15.01		
3	16QAM	8	0	15.19	15.06	15.05	17	0
3	16QAM	8	4	15.21	15.08	15.07		
3	16QAM	8	7	15.16	15.06	15.03		
3	16QAM	15	0	15.17	15.07	15.05		
3	64QAM	1	0	15.50	15.28	15.37	17	0
3	64QAM	1	8	15.51	15.25	15.37		
3	64QAM	1	14	15.50	15.24	15.32		
3	64QAM	8	0	15.39	15.17	15.23	17	0
3	64QAM	8	4	15.40	15.23	15.27		
3	64QAM	8	7	15.38	15.16	15.24		
3	64QAM	15	0	15.30	15.19	15.18		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.52	15.28	15.31	17	0
1.4	QPSK	1	3	15.57	15.39	15.41		
1.4	QPSK	1	5	15.45	15.28	15.26		
1.4	QPSK	3	0	15.29	15.09	15.11		
1.4	QPSK	3	1	15.32	15.16	15.12		
1.4	QPSK	3	3	15.26	15.07	15.10		
1.4	QPSK	6	0	15.33	15.20	15.18	17	0
1.4	16QAM	1	0	15.06	15.06	15.07	17	0
1.4	16QAM	1	3	15.16	15.01	15.04		
1.4	16QAM	1	5	15.03	15.04	15.04		
1.4	16QAM	3	0	15.12	15.00	15.07		
1.4	16QAM	3	1	15.14	15.03	15.01		
1.4	16QAM	3	3	15.10	15.01	15.08		
1.4	16QAM	6	0	15.12	15.08	15.07	17	0
1.4	64QAM	1	0	15.43	15.25	15.27	17	0
1.4	64QAM	1	3	15.48	15.30	15.39		
1.4	64QAM	1	5	15.40	15.18	15.31		
1.4	64QAM	3	0	15.40	15.18	15.24		
1.4	64QAM	3	1	15.42	15.21	15.33		
1.4	64QAM	3	3	15.33	15.21	15.26		
1.4	64QAM	6	0	15.27	15.10	15.16	17	0

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	21.97	22.04	21.86	23.5	0
10	QPSK	1	25	21.87	21.82	21.75		
10	QPSK	1	49	21.80	21.73	21.66		
10	QPSK	25	0	21.91	21.93	21.79	23.5	0
10	QPSK	25	12	21.89	21.85	21.77		
10	QPSK	25	25	21.86	21.83	21.73		
10	QPSK	50	0	21.90	21.86	21.78		
10	16QAM	1	0	21.86	21.78	21.66	23.5	0
10	16QAM	1	25	21.72	21.69	21.64		
10	16QAM	1	49	21.69	21.57	21.54		
10	16QAM	25	0	20.56	20.50	20.51	22.5	1
10	16QAM	25	12	20.58	20.51	20.52		
10	16QAM	25	25	20.50	20.52	20.53		
10	16QAM	50	0	21.01	20.94	20.87		
10	64QAM	1	0	21.12	21.00	20.96	22.5	1
10	64QAM	1	25	21.05	20.96	20.90		
10	64QAM	1	49	21.00	20.93	20.84		
10	64QAM	25	0	20.96	20.84	20.80	22.5	1
10	64QAM	25	12	20.89	20.80	20.74		
10	64QAM	25	25	20.84	20.77	20.68		
10	64QAM	50	0	20.80	20.68	20.64		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	21.99	21.85	21.76	23.5	0
5	QPSK	1	12	21.92	21.80	21.72		
5	QPSK	1	24	21.87	21.75	21.69		
5	QPSK	12	0	21.95	21.84	21.78	23.5	0
5	QPSK	12	7	21.97	21.85	21.78		
5	QPSK	12	13	21.91	21.80	21.72		
5	QPSK	25	0	21.96	21.86	21.72		
5	16QAM	1	0	21.68	21.54	21.58	23.5	0
5	16QAM	1	12	21.76	21.59	21.55		
5	16QAM	1	24	21.65	21.60	21.52		
5	16QAM	12	0	21.68	21.60	21.51	22.5	1
5	16QAM	12	7	21.52	21.57	21.55		
5	16QAM	12	13	21.55	21.52	21.53		
5	16QAM	25	0	20.55	20.45	20.32		
5	64QAM	1	0	21.10	20.98	20.94	22.5	1
5	64QAM	1	12	21.03	20.94	20.88		
5	64QAM	1	24	20.98	20.91	20.82		
5	64QAM	12	0	20.94	20.82	20.78	22.5	1
5	64QAM	12	7	20.87	20.78	20.72		
5	64QAM	12	13	20.82	20.75	20.66		
5	64QAM	25	0	20.78	20.66	20.62		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	21.96	21.80	21.74	23.5	0
3	QPSK	1	8	21.93	21.78	21.69		
3	QPSK	1	14	21.91	21.76	21.68		
3	QPSK	8	0	21.95	21.83	21.70	23.5	0
3	QPSK	8	4	21.96	21.87	21.75		
3	QPSK	8	7	21.96	21.80	21.71		
3	QPSK	15	0	21.95	21.80	21.72		
3	16QAM	1	0	21.83	21.67	21.59	23.5	0
3	16QAM	1	8	21.76	21.69	21.53		
3	16QAM	1	14	21.79	21.60	21.57		
3	16QAM	8	0	20.63	20.50	20.50	22.5	1
3	16QAM	8	4	20.63	20.50	20.50		
3	16QAM	8	7	20.58	20.50	20.51		
3	16QAM	15	0	20.59	20.54	20.50		
3	64QAM	1	0	21.16	21.04	21.00	22.5	1
3	64QAM	1	8	21.09	21.00	20.94		
3	64QAM	1	14	21.04	20.97	20.88		
3	64QAM	8	0	21.00	20.88	20.84	22.5	1
3	64QAM	8	4	20.93	20.84	20.78		
3	64QAM	8	7	20.88	20.81	20.72		
3	64QAM	15	0	20.84	20.72	20.68		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	21.83	21.73	21.62	23.5	0
1.4	QPSK	1	3	21.91	21.79	21.67		
1.4	QPSK	1	5	21.83	21.69	21.60		
1.4	QPSK	3	0	21.89	21.74	21.67		
1.4	QPSK	3	1	21.91	21.77	21.66		
1.4	QPSK	3	3	21.89	21.73	21.62		
1.4	QPSK	6	0	21.89	21.75	21.64	23.5	0
1.4	16QAM	1	0	21.79	21.65	21.59	23.5	0
1.4	16QAM	1	3	21.87	21.70	21.56		
1.4	16QAM	1	5	21.76	21.71	21.53		
1.4	16QAM	3	0	21.59	21.51	21.52		
1.4	16QAM	3	1	21.63	21.50	21.56		
1.4	16QAM	3	3	21.56	21.53	21.54		
1.4	16QAM	6	0	21.05	20.95	20.82	22.5	1
1.4	64QAM	1	0	21.14	21.02	20.98	22.5	1
1.4	64QAM	1	3	21.07	20.98	20.92		
1.4	64QAM	1	5	21.02	20.95	20.86		
1.4	64QAM	3	0	20.98	20.86	20.82		
1.4	64QAM	3	1	20.91	20.82	20.76		
1.4	64QAM	3	3	20.86	20.79	20.70		
1.4	64QAM	6	0	20.82	20.70	20.66	22.5	1

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	16.58	16.59	16.61	18	0
20	QPSK	1	49	16.81	16.83	16.85		
20	QPSK	1	99	16.57	16.60	16.70		
20	QPSK	50	0	16.54	16.57	16.61	18	0
20	QPSK	50	24	16.60	16.68	16.75		
20	QPSK	50	50	16.66	16.73	16.82		
20	QPSK	100	0	16.61	16.63	16.71		
20	16QAM	1	0	16.77	16.71	16.75	18	0
20	16QAM	1	49	16.50	16.50	16.70		
20	16QAM	1	99	16.83	16.57	16.55		
20	16QAM	50	0	16.63	16.62	16.69	18	0
20	16QAM	50	24	16.73	16.77	16.55		
20	16QAM	50	50	16.68	16.77	16.50		
20	16QAM	100	0	16.70	16.70	16.77		
20	64QAM	1	0	16.66	16.66	16.64	18	0
20	64QAM	1	49	16.83	16.83	16.54		
20	64QAM	1	99	16.80	16.78	16.66		
20	64QAM	50	0	16.65	16.60	16.67	18	0
20	64QAM	50	24	16.78	16.74	16.82		
20	64QAM	50	50	16.67	16.78	16.58		
20	64QAM	100	0	16.73	16.71	16.76		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	16.55	16.55	16.55	18	0
15	QPSK	1	37	16.60	16.62	16.67		
15	QPSK	1	74	16.63	16.58	16.76		
15	QPSK	36	0	16.57	16.56	16.68	18	0
15	QPSK	36	20	16.65	16.67	16.79		
15	QPSK	36	39	16.66	16.71	16.76		
15	QPSK	75	0	16.59	16.66	16.77		
15	16QAM	1	0	16.82	16.83	16.55	18	0
15	16QAM	1	37	16.59	16.59	16.67		
15	16QAM	1	74	16.65	16.56	16.57		
15	16QAM	36	0	16.63	16.67	16.76	18	0
15	16QAM	36	20	16.73	16.78	16.59		
15	16QAM	36	39	16.73	16.79	16.79		
15	16QAM	75	0	16.74	16.71	16.82		
15	64QAM	1	0	16.77	16.76	16.76	18	0
15	64QAM	1	37	16.80	16.81	16.83		
15	64QAM	1	74	16.55	16.79	16.65		
15	64QAM	36	0	16.63	16.67	16.74	18	0
15	64QAM	36	20	16.73	16.77	16.56		
15	64QAM	36	39	16.73	16.79	16.79		
15	64QAM	75	0	16.74	16.69	16.83		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	16.58	16.52	16.66	18	0
10	QPSK	1	25	16.67	16.61	16.68		
10	QPSK	1	49	16.59	16.64	16.75		
10	QPSK	25	0	16.62	16.58	16.74	18	0
10	QPSK	25	12	16.60	16.65	16.72		
10	QPSK	25	25	16.63	16.65	16.74		
10	QPSK	50	0	16.55	16.60	16.82		
10	16QAM	1	0	16.83	16.77	16.67	18	0
10	16QAM	1	25	16.65	16.59	16.70		
10	16QAM	1	49	16.50	16.51	16.54		
10	16QAM	25	0	16.77	16.65	16.81	18	0
10	16QAM	25	12	16.69	16.73	16.81		
10	16QAM	25	25	16.71	16.72	16.81		
10	16QAM	50	0	16.71	16.71	16.57		
10	64QAM	1	0	16.72	16.68	16.55	18	0
10	64QAM	1	25	16.56	16.80	16.52		
10	64QAM	1	49	16.82	16.56	16.67		
10	64QAM	25	0	16.77	16.64	16.81	18	0
10	64QAM	25	12	16.68	16.72	16.80		
10	64QAM	25	25	16.71	16.73	16.81		
10	64QAM	50	0	16.70	16.69	16.56		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	16.59	16.56	16.67	18	0
5	QPSK	1	12	16.64	16.59	16.72		
5	QPSK	1	24	16.70	16.65	16.77		
5	QPSK	12	0	16.65	16.58	16.72	18	0
5	QPSK	12	7	16.74	16.65	16.81		
5	QPSK	12	13	16.72	16.66	16.82		
5	QPSK	25	0	16.66	16.62	16.76		
5	16QAM	1	0	16.83	16.55	16.69	18	0
5	16QAM	1	12	16.52	16.59	16.54		
5	16QAM	1	24	16.65	16.65	16.56		
5	16QAM	12	0	16.72	16.67	16.80	18	0
5	16QAM	12	7	16.79	16.73	16.57		
5	16QAM	12	13	16.82	16.72	16.83		
5	16QAM	25	0	16.80	16.71	16.54		
5	64QAM	1	0	16.80	16.77	16.59	18	0
5	64QAM	1	12	16.83	16.80	16.64		
5	64QAM	1	24	16.57	16.83	16.68		
5	64QAM	12	0	16.71	16.65	16.78	18	0
5	64QAM	12	7	16.77	16.71	16.56		
5	64QAM	12	13	16.79	16.71	16.82		
5	64QAM	25	0	16.77	16.69	16.83		

<LTE Band 14>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23330				
Frequency (MHz)				793				
10	QPSK	1	0	22.34			23.5	0
10	QPSK	1	25	22.13				
10	QPSK	1	49	22.02				
10	QPSK	25	0	21.74			23.5	0
10	QPSK	25	12	21.70				
10	QPSK	25	25	21.65				
10	QPSK	50	0	21.66				
10	16QAM	1	0	22.18			23.5	0
10	16QAM	1	25	21.95				
10	16QAM	1	49	21.87				
10	16QAM	25	0	20.84			22.5	1
10	16QAM	25	12	20.83				
10	16QAM	25	25	20.74				
10	16QAM	50	0	20.77				
10	64QAM	1	0	20.83			22.5	1
10	64QAM	1	25	20.82				
10	64QAM	1	49	20.73				
10	64QAM	25	0	20.76			22.5	1
10	64QAM	25	12	20.82				
10	64QAM	25	25	20.81				
10	64QAM	50	0	20.72				
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	22.33	22.17	22.18	23.5	0
5	QPSK	1	12	22.19	22.14	22.10		
5	QPSK	1	24	22.14	22.12	22.08		
5	QPSK	12	0	21.86	21.73	21.65	23.5	0
5	QPSK	12	7	21.76	21.68	21.66		
5	QPSK	12	13	21.71	21.64	21.60		
5	QPSK	25	0	21.71	21.64	21.67		
5	16QAM	1	0	22.05	21.99	22.06	23.5	0
5	16QAM	1	12	21.97	21.96	21.90		
5	16QAM	1	24	21.97	21.91	21.85		
5	16QAM	12	0	20.96	20.82	20.80	22.5	1
5	16QAM	12	7	20.84	20.79	20.80		
5	16QAM	12	13	20.81	20.75	20.75		
5	16QAM	25	0	20.82	20.76	20.74		
5	64QAM	1	0	20.97	20.86	20.80	22.5	1
5	64QAM	1	12	20.81	20.79	20.74		
5	64QAM	1	24	20.80	20.76	20.70		
5	64QAM	12	0	20.75	20.61	20.59	22.5	1
5	64QAM	12	7	20.63	20.58	20.59		
5	64QAM	12	13	20.60	20.54	20.54		
5	64QAM	25	0	20.61	20.55	20.53		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	16.05	15.87	15.71	16.5	0
20	QPSK	1	49	15.73	15.62	15.62		
20	QPSK	1	99	15.79	15.62	15.61		
20	QPSK	50	0	15.75	15.58	15.60	16.5	0
20	QPSK	50	24	15.57	15.56	15.51		
20	QPSK	50	50	15.55	15.52	15.45		
20	QPSK	100	0	15.56	15.53	15.50		
20	16QAM	1	0	15.80	15.68	15.52	16.5	0
20	16QAM	1	49	15.51	15.37	15.37		
20	16QAM	1	99	15.60	15.51	15.38		
20	16QAM	50	0	15.68	15.56	15.56	16.5	0
20	16QAM	50	24	15.56	15.52	15.48		
20	16QAM	50	50	15.54	15.54	15.48		
20	16QAM	100	0	15.59	15.54	15.52		
20	64QAM	1	0	15.67	15.55	15.39	16.5	0
20	64QAM	1	49	15.38	15.24	15.24		
20	64QAM	1	99	15.47	15.38	15.25		
20	64QAM	50	0	15.55	15.43	15.43	16.5	0
20	64QAM	50	24	15.43	15.39	15.35		
20	64QAM	50	50	15.41	15.41	15.35		
20	64QAM	100	0	15.46	15.41	15.39		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	15.92	15.74	15.79	16.5	0
15	QPSK	1	37	15.80	15.67	15.48		
15	QPSK	1	74	15.67	15.58	15.58		
15	QPSK	36	0	15.67	15.53	15.45	16.5	0
15	QPSK	36	20	15.64	15.52	15.44		
15	QPSK	36	39	15.53	15.43	15.36		
15	QPSK	75	0	15.53	15.50	15.40		
15	16QAM	1	0	15.64	15.53	15.49	16.5	0
15	16QAM	1	37	15.51	15.39	15.35		
15	16QAM	1	74	15.49	15.37	15.42		
15	16QAM	36	0	15.64	15.50	15.48	16.5	0
15	16QAM	36	20	15.64	15.46	15.42		
15	16QAM	36	39	15.49	15.46	15.42		
15	16QAM	75	0	15.52	15.49	15.42		
15	64QAM	1	0	15.53	15.42	15.38	16.5	0
15	64QAM	1	37	15.40	15.28	15.24		
15	64QAM	1	74	15.38	15.26	15.31		
15	64QAM	36	0	15.53	15.39	15.37	16.5	0
15	64QAM	36	20	15.53	15.35	15.31		
15	64QAM	36	39	15.38	15.35	15.31		
15	64QAM	75	0	15.41	15.38	15.31		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	15.95	15.89	15.56	16.5	0
10	QPSK	1	25	15.77	15.66	15.50		
10	QPSK	1	49	15.92	15.80	15.52		
10	QPSK	25	0	15.69	15.59	15.48	16.5	0
10	QPSK	25	12	15.68	15.57	15.44		
10	QPSK	25	25	15.65	15.52	15.43		
10	QPSK	50	0	15.71	15.54	15.45		
10	16QAM	1	0	15.79	15.70	15.44	16.5	0
10	16QAM	1	25	15.56	15.45	15.42		
10	16QAM	1	49	15.77	15.62	15.42		
10	16QAM	25	0	15.67	15.54	15.51	16.5	0
10	16QAM	25	12	15.64	15.54	15.52		
10	16QAM	25	25	15.64	15.55	15.50		
10	16QAM	50	0	15.63	15.50	15.50		
10	64QAM	1	0	15.77	15.68	15.42	16.5	0
10	64QAM	1	25	15.54	15.43	15.40		
10	64QAM	1	49	15.75	15.60	15.40		
10	64QAM	25	0	15.65	15.52	15.49	16.5	0
10	64QAM	25	12	15.62	15.52	15.50		
10	64QAM	25	25	15.62	15.53	15.48		
10	64QAM	50	0	15.61	15.48	15.48		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	15.81	15.70	15.51	16.5	0
5	QPSK	1	12	15.77	15.60	15.45		
5	QPSK	1	24	15.81	15.60	15.54		
5	QPSK	12	0	15.67	15.49	15.32	16.5	0
5	QPSK	12	7	15.64	15.53	15.39		
5	QPSK	12	13	15.61	15.47	15.42		
5	QPSK	25	0	15.64	15.50	15.44		
5	16QAM	1	0	15.58	15.51	15.40	16.5	0
5	16QAM	1	12	15.53	15.45	15.40		
5	16QAM	1	24	15.58	15.43	15.41		
5	16QAM	12	0	15.58	15.45	15.44	16.5	0
5	16QAM	12	7	15.60	15.50	15.43		
5	16QAM	12	13	15.57	15.47	15.49		
5	16QAM	25	0	15.64	15.55	15.49		
5	64QAM	1	0	15.55	15.48	15.37	16.5	0
5	64QAM	1	12	15.50	15.42	15.37		
5	64QAM	1	24	15.55	15.40	15.38		
5	64QAM	12	0	15.55	15.42	15.41	16.5	0
5	64QAM	12	7	15.57	15.47	15.40		
5	64QAM	12	13	15.54	15.44	15.46		
5	64QAM	25	0	15.61	15.52	15.46		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	15.79	15.65	15.49	16.5	0
3	QPSK	1	8	15.82	15.62	15.42		
3	QPSK	1	14	15.78	15.61	15.49		
3	QPSK	8	0	15.65	15.51	15.30	16.5	0
3	QPSK	8	4	15.65	15.53	15.41		
3	QPSK	8	7	15.64	15.46	15.45		
3	QPSK	15	0	15.68	15.51	15.50		
3	16QAM	1	0	15.55	15.43	15.43	16.5	0
3	16QAM	1	8	15.53	15.45	15.39		
3	16QAM	1	14	15.56	15.40	15.41		
3	16QAM	8	0	15.55	15.42	15.44	16.5	0
3	16QAM	8	4	15.58	15.46	15.45		
3	16QAM	8	7	15.57	15.44	15.43		
3	16QAM	15	0	15.61	15.47	15.46		
3	64QAM	1	0	15.45	15.33	15.33	16.5	0
3	64QAM	1	8	15.43	15.35	15.29		
3	64QAM	1	14	15.46	15.30	15.31		
3	64QAM	8	0	15.45	15.32	15.34	16.5	0
3	64QAM	8	4	15.48	15.36	15.35		
3	64QAM	8	7	15.47	15.34	15.33		
3	64QAM	15	0	15.51	15.37	15.36		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	15.89	15.71	15.54	16.5	0
1.4	QPSK	1	3	15.82	15.65	15.47		
1.4	QPSK	1	5	15.69	15.49	15.49		
1.4	QPSK	3	0	15.58	15.44	15.48		
1.4	QPSK	3	1	15.52	15.37	15.40		
1.4	QPSK	3	3	15.50	15.34	15.34		
1.4	QPSK	6	0	15.63	15.49	15.40	16.5	0
1.4	16QAM	1	0	15.48	15.37	15.32	16.5	0
1.4	16QAM	1	3	15.54	15.38	15.37		
1.4	16QAM	1	5	15.44	15.39	15.31		
1.4	16QAM	3	0	15.48	15.36	15.37		
1.4	16QAM	3	1	15.52	15.43	15.43		
1.4	16QAM	3	3	15.49	15.37	15.39		
1.4	16QAM	6	0	15.53	15.43	15.38	16.5	0
1.4	64QAM	1	0	15.46	15.35	15.30	16.5	0
1.4	64QAM	1	3	15.52	15.36	15.35		
1.4	64QAM	1	5	15.42	15.37	15.29		
1.4	64QAM	3	0	15.46	15.34	15.35		
1.4	64QAM	3	1	15.50	15.41	15.41		
1.4	64QAM	3	3	15.47	15.35	15.37		
1.4	64QAM	6	0	15.51	15.41	15.36	16.5	0

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	21.92	21.99	21.87	23.5	0
15	QPSK	1	37	21.90	21.86	21.80		
15	QPSK	1	74	21.86	21.77	21.68		
15	QPSK	36	0	21.97	21.98	21.87	23.5	0
15	QPSK	36	20	21.97	21.92	21.86		
15	QPSK	36	39	21.97	21.87	21.77		
15	QPSK	75	0	21.91	21.92	21.84		
15	16QAM	1	0	21.79	21.73	21.69	22.5	1
15	16QAM	1	37	21.66	21.74	21.67		
15	16QAM	1	74	21.73	21.60	21.52		
15	16QAM	36	0	21.41	21.40	21.26	22.5	1
15	16QAM	36	20	21.44	21.45	21.32		
15	16QAM	36	39	21.38	21.39	21.28		
15	16QAM	75	0	21.01	21.11	21.09		
15	64QAM	1	0	21.39	21.38	21.24	22.5	1
15	64QAM	1	37	21.38	21.34	21.28		
15	64QAM	1	74	21.34	21.25	21.16		
15	64QAM	36	0	21.47	21.46	21.34	22.5	1
15	64QAM	36	20	21.45	21.40	21.34		
15	64QAM	36	39	21.45	21.35	21.25		
15	64QAM	75	0	21.39	21.37	21.32		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	21.88	21.83	21.79	23.5	0
10	QPSK	1	25	21.89	21.86	21.74		
10	QPSK	1	49	21.78	21.77	21.66		
10	QPSK	25	0	21.95	21.93	21.81	23.5	0
10	QPSK	25	12	21.95	21.91	21.78		
10	QPSK	25	25	21.88	21.86	21.73		
10	QPSK	50	0	21.95	21.91	21.79		
10	16QAM	1	0	21.64	21.70	21.65	22.5	1
10	16QAM	1	25	21.70	21.69	21.56		
10	16QAM	1	49	21.65	21.58	21.53		
10	16QAM	25	0	21.42	21.40	21.29	22.5	1
10	16QAM	25	12	21.44	21.45	21.32		
10	16QAM	25	25	21.38	21.39	21.28		
10	16QAM	50	0	21.01	21.11	21.19		
10	64QAM	1	0	21.38	21.34	21.33	22.5	1
10	64QAM	1	25	21.36	21.32	21.26		
10	64QAM	1	49	21.32	21.23	21.14		
10	64QAM	25	0	21.45	21.44	21.32	22.5	1
10	64QAM	25	12	21.43	21.38	21.32		
10	64QAM	25	25	21.43	21.33	21.23		
10	64QAM	50	0	21.37	21.35	21.30		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	21.92	21.92	21.77	23.5	0
5	QPSK	1	12	21.83	21.83	21.73		
5	QPSK	1	24	21.90	21.84	21.69		
5	QPSK	12	0	21.91	21.92	21.76	23.5	0
5	QPSK	12	7	21.91	21.88	21.77		
5	QPSK	12	13	21.95	21.87	21.71		
5	QPSK	25	0	21.97	21.91	21.73		
5	16QAM	1	0	21.74	21.74	21.65	22.5	1
5	16QAM	1	12	21.67	21.70	21.61		
5	16QAM	1	24	21.77	21.70	21.54		
5	16QAM	12	0	21.46	21.45	21.31	22.5	1
5	16QAM	12	7	21.49	21.50	21.37		
5	16QAM	12	13	21.43	21.44	21.33		
5	16QAM	25	0	21.06	21.01	21.04		
5	64QAM	1	0	21.41	21.37	21.36	22.5	1
5	64QAM	1	12	21.39	21.35	21.29		
5	64QAM	1	24	21.35	21.26	21.17		
5	64QAM	12	0	21.48	21.47	21.35	22.5	1
5	64QAM	12	7	21.46	21.41	21.35		
5	64QAM	12	13	21.46	21.36	21.26		
5	64QAM	25	0	21.40	21.38	21.33		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	21.90	21.85	21.74	23.5	0
3	QPSK	1	8	21.86	21.83	21.68		
3	QPSK	1	14	21.83	21.86	21.69		
3	QPSK	8	0	21.92	21.90	21.70	23.5	0
3	QPSK	8	4	21.90	21.91	21.75		
3	QPSK	8	7	21.86	21.88	21.73		
3	QPSK	15	0	21.88	21.87	21.72		
3	16QAM	1	0	21.74	21.76	21.60	22.5	1
3	16QAM	1	8	21.65	21.72	21.58		
3	16QAM	1	14	21.61	21.67	21.52		
3	16QAM	8	0	21.44	21.41	21.29	22.5	1
3	16QAM	8	4	21.49	21.50	21.37		
3	16QAM	8	7	21.43	21.44	21.33		
3	16QAM	15	0	21.06	21.01	21.13		
3	64QAM	1	0	21.37	21.33	21.32	22.5	1
3	64QAM	1	8	21.35	21.31	21.25		
3	64QAM	1	14	21.31	21.22	21.13		
3	64QAM	8	0	21.44	21.43	21.31	22.5	1
3	64QAM	8	4	21.42	21.37	21.31		
3	64QAM	8	7	21.42	21.32	21.22		
3	64QAM	15	0	21.36	21.34	21.29		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	21.78	21.75	21.63	23.5	0
1.4	QPSK	1	3	21.87	21.86	21.66		
1.4	QPSK	1	5	21.77	21.75	21.59		
1.4	QPSK	3	0	21.86	21.83	21.64		
1.4	QPSK	3	1	21.88	21.86	21.67		
1.4	QPSK	3	3	21.84	21.83	21.66		
1.4	QPSK	6	0	21.80	21.82	21.66	23.5	0
1.4	16QAM	1	0	21.64	21.67	21.49	22.5	1
1.4	16QAM	1	3	21.71	21.69	21.51		
1.4	16QAM	1	5	21.59	21.61	21.51		
1.4	16QAM	3	0	21.43	21.42	21.28		
1.4	16QAM	3	1	21.46	21.47	21.34		
1.4	16QAM	3	3	21.40	21.41	21.30		
1.4	16QAM	6	0	21.03	21.08	21.01	22.5	1
1.4	64QAM	1	0	21.36	21.32	21.31	22.5	1
1.4	64QAM	1	3	21.34	21.30	21.24		
1.4	64QAM	1	5	21.30	21.21	21.12		
1.4	64QAM	3	0	21.43	21.42	21.30		
1.4	64QAM	3	1	21.41	21.36	21.30		
1.4	64QAM	3	3	21.41	21.31	21.21		
1.4	64QAM	6	0	21.35	21.33	21.28	22.5	1

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0	20.33			21	0
10	QPSK	1	25	20.15				
10	QPSK	1	49	20.14				
10	QPSK	25	0	20.11			21	0
10	QPSK	25	12	20.00				
10	QPSK	25	25	20.00				
10	QPSK	50	0	20.03				
10	16QAM	1	0	20.26			21	0
10	16QAM	1	25	20.23				
10	16QAM	1	49	20.21				
10	16QAM	25	0	20.09			21	0
10	16QAM	25	12	20.13				
10	16QAM	25	25	20.15				
10	16QAM	50	0	20.14				
10	64QAM	1	0	19.89			21	0
10	64QAM	1	25	19.80				
10	64QAM	1	49	19.80				
10	64QAM	25	0	19.73			21	0
10	64QAM	25	12	19.75				
10	64QAM	25	25	19.81				
10	64QAM	50	0	19.79				
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	20.01	19.97	19.93	21	0
5	QPSK	1	12	19.93	19.89	19.94		
5	QPSK	1	24	19.99	19.90	19.96		
5	QPSK	12	0	19.92	19.94	19.95	21	0
5	QPSK	12	7	19.93	19.95	20.03		
5	QPSK	12	13	20.02	20.02	20.03		
5	QPSK	25	0	19.93	20.00	19.98		
5	16QAM	1	0	20.30	20.26	20.25	21	0
5	16QAM	1	12	20.19	20.15	20.17		
5	16QAM	1	24	20.19	20.25	20.22		
5	16QAM	12	0	20.00	20.09	20.09	21	0
5	16QAM	12	7	20.04	20.09	20.12		
5	16QAM	12	13	20.14	20.06	20.06		
5	16QAM	25	0	20.06	20.09	20.08		
5	64QAM	1	0	19.81	19.81	19.89	21	0
5	64QAM	1	12	19.75	19.70	19.77		
5	64QAM	1	24	19.80	19.73	19.76		
5	64QAM	12	0	19.63	19.63	19.73	21	0
5	64QAM	12	7	19.66	19.67	19.67		
5	64QAM	12	13	19.80	19.76	19.72		
5	64QAM	25	0	19.79	19.71	19.70		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	15.58	15.69	15.70	17	0
20	QPSK	1	49	15.52	15.55	15.65		
20	QPSK	1	99	15.54	15.46	15.55		
20	QPSK	50	0	15.32	15.39	15.40	17	0
20	QPSK	50	24	15.38	15.32	15.37		
20	QPSK	50	50	15.33	15.29	15.35		
20	QPSK	100	0	15.37	15.33	15.36		
20	16QAM	1	0	15.23	15.23	15.31	17	0
20	16QAM	1	49	15.08	15.14	15.17		
20	16QAM	1	99	15.16	15.12	15.21		
20	16QAM	50	0	15.18	15.25	15.25	17	0
20	16QAM	50	24	15.21	15.21	15.22		
20	16QAM	50	50	15.18	15.14	15.20		
20	16QAM	100	0	15.23	15.20	15.24		
20	64QAM	1	0	15.48	15.56	15.61	17	0
20	64QAM	1	49	15.44	15.41	15.51		
20	64QAM	1	99	15.46	15.46	15.52		
20	64QAM	50	0	15.36	15.43	15.42	17	0
20	64QAM	50	24	15.40	15.35	15.36		
20	64QAM	50	50	15.35	15.30	15.36		
20	64QAM	100	0	15.40	15.36	15.36		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	15.69	15.67	15.68	17	0
15	QPSK	1	37	15.50	15.53	15.61		
15	QPSK	1	74	15.60	15.56	15.60		
15	QPSK	36	0	15.31	15.38	15.40	17	0
15	QPSK	36	20	15.31	15.35	15.40		
15	QPSK	36	39	15.36	15.31	15.32		
15	QPSK	75	0	15.39	15.33	15.40		
15	16QAM	1	0	15.21	15.28	15.29	17	0
15	16QAM	1	37	15.09	15.12	15.13		
15	16QAM	1	74	15.21	15.14	15.22		
15	16QAM	36	0	15.20	15.24	15.24	17	0
15	16QAM	36	20	15.15	15.20	15.24		
15	16QAM	36	39	15.21	15.18	15.24		
15	16QAM	75	0	15.27	15.22	15.24		
15	64QAM	1	0	15.52	15.66	15.65	17	0
15	64QAM	1	37	15.43	15.46	15.45		
15	64QAM	1	74	15.56	15.52	15.52		
15	64QAM	36	0	15.37	15.43	15.44	17	0
15	64QAM	36	20	15.33	15.39	15.42		
15	64QAM	36	39	15.39	15.33	15.40		
15	64QAM	75	0	15.42	15.36	15.39		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	15.60	15.64	15.62	17	0
10	QPSK	1	25	15.51	15.50	15.61		
10	QPSK	1	49	15.52	15.48	15.54		
10	QPSK	25	0	15.29	15.32	15.34	17	0
10	QPSK	25	12	15.27	15.31	15.36		
10	QPSK	25	25	15.24	15.26	15.35		
10	QPSK	50	0	15.27	15.30	15.35		
10	16QAM	1	0	15.16	15.22	15.22	17	0
10	16QAM	1	25	15.11	15.11	15.18		
10	16QAM	1	49	15.06	15.08	15.15		
10	16QAM	25	0	15.14	15.19	15.20	17	0
10	16QAM	25	12	15.11	15.18	15.20		
10	16QAM	25	25	15.11	15.15	15.20		
10	16QAM	50	0	15.12	15.19	15.20		
10	64QAM	1	0	15.51	15.55	15.52	17	0
10	64QAM	1	25	15.42	15.44	15.49		
10	64QAM	1	49	15.41	15.46	15.51		
10	64QAM	25	0	15.30	15.36	15.39	17	0
10	64QAM	25	12	15.32	15.32	15.36		
10	64QAM	25	25	15.28	15.30	15.35		
10	64QAM	50	0	15.29	15.32	15.35		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	15.59	15.55	15.68	17	0
5	QPSK	1	12	15.52	15.58	15.55		
5	QPSK	1	24	15.49	15.58	15.64		
5	QPSK	12	0	15.31	15.31	15.36	17	0
5	QPSK	12	7	15.28	15.32	15.33		
5	QPSK	12	13	15.30	15.30	15.36		
5	QPSK	25	0	15.25	15.28	15.33		
5	16QAM	1	0	15.14	15.15	15.16	17	0
5	16QAM	1	12	15.12	15.10	15.14		
5	16QAM	1	24	15.12	15.12	15.18		
5	16QAM	12	0	15.16	15.17	15.23	17	0
5	16QAM	12	7	15.16	15.20	15.18		
5	16QAM	12	13	15.13	15.13	15.20		
5	16QAM	25	0	15.12	15.12	15.19		
5	64QAM	1	0	15.47	15.55	15.56	17	0
5	64QAM	1	12	15.46	15.45	15.48		
5	64QAM	1	24	15.50	15.46	15.53		
5	64QAM	12	0	15.36	15.38	15.38	17	0
5	64QAM	12	7	15.35	15.38	15.42		
5	64QAM	12	13	15.36	15.35	15.38		
5	64QAM	25	0	15.27	15.30	15.31		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	15.53	15.51	15.50	17	0
3	QPSK	1	8	15.46	15.54	15.57		
3	QPSK	1	14	15.49	15.48	15.55		
3	QPSK	8	0	15.28	15.34	15.38	17	0
3	QPSK	8	4	15.33	15.34	15.36		
3	QPSK	8	7	15.31	15.31	15.35		
3	QPSK	15	0	15.23	15.27	15.28		
3	16QAM	1	0	15.09	15.10	15.17	17	0
3	16QAM	1	8	15.08	15.10	15.12		
3	16QAM	1	14	15.06	15.09	15.10		
3	16QAM	8	0	15.14	15.11	15.17	17	0
3	16QAM	8	4	15.13	15.17	15.17		
3	16QAM	8	7	15.13	15.14	15.17		
3	16QAM	15	0	15.06	15.12	15.15		
3	64QAM	1	0	15.49	15.44	15.47	17	0
3	64QAM	1	8	15.44	15.45	15.48		
3	64QAM	1	14	15.43	15.46	15.44		
3	64QAM	8	0	15.31	15.33	15.38	17	0
3	64QAM	8	4	15.34	15.36	15.39		
3	64QAM	8	7	15.28	15.33	15.35		
3	64QAM	15	0	15.26	15.27	15.29		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.44	15.41	15.48	17	0
1.4	QPSK	1	3	15.54	15.50	15.61		
1.4	QPSK	1	5	15.36	15.39	15.46		
1.4	QPSK	3	0	15.19	15.21	15.21		
1.4	QPSK	3	1	15.22	15.23	15.31		
1.4	QPSK	3	3	15.20	15.20	15.22		
1.4	QPSK	6	0	15.24	15.29	15.32	17	0
1.4	16QAM	1	0	15.02	15.02	15.02	17	0
1.4	16QAM	1	3	15.10	15.11	15.14		
1.4	16QAM	1	5	15.04	15.02	15.04		
1.4	16QAM	3	0	15.05	15.08	15.12		
1.4	16QAM	3	1	15.06	15.09	15.12		
1.4	16QAM	3	3	15.06	15.10	15.11		
1.4	16QAM	6	0	15.04	15.06	15.07	17	0
1.4	64QAM	1	0	15.33	15.36	15.42	17	0
1.4	64QAM	1	3	15.39	15.46	15.42		
1.4	64QAM	1	5	15.33	15.39	15.38		
1.4	64QAM	3	0	15.32	15.37	15.36		
1.4	64QAM	3	1	15.40	15.39	15.41		
1.4	64QAM	3	3	15.35	15.31	15.35		
1.4	64QAM	6	0	15.20	15.22	15.23	17	0

<Hotspot Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	15.85	15.67	15.39	16.5	0
20	QPSK	1	49	15.68	15.48	15.37		
20	QPSK	1	99	15.60	15.43	15.37		
20	QPSK	50	0	15.22	15.11	15.04	16.5	0
20	QPSK	50	24	15.17	15.07	15.02		
20	QPSK	50	50	15.15	15.06	14.96		
20	QPSK	100	0	15.19	15.04	14.95		
20	16QAM	1	0	15.24	15.11	14.79	16.5	0
20	16QAM	1	49	14.87	14.74	14.81		
20	16QAM	1	99	15.03	14.88	14.82		
20	16QAM	50	0	14.96	14.82	14.73	16.5	0
20	16QAM	50	24	14.91	14.80	14.77		
20	16QAM	50	50	14.88	14.77	14.74		
20	16QAM	100	0	14.93	14.82	14.71		
20	64QAM	1	0	15.14	15.01	14.69	16.5	0
20	64QAM	1	49	14.77	14.64	14.67		
20	64QAM	1	99	14.93	14.78	14.66		
20	64QAM	50	0	14.86	14.72	14.63	16.5	0
20	64QAM	50	24	14.81	14.70	14.67		
20	64QAM	50	50	14.78	14.67	14.64		
20	64QAM	100	0	14.83	14.72	14.61		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	15.65	15.39	15.39	16.5	0
15	QPSK	1	37	15.48	15.32	15.35		
15	QPSK	1	74	15.42	15.31	15.25		
15	QPSK	36	0	15.35	15.10	15.05	16.5	0
15	QPSK	36	20	15.22	15.08	15.04		
15	QPSK	36	39	15.16	15.04	15.02		
15	QPSK	75	0	15.21	15.09	15.03		
15	16QAM	1	0	15.19	14.96	14.95	16.5	0
15	16QAM	1	37	15.07	14.89	14.88		
15	16QAM	1	74	14.97	14.86	14.86		
15	16QAM	36	0	15.18	14.94	14.91	16.5	0
15	16QAM	36	20	15.03	14.92	14.88		
15	16QAM	36	39	15.02	14.87	14.85		
15	16QAM	75	0	15.03	14.90	14.84		
15	64QAM	1	0	15.05	14.82	14.81	16.5	0
15	64QAM	1	37	14.93	14.75	14.74		
15	64QAM	1	74	14.83	14.72	14.72		
15	64QAM	36	0	15.04	14.80	14.77	16.5	0
15	64QAM	36	20	14.89	14.78	14.74		
15	64QAM	36	39	14.88	14.73	14.71		
15	64QAM	75	0	14.89	14.76	14.70		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	15.46	15.45	15.33	16.5	0
10	QPSK	1	25	15.44	15.27	15.20		
10	QPSK	1	49	15.37	15.40	15.28		
10	QPSK	25	0	15.33	15.09	15.02	16.5	0
10	QPSK	25	12	15.25	15.07	14.99		
10	QPSK	25	25	15.20	15.04	14.99		
10	QPSK	50	0	15.15	15.04	14.98		
10	16QAM	1	0	15.27	15.09	14.88	16.5	0
10	16QAM	1	25	15.07	14.83	14.80		
10	16QAM	1	49	15.18	15.04	14.79		
10	16QAM	25	0	15.12	14.88	14.84	16.5	0
10	16QAM	25	12	15.09	14.86	14.86		
10	16QAM	25	25	14.96	14.85	14.82		
10	16QAM	50	0	15.00	14.88	14.83		
10	64QAM	1	0	15.20	15.07	14.86	16.5	0
10	64QAM	1	25	15.05	14.81	14.78		
10	64QAM	1	49	15.16	15.02	14.77		
10	64QAM	25	0	15.10	14.86	14.82	16.5	0
10	64QAM	25	12	15.07	14.84	14.84		
10	64QAM	25	25	14.94	14.83	14.80		
10	64QAM	50	0	14.98	14.86	14.81		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	15.46	15.37	15.23	16.5	0
5	QPSK	1	12	15.42	15.34	15.22		
5	QPSK	1	24	15.41	15.33	15.26		
5	QPSK	12	0	15.30	15.07	15.02	16.5	0
5	QPSK	12	7	15.27	15.06	15.05		
5	QPSK	12	13	15.28	15.04	15.04		
5	QPSK	25	0	15.22	15.01	14.99		
5	16QAM	1	0	15.13	14.88	14.82	16.5	0
5	16QAM	1	12	15.09	14.84	14.80		
5	16QAM	1	24	15.10	14.87	14.79		
5	16QAM	12	0	15.10	14.87	14.85	16.5	0
5	16QAM	12	7	15.09	14.90	14.86		
5	16QAM	12	13	15.09	14.86	14.82		
5	16QAM	25	0	15.07	14.84	14.81		
5	64QAM	1	0	15.10	14.85	14.79	16.5	0
5	64QAM	1	12	15.06	14.81	14.77		
5	64QAM	1	24	15.07	14.84	14.76		
5	64QAM	12	0	15.07	14.84	14.82	16.5	0
5	64QAM	12	7	15.06	14.87	14.83		
5	64QAM	12	13	15.06	14.83	14.79		
5	64QAM	25	0	15.04	14.81	14.78		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	15.50	15.26	15.25	16.5	0
3	QPSK	1	8	15.52	15.31	15.21		
3	QPSK	1	14	15.41	15.21	15.21		
3	QPSK	8	0	15.30	15.06	15.05	16.5	0
3	QPSK	8	4	15.35	15.14	15.07		
3	QPSK	8	7	15.31	15.08	15.03		
3	QPSK	15	0	15.22	14.97	14.94		
3	16QAM	1	0	15.04	14.85	14.82	16.5	0
3	16QAM	1	8	15.06	14.83	14.75		
3	16QAM	1	14	15.02	14.83	14.77		
3	16QAM	8	0	15.07	14.85	14.79	16.5	0
3	16QAM	8	4	15.11	14.88	14.85		
3	16QAM	8	7	15.08	14.82	14.78		
3	16QAM	15	0	15.04	14.83	14.76		
3	64QAM	1	0	15.02	14.83	14.80	16.5	0
3	64QAM	1	8	15.04	14.81	14.73		
3	64QAM	1	14	15.00	14.81	14.75		
3	64QAM	8	0	15.05	14.83	14.77	16.5	0
3	64QAM	8	4	15.09	14.86	14.83		
3	64QAM	8	7	15.06	14.80	14.76		
3	64QAM	15	0	15.02	14.81	14.74		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	15.34	15.30	15.24	16.5	0
1.4	QPSK	1	3	15.39	15.21	15.19		
1.4	QPSK	1	5	15.36	15.21	15.11		
1.4	QPSK	3	0	15.26	15.06	14.99		
1.4	QPSK	3	1	15.24	14.99	14.95		
1.4	QPSK	3	3	15.21	14.94	14.88		
1.4	QPSK	6	0	15.25	15.03	14.98	16.5	0
1.4	16QAM	1	0	15.02	14.75	14.71	16.5	0
1.4	16QAM	1	3	15.04	14.77	14.79		
1.4	16QAM	1	5	14.94	14.67	14.70		
1.4	16QAM	3	0	15.01	14.76	14.74		
1.4	16QAM	3	1	15.02	14.83	14.78		
1.4	16QAM	3	3	15.01	14.79	14.73		
1.4	16QAM	6	0	14.98	14.75	14.68	16.5	0
1.4	64QAM	1	0	14.99	14.72	14.68	16.5	0
1.4	64QAM	1	3	15.01	14.74	14.76		
1.4	64QAM	1	5	14.91	14.64	14.67		
1.4	64QAM	3	0	14.98	14.73	14.71		
1.4	64QAM	3	1	14.99	14.80	14.75		
1.4	64QAM	3	3	14.98	14.76	14.70		
1.4	64QAM	6	0	14.95	14.72	14.65	16.5	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	15.72	15.65	15.45	16.5	0
20	QPSK	1	49	15.54	15.39	15.46		
20	QPSK	1	99	15.43	15.41	15.49		
20	QPSK	50	0	15.40	15.32	15.25	16.5	0
20	QPSK	50	24	15.35	15.24	15.19		
20	QPSK	50	50	15.29	15.17	15.23		
20	QPSK	100	0	15.34	15.20	15.20		
20	16QAM	1	0	15.30	15.26	15.16	16.5	0
20	16QAM	1	49	15.14	15.05	15.07		
20	16QAM	1	99	15.11	15.01	15.08		
20	16QAM	50	0	15.26	15.18	15.14	16.5	0
20	16QAM	50	24	15.20	15.14	15.05		
20	16QAM	50	50	15.18	15.10	15.11		
20	16QAM	100	0	15.20	15.15	15.10		
20	64QAM	1	0	15.46	15.58	15.44	16.5	0
20	64QAM	1	49	15.52	15.38	15.43		
20	64QAM	1	99	15.42	15.30	15.41		
20	64QAM	50	0	15.42	15.36	15.24	16.5	0
20	64QAM	50	24	15.37	15.29	15.22		
20	64QAM	50	50	15.32	15.24	15.27		
20	64QAM	100	0	15.35	15.30	15.21		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	15.70	15.61	15.45	16.5	0
15	QPSK	1	37	15.62	15.34	15.43		
15	QPSK	1	74	15.52	15.43	15.49		
15	QPSK	36	0	15.41	15.28	15.17	16.5	0
15	QPSK	36	20	15.38	15.23	15.25		
15	QPSK	36	39	15.34	15.14	15.23		
15	QPSK	75	0	15.36	15.20	15.17		
15	16QAM	1	0	15.28	15.25	15.14	16.5	0
15	16QAM	1	37	15.15	15.02	15.08		
15	16QAM	1	74	15.17	15.06	15.08		
15	16QAM	36	0	15.25	15.19	15.07	16.5	0
15	16QAM	36	20	15.22	15.12	15.17		
15	16QAM	36	39	15.18	15.08	15.09		
15	16QAM	75	0	15.23	15.13	15.03		
15	64QAM	1	0	15.52	15.63	15.44	16.5	0
15	64QAM	1	37	15.52	15.34	15.40		
15	64QAM	1	74	15.52	15.34	15.43		
15	64QAM	36	0	15.44	15.34	15.27	16.5	0
15	64QAM	36	20	15.40	15.27	15.31		
15	64QAM	36	39	15.39	15.25	15.27		
15	64QAM	75	0	15.40	15.29	15.19		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	15.63	15.52	15.49	16.5	0
10	QPSK	1	25	15.57	15.39	15.41		
10	QPSK	1	49	15.59	15.30	15.41		
10	QPSK	25	0	15.37	15.22	15.24	16.5	0
10	QPSK	25	12	15.35	15.17	15.23		
10	QPSK	25	25	15.34	15.17	15.20		
10	QPSK	50	0	15.32	15.22	15.24		
10	16QAM	1	0	15.21	15.12	15.14	16.5	0
10	16QAM	1	25	15.19	15.05	15.08		
10	16QAM	1	49	15.14	15.01	15.02		
10	16QAM	25	0	15.19	15.15	15.11	16.5	0
10	16QAM	25	12	15.19	15.12	15.13		
10	16QAM	25	25	15.16	15.10	15.09		
10	16QAM	50	0	15.20	15.11	15.11		
10	64QAM	1	0	15.53	15.44	15.44	16.5	0
10	64QAM	1	25	15.52	15.34	15.36		
10	64QAM	1	49	15.51	15.34	15.35		
10	64QAM	25	0	15.35	15.29	15.28	16.5	0
10	64QAM	25	12	15.36	15.24	15.28		
10	64QAM	25	25	15.32	15.21	15.24		
10	64QAM	50	0	15.34	15.26	15.24		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	15.60	15.38	15.48	16.5	0
5	QPSK	1	12	15.57	15.32	15.49		
5	QPSK	1	24	15.61	15.36	15.46		
5	QPSK	12	0	15.39	15.20	15.20	16.5	0
5	QPSK	12	7	15.38	15.18	15.25		
5	QPSK	12	13	15.36	15.12	15.19		
5	QPSK	25	0	15.33	15.19	15.20		
5	16QAM	1	0	15.21	15.07	15.10	16.5	0
5	16QAM	1	12	15.14	15.04	15.04		
5	16QAM	1	24	15.16	15.07	15.06		
5	16QAM	12	0	15.21	15.08	15.09	16.5	0
5	16QAM	12	7	15.22	15.09	15.12		
5	16QAM	12	13	15.19	15.09	15.06		
5	16QAM	25	0	15.17	15.07	15.06		
5	64QAM	1	0	15.56	15.34	15.39	16.5	0
5	64QAM	1	12	15.52	15.36	15.40		
5	64QAM	1	24	15.53	15.22	15.36		
5	64QAM	12	0	15.41	15.23	15.29	16.5	0
5	64QAM	12	7	15.39	15.21	15.31		
5	64QAM	12	13	15.40	15.17	15.27		
5	64QAM	25	0	15.34	15.20	15.22		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	15.53	15.30	15.44	16.5	0
3	QPSK	1	8	15.53	15.27	15.39		
3	QPSK	1	14	15.58	15.23	15.38		
3	QPSK	8	0	15.38	15.12	15.23	16.5	0
3	QPSK	8	4	15.42	15.22	15.26		
3	QPSK	8	7	15.35	15.20	15.22		
3	QPSK	15	0	15.30	15.18	15.18		
3	16QAM	1	0	15.16	15.03	15.05	16.5	0
3	16QAM	1	8	15.15	15.03	15.01		
3	16QAM	1	14	15.14	15.02	15.01		
3	16QAM	8	0	15.19	15.06	15.05	16.5	0
3	16QAM	8	4	15.21	15.08	15.07		
3	16QAM	8	7	15.16	15.06	15.03		
3	16QAM	15	0	15.17	15.07	15.05		
3	64QAM	1	0	15.50	15.28	15.37	16.5	0
3	64QAM	1	8	15.51	15.25	15.37		
3	64QAM	1	14	15.50	15.24	15.32		
3	64QAM	8	0	15.39	15.17	15.23	16.5	0
3	64QAM	8	4	15.40	15.23	15.27		
3	64QAM	8	7	15.38	15.16	15.24		
3	64QAM	15	0	15.30	15.19	15.18		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.52	15.28	15.31	16.5	0
1.4	QPSK	1	3	15.57	15.39	15.41		
1.4	QPSK	1	5	15.45	15.28	15.26		
1.4	QPSK	3	0	15.29	15.09	15.11		
1.4	QPSK	3	1	15.32	15.16	15.12		
1.4	QPSK	3	3	15.26	15.07	15.10		
1.4	QPSK	6	0	15.33	15.20	15.18	16.5	0
1.4	16QAM	1	0	15.06	15.06	15.07	16.5	0
1.4	16QAM	1	3	15.16	15.01	15.04		
1.4	16QAM	1	5	15.03	15.04	15.04		
1.4	16QAM	3	0	15.12	15.00	15.07		
1.4	16QAM	3	1	15.14	15.03	15.01		
1.4	16QAM	3	3	15.10	15.01	15.08		
1.4	16QAM	6	0	15.12	15.08	15.07	16.5	0
1.4	64QAM	1	0	15.43	15.25	15.27	16.5	0
1.4	64QAM	1	3	15.48	15.30	15.39		
1.4	64QAM	1	5	15.40	15.18	15.31		
1.4	64QAM	3	0	15.40	15.18	15.24		
1.4	64QAM	3	1	15.42	15.21	15.33		
1.4	64QAM	3	3	15.33	15.21	15.26		
1.4	64QAM	6	0	15.27	15.10	15.16	16.5	0

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	21.97	22.04	21.86	23.5	0
10	QPSK	1	25	21.87	21.82	21.75		
10	QPSK	1	49	21.80	21.73	21.66		
10	QPSK	25	0	21.91	21.93	21.79	23.5	0
10	QPSK	25	12	21.89	21.85	21.77		
10	QPSK	25	25	21.86	21.83	21.73		
10	QPSK	50	0	21.90	21.86	21.78		
10	16QAM	1	0	21.86	21.78	21.66	23.5	0
10	16QAM	1	25	21.72	21.69	21.64		
10	16QAM	1	49	21.69	21.57	21.54		
10	16QAM	25	0	20.56	20.50	20.51	22.5	1
10	16QAM	25	12	20.58	20.51	20.52		
10	16QAM	25	25	20.50	20.52	20.53		
10	16QAM	50	0	21.01	20.94	20.87		
10	64QAM	1	0	21.12	21.00	20.96	22.5	1
10	64QAM	1	25	21.05	20.96	20.90		
10	64QAM	1	49	21.00	20.93	20.84		
10	64QAM	25	0	20.96	20.84	20.80	22.5	1
10	64QAM	25	12	20.89	20.80	20.74		
10	64QAM	25	25	20.84	20.77	20.68		
10	64QAM	50	0	20.80	20.68	20.64		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	21.99	21.85	21.76	23.5	0
5	QPSK	1	12	21.92	21.80	21.72		
5	QPSK	1	24	21.87	21.75	21.69		
5	QPSK	12	0	21.95	21.84	21.78	23.5	0
5	QPSK	12	7	21.97	21.85	21.78		
5	QPSK	12	13	21.91	21.80	21.72		
5	QPSK	25	0	21.96	21.86	21.72		
5	16QAM	1	0	21.68	21.54	21.58	23.5	0
5	16QAM	1	12	21.76	21.59	21.55		
5	16QAM	1	24	21.65	21.60	21.52		
5	16QAM	12	0	21.68	21.60	21.51	22.5	1
5	16QAM	12	7	21.52	21.57	21.55		
5	16QAM	12	13	21.55	21.52	21.53		
5	16QAM	25	0	20.55	20.45	20.32		
5	64QAM	1	0	21.10	20.98	20.94	22.5	1
5	64QAM	1	12	21.03	20.94	20.88		
5	64QAM	1	24	20.98	20.91	20.82		
5	64QAM	12	0	20.94	20.82	20.78	22.5	1
5	64QAM	12	7	20.87	20.78	20.72		
5	64QAM	12	13	20.82	20.75	20.66		
5	64QAM	25	0	20.78	20.66	20.62		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	21.96	21.80	21.74	23.5	0
3	QPSK	1	8	21.93	21.78	21.69		
3	QPSK	1	14	21.91	21.76	21.68		
3	QPSK	8	0	21.95	21.83	21.70	23.5	0
3	QPSK	8	4	21.96	21.87	21.75		
3	QPSK	8	7	21.96	21.80	21.71		
3	QPSK	15	0	21.95	21.80	21.72		
3	16QAM	1	0	21.83	21.67	21.59	23.5	0
3	16QAM	1	8	21.76	21.69	21.53		
3	16QAM	1	14	21.79	21.60	21.57		
3	16QAM	8	0	20.63	20.50	20.50	22.5	1
3	16QAM	8	4	20.63	20.50	20.50		
3	16QAM	8	7	20.58	20.50	20.51		
3	16QAM	15	0	20.59	20.54	20.50		
3	64QAM	1	0	21.16	21.04	21.00	22.5	1
3	64QAM	1	8	21.09	21.00	20.94		
3	64QAM	1	14	21.04	20.97	20.88		
3	64QAM	8	0	21.00	20.88	20.84	22.5	1
3	64QAM	8	4	20.93	20.84	20.78		
3	64QAM	8	7	20.88	20.81	20.72		
3	64QAM	15	0	20.84	20.72	20.68		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	21.83	21.73	21.62	23.5	0
1.4	QPSK	1	3	21.91	21.79	21.67		
1.4	QPSK	1	5	21.83	21.69	21.60		
1.4	QPSK	3	0	21.89	21.74	21.67		
1.4	QPSK	3	1	21.91	21.77	21.66		
1.4	QPSK	3	3	21.89	21.73	21.62		
1.4	QPSK	6	0	21.89	21.75	21.64	23.5	0
1.4	16QAM	1	0	21.79	21.65	21.59	23.5	0
1.4	16QAM	1	3	21.87	21.70	21.56		
1.4	16QAM	1	5	21.76	21.71	21.53		
1.4	16QAM	3	0	21.59	21.51	21.52		
1.4	16QAM	3	1	21.63	21.50	21.56		
1.4	16QAM	3	3	21.56	21.53	21.54		
1.4	16QAM	6	0	21.05	20.95	20.82	22.5	1
1.4	64QAM	1	0	21.14	21.02	20.98	22.5	1
1.4	64QAM	1	3	21.07	20.98	20.92		
1.4	64QAM	1	5	21.02	20.95	20.86		
1.4	64QAM	3	0	20.98	20.86	20.82		
1.4	64QAM	3	1	20.91	20.82	20.76		
1.4	64QAM	3	3	20.86	20.79	20.70		
1.4	64QAM	6	0	20.82	20.70	20.66	22.5	1

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	16.58	16.59	16.61	18	0
20	QPSK	1	49	16.81	16.83	16.85		
20	QPSK	1	99	16.57	16.60	16.70		
20	QPSK	50	0	16.54	16.57	16.61	18	0
20	QPSK	50	24	16.60	16.68	16.75		
20	QPSK	50	50	16.66	16.81	16.82		
20	QPSK	100	0	16.61	16.63	16.71		
20	16QAM	1	0	16.77	16.71	16.75	18	0
20	16QAM	1	49	16.50	16.50	16.70		
20	16QAM	1	99	16.83	16.57	16.55		
20	16QAM	50	0	16.63	16.62	16.69	18	0
20	16QAM	50	24	16.73	16.77	16.55		
20	16QAM	50	50	16.68	16.77	16.50		
20	16QAM	100	0	16.70	16.70	16.77		
20	64QAM	1	0	16.66	16.66	16.64	18	0
20	64QAM	1	49	16.83	16.83	16.54		
20	64QAM	1	99	16.80	16.78	16.66		
20	64QAM	50	0	16.65	16.60	16.67	18	0
20	64QAM	50	24	16.78	16.74	16.82		
20	64QAM	50	50	16.67	16.78	16.58		
20	64QAM	100	0	16.73	16.71	16.76		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	16.55	16.55	16.55	18	0
15	QPSK	1	37	16.60	16.62	16.67		
15	QPSK	1	74	16.63	16.58	16.76		
15	QPSK	36	0	16.57	16.56	16.68	18	0
15	QPSK	36	20	16.65	16.67	16.79		
15	QPSK	36	39	16.66	16.71	16.76		
15	QPSK	75	0	16.59	16.66	16.77		
15	16QAM	1	0	16.82	16.83	16.55	18	0
15	16QAM	1	37	16.59	16.59	16.67		
15	16QAM	1	74	16.65	16.56	16.57		
15	16QAM	36	0	16.63	16.67	16.76	18	0
15	16QAM	36	20	16.73	16.78	16.59		
15	16QAM	36	39	16.73	16.79	16.79		
15	16QAM	75	0	16.74	16.71	16.82		
15	64QAM	1	0	16.77	16.76	16.76	18	0
15	64QAM	1	37	16.80	16.81	16.83		
15	64QAM	1	74	16.55	16.79	16.65		
15	64QAM	36	0	16.63	16.67	16.74	18	0
15	64QAM	36	20	16.73	16.77	16.56		
15	64QAM	36	39	16.73	16.79	16.79		
15	64QAM	75	0	16.74	16.69	16.83		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	16.58	16.52	16.66	18	0
10	QPSK	1	25	16.67	16.61	16.68		
10	QPSK	1	49	16.59	16.64	16.75		
10	QPSK	25	0	16.62	16.58	16.74	18	0
10	QPSK	25	12	16.60	16.65	16.72		
10	QPSK	25	25	16.63	16.65	16.74		
10	QPSK	50	0	16.55	16.60	16.82		
10	16QAM	1	0	16.83	16.77	16.67	18	0
10	16QAM	1	25	16.65	16.59	16.70		
10	16QAM	1	49	16.50	16.51	16.54		
10	16QAM	25	0	16.77	16.65	16.81	18	0
10	16QAM	25	12	16.69	16.73	16.81		
10	16QAM	25	25	16.71	16.72	16.81		
10	16QAM	50	0	16.71	16.71	16.57		
10	64QAM	1	0	16.72	16.68	16.55	18	0
10	64QAM	1	25	16.56	16.80	16.52		
10	64QAM	1	49	16.82	16.56	16.67		
10	64QAM	25	0	16.77	16.64	16.81	18	0
10	64QAM	25	12	16.68	16.72	16.80		
10	64QAM	25	25	16.71	16.73	16.81		
10	64QAM	50	0	16.70	16.69	16.56		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	16.59	16.56	16.67	18	0
5	QPSK	1	12	16.64	16.59	16.72		
5	QPSK	1	24	16.70	16.65	16.77		
5	QPSK	12	0	16.65	16.58	16.72	18	0
5	QPSK	12	7	16.74	16.65	16.81		
5	QPSK	12	13	16.72	16.66	16.82		
5	QPSK	25	0	16.66	16.62	16.76		
5	16QAM	1	0	16.83	16.55	16.69	18	0
5	16QAM	1	12	16.52	16.59	16.54		
5	16QAM	1	24	16.65	16.65	16.56		
5	16QAM	12	0	16.72	16.67	16.80	18	0
5	16QAM	12	7	16.79	16.73	16.57		
5	16QAM	12	13	16.82	16.72	16.83		
5	16QAM	25	0	16.80	16.71	16.54		
5	64QAM	1	0	16.80	16.77	16.59	18	0
5	64QAM	1	12	16.83	16.80	16.64		
5	64QAM	1	24	16.57	16.83	16.68		
5	64QAM	12	0	16.71	16.65	16.78	18	0
5	64QAM	12	7	16.77	16.71	16.56		
5	64QAM	12	13	16.79	16.71	16.82		
5	64QAM	25	0	16.77	16.69	16.83		

<LTE Band 14>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23330				
Frequency (MHz)				793				
10	QPSK	1	0	22.34			23.5	0
10	QPSK	1	25	22.13				
10	QPSK	1	49	22.02				
10	QPSK	25	0	21.74			23.5	0
10	QPSK	25	12	21.70				
10	QPSK	25	25	21.65				
10	QPSK	50	0	21.66				
10	16QAM	1	0	22.18			23.5	0
10	16QAM	1	25	21.95				
10	16QAM	1	49	21.87				
10	16QAM	25	0	20.84			22.5	1
10	16QAM	25	12	20.83				
10	16QAM	25	25	20.74				
10	16QAM	50	0	20.77				
10	64QAM	1	0	20.83			22.5	1
10	64QAM	1	25	20.82				
10	64QAM	1	49	20.73				
10	64QAM	25	0	20.76			22.5	1
10	64QAM	25	12	20.82				
10	64QAM	25	25	20.81				
10	64QAM	50	0	20.72				
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	22.33	22.17	22.18	23.5	0
5	QPSK	1	12	22.19	22.14	22.10		
5	QPSK	1	24	22.14	22.12	22.08		
5	QPSK	12	0	21.86	21.73	21.65	23.5	0
5	QPSK	12	7	21.76	21.68	21.66		
5	QPSK	12	13	21.71	21.64	21.60		
5	QPSK	25	0	21.71	21.64	21.67		
5	16QAM	1	0	22.05	21.99	22.06	23.5	0
5	16QAM	1	12	21.97	21.96	21.90		
5	16QAM	1	24	21.97	21.91	21.85		
5	16QAM	12	0	20.96	20.82	20.80	22.5	1
5	16QAM	12	7	20.84	20.79	20.80		
5	16QAM	12	13	20.81	20.75	20.75		
5	16QAM	25	0	20.82	20.76	20.74		
5	64QAM	1	0	20.97	20.86	20.80	22.5	1
5	64QAM	1	12	20.81	20.79	20.74		
5	64QAM	1	24	20.80	20.76	20.70		
5	64QAM	12	0	20.75	20.61	20.59	22.5	1
5	64QAM	12	7	20.63	20.58	20.59		
5	64QAM	12	13	20.60	20.54	20.54		
5	64QAM	25	0	20.61	20.55	20.53		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	16.05	15.87	15.71	16.5	0
20	QPSK	1	49	15.73	15.62	15.62		
20	QPSK	1	99	15.79	15.62	15.61		
20	QPSK	50	0	15.75	15.58	15.60	16.5	0
20	QPSK	50	24	15.57	15.56	15.51		
20	QPSK	50	50	15.55	15.52	15.45		
20	QPSK	100	0	15.56	15.53	15.50		
20	16QAM	1	0	15.80	15.68	15.52	16.5	0
20	16QAM	1	49	15.51	15.37	15.37		
20	16QAM	1	99	15.60	15.51	15.38		
20	16QAM	50	0	15.68	15.56	15.56	16.5	0
20	16QAM	50	24	15.56	15.52	15.48		
20	16QAM	50	50	15.54	15.54	15.48		
20	16QAM	100	0	15.59	15.54	15.52		
20	64QAM	1	0	15.67	15.55	15.39	16.5	0
20	64QAM	1	49	15.38	15.24	15.24		
20	64QAM	1	99	15.47	15.38	15.25		
20	64QAM	50	0	15.55	15.43	15.43	16.5	0
20	64QAM	50	24	15.43	15.39	15.35		
20	64QAM	50	50	15.41	15.41	15.35		
20	64QAM	100	0	15.46	15.41	15.39		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	15.92	15.74	15.79	16.5	0
15	QPSK	1	37	15.80	15.67	15.48		
15	QPSK	1	74	15.67	15.58	15.58		
15	QPSK	36	0	15.67	15.53	15.45	16.5	0
15	QPSK	36	20	15.64	15.52	15.44		
15	QPSK	36	39	15.53	15.43	15.36		
15	QPSK	75	0	15.53	15.50	15.40		
15	16QAM	1	0	15.64	15.53	15.49	16.5	0
15	16QAM	1	37	15.51	15.39	15.35		
15	16QAM	1	74	15.49	15.37	15.42		
15	16QAM	36	0	15.64	15.50	15.48	16.5	0
15	16QAM	36	20	15.64	15.46	15.42		
15	16QAM	36	39	15.49	15.46	15.42		
15	16QAM	75	0	15.52	15.49	15.42		
15	64QAM	1	0	15.53	15.42	15.38	16.5	0
15	64QAM	1	37	15.40	15.28	15.24		
15	64QAM	1	74	15.38	15.26	15.31		
15	64QAM	36	0	15.53	15.39	15.37	16.5	0
15	64QAM	36	20	15.53	15.35	15.31		
15	64QAM	36	39	15.38	15.35	15.31		
15	64QAM	75	0	15.41	15.38	15.31		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	15.95	15.89	15.56	16.5	0
10	QPSK	1	25	15.77	15.66	15.50		
10	QPSK	1	49	15.92	15.80	15.52		
10	QPSK	25	0	15.69	15.59	15.48	16.5	0
10	QPSK	25	12	15.68	15.57	15.44		
10	QPSK	25	25	15.65	15.52	15.43		
10	QPSK	50	0	15.71	15.54	15.45		
10	16QAM	1	0	15.79	15.70	15.44	16.5	0
10	16QAM	1	25	15.56	15.45	15.42		
10	16QAM	1	49	15.77	15.62	15.42		
10	16QAM	25	0	15.67	15.54	15.51	16.5	0
10	16QAM	25	12	15.64	15.54	15.52		
10	16QAM	25	25	15.64	15.55	15.50		
10	16QAM	50	0	15.63	15.50	15.50		
10	64QAM	1	0	15.77	15.68	15.42	16.5	0
10	64QAM	1	25	15.54	15.43	15.40		
10	64QAM	1	49	15.75	15.60	15.40		
10	64QAM	25	0	15.65	15.52	15.49	16.5	0
10	64QAM	25	12	15.62	15.52	15.50		
10	64QAM	25	25	15.62	15.53	15.48		
10	64QAM	50	0	15.61	15.48	15.48		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	15.81	15.70	15.51	16.5	0
5	QPSK	1	12	15.77	15.60	15.45		
5	QPSK	1	24	15.81	15.60	15.54		
5	QPSK	12	0	15.67	15.49	15.32	16.5	0
5	QPSK	12	7	15.64	15.53	15.39		
5	QPSK	12	13	15.61	15.47	15.42		
5	QPSK	25	0	15.64	15.50	15.44		
5	16QAM	1	0	15.58	15.51	15.40	16.5	0
5	16QAM	1	12	15.53	15.45	15.40		
5	16QAM	1	24	15.58	15.43	15.41		
5	16QAM	12	0	15.58	15.45	15.44	16.5	0
5	16QAM	12	7	15.60	15.50	15.43		
5	16QAM	12	13	15.57	15.47	15.49		
5	16QAM	25	0	15.64	15.55	15.49		
5	64QAM	1	0	15.55	15.48	15.37	16.5	0
5	64QAM	1	12	15.50	15.42	15.37		
5	64QAM	1	24	15.55	15.40	15.38		
5	64QAM	12	0	15.55	15.42	15.41	16.5	0
5	64QAM	12	7	15.57	15.47	15.40		
5	64QAM	12	13	15.54	15.44	15.46		
5	64QAM	25	0	15.61	15.52	15.46		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	15.79	15.65	15.49	16.5	0
3	QPSK	1	8	15.82	15.62	15.42		
3	QPSK	1	14	15.78	15.61	15.49		
3	QPSK	8	0	15.65	15.51	15.30	16.5	0
3	QPSK	8	4	15.65	15.53	15.41		
3	QPSK	8	7	15.64	15.46	15.45		
3	QPSK	15	0	15.68	15.51	15.50		
3	16QAM	1	0	15.55	15.43	15.43	16.5	0
3	16QAM	1	8	15.53	15.45	15.39		
3	16QAM	1	14	15.56	15.40	15.41		
3	16QAM	8	0	15.55	15.42	15.44	16.5	0
3	16QAM	8	4	15.58	15.46	15.45		
3	16QAM	8	7	15.57	15.44	15.43		
3	16QAM	15	0	15.61	15.47	15.46		
3	64QAM	1	0	15.45	15.33	15.33	16.5	0
3	64QAM	1	8	15.43	15.35	15.29		
3	64QAM	1	14	15.46	15.30	15.31		
3	64QAM	8	0	15.45	15.32	15.34	16.5	0
3	64QAM	8	4	15.48	15.36	15.35		
3	64QAM	8	7	15.47	15.34	15.33		
3	64QAM	15	0	15.51	15.37	15.36		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	15.89	15.71	15.54	16.5	0
1.4	QPSK	1	3	15.82	15.65	15.47		
1.4	QPSK	1	5	15.69	15.49	15.49		
1.4	QPSK	3	0	15.58	15.44	15.48		
1.4	QPSK	3	1	15.52	15.37	15.40		
1.4	QPSK	3	3	15.50	15.34	15.34		
1.4	QPSK	6	0	15.63	15.49	15.40	16.5	0
1.4	16QAM	1	0	15.48	15.37	15.32	16.5	0
1.4	16QAM	1	3	15.54	15.38	15.37		
1.4	16QAM	1	5	15.44	15.39	15.31		
1.4	16QAM	3	0	15.48	15.36	15.37		
1.4	16QAM	3	1	15.52	15.43	15.43		
1.4	16QAM	3	3	15.49	15.37	15.39		
1.4	16QAM	6	0	15.53	15.43	15.38	16.5	0
1.4	64QAM	1	0	15.46	15.35	15.30	16.5	0
1.4	64QAM	1	3	15.52	15.36	15.35		
1.4	64QAM	1	5	15.42	15.37	15.29		
1.4	64QAM	3	0	15.46	15.34	15.35		
1.4	64QAM	3	1	15.50	15.41	15.41		
1.4	64QAM	3	3	15.47	15.35	15.37		
1.4	64QAM	6	0	15.51	15.41	15.36	16.5	0

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	21.92	21.99	21.87	23.5	0
15	QPSK	1	37	21.90	21.86	21.80		
15	QPSK	1	74	21.86	21.77	21.68		
15	QPSK	36	0	21.97	21.98	21.87	23.5	0
15	QPSK	36	20	21.97	21.92	21.86		
15	QPSK	36	39	21.97	21.87	21.77		
15	QPSK	75	0	21.91	21.92	21.84		
15	16QAM	1	0	21.79	21.73	21.69	22.5	1
15	16QAM	1	37	21.66	21.74	21.67		
15	16QAM	1	74	21.73	21.60	21.52		
15	16QAM	36	0	21.41	21.40	21.26	22.5	1
15	16QAM	36	20	21.44	21.45	21.32		
15	16QAM	36	39	21.38	21.39	21.28		
15	16QAM	75	0	21.01	21.11	21.09		
15	64QAM	1	0	21.39	21.38	21.24	22.5	1
15	64QAM	1	37	21.38	21.34	21.28		
15	64QAM	1	74	21.34	21.25	21.16		
15	64QAM	36	0	21.47	21.46	21.34	22.5	1
15	64QAM	36	20	21.45	21.40	21.34		
15	64QAM	36	39	21.45	21.35	21.25		
15	64QAM	75	0	21.39	21.37	21.32		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	21.88	21.83	21.79	23.5	0
10	QPSK	1	25	21.89	21.86	21.74		
10	QPSK	1	49	21.78	21.77	21.66		
10	QPSK	25	0	21.95	21.93	21.81	23.5	0
10	QPSK	25	12	21.95	21.91	21.78		
10	QPSK	25	25	21.88	21.86	21.73		
10	QPSK	50	0	21.95	21.91	21.79		
10	16QAM	1	0	21.64	21.70	21.65	22.5	1
10	16QAM	1	25	21.70	21.69	21.56		
10	16QAM	1	49	21.65	21.58	21.53		
10	16QAM	25	0	21.42	21.40	21.29	22.5	1
10	16QAM	25	12	21.44	21.45	21.32		
10	16QAM	25	25	21.38	21.39	21.28		
10	16QAM	50	0	21.01	21.11	21.19		
10	64QAM	1	0	21.38	21.34	21.33	22.5	1
10	64QAM	1	25	21.36	21.32	21.26		
10	64QAM	1	49	21.32	21.23	21.14		
10	64QAM	25	0	21.45	21.44	21.32	22.5	1
10	64QAM	25	12	21.43	21.38	21.32		
10	64QAM	25	25	21.43	21.33	21.23		
10	64QAM	50	0	21.37	21.35	21.30		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	21.92	21.92	21.77	23.5	0
5	QPSK	1	12	21.83	21.83	21.73		
5	QPSK	1	24	21.90	21.84	21.69		
5	QPSK	12	0	21.91	21.92	21.76	23.5	0
5	QPSK	12	7	21.91	21.88	21.77		
5	QPSK	12	13	21.95	21.87	21.71		
5	QPSK	25	0	21.97	21.91	21.73		
5	16QAM	1	0	21.74	21.74	21.65	22.5	1
5	16QAM	1	12	21.67	21.70	21.61		
5	16QAM	1	24	21.77	21.70	21.54		
5	16QAM	12	0	21.46	21.45	21.31	22.5	1
5	16QAM	12	7	21.49	21.50	21.37		
5	16QAM	12	13	21.43	21.44	21.33		
5	16QAM	25	0	21.06	21.01	21.04		
5	64QAM	1	0	21.41	21.37	21.36	22.5	1
5	64QAM	1	12	21.39	21.35	21.29		
5	64QAM	1	24	21.35	21.26	21.17		
5	64QAM	12	0	21.48	21.47	21.35	22.5	1
5	64QAM	12	7	21.46	21.41	21.35		
5	64QAM	12	13	21.46	21.36	21.26		
5	64QAM	25	0	21.40	21.38	21.33		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	21.90	21.85	21.74	23.5	0
3	QPSK	1	8	21.86	21.83	21.68		
3	QPSK	1	14	21.83	21.86	21.69		
3	QPSK	8	0	21.92	21.90	21.70	23.5	0
3	QPSK	8	4	21.90	21.91	21.75		
3	QPSK	8	7	21.86	21.88	21.73		
3	QPSK	15	0	21.88	21.87	21.72		
3	16QAM	1	0	21.74	21.76	21.60	22.5	1
3	16QAM	1	8	21.65	21.72	21.58		
3	16QAM	1	14	21.61	21.67	21.52		
3	16QAM	8	0	21.44	21.41	21.29	22.5	1
3	16QAM	8	4	21.49	21.50	21.37		
3	16QAM	8	7	21.43	21.44	21.33		
3	16QAM	15	0	21.06	21.01	21.13		
3	64QAM	1	0	21.37	21.33	21.32	22.5	1
3	64QAM	1	8	21.35	21.31	21.25		
3	64QAM	1	14	21.31	21.22	21.13		
3	64QAM	8	0	21.44	21.43	21.31	22.5	1
3	64QAM	8	4	21.42	21.37	21.31		
3	64QAM	8	7	21.42	21.32	21.22		
3	64QAM	15	0	21.36	21.34	21.29		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	21.78	21.75	21.63	23.5	0
1.4	QPSK	1	3	21.87	21.86	21.66		
1.4	QPSK	1	5	21.77	21.75	21.59		
1.4	QPSK	3	0	21.86	21.83	21.64		
1.4	QPSK	3	1	21.88	21.86	21.67		
1.4	QPSK	3	3	21.84	21.83	21.66		
1.4	QPSK	6	0	21.80	21.82	21.66	23.5	0
1.4	16QAM	1	0	21.64	21.67	21.49	22.5	1
1.4	16QAM	1	3	21.71	21.69	21.51		
1.4	16QAM	1	5	21.59	21.61	21.51		
1.4	16QAM	3	0	21.43	21.42	21.28		
1.4	16QAM	3	1	21.46	21.47	21.34		
1.4	16QAM	3	3	21.40	21.41	21.30		
1.4	16QAM	6	0	21.03	21.08	21.01	22.5	1
1.4	64QAM	1	0	21.36	21.32	21.31	22.5	1
1.4	64QAM	1	3	21.34	21.30	21.24		
1.4	64QAM	1	5	21.30	21.21	21.12		
1.4	64QAM	3	0	21.43	21.42	21.30		
1.4	64QAM	3	1	21.41	21.36	21.30		
1.4	64QAM	3	3	21.41	21.31	21.21		
1.4	64QAM	6	0	21.35	21.33	21.28	22.5	1

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710				
Frequency (MHz)				2310				
10	QPSK	1	0	20.33			21	0
10	QPSK	1	25	20.15				
10	QPSK	1	49	20.14				
10	QPSK	25	0	20.11			21	0
10	QPSK	25	12	20.00				
10	QPSK	25	25	20.00				
10	QPSK	50	0	20.03				
10	16QAM	1	0	20.26			21	0
10	16QAM	1	25	20.23				
10	16QAM	1	49	20.21				
10	16QAM	25	0	20.09			21	0
10	16QAM	25	12	20.13				
10	16QAM	25	25	20.15				
10	16QAM	50	0	20.14				
10	64QAM	1	0	19.89			21	0
10	64QAM	1	25	19.80				
10	64QAM	1	49	19.80				
10	64QAM	25	0	19.73			21	0
10	64QAM	25	12	19.75				
10	64QAM	25	25	19.81				
10	64QAM	50	0	19.79				
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	20.01	19.97	19.93	21	0
5	QPSK	1	12	19.93	19.89	19.94		
5	QPSK	1	24	19.99	19.90	19.96		
5	QPSK	12	0	19.92	19.94	19.95	21	0
5	QPSK	12	7	19.93	19.95	20.03		
5	QPSK	12	13	20.02	20.02	20.03		
5	QPSK	25	0	19.93	20.00	19.98		
5	16QAM	1	0	20.30	20.26	20.25	21	0
5	16QAM	1	12	20.19	20.15	20.17		
5	16QAM	1	24	20.19	20.25	20.22		
5	16QAM	12	0	20.00	20.09	20.09	21	0
5	16QAM	12	7	20.04	20.09	20.12		
5	16QAM	12	13	20.14	20.06	20.06		
5	16QAM	25	0	20.06	20.09	20.08		
5	64QAM	1	0	19.81	19.81	19.89	21	0
5	64QAM	1	12	19.75	19.70	19.77		
5	64QAM	1	24	19.80	19.73	19.76		
5	64QAM	12	0	19.63	19.63	19.73	21	0
5	64QAM	12	7	19.66	19.67	19.67		
5	64QAM	12	13	19.80	19.76	19.72		
5	64QAM	25	0	19.79	19.71	19.70		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	15.58	15.69	15.70	16.5	0
20	QPSK	1	49	15.52	15.55	15.65		
20	QPSK	1	99	15.54	15.46	15.55		
20	QPSK	50	0	15.38	15.39	15.40	16.5	0
20	QPSK	50	24	15.32	15.32	15.37		
20	QPSK	50	50	15.33	15.29	15.35		
20	QPSK	100	0	15.36	15.33	15.37		
20	16QAM	1	0	15.23	15.23	15.31	16.5	0
20	16QAM	1	49	15.08	15.14	15.17		
20	16QAM	1	99	15.16	15.12	15.21		
20	16QAM	50	0	15.18	15.25	15.25	16.5	0
20	16QAM	50	24	15.21	15.21	15.22		
20	16QAM	50	50	15.18	15.14	15.20		
20	16QAM	100	0	15.23	15.20	15.24		
20	64QAM	1	0	15.48	15.56	15.61	16.5	0
20	64QAM	1	49	15.44	15.41	15.51		
20	64QAM	1	99	15.46	15.46	15.52		
20	64QAM	50	0	15.36	15.43	15.42	16.5	0
20	64QAM	50	24	15.40	15.35	15.36		
20	64QAM	50	50	15.35	15.30	15.36		
20	64QAM	100	0	15.40	15.36	15.36		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	15.69	15.67	15.68	16.5	0
15	QPSK	1	37	15.50	15.53	15.61		
15	QPSK	1	74	15.60	15.56	15.60		
15	QPSK	36	0	15.31	15.38	15.40	16.5	0
15	QPSK	36	20	15.31	15.35	15.40		
15	QPSK	36	39	15.36	15.31	15.32		
15	QPSK	75	0	15.39	15.33	15.40		
15	16QAM	1	0	15.21	15.28	15.29	16.5	0
15	16QAM	1	37	15.09	15.12	15.13		
15	16QAM	1	74	15.21	15.14	15.22		
15	16QAM	36	0	15.20	15.24	15.24	16.5	0
15	16QAM	36	20	15.15	15.20	15.24		
15	16QAM	36	39	15.21	15.18	15.24		
15	16QAM	75	0	15.27	15.22	15.24		
15	64QAM	1	0	15.52	15.66	15.65	16.5	0
15	64QAM	1	37	15.43	15.46	15.45		
15	64QAM	1	74	15.56	15.52	15.52		
15	64QAM	36	0	15.37	15.43	15.44	16.5	0
15	64QAM	36	20	15.33	15.39	15.42		
15	64QAM	36	39	15.39	15.33	15.40		
15	64QAM	75	0	15.42	15.36	15.39		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	15.60	15.64	15.62	16.5	0
10	QPSK	1	25	15.51	15.50	15.61		
10	QPSK	1	49	15.52	15.48	15.54		
10	QPSK	25	0	15.29	15.32	15.34	16.5	0
10	QPSK	25	12	15.27	15.31	15.36		
10	QPSK	25	25	15.24	15.26	15.35		
10	QPSK	50	0	15.27	15.30	15.35		
10	16QAM	1	0	15.16	15.22	15.22	16.5	0
10	16QAM	1	25	15.11	15.11	15.18		
10	16QAM	1	49	15.06	15.08	15.15		
10	16QAM	25	0	15.14	15.19	15.20	16.5	0
10	16QAM	25	12	15.11	15.18	15.20		
10	16QAM	25	25	15.11	15.15	15.20		
10	16QAM	50	0	15.12	15.19	15.20		
10	64QAM	1	0	15.51	15.55	15.52	16.5	0
10	64QAM	1	25	15.42	15.44	15.49		
10	64QAM	1	49	15.41	15.46	15.51		
10	64QAM	25	0	15.30	15.36	15.39	16.5	0
10	64QAM	25	12	15.32	15.32	15.36		
10	64QAM	25	25	15.28	15.30	15.35		
10	64QAM	50	0	15.29	15.32	15.35		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	15.59	15.55	15.68	16.5	0
5	QPSK	1	12	15.52	15.58	15.55		
5	QPSK	1	24	15.49	15.58	15.64		
5	QPSK	12	0	15.31	15.31	15.36	16.5	0
5	QPSK	12	7	15.28	15.32	15.33		
5	QPSK	12	13	15.30	15.30	15.36		
5	QPSK	25	0	15.25	15.28	15.33		
5	16QAM	1	0	15.14	15.15	15.16	16.5	0
5	16QAM	1	12	15.12	15.10	15.14		
5	16QAM	1	24	15.12	15.12	15.18		
5	16QAM	12	0	15.16	15.17	15.23	16.5	0
5	16QAM	12	7	15.16	15.20	15.18		
5	16QAM	12	13	15.13	15.13	15.20		
5	16QAM	25	0	15.12	15.12	15.19		
5	64QAM	1	0	15.47	15.55	15.56	16.5	0
5	64QAM	1	12	15.46	15.45	15.48		
5	64QAM	1	24	15.50	15.46	15.53		
5	64QAM	12	0	15.36	15.38	15.38	16.5	0
5	64QAM	12	7	15.35	15.38	15.42		
5	64QAM	12	13	15.36	15.35	15.38		
5	64QAM	25	0	15.27	15.30	15.31		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	15.53	15.51	15.50	16.5	0
3	QPSK	1	8	15.46	15.54	15.57		
3	QPSK	1	14	15.49	15.48	15.55		
3	QPSK	8	0	15.28	15.34	15.38	16.5	0
3	QPSK	8	4	15.33	15.34	15.36		
3	QPSK	8	7	15.31	15.31	15.35		
3	QPSK	15	0	15.23	15.27	15.28		
3	16QAM	1	0	15.09	15.10	15.17	16.5	0
3	16QAM	1	8	15.08	15.10	15.12		
3	16QAM	1	14	15.06	15.09	15.10		
3	16QAM	8	0	15.14	15.11	15.17	16.5	0
3	16QAM	8	4	15.13	15.17	15.17		
3	16QAM	8	7	15.13	15.14	15.17		
3	16QAM	15	0	15.06	15.12	15.15		
3	64QAM	1	0	15.49	15.44	15.47	16.5	0
3	64QAM	1	8	15.44	15.45	15.48		
3	64QAM	1	14	15.43	15.46	15.44		
3	64QAM	8	0	15.31	15.33	15.38	16.5	0
3	64QAM	8	4	15.34	15.36	15.39		
3	64QAM	8	7	15.28	15.33	15.35		
3	64QAM	15	0	15.26	15.27	15.29		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.44	15.41	15.48	16.5	0
1.4	QPSK	1	3	15.54	15.50	15.61		
1.4	QPSK	1	5	15.36	15.39	15.46		
1.4	QPSK	3	0	15.19	15.21	15.21		
1.4	QPSK	3	1	15.22	15.23	15.31		
1.4	QPSK	3	3	15.20	15.20	15.22		
1.4	QPSK	6	0	15.24	15.29	15.32	16.5	0
1.4	16QAM	1	0	15.02	15.02	15.02	16.5	0
1.4	16QAM	1	3	15.10	15.11	15.14		
1.4	16QAM	1	5	15.04	15.02	15.04		
1.4	16QAM	3	0	15.05	15.08	15.12		
1.4	16QAM	3	1	15.06	15.09	15.12		
1.4	16QAM	3	3	15.06	15.10	15.11		
1.4	16QAM	6	0	15.04	15.06	15.07	16.5	0
1.4	64QAM	1	0	15.33	15.36	15.42	16.5	0
1.4	64QAM	1	3	15.39	15.46	15.42		
1.4	64QAM	1	5	15.33	15.39	15.38		
1.4	64QAM	3	0	15.32	15.37	15.36		
1.4	64QAM	3	1	15.40	15.39	15.41		
1.4	64QAM	3	3	15.35	15.31	15.35		
1.4	64QAM	6	0	15.20	15.22	15.23	16.5	0

<Product Specific Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	20.87	20.79	20.48	22.5	0
20	QPSK	1	49	20.45	20.38	20.38		
20	QPSK	1	99	20.58	20.47	20.35		
20	QPSK	50	0	20.61	20.51	20.47	22.5	0
20	QPSK	50	24	20.55	20.46	20.44		
20	QPSK	50	50	20.48	20.40	20.40		
20	QPSK	100	0	20.54	20.49	20.38		
20	16QAM	1	0	20.77	20.73	20.85	22.5	0
20	16QAM	1	49	20.76	20.74	20.74		
20	16QAM	1	99	20.69	20.84	20.72		
20	16QAM	50	0	20.64	20.57	20.47	22.5	0
20	16QAM	50	24	20.55	20.49	20.48		
20	16QAM	50	50	20.55	20.43	20.45		
20	16QAM	100	0	20.57	20.48	20.38		
20	64QAM	1	0	20.76	20.68	20.77	22.5	0
20	64QAM	1	49	20.67	20.65	20.68		
20	64QAM	1	99	20.83	20.75	20.60		
20	64QAM	50	0	20.64	20.56	20.45	22.5	0
20	64QAM	50	24	20.54	20.48	20.48		
20	64QAM	50	50	20.53	20.42	20.43		
20	64QAM	100	0	20.57	20.50	20.39		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	20.76	20.58	20.57	22.5	0
15	QPSK	1	37	20.56	20.41	20.38		
15	QPSK	1	74	20.43	20.39	20.39		
15	QPSK	36	0	20.71	20.53	20.52	22.5	0
15	QPSK	36	20	20.58	20.52	20.45		
15	QPSK	36	39	20.51	20.43	20.44		
15	QPSK	75	0	20.53	20.48	20.45		
15	16QAM	1	0	20.74	20.69	20.71	22.5	0
15	16QAM	1	37	20.68	20.74	20.72		
15	16QAM	1	74	20.68	20.66	20.73		
15	16QAM	36	0	20.72	20.55	20.53	22.5	0
15	16QAM	36	20	20.58	20.52	20.47		
15	16QAM	36	39	20.52	20.46	20.43		
15	16QAM	75	0	20.57	20.50	20.49		
15	64QAM	1	0	20.62	20.74	20.73	22.5	0
15	64QAM	1	37	20.75	20.59	20.61		
15	64QAM	1	74	20.66	20.57	20.53		
15	64QAM	36	0	19.74	19.57	19.56	22.5	0
15	64QAM	36	20	19.61	19.52	19.52		
15	64QAM	36	39	19.57	19.48	19.46		
15	64QAM	75	0	19.56	19.50	19.50		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	20.83	20.66	20.46	22.5	0
10	QPSK	1	25	20.56	20.42	20.40		
10	QPSK	1	49	20.62	20.56	20.35		
10	QPSK	25	0	20.67	20.49	20.47	22.5	0
10	QPSK	25	12	20.64	20.47	20.43		
10	QPSK	25	25	20.50	20.42	20.42		
10	QPSK	50	0	20.50	20.45	20.44		
10	16QAM	1	0	20.78	20.69	20.78	22.5	0
10	16QAM	1	25	20.68	20.74	20.68		
10	16QAM	1	49	20.61	20.65	20.72		
10	16QAM	25	0	20.68	20.51	20.50	22.5	0
10	16QAM	25	12	20.66	20.48	20.44		
10	16QAM	25	25	20.51	20.46	20.42		
10	16QAM	50	0	20.53	20.48	20.46		
10	64QAM	1	0	20.74	20.60	20.68	22.5	0
10	64QAM	1	25	20.76	20.59	20.57		
10	64QAM	1	49	20.82	20.78	20.53		
10	64QAM	25	0	19.67	19.52	19.53	22.5	0
10	64QAM	25	12	19.64	19.51	19.51		
10	64QAM	25	25	19.52	19.51	19.50		
10	64QAM	50	0	19.54	19.52	19.51		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	20.73	20.59	20.51	22.5	0
5	QPSK	1	12	20.57	20.41	20.38		
5	QPSK	1	24	20.58	20.40	20.38		
5	QPSK	12	0	20.64	20.46	20.45	22.5	0
5	QPSK	12	7	20.62	20.45	20.45		
5	QPSK	12	13	20.59	20.43	20.41		
5	QPSK	25	0	20.62	20.42	20.42		
5	16QAM	1	0	20.71	20.70	20.67	22.5	0
5	16QAM	1	12	20.68	20.65	20.64		
5	16QAM	1	24	20.67	20.72	20.63		
5	16QAM	12	0	20.67	20.50	20.45	22.5	0
5	16QAM	12	7	20.63	20.46	20.45		
5	16QAM	12	13	20.59	20.46	20.42		
5	16QAM	25	0	20.61	20.46	20.44		
5	64QAM	1	0	20.63	20.64	20.65	22.5	0
5	64QAM	1	12	20.72	20.61	20.58		
5	64QAM	1	24	20.65	20.60	20.54		
5	64QAM	12	0	19.69	19.56	19.52	22.5	0
5	64QAM	12	7	19.67	19.50	19.50		
5	64QAM	12	13	19.63	19.52	19.50		
5	64QAM	25	0	19.63	19.51	19.50		