



# FCC RADIO TEST REPORT

FCC ID : A4RG013C  
Equipment : Smartphone  
Model Name : G013C  
Applicant : Google LLC  
1600 Amphitheatre Parkway,  
Mountain View, California, 94043 USA  
Standard : 47 CFR Part 2, 22(H), 24(E), 27

The test was completed on Jul. 05, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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

Approved by: Jones Tsai

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

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### History of this test report

Report No.	Version	Description	Issued Date
FG820502-02B	01	Initial issue of report	Jul. 05, 2018



### Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§22.913 (a)(2)	Effective Radiated Power (Band 5) (Band 26)	Pass	
	§27.50 (b)(10) §27.50 (c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 17) (Band 71)		
	§24.232 (c) §27.50 (h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 7) (Band 38) (Band 41)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)		
	-	Effective Isotropic Radiated Power (Band 30)		
3.3	§24.232 (d) §27.50 (d)(5)	Peak-to-Average Ratio	Pass	-
3.4	§27.50 (a)(3)	EIRP Power Density (Band 30)	Pass	-
3.5	§2.1049	Occupied Bandwidth	Reporting only	-
3.6	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2)(4) §27.53 (g) §27.53 (h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	Pass	-
	§2.1051 §27.53 (m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)		
	§2.1051 §27.53 (a)(4)	Conducted Band Edge Measurement (Band 30)		
3.7	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (g) §27.53 (h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	Pass	-
	§2.1051 §27.53 (m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)		
	§2.1051 §27.53 (a)(4)	Conducted Spurious Emission (Band 30)		
3.8	§2.1055 §22.355 §24.235 §27.54	Frequency Stability Temperature & Voltage	Pass	-



Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
4.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (f) §27.53 (g)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26) (Band 66) (Band 71)	Pass	Under limit 1.42 dB at 8016.000 MHz
	§2.1053 §27.53 (m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)		
	§2.1053 §27.53 (a)(4)	Radiated Spurious Emission (Band 30)		

Reviewed by: Joseph Lin

Report Producer: Maggie Chiang



# 1 General Description

## 1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smartphone
Model Name	G013C
FCC ID	A4RG013C
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/NFC/ GNSS/WPC WLAN 11b/g/n HT20/VHT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
EUT Stage	Identical Prototype

**Remark:** The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

EUT Information List	
No.	S/N
#1	85KY0092X
#2	85LY009B6



### 1.2 Product Specification of Equipment Under Test

Standards-related Product Specification	
<b>Tx Frequency</b>	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 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7MHz ~ 1914.3 MHz LTE Band 26: 824.7MHz ~ 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 ~ 1754.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz
<b>Rx Frequency</b>	LTE Band 2: 1930.7 MHz ~ 1989.3 MHz LTE Band 4: 2110.7 MHz ~ 2154.3 MHz LTE Band 5: 869.7 MHz ~ 893.3 MHz LTE Band 7: 2622.5MHz ~ 2687.5 MHz LTE Band 12: 729.7 MHz ~ 745.3 MHz LTE Band 13: 748.5 MHz ~ 753.5 MHz LTE Band 17: 736.5 MHz ~ 743.5 MHz LTE Band 25: 1930.7MHz ~ 1994.3 MHz LTE Band 26: 869.7MHz ~ 893.3MHz LTE Band 30: 2352.5 MHz ~ 2357.5 MHz LTE Band 38: 2572.5MHz ~ 2617.5MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 2110.7 MHz ~ 2154.3 MHz LTE Band 71: 619.5 MHz ~ 649.5 MHz
<b>Bandwidth</b>	LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13: 5MHz / 10MHz LTE Band 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



Standards-related Product Specification	
Maximum Output Power to Antenna	LTE Band 2 : 23.72 dBm LTE Band 4 : 23.32 dBm LTE Band 5 : 23.91 dBm LTE Band 7 : 23.36 dBm LTE Band 12 : 23.81 dBm LTE Band 13 : 23.60 dBm LTE Band 17 : 23.59 dBm LTE Band 25 : 23.61 dBm LTE Band 26 : 24.32 dBm LTE Band 30 : 23.19 dBm LTE Band 38 : 23.37 dBm LTE Band 41 : 25.08 dBm LTE Band 41 : 26.12 dBm for HPUE LTE Band 66 : 23.23 dBm LTE Band 71 : 24.47 dBm
Antenna Type / Gain	<b>&lt;For Main Antenna&gt;</b> LTE Band 2 : integrated loop Antenna type with gain 3.70 dBi LTE Band 4 : integrated loop Antenna type with gain 3.70 dBi LTE Band 5 : integrated loop Antenna type with gain -1.60 dBi LTE Band 7 : integrated loop Antenna type with gain -0.90 dBi LTE Band 12 : integrated loop Antenna type with gain -1.60 dBi LTE Band 13 : integrated loop Antenna type with gain -1.60 dBi LTE Band 17 : integrated loop Antenna type with gain -1.60 dBi LTE Band 25 : integrated loop Antenna type with gain 3.70 dBi LTE Band 26 : integrated loop Antenna type with gain -1.60 dBi LTE Band 30 : integrated loop Antenna type with gain -0.90 dBi LTE Band 38 : integrated loop Antenna type with gain -0.90 dBi LTE Band 41 : integrated loop Antenna type with gain -0.90 dBi LTE Band 66 : integrated loop Antenna type with gain 3.70 dBi LTE Band 71 : integrated loop Antenna type with gain -1.60 dBi <b>&lt;For Aux. Antenna&gt;</b> LTE Band 2 : integrated monopole Antenna type with gain -0.50 dBi LTE Band 4 : integrated monopole Antenna type with gain -0.50 dBi LTE Band 5 : integrated monopole Antenna type with gain -3.00 dBi LTE Band 7 : integrated monopole Antenna type with gain -0.90 dBi LTE Band 12 : integrated monopole Antenna type with gain -3.50 dBi LTE Band 13 : integrated monopole Antenna type with gain -3.50 dBi LTE Band 17 : integrated monopole Antenna type with gain -3.50 dBi LTE Band 25 : integrated monopole Antenna type with gain -0.50 dBi LTE Band 26 : integrated monopole Antenna type with gain -3.00 dBi LTE Band 30 : integrated monopole Antenna type with gain -0.90 dBi LTE Band 38 : integrated monopole Antenna type with gain -0.90 dBi LTE Band 41 : integrated monopole Antenna type with gain -0.90 dBi LTE Band 66 : integrated monopole Antenna type with gain -0.50 dBi LTE Band 71 : integrated monopole Antenna type with gain -3.50 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

### 1.3 Modification of EUT

No modifications are made to the EUT during all test items.





### 1.4 Emission Designator

<For Main Antenna>

LTE Band 2		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1909.3	-	-	0.5433	-	-	0.4624	-	-	0.3664
3	1851.5 ~ 1908.5	-	-	0.5433	-	-	0.4667	-	-	0.3639
5	1852.5 ~ 1907.5	-	-	0.5470	-	-	0.4634	-	-	0.3664
10	1855.0 ~ 1905.0	-	-	0.5433	-	-	0.4667	-	-	0.3648
15	1857.5 ~ 1902.5	-	-	0.5508	-	-	0.4677	-	-	0.3681
20	1860.0 ~ 1900.0	-	-	0.5521	-	-	0.4571	-	-	0.3715
LTE Band 25		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1914.3	1M09G7D	-	0.5070	1M10W7D	-	0.4416	1M10W7D	-	0.3436
3	1851.5 ~ 1913.5	2M72G7D	-	0.5105	2M73W7D	-	0.4335	2M72W7D	-	0.3420
5	1852.5 ~ 1912.5	4M50G7D	-	0.5152	4M50W7D	-	0.4498	4M51W7D	-	0.3443
10	1855.0 ~ 1910.0	9M05G7D	0.0063	0.5164	9M03W7D	-	0.4457	9M03W7D	-	0.3467
15	1857.5 ~ 1907.5	13M5G7D	-	0.5321	13M5W7D	-	0.4519	13M5W7D	-	0.3631
20	1860.0 ~ 1905.0	18M3G7D	-	0.5383	18M4W7D	-	0.4592	18M3W7D	-	0.3614
LTE Band 4		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	-	-	0.4603	-	-	0.3917	-	-	0.3342
3	1711.5 ~ 1753.5	-	-	0.4592	-	-	0.3963	-	-	0.3069
5	1712.5 ~ 1752.5	-	-	0.4667	-	-	0.4036	-	-	0.3141
10	1715.0 ~ 1750.0	-	-	0.4667	-	-	0.4055	-	-	0.3373
15	1717.5 ~ 1747.5	-	-	0.4764	-	-	0.4130	-	-	0.3388
20	1720.0 ~ 1745.0	-	-	0.5035	-	-	0.4365	-	-	0.3428
LTE Band 5		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7 ~ 848.3	-	-	0.0993	-	-	0.0861	-	-	0.0673
3	825.5 ~ 847.5	-	-	0.1012	-	-	0.0869	-	-	0.0690
5	826.5 ~ 846.5	-	-	0.1028	-	-	0.0863	-	-	0.0678
10	829.0 ~ 844.0	-	-	0.1038	-	-	0.0912	-	-	0.0689



LTE Band 7		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	4M50G7D	-	0.1570	4M48W7D	-	0.1352	4M51W7D	-	0.1159
10	2505.0 ~ 2565.0	9M03G7D	0.0061	0.1567	9M03W7D	-	0.1361	9M09W7D	-	0.1153
15	2507.5 ~ 2562.5	13M5G7D	-	0.1574	13M6W7D	-	0.1355	13M4W7D	-	0.1059
20	2510.0 ~ 2560.0	18M4G7D	-	0.1762	18M5W7D	-	0.1531	18M4W7D	-	0.1178
LTE Band 12		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	699.7 ~ 715.3	1M09G7D	-	0.1012	1M10W7D	-	0.0869	1M24W7D	-	0.0671
3	700.5 ~ 714.5	2M73G7D	-	0.1000	2M73W7D	-	0.0851	3M01W7D	-	0.0662
5	701.5 ~ 713.5	4M51G7D	-	0.0991	4M50W7D	-	0.0863	4M96W7D	-	0.0665
10	704.0 ~ 711.0	9M07G7D	0.0188	0.1014	9M07W7D	-	0.0861	9M79W7D	-	0.0678
LTE Band 13		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	779.5 ~ 784.5	4M49G7D	-	0.0962	4M52W7D	-	0.0830	4M50W7D	-	0.0647
10	782.0	8M99G7D	0.0121	0.0966	9M03W7D	-	0.0838	9M01W7D	-	0.0638
LTE Band 17		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	706.5 ~ 713.5	-	-	0.0962	-	-	0.0820	-	-	0.0638
10	709.0 ~ 711.0	-	-	0.0964	-	-	0.0841	-	-	0.0652
LTE Band 26		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7 ~ 848.3	1M09G7D	-	0.1000	1M09W7D	-	0.0859	1M09W7D	-	0.0668
3	825.5 ~ 847.5	2M72G7D	-	0.1007	2M72W7D	-	0.0867	2M73W7D	-	0.0671
5	826.5 ~ 846.5	4M50G7D	-	0.1016	4M52W7D	-	0.0855	4M50W7D	-	0.0678
10	829.0 ~ 844.0	9M05G7D	0.0053	0.1023	9M01W7D	-	0.0875	9M09W7D	-	0.0697
15	831.5 ~ 841.5	13M5G7D	-	0.1140	13M5W7D	-	0.0944	13M5W7D	-	0.0750



LTE Band 38		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2572.5 ~ 2617.5	-	-	0.1702	-	-	0.1387	-	-	0.1014
10	2575.0 ~ 2615.0	-	-	0.1702	-	-	0.1380	-	-	0.0998
15	2577.5 ~ 2612.5	-	-	0.1746	-	-	0.1432	-	-	0.1045
20	2580.0 ~ 2610.0	-	-	0.1766	-	-	0.1469	-	-	0.1064
LTE Band 41		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	-	-	0.2344	-	-	0.1914	-	-	0.1396
10	2501.0 ~ 2685.0	-	-	0.2360	-	-	0.1945	-	-	0.1409
15	2503.5 ~ 2682.5	-	-	0.2393	-	-	0.1977	-	-	0.1429
20	2506.0 ~ 2680.0	-	-	0.2618	-	-	0.2113	-	-	0.1607
LTE Band 41 HPUE		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	4M52G7D	-	0.3266	4M51W7D	-	0.2780	4M53W7D	-	0.2123
10	2501.0 ~ 2685.0	9M07G7D	0.0052	0.3289	9M03W7D	-	0.2805	9M03W7D	-	0.2158
15	2503.5 ~ 2682.5	13M5G7D	-	0.3296	13M5W7D	-	0.2831	13M4W7D	-	0.2158
20	2506.0 ~ 2680.0	18M3G7D	-	0.3327	18M3W7D	-	0.3006	18M4W7D	-	0.2958
LTE Band 66		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1779.3	1M09G7D	-	0.4920	1M10W7D	-	0.4385	1M09W7D	-	0.3412
3	1711.5 ~ 1778.5	2M73G7D	-	0.4753	2M75W7D	-	0.4102	2M74W7D	-	0.3192
5	1712.5 ~ 1777.5	4M50G7D	-	0.4764	4M49W7D	-	0.4102	4M52W7D	-	0.3206
10	1715.0 ~ 1775.0	9M03G7D	0.0124	0.4775	9M03W7D	-	0.4140	9M05W7D	-	0.3243
15	1717.5 ~ 1772.5	13M5G7D	-	0.4831	13M5W7D	-	0.4305	13M5W7D	-	0.3273
20	1720.0 ~ 1770.0	18M4G7D	-	0.4932	18M4W7D	-	0.4276	18M5W7D	-	0.3258



LTE Band 71		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	665.5 ~ 695.5	4M51G7D	-	0.1928	4M50W7D	-	0.1671	4M50W7D	-	0.1309
10	668.0 ~ 693.0	9M03G7D	0.0128	0.1905	8M99W7D	-	0.1648	9M01W7D	-	0.1294
15	670.5 ~ 690.5	13M5G7D	-	0.2193	13M5W7D	-	0.1849	13M4W7D	-	0.1416
20	673.0 ~ 688.0	18M4G7D		0.2799	18M5W7D		0.2239	18M5W7D		0.1774

LTE Band 30		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum PSD EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum PSD EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum PSD EIRP(W)
5	2307.5 ~ 2312.5	4M50G7D	-	0.1683	4M51W7D	-	0.1455	4M50W7D	-	0.1130
10	2310.0	9M01G7D	0.0015	0.1694	9M01W7D	-	0.1449	9M03W7D	-	0.1153

<For Aux. Antenna>

LTE Band 2		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1909.3	-	-	0.2065	-	-	0.1758	-	-	0.1393
3	1851.5 ~ 1908.5	-	-	0.2065	-	-	0.1774	-	-	0.1384
5	1852.5 ~ 1907.5	-	-	0.2080	-	-	0.1762	-	-	0.1393
10	1855.0 ~ 1905.0	-	-	0.2065	-	-	0.1774	-	-	0.1387
15	1857.5 ~ 1902.5	-	-	0.2094	-	-	0.1778	-	-	0.1400
20	1860.0 ~ 1900.0	-	-	0.2099	-	-	0.1738	-	-	0.1413

LTE Band 25		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1914.3	-	-	0.1928	-	-	0.1679	-	-	0.1306
3	1851.5 ~ 1913.5	-	-	0.1941	-	-	0.1648	-	-	0.1300
5	1852.5 ~ 1912.5	-	-	0.1959	-	-	0.1710	-	-	0.1309
10	1855.0 ~ 1910.0	-	-	0.1963	-	-	0.1694	-	-	0.1318
15	1857.5 ~ 1907.5	-	-	0.2023	-	-	0.1718	-	-	0.1380
20	1860.0 ~ 1905.0	-	-	0.2046	-	-	0.1746	-	-	0.1374



LTE Band 4		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	-	-	0.1750	-	-	0.1489	-	-	0.1271
3	1711.5 ~ 1753.5	-	-	0.1746	-	-	0.1507	-	-	0.1167
5	1712.5 ~ 1752.5	-	-	0.1774	-	-	0.1535	-	-	0.1194
10	1715.0 ~ 1750.0	-	-	0.1774	-	-	0.1542	-	-	0.1282
15	1717.5 ~ 1747.5	-	-	0.1811	-	-	0.1570	-	-	0.1288
20	1720.0 ~ 1745.0	-	-	0.1914	-	-	0.1660	-	-	0.1303
LTE Band 5		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7 ~ 848.3	-	-	0.0719	-	-	0.0624	-	-	0.0488
3	825.5 ~ 847.5	-	-	0.0733	-	-	0.0630	-	-	0.0500
5	826.5 ~ 846.5	-	-	0.0745	-	-	0.0625	-	-	0.0491
10	829.0 ~ 844.0	-	-	0.0752	-	-	0.0661	-	-	0.0499
LTE Band 7		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	-	-	0.1570	-	-	0.1352	-	-	0.1159
10	2505.0 ~ 2565.0	-	-	0.1567	-	-	0.1361	-	-	0.1153
15	2507.5 ~ 2562.5	-	-	0.1574	-	-	0.1355	-	-	0.1059
20	2510.0 ~ 2560.0	-	-	0.1762	-	-	0.1531	-	-	0.1178
LTE Band 12		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	699.7 ~ 715.3	-	-	0.0653	-	-	0.0561	-	-	0.0434
3	700.5 ~ 714.5	-	-	0.0646	-	-	0.0550	-	-	0.0428
5	701.5 ~ 713.5	-	-	0.0640	-	-	0.0557	-	-	0.0430
10	704.0 ~ 711.0	-	-	0.0655	-	-	0.0556	-	-	0.0438
LTE Band 13		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	779.5 ~ 784.5	-	-	0.0621	-	-	0.0536	-	-	0.0418
10	782.0	-	-	0.0624	-	-	0.0541	-	-	0.0412



LTE Band 17		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	706.5 ~ 713.5	-	-	0.0621	-	-	0.0530	-	-	0.0412
10	709.0 ~ 711.0	-	-	0.0622	-	-	0.0543	-	-	0.0421
LTE Band 26		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7 ~ 848.3	-	-	0.0724	-	-	0.0622	-	-	0.0484
3	825.5 ~ 847.5	-	-	0.0729	-	-	0.0628	-	-	0.0486
5	826.5 ~ 846.5	-	-	0.0736	-	-	0.0619	-	-	0.0491
10	829.0 ~ 844.0	-	-	0.0741	-	-	0.0634	-	-	0.0505
15	831.5 ~ 841.5	-	-	0.0826	-	-	0.0684	-	-	0.0543
LTE Band 38		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2572.5 ~ 2617.5	-	-	0.1702	-	-	0.1387	-	-	0.1014
10	2575.0 ~ 2615.0	-	-	0.1702	-	-	0.1380	-	-	0.0998
15	2577.5 ~ 2612.5	-	-	0.1746	-	-	0.1432	-	-	0.1045
20	2580.0 ~ 2610.0	-	-	0.1766	-	-	0.1469	-	-	0.1064
LTE Band 41		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	-	-	0.2344	-	-	0.1914	-	-	0.1396
10	2501.0 ~ 2685.0	-	-	0.2360	-	-	0.1945	-	-	0.1409
15	2503.5 ~ 2682.5	-	-	0.2393	-	-	0.1977	-	-	0.1429
20	2506.0 ~ 2680.0	-	-	0.2618	-	-	0.2113	-	-	0.1607
LTE Band 41 HPUE		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	-	-	0.3266	-	-	0.2780	-	-	0.2123
10	2501.0 ~ 2685.0	-	-	0.3289	-	-	0.2805	-	-	0.2158
15	2503.5 ~ 2682.5	-	-	0.3296	-	-	0.2831	-	-	0.2158
20	2506.0 ~ 2680.0	-	-	0.3327	-	-	0.3006	-	-	0.2958



LTE Band 66		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1779.3	-	-	0.1871	-	-	0.1667	-	-	0.1297
3	1711.5 ~ 1778.5	-	-	0.1807	-	-	0.1560	-	-	0.1213
5	1712.5 ~ 1777.5	-	-	0.1811	-	-	0.1560	-	-	0.1219
10	1715.0 ~ 1775.0	-	-	0.1816	-	-	0.1574	-	-	0.1233
15	1717.5 ~ 1772.5	-	-	0.1837	-	-	0.1637	-	-	0.1245
20	1720.0 ~ 1770.0	-	-	0.1875	-	-	0.1626	-	-	0.1239
LTE Band 71		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	665.5 ~ 695.5	-	-	0.1928	-	-	0.1671	-	-	0.1309
10	668.0 ~ 693.0	-	-	0.1905	-	-	0.1648	-	-	0.1294
15	670.5 ~ 690.5	-	-	0.2193	-	-	0.1849	-	-	0.1416
20	673.0 ~ 688.0	-	-	0.2799	-	-	0.2239	-	-	0.1774
LTE Band 30		QPSK			16QAM			64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum PSD EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum PSD EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum PSD EIRP(W)
5	2307.5 ~ 2312.5	-	-	0.1683	-	-	0.1455	-	-	0.1130
10	2310.0	-	-	0.1694	-	-	0.1449	-	-	0.1153



### 1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	TH05-HY

**Note:** The test site complies with ANSI C63.4 2014 requirement.

<b>Test Site</b>	SPORTON INTERNATIONAL INC.
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	03CH13-HY

**Note:** The test site complies with ANSI C63.4 2014 requirement.

### 1.6 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ 47 CFR Part 2, 22(H), 24(E), 27
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.





## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane for LTE Band 26, 12, 13, 38, 71 for Main Antenna and Band 26, 13, 38 for Aux. Antenna, Y plane for LTE Band 41, 66, 30 for Main Antenna and Band 7, 12, 41, 71 for Aux. Antenna, and Z plane for LTE Band 7, 25 for Main Antenna and Band 25, 30, 66 for Aux. Antenna) were recorded in this report.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
	38	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
71	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	



Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Peak-to-Average Ratio	2	Covered by Band 25											v	v	v	
	4	Covered by Band 66											v	v	v	
	5	Covered by Band 26											v	v	v	
	7	-	-				v	v	v	v	v		v	v	v	v
	12				v	-	-	v	v	v	v		v	v	v	v
	13	-	-		v	-	-	v	v	v	v		v	v	v	v
	17	Covered by Band 12											v	v	v	
	25						v	v	v	v	v		v	v	v	v
	26					v	-	v	v	v	v		v	v	v	v
	38	Covered by Band 41											v	v	v	
	41	-	-				v	v	v	v	v		v	v	v	v
	66						v	v	v	v	v		v	v	v	v
71	-	-				v	v	v	v	v		v	v	v	v	
26dB and 99% Bandwidth	2	Covered by Band 25											v	v	v	
	4	Covered by Band 66											v	v	v	
	5	Covered by Band 26											v	v	v	
	7	-	-	v	v	v	v	v	v	v			v	v	v	v
	12	v	v	v	v	-	-	v	v	v			v	v	v	v
	13	-	-	v	v	-	-	v	v	v			v	v	v	v
	17	Covered by Band 12											v	v	v	
	25	v	v	v	v	v	v	v	v	v			v	v	v	v
	26	v	v	v	v	v	-	v	v	v			v	v	v	v
	38	Covered by Band 41											v	v	v	
	41	-	-	v	v	v	v	v	v	v			v	v	v	v
	66	v	v	v	v	v	v	v	v	v			v	v	v	v
71	-	-	v	v	v	v	v	v	v			v	v	v	v	



Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Conducted Band Edge	2	Covered by Band 25											v		v	
	4	Covered by Band 66											v		v	
	5	Covered by Band 26											v		v	
	7	-	-	v	v	v	v	v	v	v	v		v	v		v
	12	v	v	v	v	-	-	v	v	v	v		v	v		v
	13	-	-	v	v	-	-	v	v	v	v		v	v		v
	17	Covered by Band 12											v		v	
	25	v	v	v	v	v	v	v	v	v	v		v	v		v
	26	v	v	v	v	v	-	v	v	v	v		v	v		v
	38	Covered by Band 41											v		v	
	41	-	-	v	v	v	v	v	v	v	v		v	v		v
	66	v	v	v	v	v	v	v	v	v	v		v	v		v
71	-	-	v	v	v	v	v	v	v	v		v	v		v	
Conducted Spurious Emission	2	Covered by Band 25											v	v	v	
	4	Covered by Band 66											v	v	v	
	5	Covered by Band 26											v	v	v	
	7	-	-	v	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v	v			v	v	v
	13	-	-	v	v	-	-	v	v	v	v			v	v	v
	17	Covered by Band 12											v	v	v	
	25	v	v	v	v	v	v	v	v	v	v			v	v	v
	26	v	v	v	v	v	-	v	v	v	v			v	v	v
	38	Covered by Band 41											v	v	v	
	41	-	-	v	v	v	v	v	v	v	v			v	v	v
	66	v	v	v	v	v	v	v	v	v	v			v	v	v
71	-	-	v	v	v	v	v	v	v	v			v	v	v	



Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Frequency Stability	2	Covered by Band 25												v		
	4	Covered by Band 66												v		
	5	Covered by Band 26												v		
	7	-	-		v			v					v		v	
	12				v	-	-	v					v		v	
	13	-	-		v	-	-	v					v		v	
	17	Covered by Band 12												v		
	25				v			v					v		v	
	26				v		-	v					v		v	
	38	Covered by Band 41												v		
	41	-	-		v			v					v		v	
	66				v			v					v		v	
71	-	-		v			v					v		v		
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
	38	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
71	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	



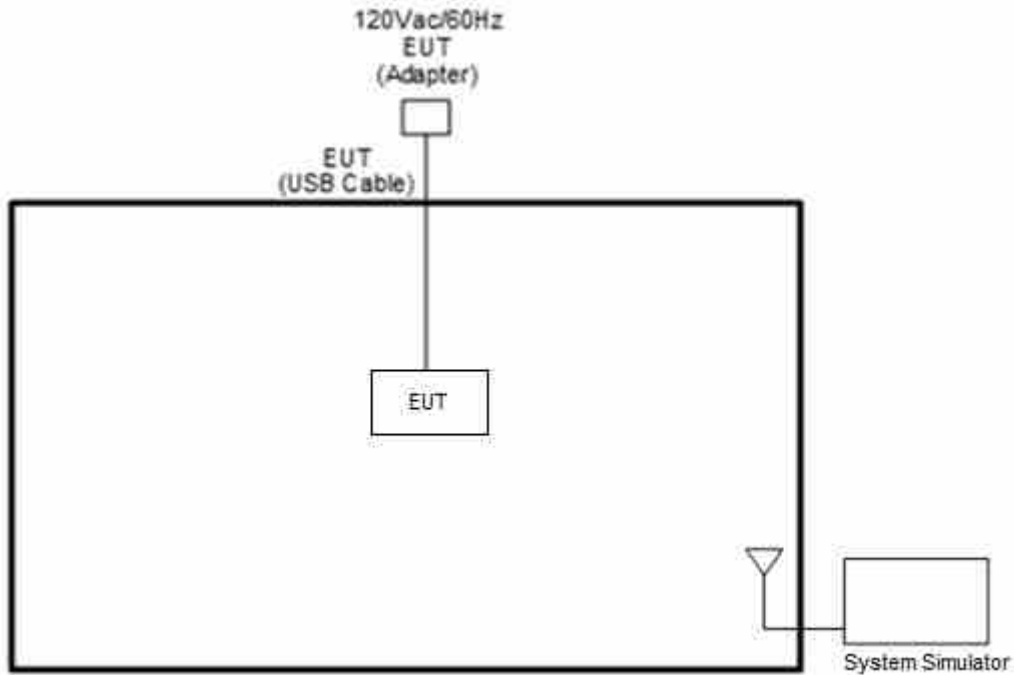
Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Radiated Spurious Emission	2	Covered by Band 25												v	v	v
	4	Covered by Band 66												v	v	v
	5	Covered by Band 26												v	v	v
	7	Worst Case												v	v	v
	12	Worst Case												v	v	v
	13	Worst Case												v	v	v
	17	Covered by Band 12												v	v	v
	25	Worst Case												v	v	v
	26	Worst Case												v	v	v
	38	Covered by Band 41												v	v	v
	41	Worst Case												v	v	v
	66	Worst Case												v	v	v
	71	Worst Case												v	v	v
Remark	<ol style="list-style-type: none"> <li>The mark "v" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.</li> <li>All the radiated test cases were performed with Adapter 1.</li> </ol>															



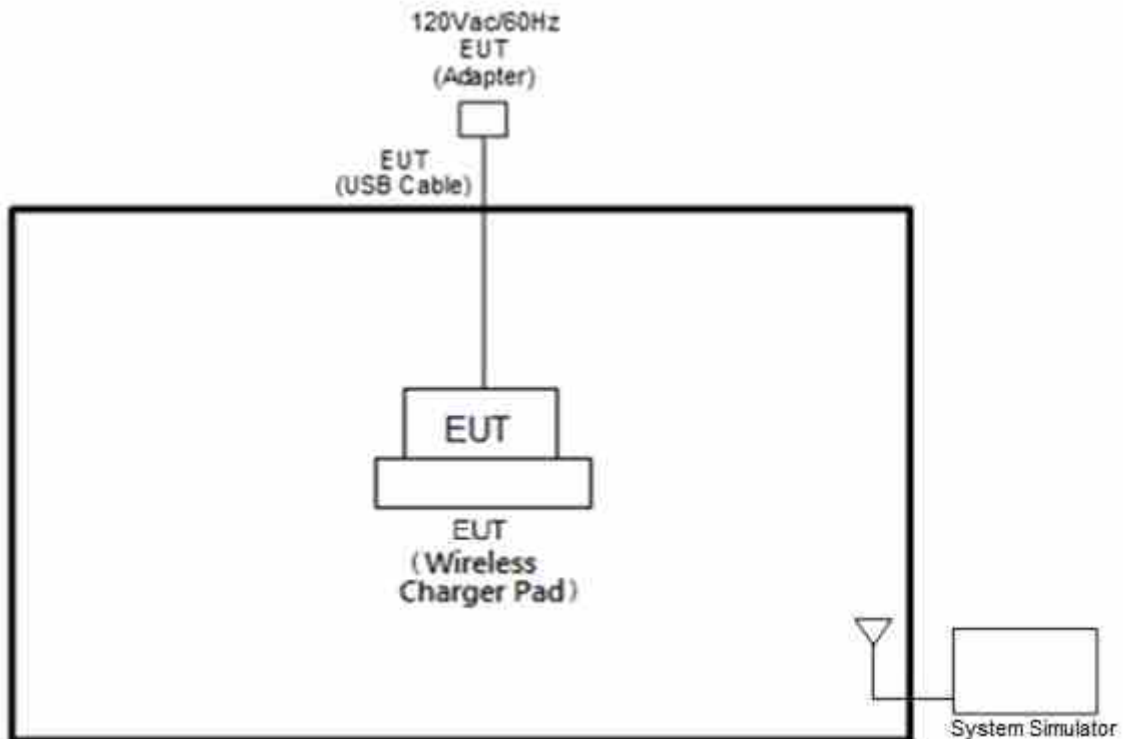
Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	30	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	30	-	-	v	v	-	-	v	v	v	v		v	v	v	v
E.I.R.P PSD	30	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
26dB and 99% Bandwidth	30	-	-	v	v	-	-	v	v	v			v	v	v	v
Conducted Band Edge	30	-	-	v	v	-	-	v	v	v	v		v			v
Conducted Spurious Emission	30	-	-	v	v	-	-	v	v	v	v			v	v	v
Frequency Stability	30	-	-	v	v	-	-	v	v	v			v		v	
Radiated Spurious Emission	30	<b>Worst Case</b>											v	v	v	
Remark	<ol style="list-style-type: none"> <li>The mark "v" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.</li> <li>All the radiated test cases were performed with Adapter 1.</li> </ol>															

## 2.2 Connection Diagram of Test System

<For Adapter Mode>



<For WPC Charging Mode>





### 2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8821C	N/A	N/A	N/A

### 2.4 Measurement Results Explanation Example

**For all conducted test items:**

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

$$\text{Offset} = \text{RF cable loss} + \text{attenuator factor}.$$

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 4.2 + 10 = 14.2 \text{ (dB)} \end{aligned}$$





### 2.5 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3



LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3



LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5

LTE Band 17 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23780	23790	23800
	Frequency	709	710	711
5	Channel	23755	23790	23825
	Frequency	706.5	710	713.5

LTE Band 25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3



LTE Band 26 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829	836.5	844
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3

LTE Band 38 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	37850	38000	38150
	Frequency	2580	2595	2610
15	Channel	37825	38000	38175
	Frequency	2577.5	2595	2612.5
10	Channel	37800	38000	38200
	Frequency	2575	2595	2615
5	Channel	37775	38000	38225
	Frequency	2572.5	2595	2617.5

LTE Band 41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	39750	40620	41490
	Frequency	2506	2593	2680
15	Channel	39725	40620	41515
	Frequency	2503.5	2593	2682.5
10	Channel	39700	40620	41540
	Frequency	2501	2593	2685
5	Channel	39675	40620	41565
	Frequency	2498.5	2593	2687.5



LTE Band 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3

LTE Band 71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	133222	133297	133372
	Frequency	673	680.5	688
15	Channel	133197	133297	133397
	Frequency	670.5	680.5	690.5
10	Channel	133172	133297	133422
	Frequency	668	680.5	693
5	Channel	133147	133297	133447
	Frequency	665.5	680.5	695.5

LTE Band 30 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	27710	-
	Frequency	-	2310	-
5	Channel	27685	27710	27735
	Frequency	2307.5	2310	2312.5

### 3 Conducted Test Items

#### 3.1 Measuring Instruments

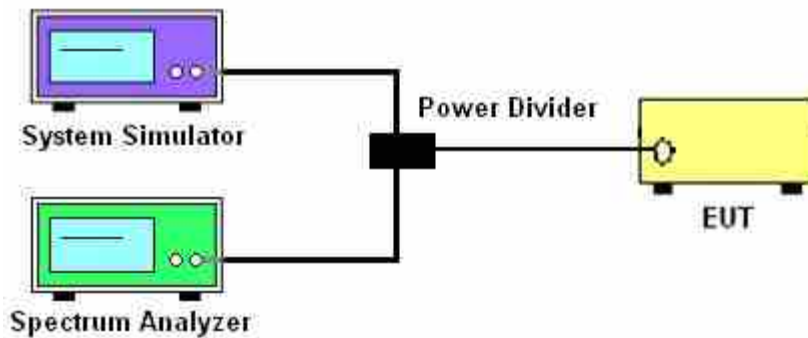
See list of measuring instruments of this test report.

##### 3.1.1 Test Setup

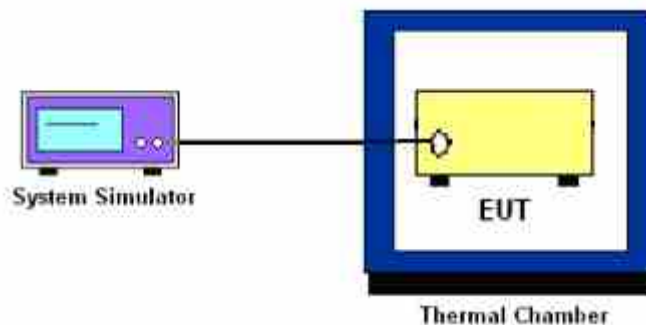
##### 3.1.2 Conducted Output Power



##### 3.1.3 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission



##### 3.1.4 Frequency Stability



##### 3.1.5 Test Result of Conducted Test

Please refer to Appendix A.



## 3.2 Conducted Output Power and ERP/EIRP

### 3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5 and Band 26.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12 and Band 13 and Band 17 and Band 71.

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25 and Band 7 and Band 38 and Band 41.

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4 and Band 66.

The EIRP of mobile transmitters must not exceed 0.25 Watts for LTE Band 30.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$ ,  $ERP = EIRP - 2.15$ , where

$P_T$  = transmitter output power in dBm

$G_T$  = gain of the transmitting antenna in dBi

$L_C$  = signal attenuation in the connecting cable between the transmitter and antenna in dB

### 3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.



### **3.3 Peak-to-Average Ratio**

#### **3.3.1 Description of the PAR Measurement**

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

#### **3.3.2 Test Procedures**

The testing follows FCC KDB 971168 D01 v03r01 Section 5.7.1

1. The EUT was connected to spectrum and system simulator via a power divider.
2. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
3. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
4. Record the deviation as Peak to Average Ratio.





## **3.4 EIRP Power Density**

### **3.4.1 Description of EIRP Power Density**

For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, *except that* for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

### **3.4.2 Test Procedures**

The testing follows FCC KDB 971168 D01 v03r01 Section 5.4

1. Set instrument center frequency to OBW center frequency.
2. Set span to at least 1.5 times the OBW.
3. Set the RBW to the specified reference bandwidth (5MHz).
4. Set VBW  $\geq 3 \times$  RBW.
5. Detector = RMS (power averaging).
6. Ensure that the number of measurement points in the sweep  $\geq 2 \times$  span/RBW.
7. Sweep time = auto couple.
8. Employ trace averaging (RMS) mode over a minimum of 100 traces.
9. Use the peak marker function to determine the maximum amplitude level within the reference bandwidth (PSD).
10. Determine the EIRP by adding the effective antenna gain to the adjusted power level.



## 3.5 Occupied Bandwidth

### 3.5.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

### 3.5.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 4.2

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
3. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
4. Set the detection mode to peak, and the trace mode to max hold.
5. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.  
(this is the reference value)
6. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
7. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
8. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.



### 3.6 Conducted Band Edge

#### 3.6.1 Description of Conducted Band Edge Measurement

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power,  $P$  (dBW), by at least  $65 + 10 \log_{10} p(\text{watts})$ , dB, for mobile and portable equipment.

27.53 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

**27.53(m)(4)**

For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

**27.53 (a)(4)**

For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

- (i) By a factor of not less than:  $43 + 10 \log (P)$  dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than  $55 + 10 \log (P)$  dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than  $61 + 10 \log (P)$  dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than  $67 + 10 \log (P)$  dB on all frequencies between 2328 and 2337 MHz.
- (ii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2300 and 2305 MHz,  $55 + 10 \log (P)$  dB on all frequencies between 2296 and 2300 MHz,  $61 + 10 \log (P)$  dB on all frequencies between 2292 and 2296 MHz,  $67 + 10 \log (P)$  dB on all frequencies between 2288 and 2292 MHz, and  $70 + 10 \log (P)$  dB below 2288 MHz.
- (iii) By a factor of not less than  $43 + 10 \log (P)$  dB on all frequencies between 2360 and 2365 MHz, and not less than  $70 + 10 \log (P)$  dB above 2365 MHz.



### **3.6.2 Test Procedures**

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW  $\geq$  1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
5. Set spectrum analyzer with RMS detector.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. Checked that all the results comply with the emission limit line.  
The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)
8. For LTE Band 7, 38, 41, the other 40 dB, and 55 dB have additionally applied same calculation above.



## **3.7 Conducted Spurious Emission**

### **3.7.1 Description of Conducted Spurious Emission Measurement**

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 7, 38, 41:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

For Band 30

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $70 + 10 \log (P)$  dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10<sup>th</sup> harmonic.

### **3.7.2 Test Procedures**

The testing follows FCC KDB 971168 D01 v03r01 Section 6.0.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.  
The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
6. Set spectrum analyzer with RMS detector.
7. Taking the record of maximum spurious emission.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)
10. For Band 7, 38, 41  
The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)



## **3.8 Frequency Stability**

### **3.8.1 Description of Frequency Stability Measurement**

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) of the center frequency.

### **3.8.2 Test Procedures for Temperature Variation**

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to  $-30^{\circ}\text{C}$  and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

### **3.8.3 Test Procedures for Voltage Variation**

The testing follows FCC KDB 971168 D01 v03r01 Section 9.0.

1. The EUT was placed in a temperature chamber at  $20\pm 5^{\circ}\text{C}$  and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

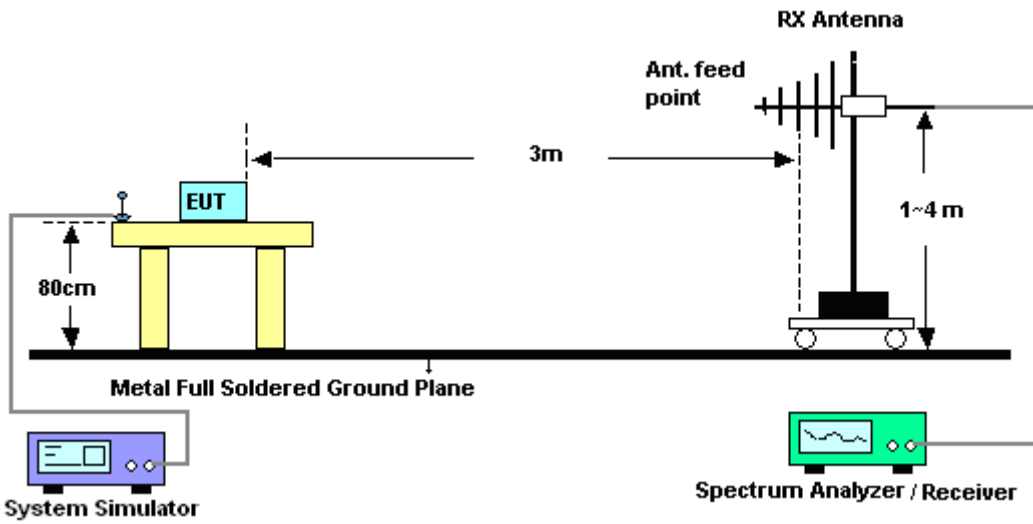
## 4 Radiated Test Items

### 4.1 Measuring Instruments

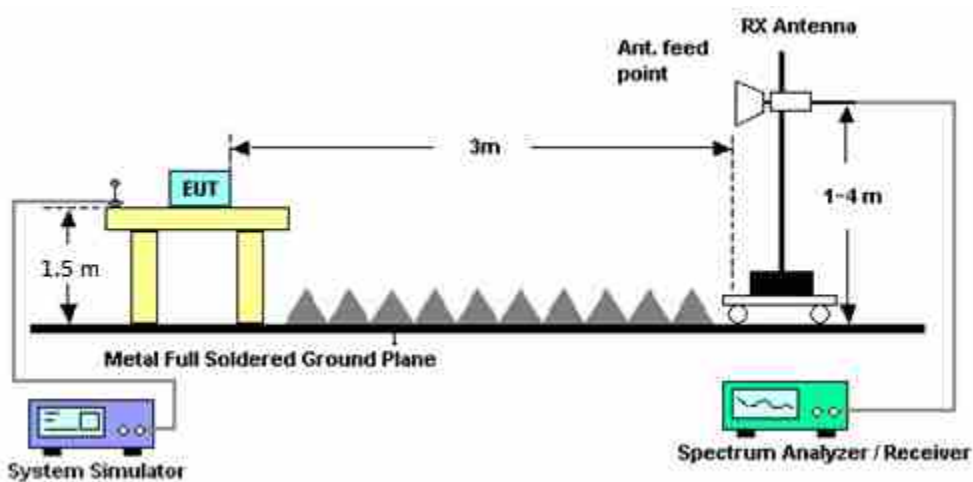
See list of measuring instruments of this test report.

#### 4.1.1 Test Setup

For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



#### 4.1.2 Test Result of Radiated Test

Please refer to Appendix B.





## 4.2 Radiated Spurious Emission

### 4.2.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 7, 38, 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

For Band 13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to  $-70$  dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and  $-80$  dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

For Band 30

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $70 + 10 \log (P)$  dB.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.



### 4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)

11. For Band 7, 38, 41:

The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)

$$\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$$

$$\text{ERP (dBm)} = \text{EIRP} - 2.15$$

12. For Band 30

The limit line is derived from  $70 + 10\log(P)$ dB below the transmitter power P(Watts)

$$= P(W) - [70 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [70 + 10\log(P)] \text{ (dB)}$$

$$= -40\text{dBm.}$$



## 5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LTE Base Station	Anritsu	MT8820C	6201432821	GSM/GPRS /WCDMA/LTE	Oct. 13, 2017	Mar. 11, 2018~ Jul. 05, 2018	Oct. 12, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 07, 2017	Mar. 11, 2018~ Jul. 05, 2018	Nov. 06, 2018	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-30°C~70°C	Aug. 28, 2017	Mar. 11, 2018~ Jul. 05, 2018	Aug. 27, 2018	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890001	1V~20V 0.5A~5A	Oct. 06, 2017	Mar. 11, 2018~ Jul. 05, 2018	Oct. 05, 2018	Conducted (TH05-HY)
Coupler	Warison	1-18GHz 20dB 25WSMA Directional Coupler	#B	1G~18GHz	Dec. 04, 2017	Mar. 11, 2018~ Jul. 05, 2018	Dec. 03, 2018	Conducted (TH05-HY)
Amplifier	Sonoma-Instrument	310 N	187282	9KHz~1GHz	Jan. 19, 2018	Jun. 16, 2018~ Jun. 23, 2018	Jan. 18, 2020	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800N1 D01N-06	40103&07	30MHz to 1GHz	Jan. 10, 2018	Jun. 16, 2018~ Jun. 23, 2018	Jan. 09, 2019	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1212	1GHz ~ 18GHz	May 10, 2018	Jun. 16, 2018~ Jun. 23, 2018	May 09, 2019	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-001018 00-30-10P	1590074	1GHz~18GHz	May 21, 2018	Jun. 16, 2018~ Jun. 23, 2018	May 20, 2019	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY53270147	1GHz~26.5GHz	Feb. 02, 2018	Jun. 16, 2018~ Jun. 23, 2018	Feb. 01, 2019	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY55370526	10Hz~44GHz	Mar. 15, 2018	Jun. 16, 2018~ Jun. 23, 2018	Mar. 14, 2019	Radiation (03CH13-HY)
Filter	Wainwright	WHKX12-2700-3 000-18000-60SS	SN2	3G High Pass	Sep. 18, 2017	Jun. 16, 2018~ Jun. 23, 2018	Sep. 17, 2018	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jun. 16, 2018~ Jun. 23, 2018	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 16, 2018~ Jun. 23, 2018	N/A	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz- 40GHz	Nov. 10, 2017	Jun. 16, 2018~ Jun. 23, 2018	Nov. 09, 2018	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1522	1G~18GHz	May 10, 2018	Jun. 16, 2018~ Jun. 23, 2018	May 09, 2019	Radiation (03CH13-HY)
Signal Generator	Anritsu	MG3694C	163401	0.1Hz~40GHz	Jan. 15, 2018	Jun. 16, 2018~ Jun. 23, 2018	Jan. 14, 2019	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 27, 2017	Jun. 16, 2018~ Jun. 23, 2018	Nov. 26, 2018	Radiation (03CH13-HY)
Filter	Wainwright	WHKX12-1080-1 200-15000-60ST	SN3	1.2GHz High Pass Filter	Jul. 06, 2017	Jun. 16, 2018~ Jun. 23, 2018	Jul. 05, 2018	Radiation (03CH13-HY)
Software	AUDIX	E3 6.2009-8-24c	RK-001124	N/A	N/A	Jun. 16, 2018~ Jun. 23, 2018	N/A	Radiation (03CH13-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0030/126E	30M-18G	Jan. 22, 2018	Jun. 16, 2018~ Jun. 23, 2018	Jan. 21, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	335041/4	30M-18G	Jan. 22, 2018	Jun. 16, 2018~ Jun. 23, 2018	Jan. 21, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/4	30M~18GHz	Jan. 22, 2018	Jun. 16, 2018~ Jun. 23, 2018	Jan. 21, 2019	Radiation (03CH13-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Jun. 16, 2018~ Jun. 23, 2018	Jul. 17, 2018	Radiation (03CH13-HY)



## 6 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	3.07
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### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	3.48
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### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	3.92
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## Appendix A. Test Results of Conducted Test

### Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.50	23.69	23.72
20	1	49		23.35	23.29	23.43
20	1	99		23.27	23.30	23.50
20	50	0		22.45	22.40	22.63
20	50	24		22.43	22.35	22.53
20	50	50		22.37	22.29	22.46
20	100	0		22.43	22.35	22.60
20	1	0	16-QAM	22.76	22.76	22.86
20	1	49		22.63	22.64	22.71
20	1	99		22.66	22.74	22.90
20	50	0		21.54	21.52	21.71
20	50	24		21.53	21.48	21.63
20	50	50		21.48	21.42	21.56
20	100	0		21.56	21.41	21.67
20	1	0	64-QAM	21.74	21.77	22.00
20	1	49		21.55	21.57	21.75
20	1	99		21.61	21.61	21.82
20	50	0		20.58	20.52	20.73
20	50	24		20.54	20.49	20.66
20	50	50		20.46	20.40	20.60
20	100	0		20.51	20.48	20.67
15	1	0	QPSK	23.51	23.41	23.71
15	1	37		23.33	23.30	23.64
15	1	74		23.33	23.26	23.67
15	36	0		22.47	22.39	22.71
15	36	20		22.43	22.37	22.62
15	36	39		22.35	22.26	22.69
15	75	0		22.37	22.34	22.66
15	1	0	16-QAM	22.79	22.85	22.91
15	1	37		22.69	22.56	22.90
15	1	74		22.61	22.69	23.00
15	36	0		21.59	21.45	21.81
15	36	20		21.51	21.48	21.70
15	36	39		21.48	21.45	21.77
15	75	0		21.51	21.46	21.76
15	1	0	64-QAM	21.82	21.68	21.86
15	1	37		21.64	21.48	21.96
15	1	74		21.65	21.60	21.93
15	36	0		20.64	20.55	20.84
15	36	20		20.56	20.51	20.76
15	36	39		20.52	20.42	20.78
15	75	0		20.49	20.47	20.74



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.36	23.32	23.64
10	1	25		23.32	23.24	23.65
10	1	49		23.33	23.21	23.61
10	25	0		22.40	22.33	22.61
10	25	12		22.41	22.33	22.71
10	25	25		22.39	22.26	22.65
10	50	0		22.37	22.34	22.59
10	1	0	16-QAM	22.84	22.72	22.98
10	1	25		22.65	22.71	22.99
10	1	49		22.70	22.52	22.96
10	25	0		21.55	21.49	21.76
10	25	12		21.54	21.46	21.83
10	25	25		21.48	21.41	21.76
10	50	0		21.49	21.45	21.71
10	1	0	64-QAM	21.63	21.65	21.84
10	1	25		21.69	21.57	21.92
10	1	49		21.52	21.48	21.92
10	25	0		20.54	20.45	20.75
10	25	12		20.48	20.48	20.80
10	25	25		20.48	20.43	20.77
10	50	0		20.49	20.48	20.71
5	1	0	QPSK	23.45	23.33	23.68
5	1	12		23.41	23.30	23.62
5	1	24		23.37	23.26	23.59
5	12	0		22.45	22.36	22.69
5	12	7		22.42	22.32	22.65
5	12	13		22.41	22.33	22.63
5	25	0		22.39	22.30	22.66
5	1	0	16-QAM	22.70	22.73	22.78
5	1	12		22.70	22.69	22.96
5	1	24		22.65	22.55	22.96
5	12	0		21.54	21.43	21.79
5	12	7		21.54	21.44	21.79
5	12	13		21.53	21.41	21.77
5	25	0		21.50	21.42	21.78
5	1	0	64-QAM	21.66	21.68	21.92
5	1	12		21.72	21.53	21.92
5	1	24		21.61	21.62	21.94
5	12	0		20.56	20.47	20.79
5	12	7		20.55	20.51	20.86
5	12	13		20.56	20.47	20.80
5	25	0		20.51	20.43	20.78



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.37	23.29	23.65
3	1	8		23.31	23.24	23.56
3	1	14		23.33	23.22	23.54
3	8	0		22.37	22.31	22.63
3	8	4		22.43	22.33	22.64
3	8	7		22.38	22.26	22.60
3	15	0		22.35	22.25	22.59
3	1	0	16-QAM	22.65	22.53	22.99
3	1	8		22.62	22.69	22.72
3	1	14		22.72	22.62	22.98
3	8	0		21.53	21.45	21.77
3	8	4		21.51	21.47	21.77
3	8	7		21.51	21.45	21.75
3	15	0		21.46	21.38	21.75
3	1	0	64-QAM	21.58	21.56	21.91
3	1	8		21.59	21.47	21.81
3	1	14		21.66	21.54	21.78
3	8	0		20.53	20.44	20.73
3	8	4		20.54	20.43	20.78
3	8	7		20.51	20.41	20.73
3	15	0		20.45	20.38	20.74
1.4	1	0	QPSK	23.37	23.24	23.56
1.4	1	3		23.38	23.32	23.62
1.4	1	5		23.33	23.20	23.53
1.4	3	0		23.38	23.27	23.65
1.4	3	1		23.36	23.30	23.61
1.4	3	3		23.36	23.27	23.61
1.4	6	0		22.35	22.25	22.62
1.4	1	0	16-QAM	22.62	22.62	22.88
1.4	1	3		22.71	22.71	22.95
1.4	1	5		22.66	22.61	22.91
1.4	3	0		22.45	22.26	22.74
1.4	3	1		22.46	22.42	22.74
1.4	3	3		22.49	22.41	22.69
1.4	6	0		21.55	21.44	21.83
1.4	1	0	64-QAM	21.58	21.53	21.94
1.4	1	3		21.68	21.61	21.93
1.4	1	5		21.56	21.51	21.86
1.4	3	0		21.57	21.51	21.82
1.4	3	1		21.60	21.50	21.94
1.4	3	3		21.59	21.50	21.80
1.4	6	0		20.47	20.39	20.74





LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.42	23.39	23.61
20	1	49		23.26	23.24	23.37
20	1	99		23.22	23.10	23.43
20	50	0		22.46	22.35	22.59
20	50	24		22.42	22.33	22.46
20	50	50		22.31	22.23	22.42
20	100	0		22.40	22.34	22.51
20	1	0	16-QAM	22.88	22.69	22.92
20	1	49		22.59	22.70	22.74
20	1	99		22.54	22.61	22.67
20	50	0		21.57	21.53	21.66
20	50	24		21.47	21.45	21.62
20	50	50		21.42	21.42	21.48
20	100	0		21.49	21.43	21.57
20	1	0	64-QAM	21.66	21.63	21.88
20	1	49		21.53	21.48	21.63
20	1	99		21.39	21.54	21.69
20	50	0		20.56	20.52	20.69
20	50	24		20.50	20.48	20.62
20	50	50		20.43	20.41	20.55
20	100	0		20.48	20.43	20.58
15	1	0	QPSK	23.44	23.31	23.56
15	1	37		23.31	23.21	23.33
15	1	74		23.22	23.19	23.50
15	36	0		22.42	22.37	22.49
15	36	20		22.41	22.31	22.45
15	36	39		22.34	22.28	22.46
15	75	0		22.37	22.33	22.50
15	1	0	16-QAM	22.79	22.69	22.85
15	1	37		22.71	22.52	22.80
15	1	74		22.47	22.62	22.75
15	36	0		21.50	21.43	21.64
15	36	20		21.52	21.49	21.56
15	36	39		21.41	21.35	21.47
15	75	0		21.47	21.41	21.55
15	1	0	64-QAM	21.69	21.55	21.90
15	1	37		21.52	21.50	21.65
15	1	74		21.44	21.57	21.76
15	36	0		20.57	20.46	20.66
15	36	20		20.54	20.47	20.60
15	36	39		20.48	20.40	20.53
15	75	0		20.50	20.43	20.56



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.43	23.26	23.39
10	1	25		23.30	23.23	23.40
10	1	49		23.26	23.18	23.39
10	25	0		22.39	22.33	22.38
10	25	12		22.40	22.35	22.32
10	25	25		22.35	22.29	22.39
10	50	0		22.38	22.30	22.36
10	1	0	16-QAM	22.71	22.46	22.64
10	1	25		22.64	22.48	22.79
10	1	49		22.62	22.53	22.69
10	25	0		21.52	21.44	21.52
10	25	12		21.51	21.44	21.46
10	25	25		21.44	21.38	21.49
10	50	0		21.49	21.41	21.43
10	1	0	64-QAM	21.70	21.50	21.63
10	1	25		21.58	21.55	21.58
10	1	49		21.45	21.50	21.62
10	25	0		20.49	20.43	20.47
10	25	12		20.51	20.45	20.49
10	25	25		20.44	20.41	20.53
10	50	0		20.54	20.39	20.48
5	1	0	QPSK	23.38	23.23	23.39
5	1	12		23.33	23.24	23.40
5	1	24		23.30	23.24	23.42
5	12	0		22.43	22.33	22.45
5	12	7		22.43	22.31	22.41
5	12	13		22.39	22.33	22.38
5	25	0		22.38	22.28	22.42
5	1	0	16-QAM	22.81	22.51	22.83
5	1	12		22.61	22.50	22.74
5	1	24		22.56	22.52	22.69
5	12	0		21.51	21.40	21.53
5	12	7		21.50	21.47	21.56
5	12	13		21.50	21.36	21.48
5	25	0		21.50	21.36	21.52
5	1	0	64-QAM	21.67	21.49	21.66
5	1	12		21.55	21.54	21.65
5	1	24		21.63	21.57	21.63
5	12	0		20.57	20.51	20.58
5	12	7		20.53	20.48	20.58
5	12	13		20.54	20.43	20.50
5	25	0		20.49	20.39	20.49



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.33	23.14	23.34
3	1	8		23.28	23.19	23.38
3	1	14		23.26	23.20	23.30
3	8	0		22.37	22.28	22.36
3	8	4		22.37	22.31	22.40
3	8	7		22.36	22.28	22.35
3	15	0		22.34	22.24	22.38
3	1	0	16-QAM	22.67	22.49	22.67
3	1	8		22.61	22.45	22.67
3	1	14		22.51	22.53	22.56
3	8	0		21.48	21.39	21.54
3	8	4		21.54	21.43	21.54
3	8	7		21.47	21.38	21.47
3	15	0		21.46	21.32	21.46
3	1	0	64-QAM	21.64	21.31	21.62
3	1	8		21.55	21.44	21.60
3	1	14		21.59	21.47	21.62
3	8	0		20.47	20.40	20.53
3	8	4		20.54	20.43	20.56
3	8	7		20.50	20.44	20.47
3	15	0		20.43	20.33	20.49
1.4	1	0	QPSK	23.24	23.27	23.35
1.4	1	3		23.30	23.21	23.23
1.4	1	5		23.24	23.15	23.08
1.4	3	0		23.34	23.25	23.32
1.4	3	1		23.35	23.27	23.32
1.4	3	3		23.35	23.22	23.34
1.4	6	0		22.39	22.18	22.28
1.4	1	0	16-QAM	22.75	22.61	22.60
1.4	1	3		22.72	22.65	22.67
1.4	1	5		22.62	22.57	22.48
1.4	3	0		22.46	22.35	22.28
1.4	3	1		22.48	22.42	22.35
1.4	3	3		22.39	22.28	22.38
1.4	6	0		21.54	21.34	21.46
1.4	1	0	64-QAM	21.57	21.48	21.55
1.4	1	3		21.66	21.56	21.62
1.4	1	5		21.62	21.41	21.47
1.4	3	0		21.61	21.51	21.49
1.4	3	1		21.61	21.59	21.44
1.4	3	3		21.50	21.47	21.52
1.4	6	0		20.47	20.26	20.39



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.32	23.17	23.24
20	1	49		23.11	23.02	23.16
20	1	99		23.15	23.00	23.10
20	50	0		22.29	22.13	22.24
20	50	24		22.25	22.11	22.15
20	50	50		22.19	22.02	22.18
20	100	0		22.24	22.08	22.16
20	1	0	16-QAM	22.70	22.57	22.56
20	1	49		22.50	22.40	22.48
20	1	99		22.55	22.42	22.50
20	50	0		21.40	21.23	21.31
20	50	24		21.31	21.15	21.26
20	50	50		21.31	21.15	21.30
20	100	0		21.28	21.13	21.23
20	1	0	64-QAM	21.65	21.47	21.58
20	1	49		21.36	21.25	21.42
20	1	99		21.40	21.35	21.43
20	50	0		20.36	20.23	20.36
20	50	24		20.36	20.19	20.21
20	50	50		20.31	20.18	20.27
20	100	0		20.32	20.17	20.22
15	1	0	QPSK	23.08	22.96	22.97
15	1	37		22.89	22.81	22.85
15	1	74		22.92	22.76	22.86
15	36	0		22.04	21.90	21.89
15	36	20		21.95	21.87	21.94
15	36	39		21.92	21.78	21.89
15	75	0		21.97	21.83	21.86
15	1	0	16-QAM	22.46	22.26	22.33
15	1	37		22.23	22.14	22.27
15	1	74		22.31	22.06	22.27
15	36	0		21.12	20.99	21.00
15	36	20		21.05	20.93	21.03
15	36	39		21.01	20.86	20.99
15	75	0		21.08	20.91	20.94
15	1	0	64-QAM	21.60	21.52	21.58
15	1	37		21.47	21.42	21.55
15	1	74		21.51	21.40	21.53
15	36	0		20.50	20.37	20.38
15	36	20		20.45	20.33	20.44
15	36	39		20.25	20.28	20.41
15	75	0		20.22	20.33	20.34



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.99	22.83	22.92
10	1	25		22.92	22.74	22.84
10	1	49		22.86	22.71	22.81
10	25	0		21.99	21.81	21.95
10	25	12		21.97	21.79	21.90
10	25	25		21.94	21.74	21.91
10	50	0		21.96	21.79	21.95
10	1	0	16-QAM	22.38	22.22	22.29
10	1	25		22.26	22.13	22.21
10	1	49		22.24	22.10	22.14
10	25	0		21.11	20.92	21.05
10	25	12		21.09	20.91	21.03
10	25	25		21.05	20.83	21.03
10	50	0		21.06	20.87	21.05
10	1	0	64-QAM	21.58	21.43	21.53
10	1	25		21.54	21.34	21.52
10	1	49		21.53	21.37	21.44
10	25	0		20.49	20.32	20.49
10	25	12		20.49	20.28	20.47
10	25	25		20.44	20.24	20.43
10	50	0		20.44	20.28	20.44
5	1	0	QPSK	22.99	22.80	22.92
5	1	12		22.93	22.73	22.83
5	1	24		22.92	22.75	22.87
5	12	0		22.01	21.80	21.90
5	12	7		21.99	21.80	21.92
5	12	13		21.94	21.78	21.87
5	25	0		21.96	21.77	21.89
5	1	0	16-QAM	22.35	22.16	22.30
5	1	12		22.36	22.04	22.23
5	1	24		22.24	22.08	22.23
5	12	0		21.06	20.89	21.04
5	12	7		21.10	20.92	21.02
5	12	13		21.05	20.84	21.00
5	25	0		21.05	20.87	21.00
5	1	0	64-QAM	21.27	21.07	21.22
5	1	12		21.19	20.98	21.17
5	1	24		21.17	21.01	21.14
5	12	0		20.12	19.92	20.07
5	12	7		20.14	19.90	20.06
5	12	13		20.09	19.90	20.01
5	25	0		20.03	19.85	19.98



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.92	22.77	22.86
3	1	8		22.90	22.71	22.86
3	1	14		22.88	22.74	22.83
3	8	0		21.95	21.75	21.88
3	8	4		21.97	21.78	21.88
3	8	7		21.92	21.75	21.83
3	15	0		21.93	21.76	21.86
3	1	0	16-QAM	22.28	22.09	22.20
3	1	8		22.28	22.06	22.25
3	1	14		22.24	22.03	22.16
3	8	0		21.07	20.87	21.02
3	8	4		21.13	20.92	21.06
3	8	7		21.08	20.89	21.00
3	15	0		21.05	20.86	20.98
3	1	0	64-QAM	21.17	21.05	21.16
3	1	8		21.13	20.93	21.16
3	1	14		21.08	20.94	21.07
3	8	0		20.05	19.92	20.05
3	8	4		20.07	19.86	19.97
3	8	7		20.01	19.83	19.93
3	15	0		19.94	19.79	19.95
1.4	1	0	QPSK	22.87	22.67	22.75
1.4	1	3		22.93	22.74	22.81
1.4	1	5		22.85	22.63	22.75
1.4	3	0		22.86	22.71	22.78
1.4	3	1		22.93	22.74	22.82
1.4	3	3		22.87	22.68	22.78
1.4	6	0		21.85	21.69	21.77
1.4	1	0	16-QAM	22.17	21.99	22.08
1.4	1	3		22.22	22.04	22.23
1.4	1	5		22.18	21.97	22.12
1.4	3	0		22.04	21.79	21.91
1.4	3	1		22.03	21.81	21.91
1.4	3	3		21.94	21.77	21.85
1.4	6	0		21.07	20.85	20.94
1.4	1	0	64-QAM	21.46	21.30	21.40
1.4	1	3		21.54	21.38	21.46
1.4	1	5		21.46	21.23	21.39
1.4	3	0		21.41	21.19	21.37
1.4	3	1		21.48	21.25	21.36
1.4	3	3		21.41	21.23	21.33
1.4	6	0		20.37	20.19	20.25



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.90	23.79	23.91
10	1	25		23.82	23.73	23.86
10	1	49		23.84	23.70	23.79
10	25	0		22.91	22.83	22.82
10	25	12		22.92	22.80	22.89
10	25	25		22.94	22.74	22.88
10	50	0		22.85	22.82	22.82
10	1	0	16-QAM	23.35	23.08	23.18
10	1	25		23.12	23.08	23.19
10	1	49		23.19	23.04	23.14
10	25	0		22.04	21.96	21.92
10	25	12		21.96	21.89	21.97
10	25	25		22.05	21.84	21.97
10	50	0		21.98	21.91	21.91
10	1	0	64-QAM	22.13	22.03	22.08
10	1	25		22.02	21.93	22.00
10	1	49		22.12	21.94	22.06
10	25	0		21.06	20.96	20.96
10	25	12		20.98	20.92	21.00
10	25	25		20.99	20.87	20.91
10	50	0		21.00	20.88	20.91
5	1	0	QPSK	23.68	23.81	23.87
5	1	12		23.66	23.71	23.75
5	1	24		23.73	23.67	23.73
5	12	0		22.63	22.79	22.86
5	12	7		22.77	22.79	22.84
5	12	13		22.78	22.69	22.81
5	25	0		22.75	22.73	22.79
5	1	0	16-QAM	23.11	23.03	23.04
5	1	12		22.92	23.09	23.08
5	1	24		22.95	22.86	23.00
5	12	0		21.79	21.84	21.93
5	12	7		21.93	21.84	21.93
5	12	13		21.84	21.80	21.84
5	25	0		21.84	21.86	21.90
5	1	0	64-QAM	22.03	22.02	22.06
5	1	12		21.87	21.96	21.99
5	1	24		21.85	21.94	21.98
5	12	0		20.79	20.91	21.00
5	12	7		20.97	20.93	21.00
5	12	13		20.85	20.84	20.92
5	25	0		20.87	20.89	20.93



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.80	23.75	23.75
3	1	8		23.77	23.70	23.74
3	1	14		23.75	23.67	23.73
3	8	0		22.82	22.73	22.78
3	8	4		22.83	22.77	22.78
3	8	7		22.76	22.67	22.77
3	15	0		22.77	22.71	22.79
3	1	0	16-QAM	23.14	22.98	23.12
3	1	8		23.01	23.02	23.14
3	1	14		23.06	23.03	23.05
3	8	0		21.89	21.91	21.91
3	8	4		21.98	21.88	21.95
3	8	7		21.96	21.88	21.89
3	15	0		21.88	21.85	21.86
3	1	0	64-QAM	22.14	22.00	22.08
3	1	8		22.07	21.93	21.92
3	1	14		21.98	21.95	22.04
3	8	0		20.92	20.83	20.90
3	8	4		20.92	20.86	20.95
3	8	7		20.94	20.84	20.90
3	15	0		20.93	20.81	20.82
1.4	1	0	QPSK	23.64	23.30	23.12
1.4	1	3		23.72	23.27	23.18
1.4	1	5		23.64	23.26	23.11
1.4	3	0		23.60	23.29	23.14
1.4	3	1		23.71	23.31	23.14
1.4	3	3		23.69	23.32	23.09
1.4	6	0		22.69	22.29	22.11
1.4	1	0	16-QAM	22.89	22.69	22.52
1.4	1	3		23.10	22.54	22.42
1.4	1	5		23.01	22.46	22.32
1.4	3	0		22.79	22.37	22.26
1.4	3	1		22.83	22.40	22.21
1.4	3	3		22.79	22.26	22.17
1.4	6	0		21.89	21.45	21.27
1.4	1	0	64-QAM	21.89	21.59	21.32
1.4	1	3		22.03	21.60	21.47
1.4	1	5		21.87	21.50	21.33
1.4	3	0		21.77	21.52	21.32
1.4	3	1		21.96	21.51	21.45
1.4	3	3		21.87	21.46	21.28
1.4	6	0		20.78	20.38	20.20





LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.01	23.13	23.36
20	1	49		23.06	23.05	23.09
20	1	99		23.02	23.13	23.06
20	50	0		22.01	22.13	22.24
20	50	24		22.03	22.20	22.08
20	50	50		22.02	22.10	22.10
20	100	0		22.00	22.12	22.19
20	1	0	16-QAM	22.37	22.53	22.75
20	1	49		22.15	22.40	22.33
20	1	99		22.25	22.50	22.34
20	50	0		21.06	21.26	21.29
20	50	24		21.10	21.30	21.19
20	50	50		21.05	21.24	21.19
20	100	0		21.09	21.28	21.21
20	1	0	64-QAM	21.32	21.47	21.61
20	1	49		21.00	21.25	21.28
20	1	99		21.12	21.33	21.38
20	50	0		20.04	20.26	20.32
20	50	24		20.07	20.30	20.22
20	50	50		20.02	20.21	20.17
20	100	0		20.06	20.29	20.19
15	1	0	QPSK	22.64	22.80	22.87
15	1	37		22.53	22.77	22.65
15	1	74		22.58	22.67	22.62
15	36	0		21.59	21.75	21.70
15	36	20		21.56	21.81	21.60
15	36	39		21.60	21.73	21.60
15	75	0		21.65	21.80	21.70
15	1	0	16-QAM	22.00	22.13	22.22
15	1	37		21.79	22.08	22.00
15	1	74		21.94	22.00	21.96
15	36	0		20.67	20.82	20.79
15	36	20		20.64	20.90	20.75
15	36	39		20.69	20.80	20.67
15	75	0		20.74	20.86	20.81
15	1	0	64-QAM	20.88	21.08	21.15
15	1	37		20.75	21.06	20.93
15	1	74		20.82	20.94	20.89
15	36	0		19.70	19.89	19.82
15	36	20		19.65	19.93	19.76
15	36	39		19.75	19.85	19.72
15	75	0		19.75	19.91	19.82



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.58	22.75	22.76
10	1	25		22.54	22.78	22.85
10	1	49		22.47	22.67	22.73
10	25	0		21.56	21.71	21.73
10	25	12		21.55	21.82	21.78
10	25	25		21.50	21.73	21.86
10	50	0		21.51	21.76	21.76
10	1	0	16-QAM	21.94	22.12	22.08
10	1	25		21.85	22.08	22.24
10	1	49		21.73	22.04	22.12
10	25	0		20.65	20.83	20.80
10	25	12		20.64	20.93	20.89
10	25	25		20.60	20.85	20.95
10	50	0		20.63	20.85	20.86
10	1	0	64-QAM	21.28	21.38	21.52
10	1	25		20.97	21.24	21.28
10	1	49		21.09	21.27	21.30
10	25	0		19.96	20.16	20.22
10	25	12		20.05	20.26	20.21
10	25	25		20.01	20.11	20.15
10	50	0		20.05	20.19	20.10
5	1	0	QPSK	22.55	22.67	22.86
5	1	12		22.55	22.74	22.83
5	1	24		22.49	22.73	22.72
5	12	0		21.55	21.70	21.91
5	12	7		21.56	21.81	21.88
5	12	13		21.50	21.74	21.84
5	25	0		21.51	21.78	21.89
5	1	0	16-QAM	21.93	22.02	22.14
5	1	12		21.80	22.17	22.21
5	1	24		21.81	22.06	22.07
5	12	0		20.65	20.79	21.00
5	12	7		20.65	20.91	21.03
5	12	13		20.64	20.84	20.94
5	25	0		20.63	20.89	20.97
5	1	0	64-QAM	21.26	21.41	21.54
5	1	12		20.93	21.25	21.24
5	1	24		21.03	21.25	21.37
5	12	0		19.96	20.21	20.31
5	12	7		20.05	20.23	20.15
5	12	13		19.99	20.18	20.09
5	25	0		19.97	20.23	20.12



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.51	23.64	23.81
10	1	25		23.52	23.53	23.69
10	1	49		23.57	23.58	23.77
10	25	0		22.55	22.63	22.64
10	25	12		22.50	22.54	22.63
10	25	25		22.58	22.62	22.61
10	50	0		22.58	22.53	22.67
10	1	0	16-QAM	22.70	22.77	22.99
10	1	25		22.75	22.72	23.10
10	1	49		22.81	22.93	22.97
10	25	0		21.55	21.66	21.72
10	25	12		21.54	21.60	21.75
10	25	25		21.56	21.53	21.75
10	50	0		21.59	21.55	21.75
10	1	0	64-QAM	21.55	21.71	21.94
10	1	25		21.75	21.82	21.94
10	1	49		21.78	21.93	22.06
10	25	0		20.50	20.62	20.71
10	25	12		20.60	20.66	20.74
10	25	25		20.66	20.55	20.76
10	50	0		20.58	20.66	20.78
5	1	0	QPSK	23.33	23.46	23.68
5	1	12		23.33	23.48	23.66
5	1	24		23.46	23.54	23.71
5	12	0		22.40	22.53	22.61
5	12	7		22.36	22.48	22.57
5	12	13		22.47	22.44	22.60
5	25	0		22.37	22.46	22.59
5	1	0	16-QAM	22.58	22.72	23.11
5	1	12		22.54	22.85	23.00
5	1	24		22.70	22.86	23.04
5	12	0		21.48	21.58	21.75
5	12	7		21.47	21.62	21.71
5	12	13		21.54	21.54	21.71
5	25	0		21.46	21.62	21.68
5	1	0	64-QAM	21.49	21.69	21.88
5	1	12		21.62	21.71	21.85
5	1	24		21.67	21.78	21.98
5	12	0		20.59	20.56	20.81
5	12	7		20.52	20.65	20.74
5	12	13		20.59	20.60	20.78
5	25	0		20.49	20.60	20.73



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.25	23.38	23.75
3	1	8		23.33	23.44	23.70
3	1	14		23.28	23.39	23.71
3	8	0		22.39	22.49	22.75
3	8	4		22.37	22.45	22.73
3	8	7		22.32	22.41	22.71
3	15	0		22.33	22.42	22.74
3	1	0	16-QAM	22.46	22.69	23.05
3	1	8		22.60	22.83	22.88
3	1	14		22.54	22.77	23.02
3	8	0		21.50	21.60	21.83
3	8	4		21.53	21.54	21.85
3	8	7		21.49	21.55	21.85
3	15	0		21.45	21.54	21.83
3	1	0	64-QAM	21.41	21.68	21.93
3	1	8		21.57	21.71	21.86
3	1	14		21.55	21.63	21.96
3	8	0		20.52	20.61	20.83
3	8	4		20.50	20.48	20.90
3	8	7		20.49	20.53	20.81
3	15	0		20.47	20.58	20.83
1.4	1	0	QPSK	23.22	23.44	23.66
1.4	1	3		23.25	23.47	23.80
1.4	1	5		23.13	23.40	23.73
1.4	3	0		23.26	23.48	23.72
1.4	3	1		23.24	23.49	23.79
1.4	3	3		23.23	23.47	23.78
1.4	6	0		22.23	22.42	22.70
1.4	1	0	16-QAM	22.44	22.73	23.01
1.4	1	3		22.61	22.89	23.14
1.4	1	5		22.52	22.79	23.06
1.4	3	0		22.32	22.68	22.75
1.4	3	1		22.27	22.59	22.79
1.4	3	3		22.29	22.48	22.79
1.4	6	0		21.36	21.57	21.85
1.4	1	0	64-QAM	21.45	21.72	21.99
1.4	1	3		21.46	21.73	22.02
1.4	1	5		21.36	21.66	21.96
1.4	3	0		21.47	21.68	21.85
1.4	3	1		21.50	21.71	21.99
1.4	3	3		21.41	21.65	21.93
1.4	6	0		20.39	20.51	20.80



LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK		23.60	
10	1	25			23.41	
10	1	49			23.47	
10	25	0			22.52	
10	25	12			22.44	
10	25	25			22.41	
10	50	0			22.49	
10	1	0	16-QAM	-	22.98	-
10	1	25			22.72	
10	1	49			22.85	
10	25	0			21.64	
10	25	12			21.61	
10	25	25			21.47	
10	50	0			21.59	
10	1	0	64-QAM		21.79	
10	1	25			21.70	
10	1	49			21.80	
10	25	0			20.67	
10	25	12			20.56	
10	25	25			20.46	
10	50	0			20.54	
5	1	0	QPSK	23.57	23.50	23.52
5	1	12		23.53	23.34	23.58
5	1	24		23.46	23.35	23.51
5	12	0		22.61	22.44	22.52
5	12	7		22.53	22.46	22.51
5	12	13		22.49	22.39	22.54
5	25	0		22.51	22.42	22.50
5	1	0	16-QAM	22.91	22.79	22.94
5	1	12		22.94	22.61	22.86
5	1	24		22.90	22.68	22.83
5	12	0		21.66	21.57	21.60
5	12	7		21.69	21.49	21.59
5	12	13		21.58	21.46	21.65
5	25	0		21.67	21.53	21.56
5	1	0	64-QAM	21.86	21.77	21.82
5	1	12		21.77	21.71	21.82
5	1	24		21.67	21.53	21.77
5	12	0		20.71	20.59	20.63
5	12	7		20.67	20.57	20.67
5	12	13		20.69	20.49	20.66
5	25	0		20.65	20.56	20.59



LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.58	23.59	23.55
10	1	25		23.39	23.35	23.36
10	1	49		23.28	23.30	23.29
10	25	0		22.47	22.45	22.41
10	25	12		22.43	22.42	22.43
10	25	25		22.38	22.33	22.29
10	50	0		22.44	22.41	22.35
10	1	0	16-QAM	23.00	22.87	22.88
10	1	25		22.65	22.75	22.68
10	1	49		22.74	22.68	22.71
10	25	0		21.57	21.58	21.57
10	25	12		21.56	21.55	21.55
10	25	25		21.45	21.42	21.37
10	50	0		21.56	21.53	21.49
10	1	0	64-QAM	21.89	21.82	21.75
10	1	25		21.71	21.62	21.62
10	1	49		21.60	21.53	21.49
10	25	0		20.59	20.60	20.59
10	25	12		20.60	20.55	20.49
10	25	25		20.46	20.45	20.45
10	50	0		20.51	20.49	20.46
5	1	0	QPSK	23.55	23.58	23.51
5	1	12		23.55	23.47	23.44
5	1	24		23.51	23.45	23.36
5	12	0		22.59	22.56	22.48
5	12	7		22.59	22.52	22.47
5	12	13		22.52	22.47	22.40
5	25	0		22.56	22.49	22.43
5	1	0	16-QAM	22.89	22.89	22.87
5	1	12		22.88	22.83	22.71
5	1	24		22.80	22.79	22.70
5	12	0		21.67	21.63	21.55
5	12	7		21.70	21.61	21.57
5	12	13		21.65	21.56	21.50
5	25	0		21.68	21.59	21.49
5	1	0	64-QAM	21.80	21.79	21.77
5	1	12		21.79	21.75	21.66
5	1	24		21.75	21.68	21.55
5	12	0		20.64	20.62	20.54
5	12	7		20.65	20.60	20.57
5	12	13		20.59	20.56	20.46
5	25	0		20.65	20.58	20.59



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	24.30	24.24	24.32
15	1	37		23.73	23.73	23.75
15	1	74		24.21	24.15	24.21
15	36	0		23.01	22.95	22.89
15	36	20		22.84	22.77	22.88
15	36	39		22.97	22.79	22.83
15	75	0		22.91	22.86	22.97
15	1	0	16-QAM	23.47	23.44	23.50
15	1	37		23.08	23.07	23.05
15	1	74		23.48	23.45	23.50
15	36	0		22.05	22.05	22.04
15	36	20		21.90	21.84	21.96
15	36	39		22.02	21.91	21.94
15	75	0		21.97	21.96	22.04
15	1	0	64-QAM	22.48	22.49	22.50
15	1	37		21.90	21.90	22.06
15	1	74		22.39	22.35	22.47
15	36	0		21.13	21.08	21.06
15	36	20		20.93	20.90	20.93
15	36	39		21.05	20.96	21.00
15	75	0		21.02	21.01	21.06
10	1	0	QPSK	23.85	23.70	23.82
10	1	25		23.81	23.68	23.75
10	1	49		23.79	23.71	23.74
10	25	0		22.91	22.74	22.76
10	25	12		22.84	22.73	22.73
10	25	25		22.84	22.64	22.72
10	50	0		22.86	22.70	22.70
10	1	0	16-QAM	23.16	23.05	23.06
10	1	25		23.17	22.96	23.08
10	1	49		23.07	22.96	23.00
10	25	0		22.00	21.83	21.87
10	25	12		22.00	21.81	21.81
10	25	25		21.89	21.69	21.80
10	50	0		21.96	21.76	21.81
10	1	0	64-QAM	22.18	21.93	22.06
10	1	25		22.07	21.95	22.01
10	1	49		22.03	21.97	21.94
10	25	0		21.03	20.85	20.84
10	25	12		21.00	20.80	20.80
10	25	25		20.93	20.74	20.78
10	50	0		20.93	20.81	20.78



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.69	23.70	23.82
5	1	12		23.62	23.63	23.72
5	1	24		23.66	23.65	23.74
5	12	0		22.66	22.73	22.78
5	12	7		22.69	22.69	22.75
5	12	13		22.73	22.65	22.71
5	25	0		22.75	22.64	22.74
5	1	0	16-QAM	22.99	23.02	23.04
5	1	12		22.95	23.01	23.07
5	1	24		23.01	22.93	23.06
5	12	0		21.79	21.80	21.84
5	12	7		21.74	21.80	21.82
5	12	13		21.78	21.72	21.84
5	25	0		21.83	21.75	21.85
5	1	0	64-QAM	21.97	21.98	22.06
5	1	12		21.86	21.84	21.99
5	1	24		21.86	21.89	21.91
5	12	0		20.82	20.84	20.88
5	12	7		20.81	20.83	20.84
5	12	13		20.89	20.79	20.82
5	25	0		20.87	20.78	20.86
3	1	0	QPSK	23.78	23.70	23.78
3	1	8		23.73	23.68	23.69
3	1	14		23.71	23.61	23.69
3	8	0		22.82	22.68	22.71
3	8	4		22.78	22.63	22.75
3	8	7		22.72	22.64	22.68
3	15	0		22.75	22.66	22.68
3	1	0	16-QAM	23.13	22.89	22.95
3	1	8		22.95	22.93	23.02
3	1	14		23.00	22.87	22.99
3	8	0		21.89	21.81	21.84
3	8	4		21.90	21.82	21.84
3	8	7		21.83	21.81	21.84
3	15	0		21.86	21.75	21.81
3	1	0	64-QAM	22.02	21.90	21.99
3	1	8		21.93	21.85	21.88
3	1	14		21.91	21.86	21.95
3	8	0		20.88	20.80	20.81
3	8	4		20.92	20.79	20.86
3	8	7		20.88	20.77	20.82
3	15	0		20.84	20.74	20.80





LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.63	23.58	23.65
1.4	1	3		23.75	23.65	23.68
1.4	1	5		23.66	23.56	23.58
1.4	3	0		23.73	23.64	23.66
1.4	3	1		23.74	23.66	23.68
1.4	3	3		23.71	23.60	23.64
1.4	6	0		22.71	22.56	22.61
1.4	1	0	16-QAM	23.09	22.92	22.94
1.4	1	3		23.09	23.03	23.04
1.4	1	5		22.93	22.95	22.86
1.4	3	0		22.78	22.70	22.68
1.4	3	1		22.88	22.76	22.75
1.4	3	3		22.77	22.66	22.78
1.4	6	0		21.88	21.70	21.78
1.4	1	0	64-QAM	21.92	21.84	21.88
1.4	1	3		22.00	21.89	21.94
1.4	1	5		21.92	21.78	21.84
1.4	3	0		21.92	21.82	21.84
1.4	3	1		21.98	21.89	21.82
1.4	3	3		21.89	21.80	21.91
1.4	6	0		20.82	20.65	20.70



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.37	23.10	23.31
20	1	49		23.08	22.99	23.09
20	1	99		22.98	22.90	22.97
20	50	0		22.28	22.15	22.15
20	50	24		22.17	22.10	22.08
20	50	50		22.06	22.02	22.09
20	100	0		22.15	22.04	22.06
20	1	0		16-QAM	22.57	22.41
20	1	49	22.24		22.15	22.22
20	1	99	22.09		22.06	22.15
20	50	0	21.39		21.26	21.26
20	50	24	21.28		21.18	21.19
20	50	50	21.15		21.13	21.17
20	100	0	21.26		21.19	21.15
20	1	0	64-QAM		21.17	21.03
20	1	49		20.86	20.75	20.84
20	1	99		20.71	20.62	20.73
20	50	0		20.40	20.30	20.22
20	50	24		20.27	20.18	20.18
20	50	50		20.18	20.10	20.18
20	100	0		20.27	20.17	20.19
15	1	0		QPSK	23.32	23.10
15	1	37	23.05		23.01	23.01
15	1	74	23.01		23.02	23.01
15	36	0	22.22		22.04	22.02
15	36	20	22.12		22.03	22.01
15	36	39	22.00		22.01	22.00
15	75	0	22.11		22.02	22.02
15	1	0	16-QAM		22.46	22.23
15	1	37		22.23	22.04	22.09
15	1	74		22.14	22.00	22.02
15	36	0		21.28	21.07	21.05
15	36	20		21.20	21.02	21.03
15	36	39		21.07	20.91	20.97
15	75	0		21.23	21.04	21.00
15	1	0		64-QAM	21.09	20.84
15	1	37	20.81		20.62	20.69
15	1	74	20.73		20.60	20.65
15	36	0	20.29		20.12	20.05
15	36	20	20.21		20.05	20.06
15	36	39	20.13		19.93	20.00
15	75	0	20.21		20.02	20.03



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.21	22.92	22.93
10	1	25		23.08	22.84	22.93
10	1	49		22.96	22.81	22.83
10	25	0		22.08	21.94	21.98
10	25	12		22.15	21.96	21.99
10	25	25		22.11	21.88	21.94
10	50	0		22.07	21.83	21.87
10	1	0	16-QAM	22.30	22.07	22.07
10	1	25		22.25	22.03	22.05
10	1	49		22.26	21.98	22.00
10	25	0		21.16	20.92	21.05
10	25	12		21.13	21.00	20.98
10	25	25		21.12	20.91	20.87
10	50	0		21.17	20.95	21.06
10	1	0	64-QAM	20.87	20.69	20.73
10	1	25		20.89	20.58	20.64
10	1	49		20.82	20.57	20.67
10	25	0		20.32	20.05	20.07
10	25	12		20.28	20.01	20.05
10	25	25		20.20	19.96	20.07
10	50	0		20.27	20.03	20.02
5	1	0	QPSK	23.21	22.95	22.98
5	1	12		23.14	22.92	22.96
5	1	24		23.04	22.82	22.88
5	12	0		22.17	21.97	22.02
5	12	7		22.17	21.96	22.03
5	12	13		22.12	21.90	21.94
5	25	0		22.13	21.93	21.94
5	1	0	16-QAM	22.32	22.07	22.15
5	1	12		22.30	22.07	22.11
5	1	24		22.26	22.01	22.04
5	12	0		21.22	20.99	21.05
5	12	7		21.23	21.00	21.04
5	12	13		21.16	20.95	20.97
5	25	0		21.24	21.03	21.07
5	1	0	64-QAM	20.96	20.71	20.78
5	1	12		20.91	20.67	20.72
5	1	24		20.87	20.64	20.69
5	12	0		20.32	20.08	20.12
5	12	7		20.32	20.09	20.12
5	12	13		20.27	20.03	20.08
5	25	0		20.27	20.08	20.09



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	24.86	24.88	24.31
20	1	49		24.60	24.60	25.08
20	1	99		24.70	24.63	24.13
20	50	0		23.72	23.75	24.16
20	50	24		23.78	23.67	24.15
20	50	50		23.73	23.56	24.12
20	100	0		23.74	23.63	23.85
20	1	0	16-QAM	24.02	24.04	23.57
20	1	49		23.72	23.77	24.15
20	1	99		23.80	23.73	23.28
20	50	0		22.84	22.87	23.18
20	50	24		22.88	22.77	23.15
20	50	50		22.81	22.68	23.02
20	100	0		22.87	22.78	23.11
20	1	0	64-QAM	22.60	22.64	22.16
20	1	49		22.35	22.36	22.96
20	1	99		22.40	22.36	21.88
20	50	0		21.88	21.87	22.17
20	50	24		21.86	21.76	22.18
20	50	50		21.81	21.67	22.14
20	100	0		21.87	21.77	22.07
15	1	0	QPSK	24.69	24.54	24.48
15	1	37		24.55	24.34	24.34
15	1	74		24.67	24.27	24.30
15	36	0		23.64	23.42	23.41
15	36	20		23.61	23.38	23.30
15	36	39		23.63	23.27	23.36
15	75	0		23.67	23.35	23.32
15	1	0	16-QAM	23.86	23.69	23.62
15	1	37		23.69	23.49	23.45
15	1	74		23.78	23.41	23.39
15	36	0		22.73	22.48	22.46
15	36	20		22.65	22.42	22.34
15	36	39		22.69	22.34	22.43
15	75	0		22.79	22.46	22.43
15	1	0	64-QAM	22.45	22.27	22.20
15	1	37		22.27	22.08	22.08
15	1	74		22.38	22.03	22.03
15	36	0		21.77	21.50	21.51
15	36	20		21.70	21.47	21.40
15	36	39		21.72	21.39	21.47
15	75	0		21.81	21.48	21.47



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	24.63	24.44	24.56
10	1	25		24.55	24.34	24.42
10	1	49		24.50	24.28	24.47
10	25	0		23.60	23.37	23.42
10	25	12		23.59	23.37	23.47
10	25	25		23.52	23.28	23.45
10	50	0		23.58	23.35	23.40
10	1	0	16-QAM	23.79	23.59	23.68
10	1	25		23.70	23.49	23.55
10	1	49		23.63	23.39	23.60
10	25	0		22.72	22.45	22.52
10	25	12		22.69	22.44	22.57
10	25	25		22.63	22.38	22.55
10	50	0		22.70	22.45	22.52
10	1	0	64-QAM	22.39	22.21	22.31
10	1	25		22.32	22.11	22.17
10	1	49		22.26	22.03	22.23
10	25	0		21.80	21.52	21.59
10	25	12		21.76	21.51	21.64
10	25	25		21.69	21.43	21.63
10	50	0		21.69	21.46	21.51
5	1	0	QPSK	24.60	24.40	24.37
5	1	12		24.58	24.35	24.34
5	1	24		24.50	24.26	24.27
5	12	0		23.64	23.37	23.37
5	12	7		23.62	23.36	23.38
5	12	13		23.59	23.32	23.32
5	25	0		23.57	23.34	23.33
5	1	0	16-QAM	23.72	23.52	23.51
5	1	12		23.72	23.50	23.49
5	1	24		23.69	23.43	23.44
5	12	0		22.69	22.41	22.41
5	12	7		22.67	22.40	22.41
5	12	13		22.62	22.35	22.37
5	25	0		22.71	22.44	22.44
5	1	0	64-QAM	22.35	22.14	22.12
5	1	12		22.33	22.11	22.09
5	1	24		22.29	22.07	22.08
5	12	0		21.77	21.51	21.49
5	12	7		21.77	21.48	21.50
5	12	13		21.73	21.45	21.46
5	25	0		21.76	21.48	21.48



LTE Band 30 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK		23.19	
10	1	25			23.08	
10	1	49			23.01	
10	25	0			22.19	
10	25	12			22.16	
10	25	25			22.07	
10	50	0			22.17	
10	1	0	16-QAM	-	22.51	-
10	1	25			22.40	
10	1	49			22.26	
10	25	0			21.31	
10	25	12			21.24	
10	25	25			21.16	
10	50	0			21.23	
10	1	0	64-QAM		21.52	
10	1	25			21.33	
10	1	49			21.21	
10	25	0			20.30	
10	25	12			20.25	
10	25	25			20.23	
10	50	0			20.27	
5	1	0	QPSK	23.16	23.13	23.16
5	1	12		23.05	23.05	22.91
5	1	24		23.04	23.02	23.00
5	12	0		22.11	22.11	22.14
5	12	7		22.13	22.13	21.98
5	12	13		22.05	22.10	21.93
5	25	0		22.08	22.10	22.08
5	1	0	16-QAM	22.42	22.53	22.44
5	1	12		22.43	22.37	22.23
5	1	24		22.37	22.27	22.24
5	12	0		21.25	21.26	21.18
5	12	7		21.23	21.25	21.06
5	12	13		21.22	21.20	21.00
5	25	0		21.26	21.19	21.15
5	1	0	64-QAM	21.43	21.38	21.43
5	1	12		21.33	21.38	21.27
5	1	24		21.25	21.28	21.23
5	12	0		20.26	20.30	20.27
5	12	7		20.25	20.26	20.17
5	12	13		20.27	20.22	20.05
5	25	0		20.20	20.17	20.20



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.23	23.03	23.01
20	1	49		23.10	23.18	23.07
20	1	99		23.11	23.10	23.10
20	50	0		22.23	22.06	22.04
20	50	24		22.14	22.04	22.01
20	50	50		22.04	22.02	22.02
20	100	0		22.15	22.08	22.03
20	1	0	16-QAM	22.61	22.27	22.21
20	1	49		22.26	22.07	22.05
20	1	99		22.22	22.16	22.09
20	50	0		21.22	21.02	21.02
20	50	24		21.17	21.10	20.88
20	50	50		21.10	21.02	21.02
20	100	0		21.17	21.08	21.11
20	1	0	64-QAM	21.43	21.35	21.29
20	1	49		21.20	21.03	21.05
20	1	99		21.17	21.08	21.02
20	50	0		20.24	20.04	20.01
20	50	24		20.15	20.10	19.89
20	50	50		20.08	19.99	19.80
20	100	0		20.15	20.09	19.91
15	1	0	QPSK	23.14	22.99	22.94
15	1	37		22.96	22.89	22.67
15	1	74		23.01	22.81	22.76
15	36	0		22.15	21.96	21.88
15	36	20		22.11	22.01	21.79
15	36	39		22.07	21.95	21.73
15	75	0		22.10	21.95	21.76
15	1	0	16-QAM	22.64	22.27	22.28
15	1	37		22.32	22.18	21.90
15	1	74		22.33	22.16	22.24
15	36	0		21.25	21.01	20.93
15	36	20		21.20	21.12	20.90
15	36	39		21.15	21.05	20.79
15	75	0		21.21	21.09	20.86
15	1	0	64-QAM	21.45	21.35	21.25
15	1	37		21.31	21.20	21.04
15	1	74		21.25	21.13	21.01
15	36	0		20.30	20.05	20.02
15	36	20		20.23	20.12	19.97
15	36	39		20.17	20.10	19.87
15	75	0		20.20	20.07	19.88



LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.09	22.88	22.79
10	1	25		23.00	22.88	22.83
10	1	49		22.99	22.77	22.74
10	25	0		22.11	21.86	21.82
10	25	12		22.11	22.00	21.75
10	25	25		22.06	21.93	21.83
10	50	0		22.08	21.96	21.76
10	1	0	16-QAM	22.47	22.15	22.16
10	1	25		22.46	22.20	22.19
10	1	49		22.40	22.07	21.99
10	25	0		21.24	20.96	20.90
10	25	12		21.21	21.07	20.87
10	25	25		21.15	21.04	20.91
10	50	0		21.16	21.09	20.86
10	1	0	64-QAM	21.41	21.10	21.08
10	1	25		21.29	21.23	21.13
10	1	49		21.20	21.00	21.05
10	25	0		20.21	20.02	19.91
10	25	12		20.22	20.08	19.85
10	25	25		20.15	20.04	19.91
10	50	0		20.20	20.06	19.86
5	1	0	QPSK	23.08	22.88	22.81
5	1	12		23.06	22.88	22.79
5	1	24		23.05	22.85	22.76
5	12	0		22.12	21.83	21.82
5	12	7		22.11	21.96	21.81
5	12	13		22.02	21.89	21.78
5	25	0		22.07	21.91	21.80
5	1	0	16-QAM	22.43	22.13	22.10
5	1	12		22.33	22.24	22.08
5	1	24		22.40	22.19	22.01
5	12	0		21.24	20.94	20.91
5	12	7		21.21	21.05	20.93
5	12	13		21.21	21.06	20.90
5	25	0		21.20	21.04	20.90
5	1	0	64-QAM	21.36	21.12	21.08
5	1	12		21.30	20.97	21.07
5	1	24		21.26	20.98	21.04
5	12	0		19.96	19.98	19.92
5	12	7		19.93	20.12	19.93
5	12	13		20.01	20.09	19.94
5	25	0		19.98	20.10	19.91





LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.07	22.80	22.78
3	1	8		23.00	22.87	22.79
3	1	14		22.99	22.83	22.72
3	8	0		22.10	21.94	21.75
3	8	4		22.10	21.94	21.78
3	8	7		22.03	21.94	21.80
3	15	0		22.08	21.97	21.80
3	1	0	16-QAM	22.43	22.08	22.19
3	1	8		22.32	22.23	22.13
3	1	14		22.33	22.19	22.01
3	8	0		21.24	21.06	20.94
3	8	4		21.29	21.15	21.00
3	8	7		21.23	21.09	20.94
3	15	0		21.20	21.03	20.91
3	1	0	64-QAM	21.31	21.08	20.98
3	1	8		21.34	21.21	21.04
3	1	14		21.30	21.17	20.99
3	8	0		20.22	20.10	19.90
3	8	4		20.29	20.10	19.94
3	8	7		20.19	20.09	19.93
3	15	0		20.18	20.01	19.87
1.4	1	0	QPSK	23.21	23.16	23.18
1.4	1	3		23.20	23.20	23.22
1.4	1	5		23.18	23.18	23.21
1.4	3	0		23.20	23.20	23.15
1.4	3	1		23.15	23.18	23.20
1.4	3	3		23.20	23.20	23.19
1.4	6	0		22.33	22.24	22.40
1.4	1	0	16-QAM	22.62	22.58	22.58
1.4	1	3		22.62	22.56	22.72
1.4	1	5		22.69	22.54	22.47
1.4	3	0		22.47	22.37	22.44
1.4	3	1		22.44	22.33	22.40
1.4	3	3		22.43	22.27	22.35
1.4	6	0		21.49	21.39	21.56
1.4	1	0	64-QAM	21.49	21.45	21.59
1.4	1	3		21.58	21.52	21.63
1.4	1	5		21.54	21.49	21.49
1.4	3	0		21.57	21.40	21.55
1.4	3	1		21.54	21.42	21.54
1.4	3	3		21.53	21.39	21.47
1.4	6	0		20.41	20.32	20.46



LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	24.47	24.18	24.36
20	1	49		23.18	23.05	23.49
20	1	99		24.00	24.04	23.91
20	50	0		22.59	22.40	22.76
20	50	24		22.32	22.19	22.51
20	50	50		22.43	22.39	22.75
20	100	0		22.51	22.38	22.72
20	1	0	16-QAM	23.50	23.46	23.50
20	1	49		22.52	22.35	22.73
20	1	99		23.40	23.30	23.07
20	50	0		21.66	21.52	21.85
20	50	24		21.37	21.29	21.67
20	50	50		21.51	21.50	21.94
20	100	0		21.58	21.45	21.80
20	1	0	64-QAM	22.39	22.44	22.49
20	1	49		21.42	21.33	21.68
20	1	99		22.31	22.15	22.31
20	50	0		20.69	20.47	20.84
20	50	24		20.33	20.18	20.60
20	50	50		20.60	20.51	20.94
20	100	0		20.59	20.49	20.80
15	1	0	QPSK	23.41	23.18	23.12
15	1	37		22.70	22.52	22.62
15	1	74		22.98	23.00	22.78
15	36	0		22.04	21.77	21.84
15	36	20		21.72	21.63	21.77
15	36	39		21.75	21.76	21.87
15	75	0		21.78	21.69	21.85
15	1	0	16-QAM	22.67	22.48	22.43
15	1	37		22.04	21.83	22.08
15	1	74		22.31	22.31	22.50
15	36	0		21.08	20.92	20.94
15	36	20		20.84	20.70	20.86
15	36	39		20.83	20.84	20.90
15	75	0		20.88	20.93	20.92
15	1	0	64-QAM	21.51	21.44	21.32
15	1	37		20.89	20.77	20.98
15	1	74		21.21	21.32	20.86
15	36	0		20.12	19.88	20.00
15	36	20		19.80	19.73	19.89
15	36	39		19.90	19.85	19.99
15	75	0		19.92	19.75	19.95



LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.80	22.64	22.70
10	1	25		22.75	22.47	22.66
10	1	49		22.57	22.61	22.73
10	25	0		21.84	21.54	21.66
10	25	12		21.76	21.54	21.72
10	25	25		21.62	21.44	21.68
10	50	0		21.68	21.51	21.68
10	1	0	16-QAM	22.17	21.93	22.09
10	1	25		21.97	21.77	22.02
10	1	49		21.83	21.99	22.03
10	25	0		20.99	20.65	20.80
10	25	12		20.90	20.71	20.80
10	25	25		20.72	20.52	20.84
10	50	0		20.79	20.57	20.79
10	1	0	64-QAM	21.07	20.88	20.99
10	1	25		21.01	20.78	20.90
10	1	49		20.81	20.84	21.12
10	25	0		19.90	19.76	19.81
10	25	12		19.85	19.71	19.82
10	25	25		19.68	19.53	19.85
10	50	0		19.75	19.69	19.80
5	1	0	QPSK	22.67	22.56	22.73
5	1	12		22.85	22.47	22.75
5	1	24		22.83	22.54	22.79
5	12	0		21.86	21.54	21.70
5	12	7		21.88	21.52	21.75
5	12	13		21.86	21.49	21.70
5	25	0		21.88	21.48	21.75
5	1	0	16-QAM	22.23	21.88	21.96
5	1	12		22.19	21.84	22.02
5	1	24		22.10	21.89	22.09
5	12	0		21.03	20.68	20.82
5	12	7		21.06	20.65	20.87
5	12	13		21.02	20.59	20.82
5	25	0		20.99	20.60	20.84
5	1	0	64-QAM	21.17	20.86	20.90
5	1	12		21.13	20.79	20.98
5	1	24		21.06	20.85	21.03
5	12	0		20.10	19.70	19.84
5	12	7		20.00	19.66	19.88
5	12	13		19.99	19.62	19.84
5	25	0		19.98	19.58	19.88



<For HPUE>

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	26.12	26.08	25.10
20	1	49		25.92	25.85	25.20
20	1	99		25.96	25.85	25.30
20	50	0		25.19	25.13	24.94
20	50	24		25.23	25.03	25.14
20	50	50		25.12	24.92	25.40
20	100	0		25.21	25.01	24.79
20	1	0	16-QAM	25.46	25.44	24.52
20	1	49		25.28	25.20	25.68
20	1	99		25.28	25.17	24.65
20	50	0		24.30	24.22	24.11
20	50	24		24.32	24.15	24.44
20	50	50		24.25	24.04	24.50
20	100	0		24.33	24.13	23.97
20	1	0	64-QAM	25.35	25.35	24.54
20	1	49		25.16	25.11	25.61
20	1	99		25.15	25.06	24.54
20	50	0		24.23	24.17	24.11
20	50	24		24.26	24.09	24.39
20	50	50		24.20	23.96	24.45
20	100	0		24.34	24.16	24.14
15	1	0	QPSK	26.08	26.05	25.59
15	1	37		26.03	25.94	26.07
15	1	74		26.03	25.91	26.01
15	36	0		25.17	25.10	24.70
15	36	20		25.13	25.06	25.03
15	36	39		25.16	24.93	25.12
15	75	0		25.18	24.99	24.65
15	1	0	16-QAM	25.42	25.41	24.76
15	1	37		25.28	25.24	25.29
15	1	74		25.34	25.14	25.25
15	36	0		24.25	24.18	23.94
15	36	20		24.21	24.11	24.11
15	36	39		24.20	24.00	24.20
15	75	0		24.30	24.12	23.93
15	1	0	64-QAM	24.24	24.21	23.73
15	1	37		24.08	24.03	24.13
15	1	74		24.18	23.96	24.10
15	36	0		23.28	23.18	23.04
15	36	20		23.24	23.16	23.16
15	36	39		23.25	23.05	23.23
15	75	0		23.31	23.14	23.13



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	26.03	26.00	25.92
10	1	25		25.98	25.91	26.00
10	1	49		25.93	25.83	26.07
10	25	0		25.14	25.07	25.09
10	25	12		25.13	25.02	25.11
10	25	25		25.09	25.00	25.09
10	50	0		25.15	25.04	24.99
10	1	0	16-QAM	25.36	25.31	25.23
10	1	25		25.33	25.24	25.32
10	1	49		25.29	25.16	25.38
10	25	0		24.27	24.20	24.22
10	25	12		24.26	24.13	24.23
10	25	25		24.20	24.08	24.19
10	50	0		24.25	24.16	24.17
10	1	0	64-QAM	24.20	24.13	24.24
10	1	25		24.13	24.06	24.15
10	1	49		24.08	23.98	24.22
10	25	0		23.33	23.23	23.28
10	25	12		23.32	23.20	23.29
10	25	25		23.25	23.13	23.27
10	50	0		23.24	23.11	23.19
5	1	0	QPSK	26.00	25.92	26.04
5	1	12		25.99	25.89	26.00
5	1	24		25.93	25.81	25.94
5	12	0		25.15	25.02	25.11
5	12	7		25.14	25.04	25.09
5	12	13		25.13	25.00	25.06
5	25	0		25.12	24.97	25.07
5	1	0	16-QAM	25.30	25.25	25.33
5	1	12		25.34	25.24	25.33
5	1	24		25.28	25.18	25.26
5	12	0		24.25	24.15	24.22
5	12	7		24.25	24.13	24.21
5	12	13		24.20	24.09	24.16
5	25	0		24.24	24.12	24.20
5	1	0	64-QAM	24.13	24.07	24.17
5	1	12		24.11	24.05	24.17
5	1	24		24.10	24.01	24.12
5	12	0		23.28	23.18	23.28
5	12	7		23.28	23.19	23.27
5	12	13		23.24	23.13	23.23
5	25	0		23.28	23.18	23.25



## LTE Band 7

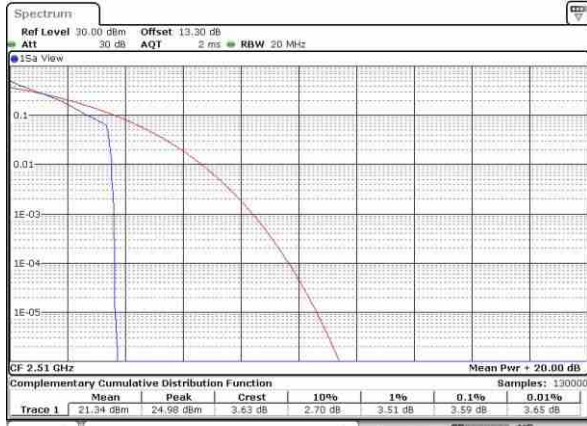
### Peak-to-Average Ratio

Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.59	4.46	5.1	5.86	PASS
Middle CH	3.45	4.32	4.32	5.59	
Highest CH	3.54	4.29	5.19	5.51	
Mode	LTE Band 7 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.41	6.26	-	-	PASS
Middle CH	5.30	6.41	-	-	
Highest CH	6.20	6.29	-	-	



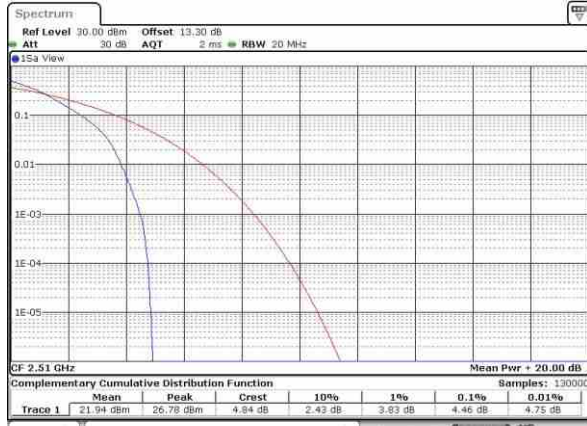
LTE Band 7 / 20MHz / QPSK

Lowest Channel / 1RB



Date: 13, MAR, 2018 15:17:30

Lowest Channel / Full RB



Date: 13, MAR, 2018 15:18:17

Middle Channel / 1RB



Date: 13, MAR, 2018 15:18:42

Middle Channel / Full RB



Date: 13, MAR, 2018 15:19:01

Highest Channel / 1RB



Date: 13, MAR, 2018 15:19:25

Highest Channel / Full RB

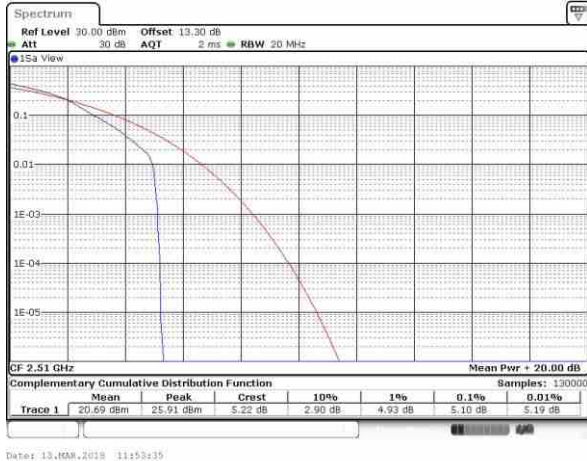


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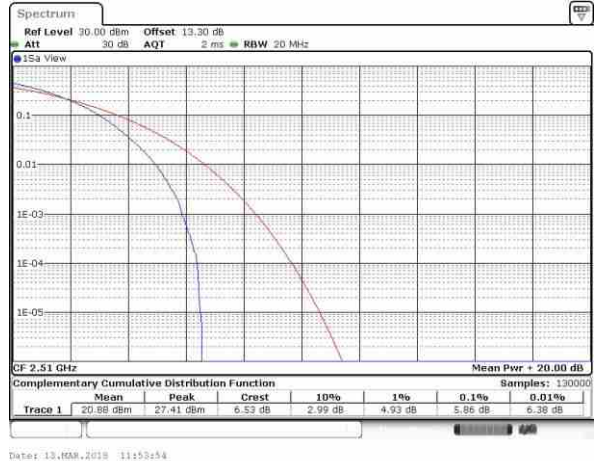
LTE Band 7 / 20MHz / 16QAM

Lowest Channel / 1RB



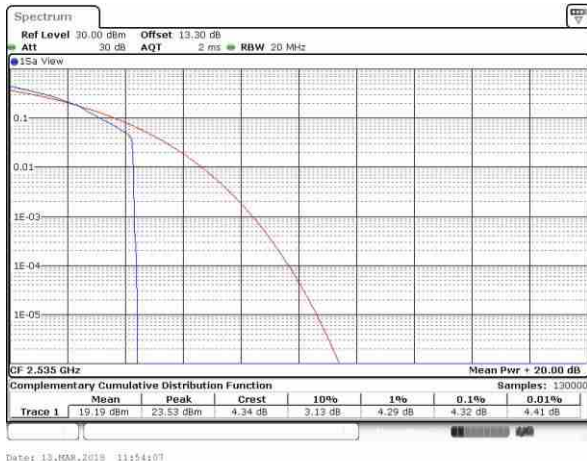
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Lowest Channel / Full RB



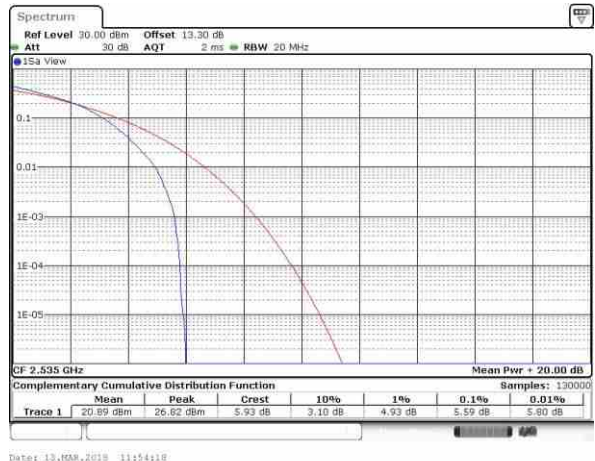
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Middle Channel / 1RB



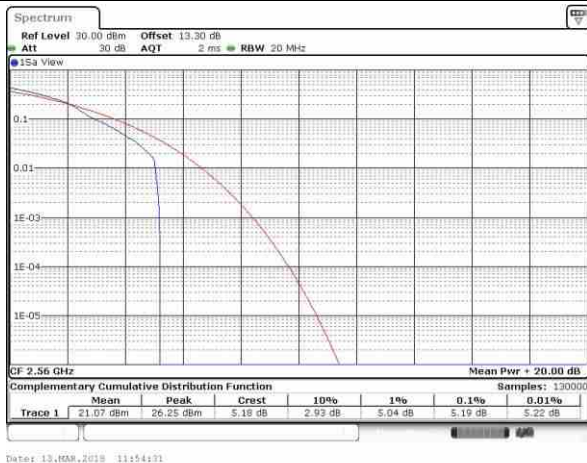
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Middle Channel / Full RB



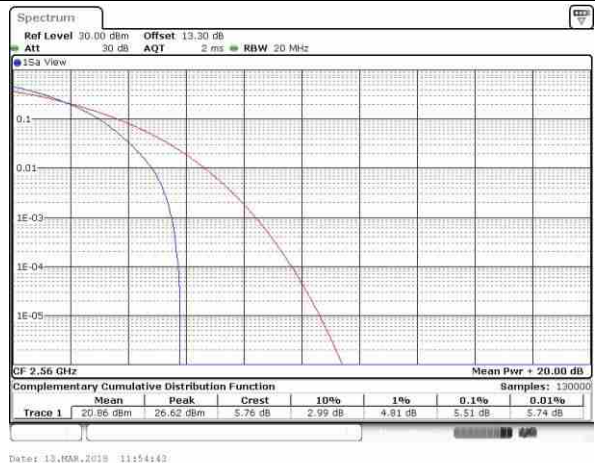
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Highest Channel / 1RB



Date: 13, MAR, 2018 11:54:31

Highest Channel / Full RB



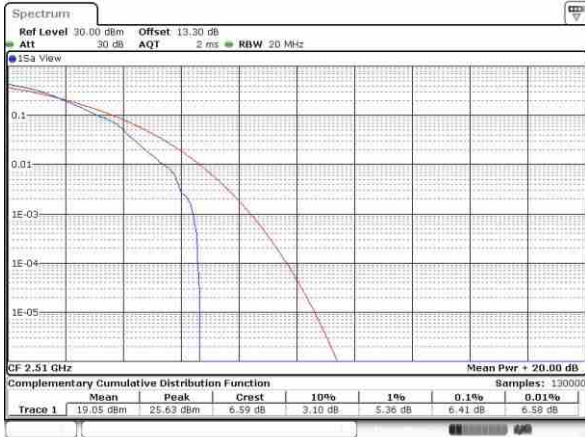
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LTE Band 7 / 20MHz / 64QAM

Lowest Channel / 1RB



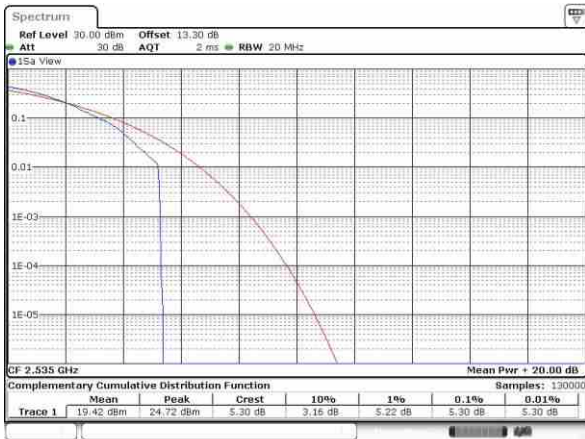
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Lowest Channel / Full RB



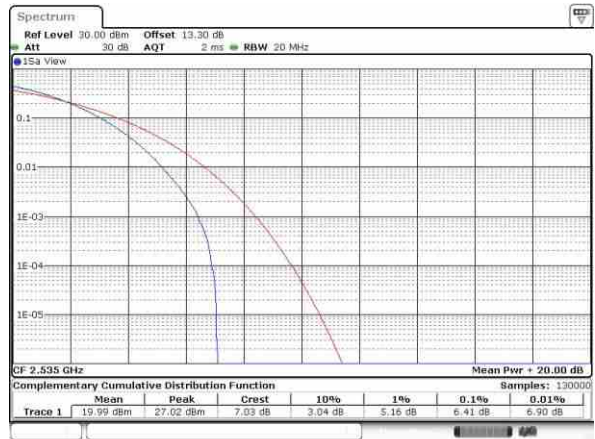
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Middle Channel / 1RB



Date: 16, MAR, 2018 11:30:01

Middle Channel / Full RB



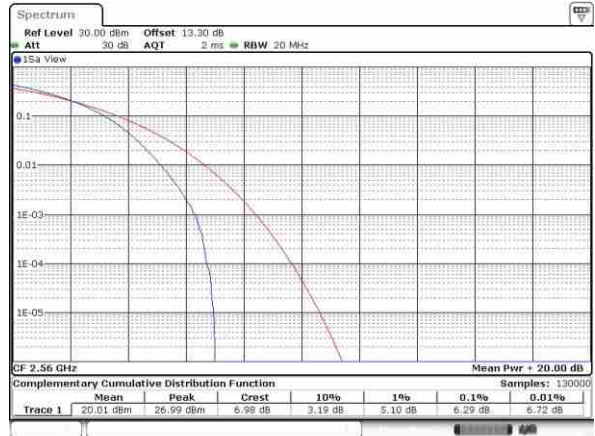
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Highest Channel / 1RB



Date: 16, MAR, 2018 11:30:32

Highest Channel / Full RB



Date: 16, MAR, 2018 11:30:58



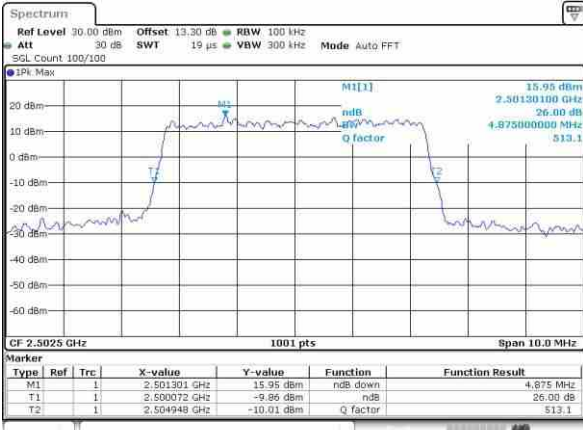
**26dB Bandwidth**

Mode	LTE Band 7 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.88	4.91	9.69	9.91	14.18	14.45	20.38	20.26
Middle CH	-	-	-	-	4.90	4.94	9.79	9.65	14.42	14.27	20.18	20.54
Highest CH	-	-	-	-	4.93	4.97	9.79	9.83	14.57	14.33	20.18	20.02
Mode	LTE Band 7 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	5.00	-	9.85	-	14.36	-	20.06	-
Middle CH	-	-	-	-	4.97	-	9.81	-	14.21	-	20.18	-
Highest CH	-	-	-	-	4.98	-	9.75	-	14.30	-	20.06	-



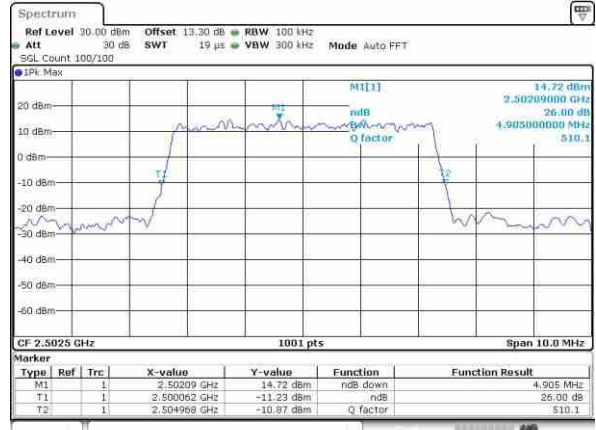
LTE Band 7

Lowest Channel / 5MHz / QPSK



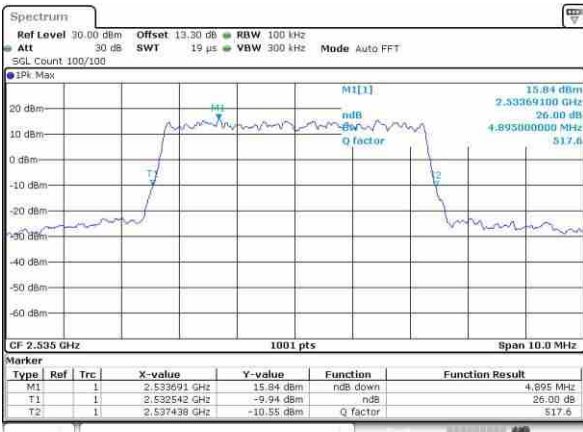
Date: 13, MAR, 2018 11:39:00

Lowest Channel / 5MHz / 16QAM



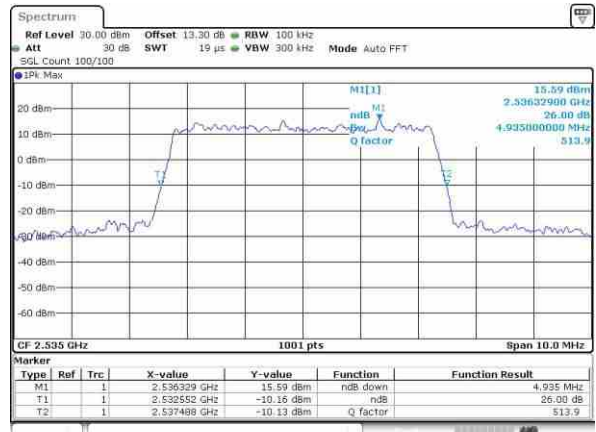
Date: 13, MAR, 2018 11:39:11

Middle Channel / 5MHz / QPSK



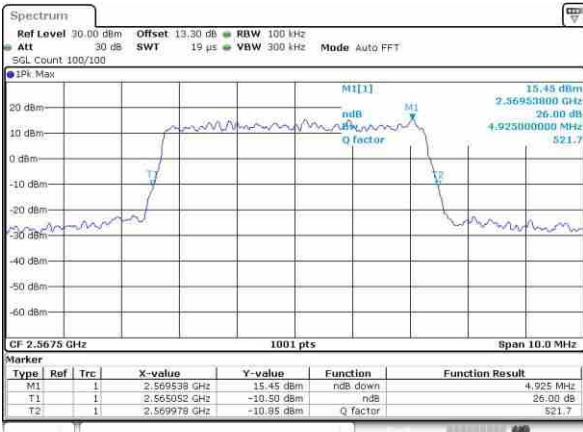
Date: 13, MAR, 2018 11:39:47

Middle Channel / 5MHz / 16QAM



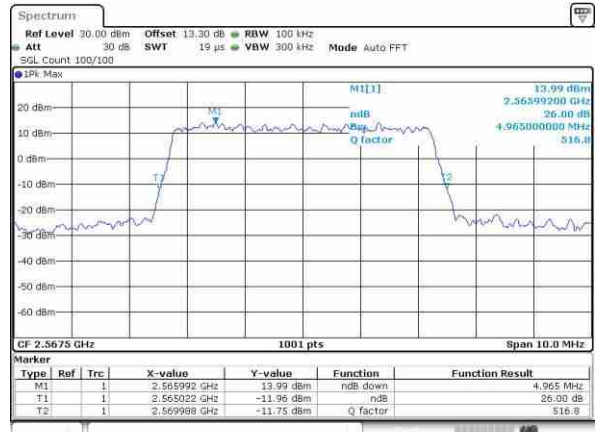
Date: 13, MAR, 2018 11:39:59

Highest Channel / 5MHz / QPSK



Date: 13, MAR, 2018 11:40:34

Highest Channel / 5MHz / 16QAM

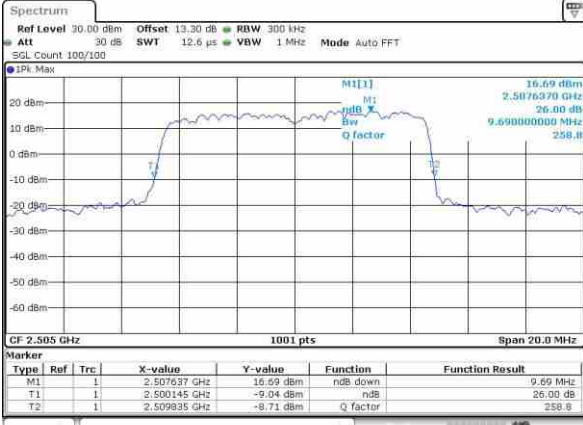


Date: 13, MAR, 2018 11:40:46



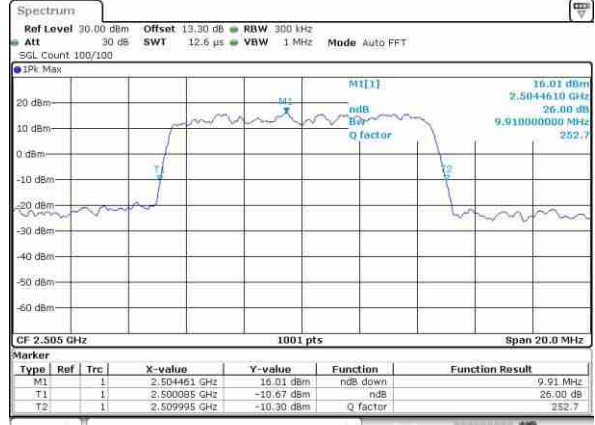
LTE Band 7

Lowest Channel / 10MHz / QPSK



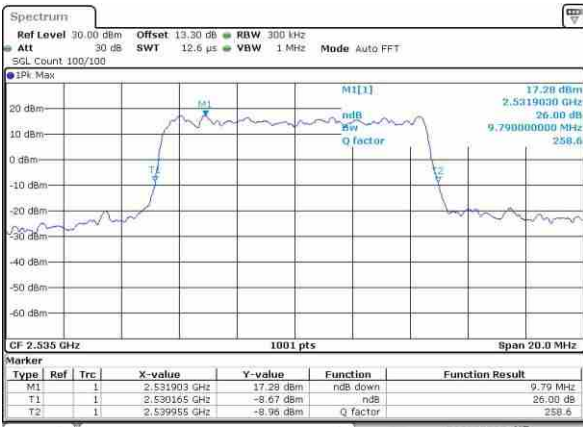
Date: 13, MAR, 2018 11:41:21

Lowest Channel / 10MHz / 16QAM



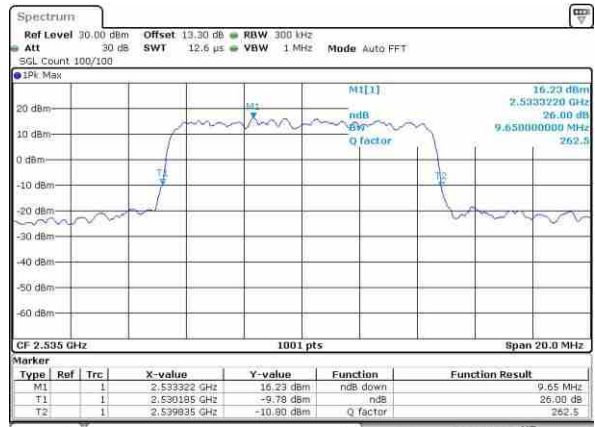
Date: 13, MAR, 2018 11:41:32

Middle Channel / 10MHz / QPSK



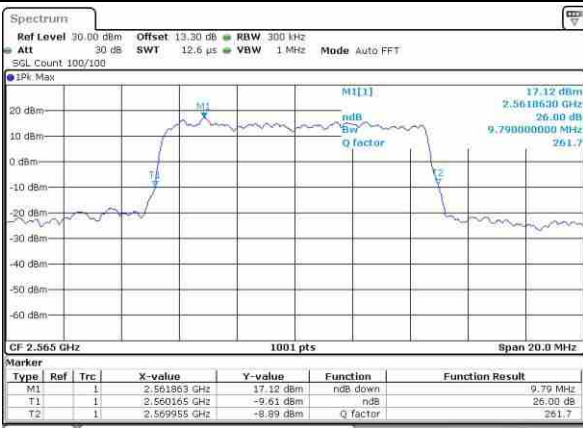
Date: 13, MAR, 2018 11:42:08

Middle Channel / 10MHz / 16QAM



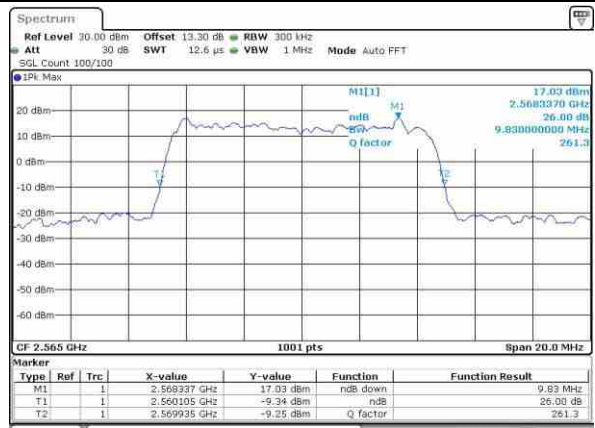
Date: 13, MAR, 2018 11:42:09

Highest Channel / 10MHz / QPSK



Date: 13, MAR, 2018 11:42:55

Highest Channel / 10MHz / 16QAM

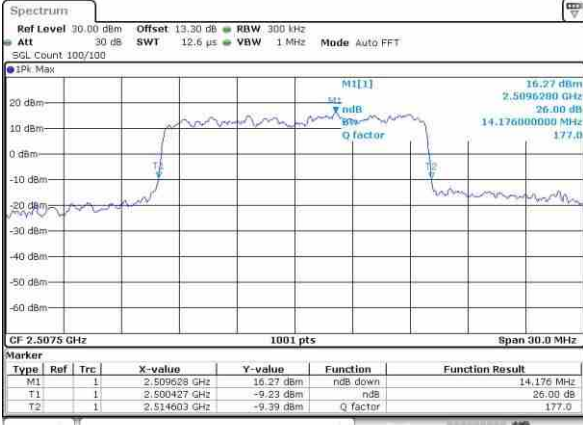


Date: 13, MAR, 2018 11:43:07



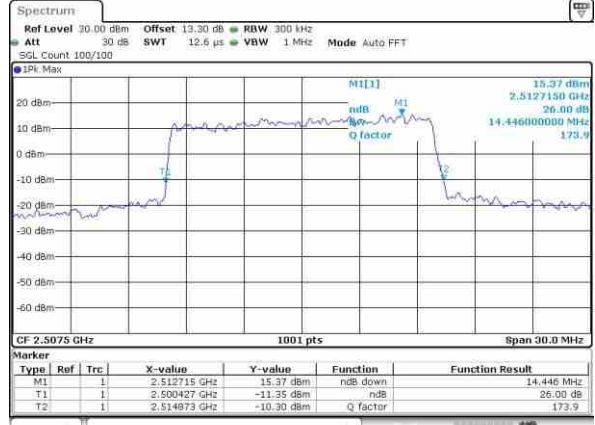
LTE Band 7

Lowest Channel / 15MHz / QPSK



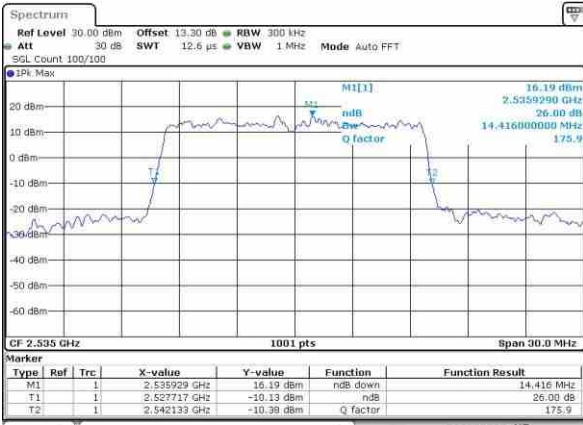
Date: 13, MAR, 2018 11:43:42

Lowest Channel / 15MHz / 16QAM



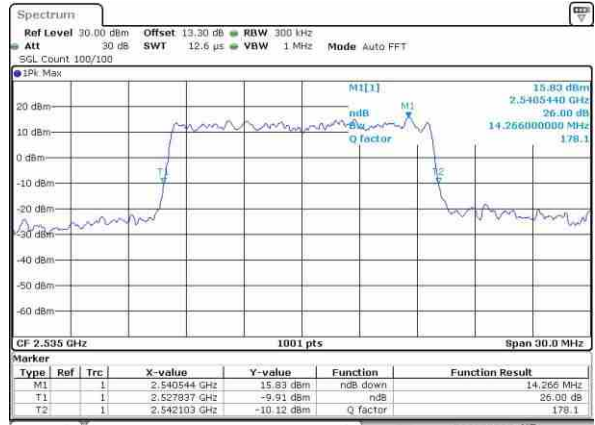
Date: 13, MAR, 2018 11:43:54

Middle Channel / 15MHz / QPSK



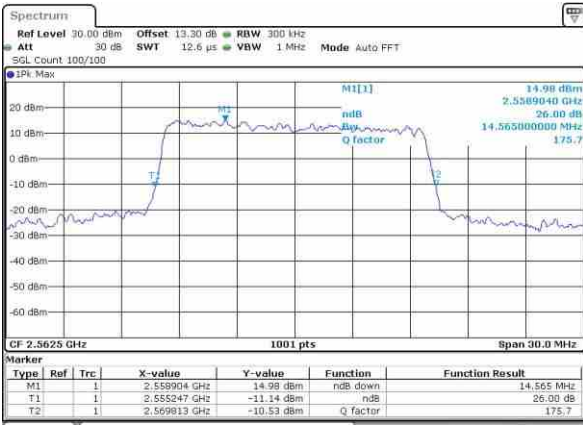
Date: 13, MAR, 2018 11:44:30

Middle Channel / 15MHz / 16QAM



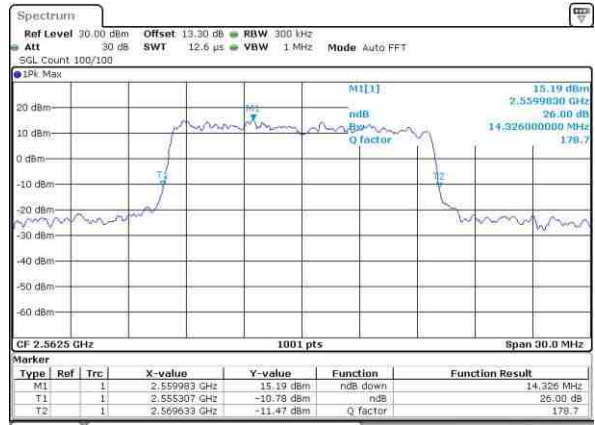
Date: 13, MAR, 2018 11:44:41

Highest Channel / 15MHz / QPSK



Date: 13, MAR, 2018 11:45:17

Highest Channel / 15MHz / 16QAM

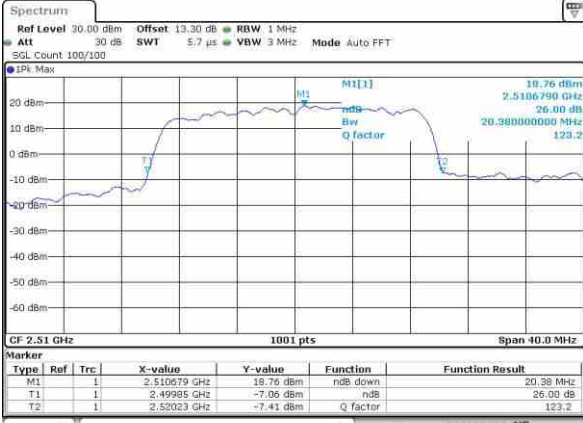


Date: 13, MAR, 2018 11:45:28



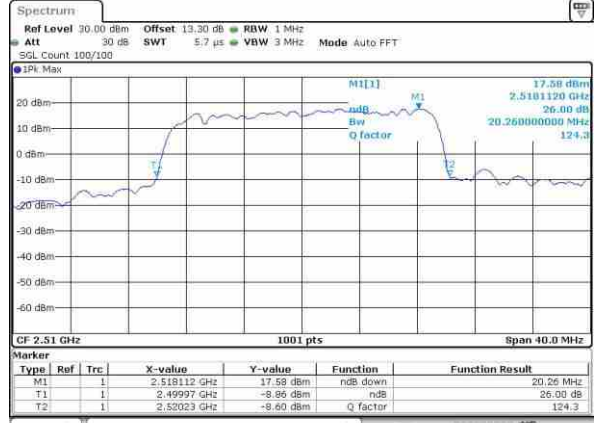
LTE Band 7

Lowest Channel / 20MHz / QPSK



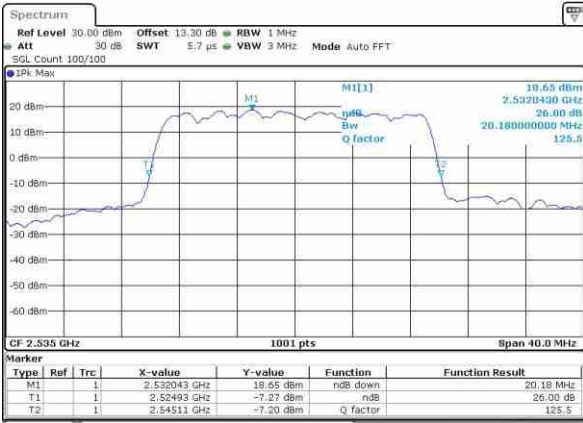
Date: 13, MAR, 2018 11:46:04

Lowest Channel / 20MHz / 16QAM



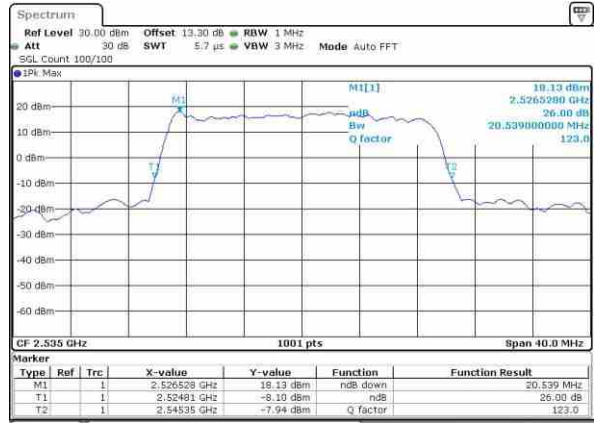
Date: 13, MAR, 2018 11:46:16

Middle Channel / 20MHz / QPSK



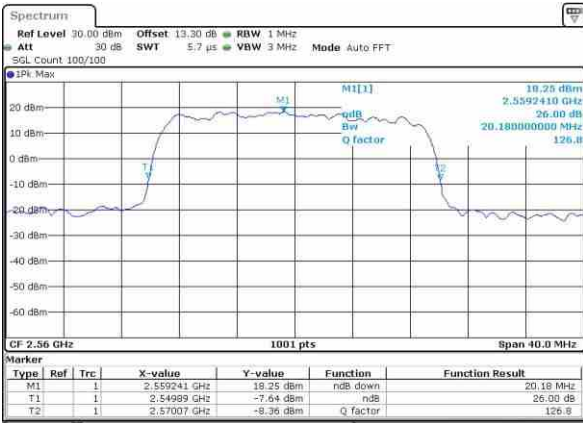
Date: 13, MAR, 2018 11:46:51

Middle Channel / 20MHz / 16QAM



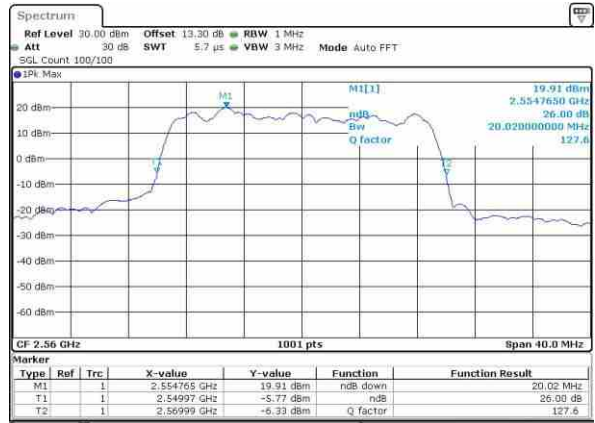
Date: 13, MAR, 2018 11:47:02

Highest Channel / 20MHz / QPSK



Date: 13, MAR, 2018 11:47:38

Highest Channel / 20MHz / 16QAM

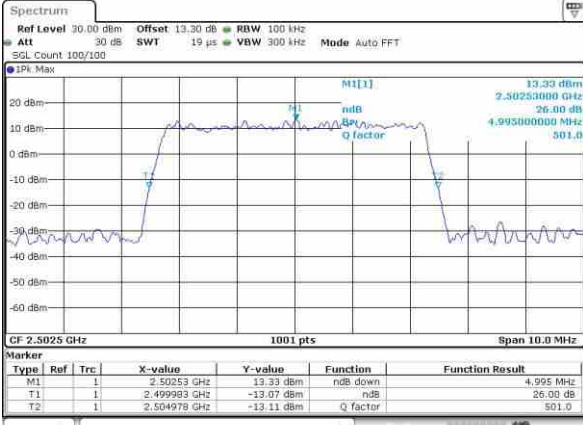


Date: 13, MAR, 2018 11:47:50



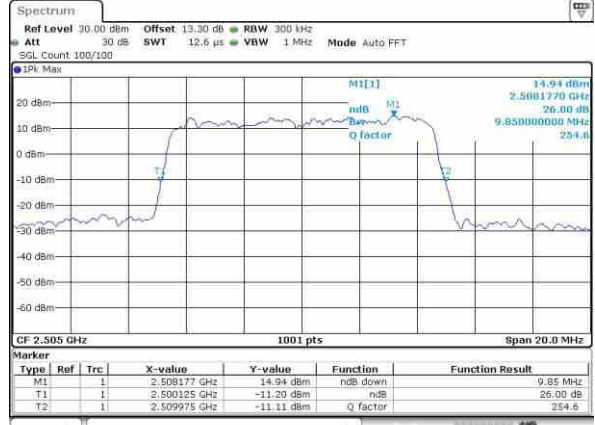
LTE Band 7

Lowest Channel / 5MHz / 64QAM



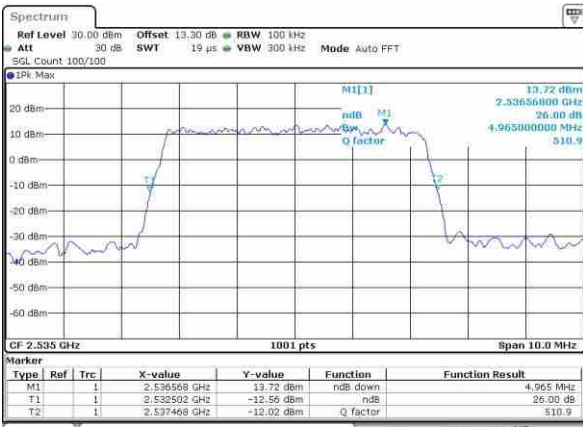
Date: 16, MAR, 2018 10:27:59

Lowest Channel / 10MHz / 64QAM



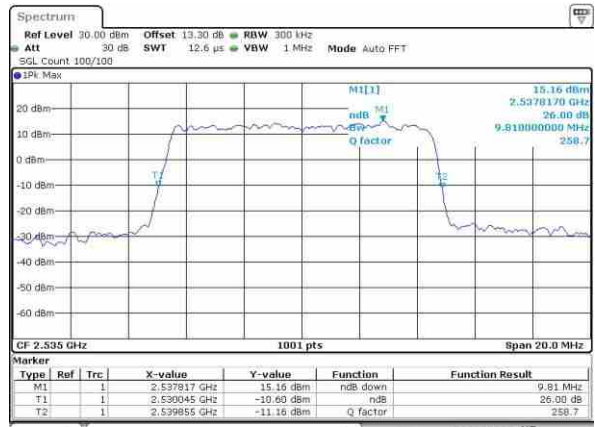
Date: 16, MAR, 2018 10:36:47

Middle Channel / 5MHz / 64QAM



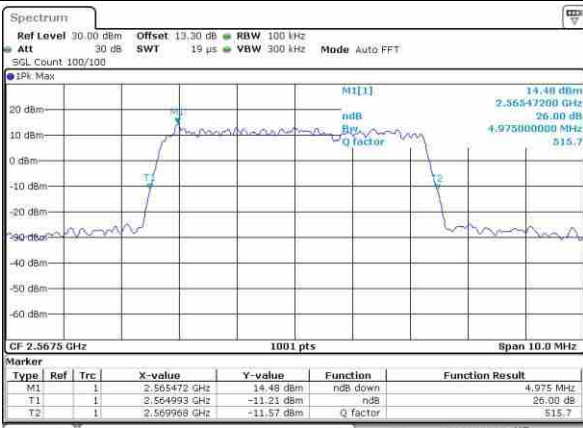
Date: 16, MAR, 2018 10:33:42

Middle Channel / 10MHz / 64QAM



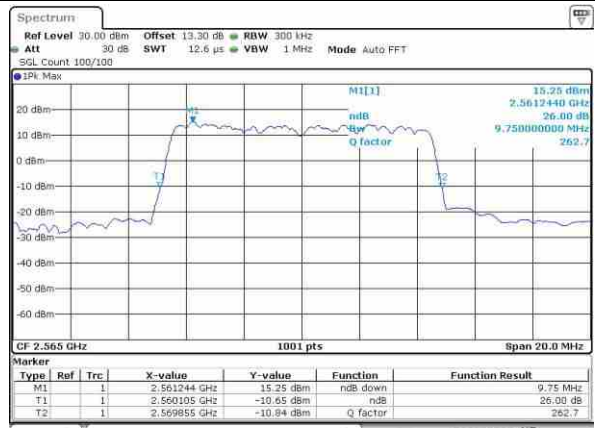
Date: 16, MAR, 2018 10:41:38

Highest Channel / 5MHz / 64QAM



Date: 16, MAR, 2018 10:33:04

Highest Channel / 10MHz / 64QAM

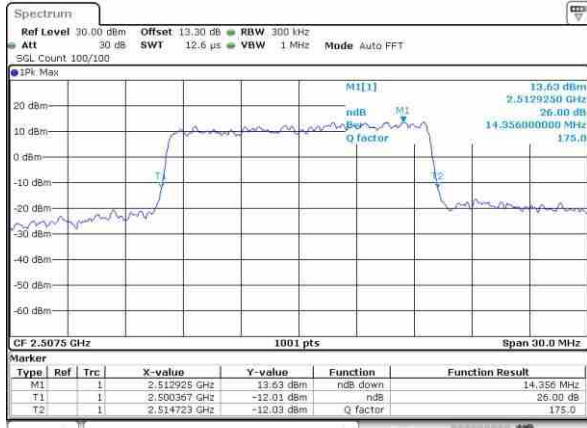


Date: 16, MAR, 2018 10:43:00



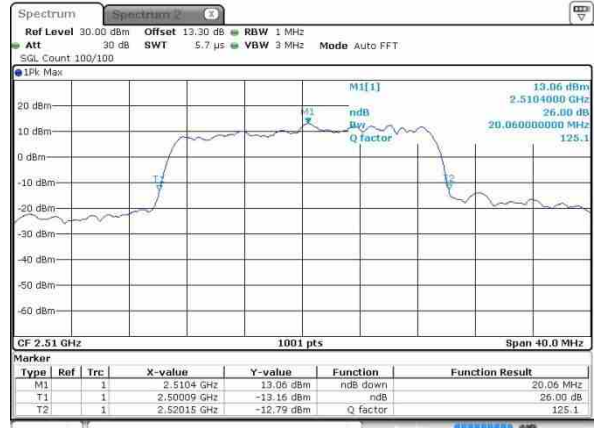
LTE Band 7

Lowest Channel / 15MHz / 64QAM



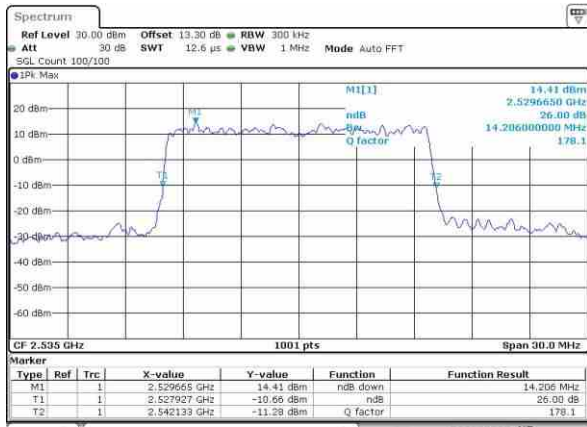
Date: 16/MAR/2018 10:16:43

Lowest Channel / 20MHz / 64QAM



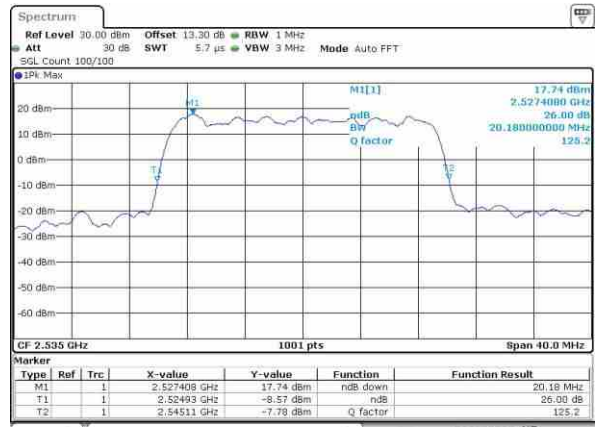
Date: 27 MAR 2018 00:07:59

Middle Channel / 15MHz / 64QAM



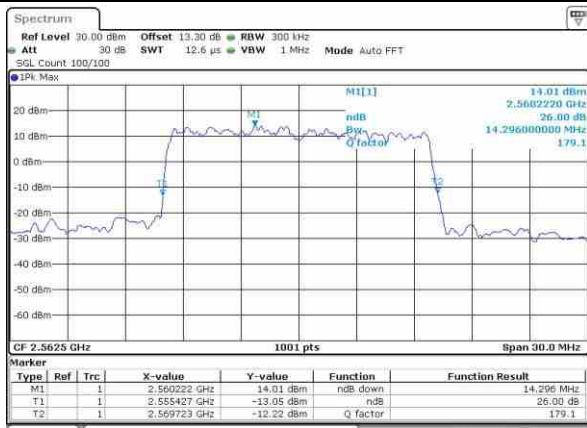
Date: 16/MAR/2018 10:55:25

Middle Channel / 20MHz / 64QAM



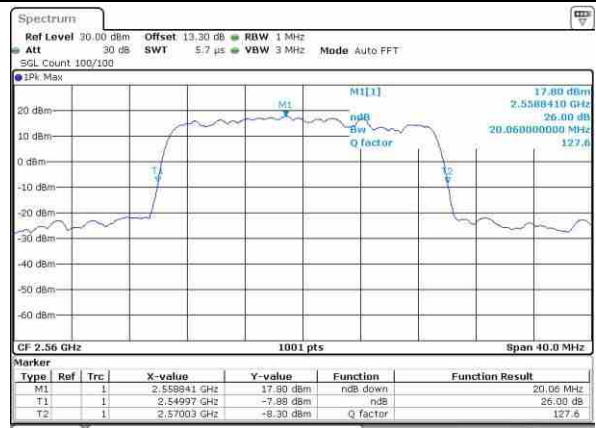
Date: 16/MAR/2018 11:24:40

Highest Channel / 15MHz / 64QAM



Date: 16/MAR/2018 10:51:51

Highest Channel / 20MHz / 64QAM



Date: 16/MAR/2018 11:26:02





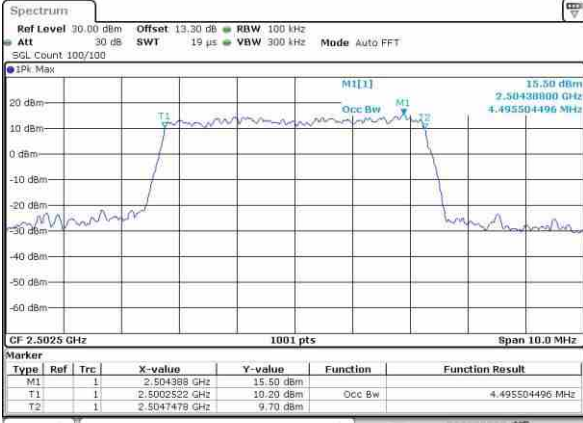
**Occupied Bandwidth**

Mode	LTE Band 7 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.5	4.48	9.01	9.01	13.46	13.43	18.38	18.46
Middle CH	-	-	-	-	4.48	4.5	9.03	9.03	13.43	13.55	18.38	18.26
Highest CH	-	-	-	-	4.5	4.47	9.03	8.99	13.49	13.46	18.18	18.3
Mode	LTE Band 7 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.48	-	9.01	-	13.43	-	18.42	-
Middle CH	-	-	-	-	4.51	-	8.99	-	13.40	-	18.30	-
Highest CH	-	-	-	-	4.49	-	9.09	-	13.40	-	18.10	-



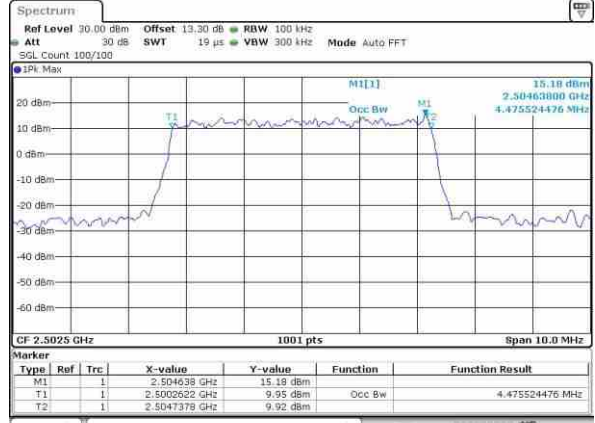
LTE Band 7

Lowest Channel / 5MHz / QPSK



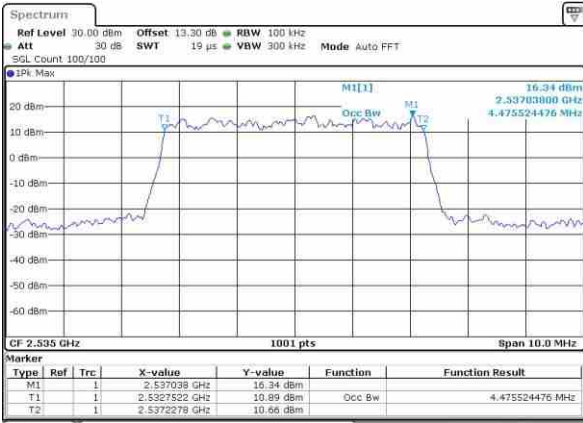
Date: 13, MAR, 2018 11:38:36

Lowest Channel / 5MHz / 16QAM



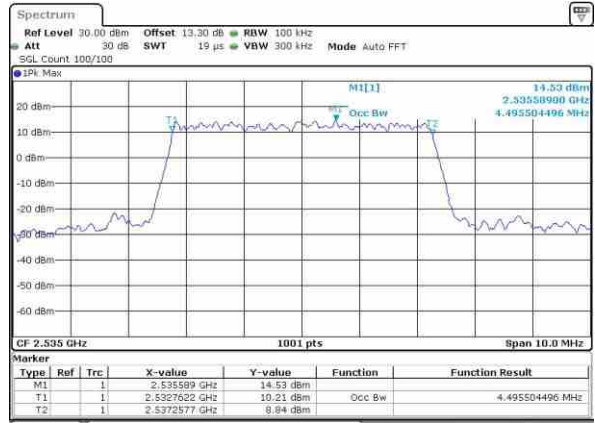
Date: 13, MAR, 2018 11:38:48

Middle Channel / 5MHz / QPSK



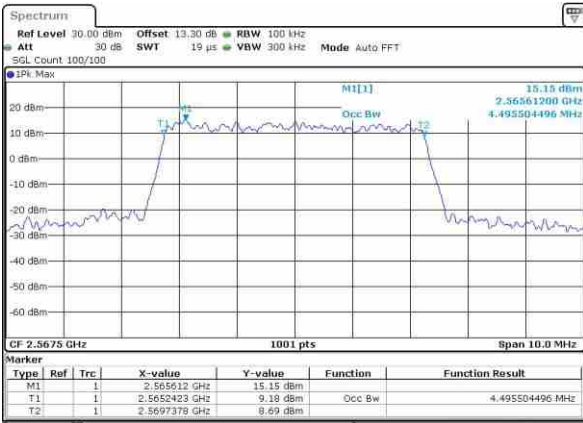
Date: 13, MAR, 2018 11:39:23

Middle Channel / 5MHz / 16QAM



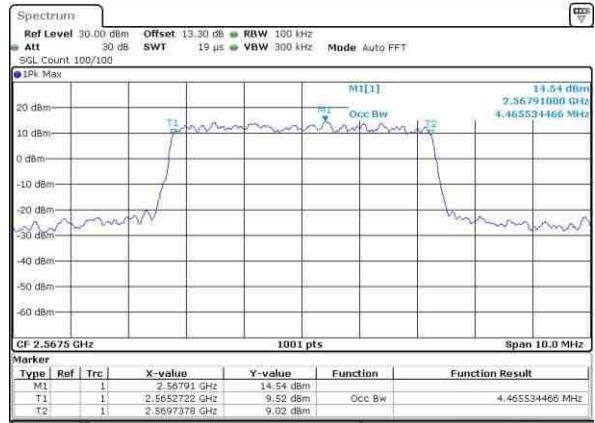
Date: 13, MAR, 2018 11:39:35

Highest Channel / 5MHz / QPSK



Date: 13, MAR, 2018 11:40:10

Highest Channel / 5MHz / 16QAM

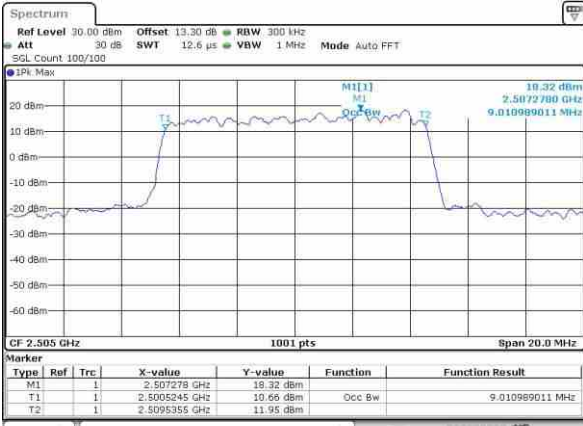


Date: 13, MAR, 2018 11:40:22



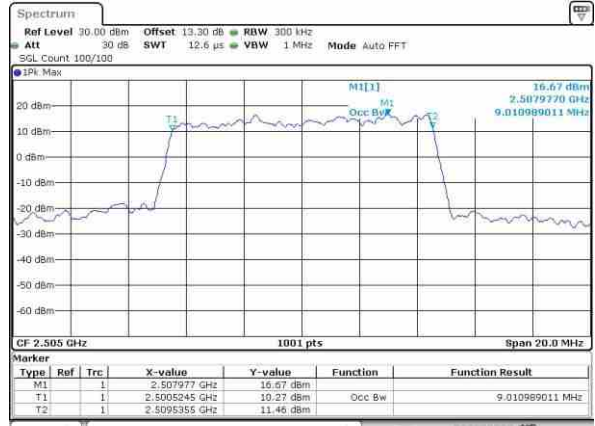
LTE Band 7

Lowest Channel / 10MHz / QPSK



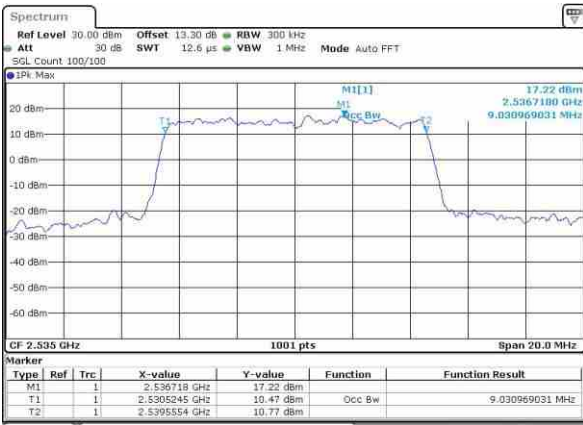
Date: 13, MAR, 2018 11:40:58

Lowest Channel / 10MHz / 16QAM



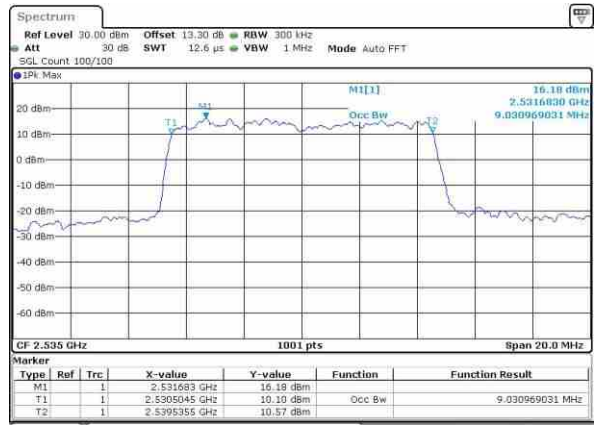
Date: 13, MAR, 2018 11:41:09

Middle Channel / 10MHz / QPSK



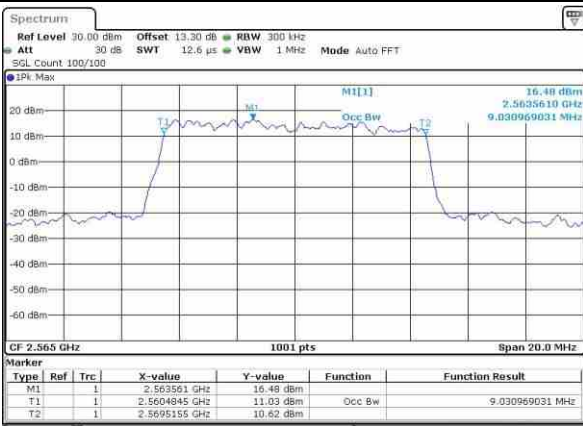
Date: 13, MAR, 2018 11:41:45

Middle Channel / 10MHz / 16QAM



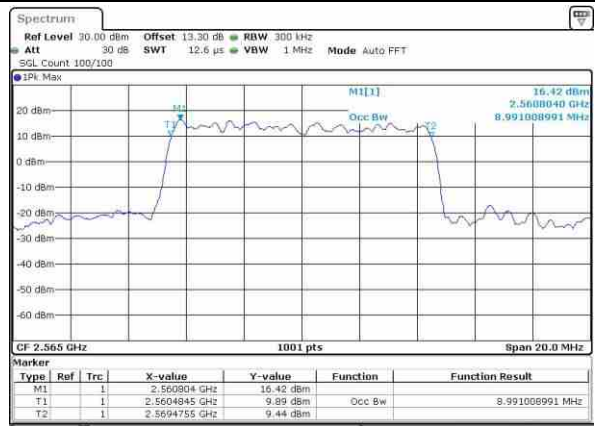
Date: 13, MAR, 2018 11:41:56

Highest Channel / 10MHz / QPSK



Date: 13, MAR, 2018 11:42:32

Highest Channel / 10MHz / 16QAM

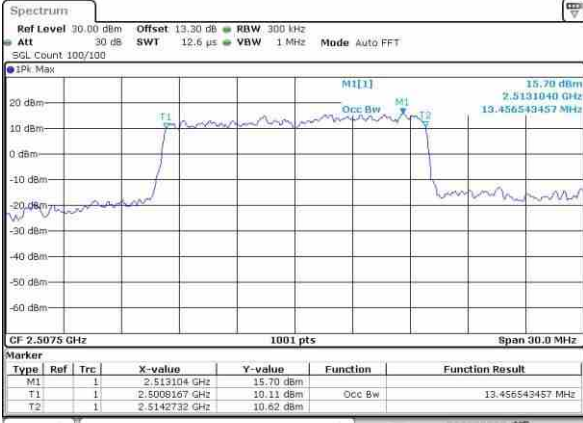


Date: 13, MAR, 2018 11:42:48



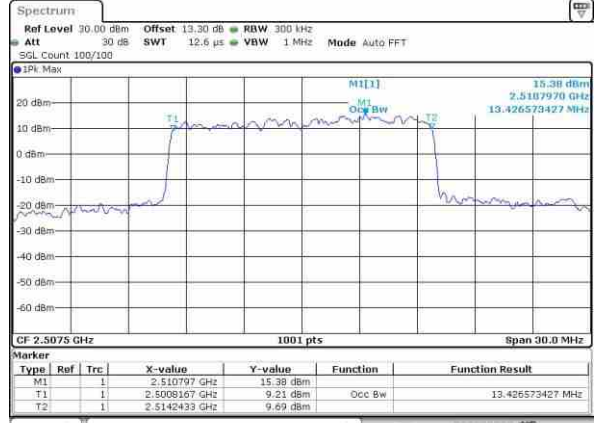
LTE Band 7

Lowest Channel / 15MHz / QPSK



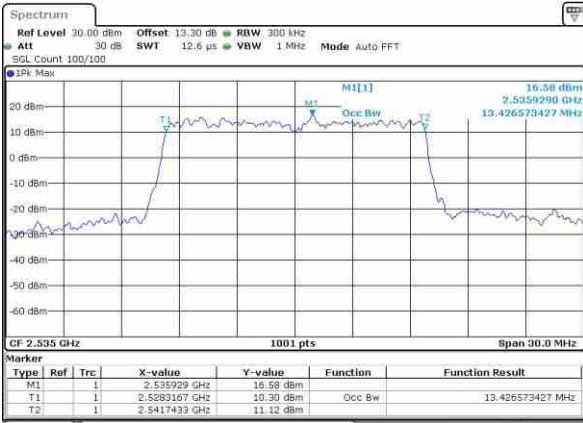
Date: 13, MAR, 2018 11:43:19

Lowest Channel / 15MHz / 16QAM



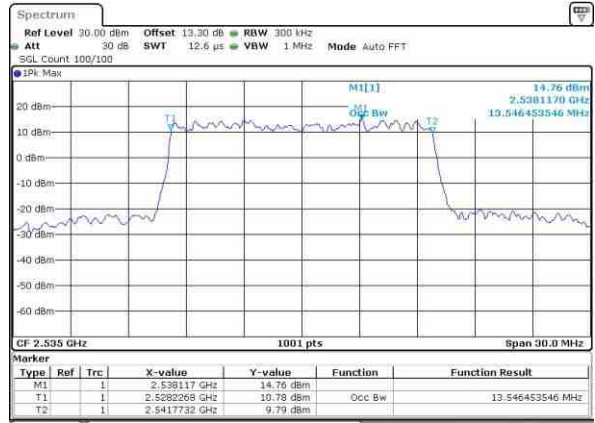
Date: 13, MAR, 2018 11:43:31

Middle Channel / 15MHz / QPSK



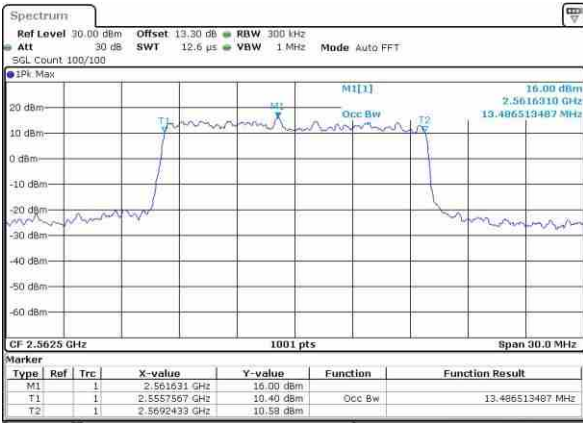
Date: 13, MAR, 2018 11:44:06

Middle Channel / 15MHz / 16QAM



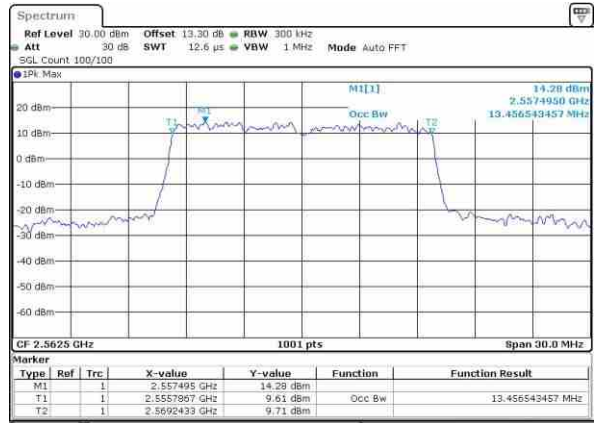
Date: 13, MAR, 2018 11:44:18

Highest Channel / 15MHz / QPSK



Date: 13, MAR, 2018 11:44:53

Highest Channel / 15MHz / 16QAM

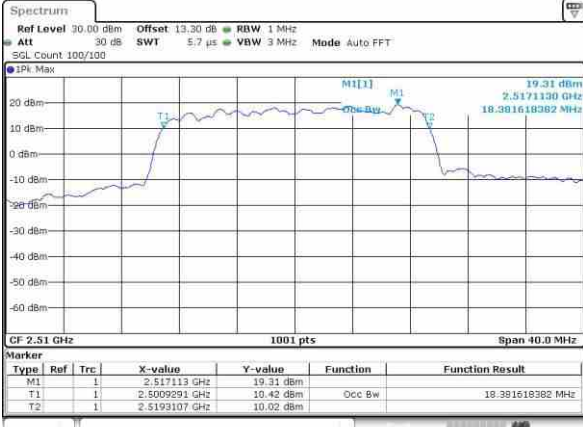


Date: 13, MAR, 2018 11:44:05



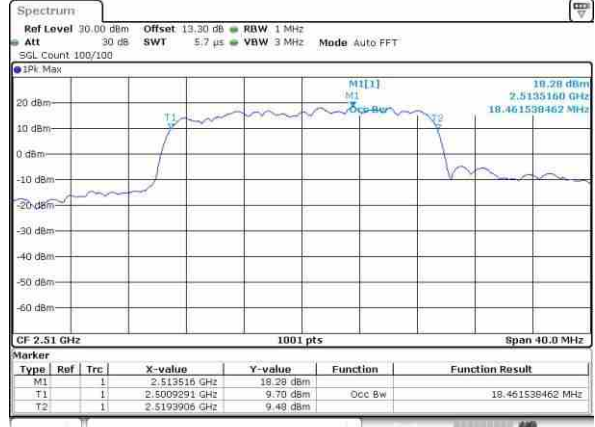
LTE Band 7

Lowest Channel / 20MHz / QPSK



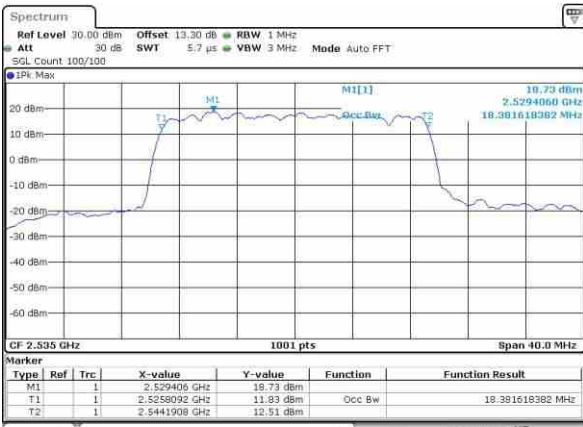
Date: 13, MAR, 2018 11:45:40

Lowest Channel / 20MHz / 16QAM



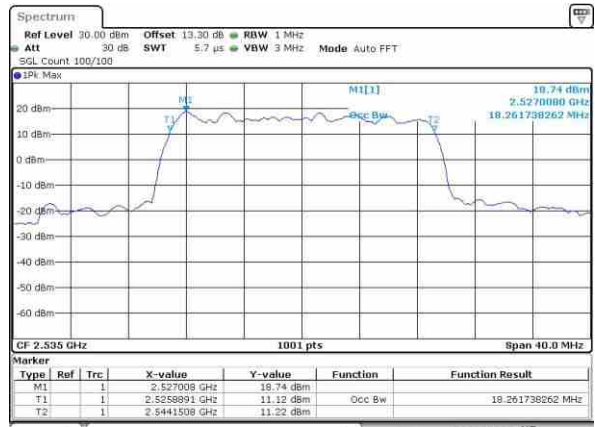
Date: 13, MAR, 2018 11:45:52

Middle Channel / 20MHz / QPSK



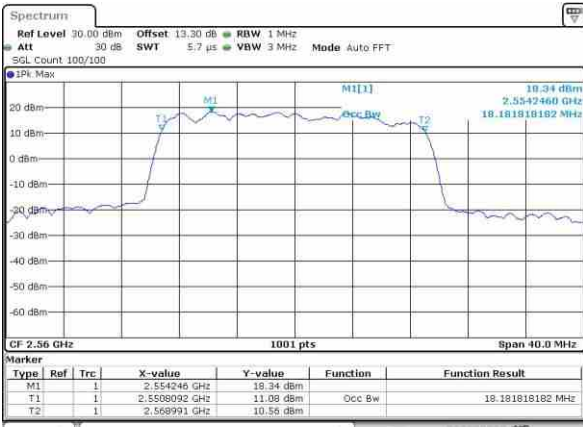
Date: 13, MAR, 2018 11:46:27

Middle Channel / 20MHz / 16QAM



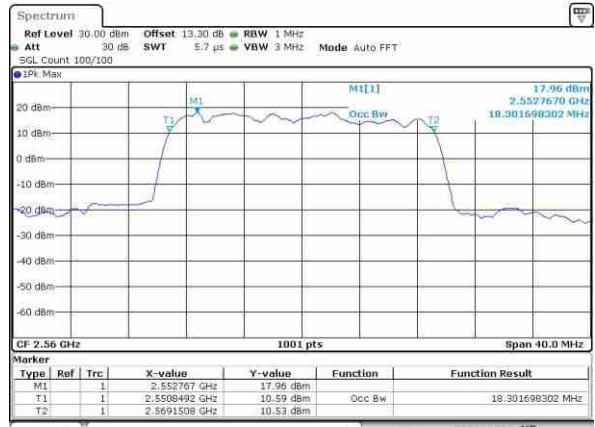
Date: 13, MAR, 2018 11:46:39

Highest Channel / 20MHz / QPSK



Date: 13, MAR, 2018 11:47:14

Highest Channel / 20MHz / 16QAM

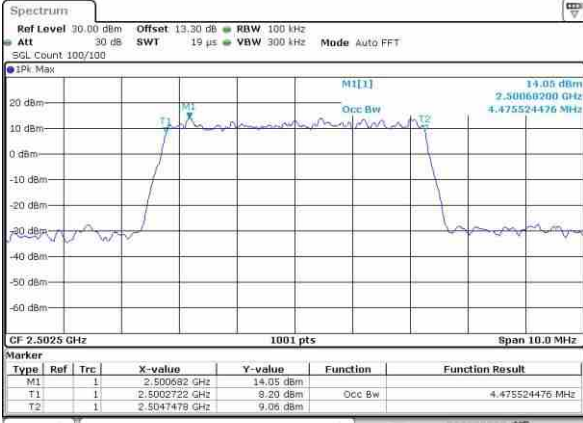


Date: 13, MAR, 2018 11:47:26



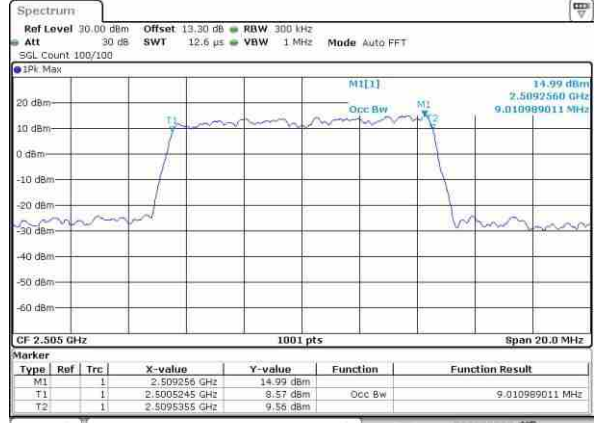
LTE Band 7

Lowest Channel / 5MHz / 64QAM



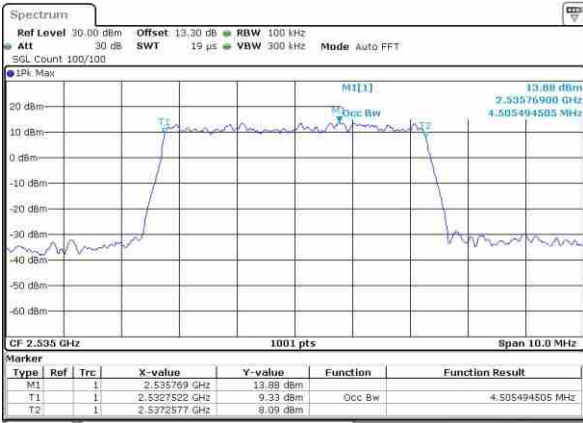
Date: 16, MAR, 2018 10:27:47

Lowest Channel / 10MHz / 64QAM



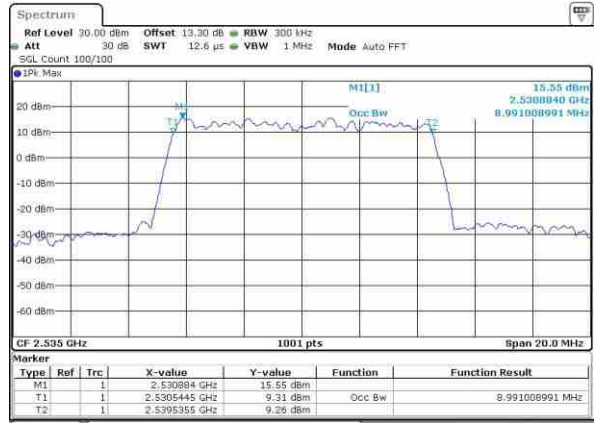
Date: 16, MAR, 2018 10:38:35

Middle Channel / 5MHz / 64QAM



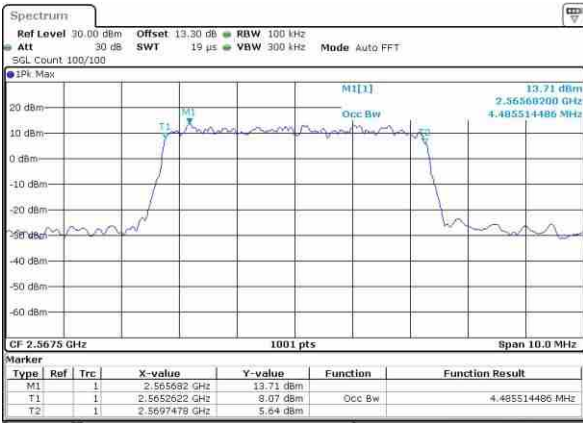
Date: 16, MAR, 2018 10:33:30

Middle Channel / 10MHz / 64QAM



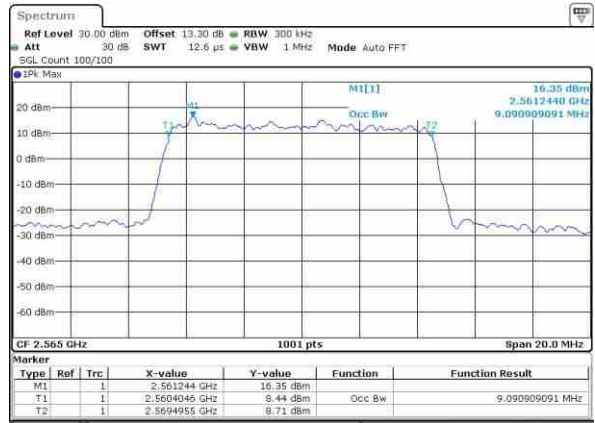
Date: 16, MAR, 2018 10:41:26

Highest Channel / 5MHz / 64QAM



Date: 16, MAR, 2018 10:32:52

Highest Channel / 10MHz / 64QAM

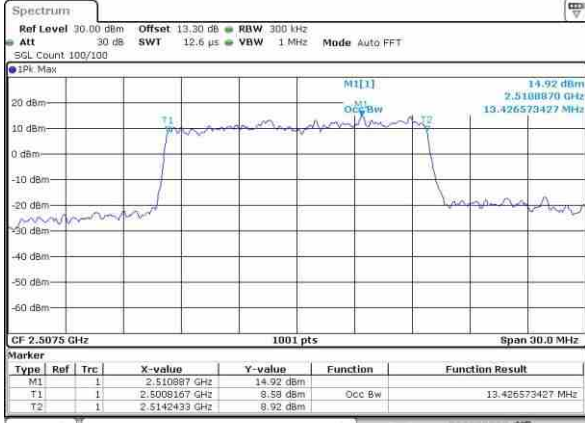


Date: 16, MAR, 2018 10:42:48



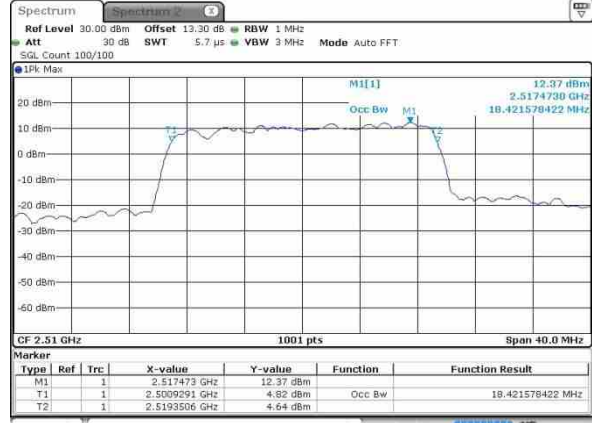
LTE Band 7

Lowest Channel / 15MHz / 64QAM



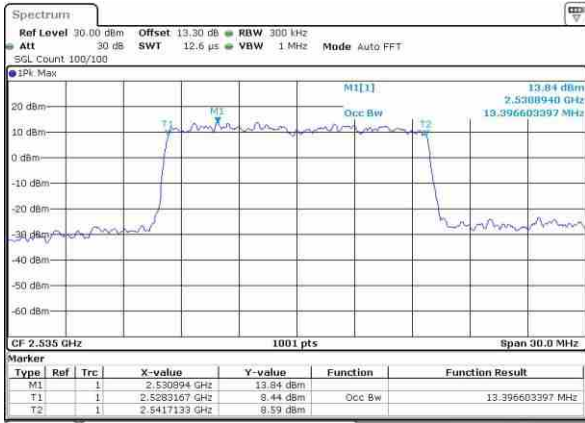
Date: 16/MAR/2018 10:46:31

Lowest Channel / 20MHz / 64QAM



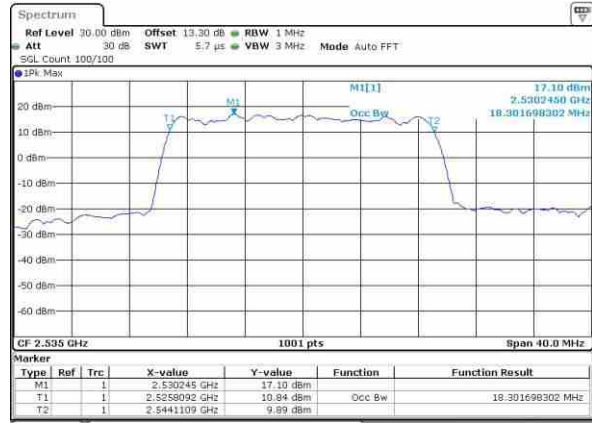
Date: 27 MAR 2018 00:08:11

Middle Channel / 15MHz / 64QAM



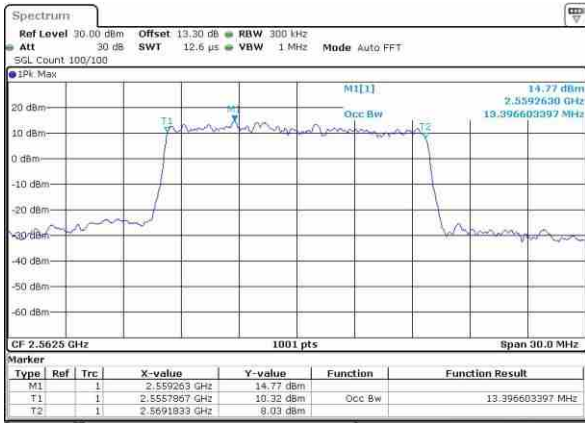
Date: 16/MAR/2018 10:58:13

Middle Channel / 20MHz / 64QAM



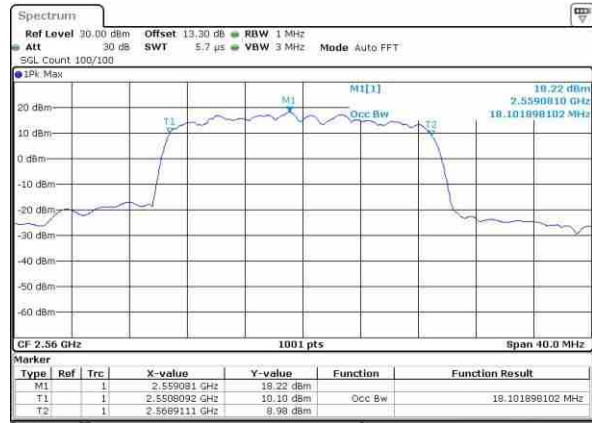
Date: 16/MAR/2018 11:24:28

Highest Channel / 15MHz / 64QAM



Date: 16/MAR/2018 10:51:35

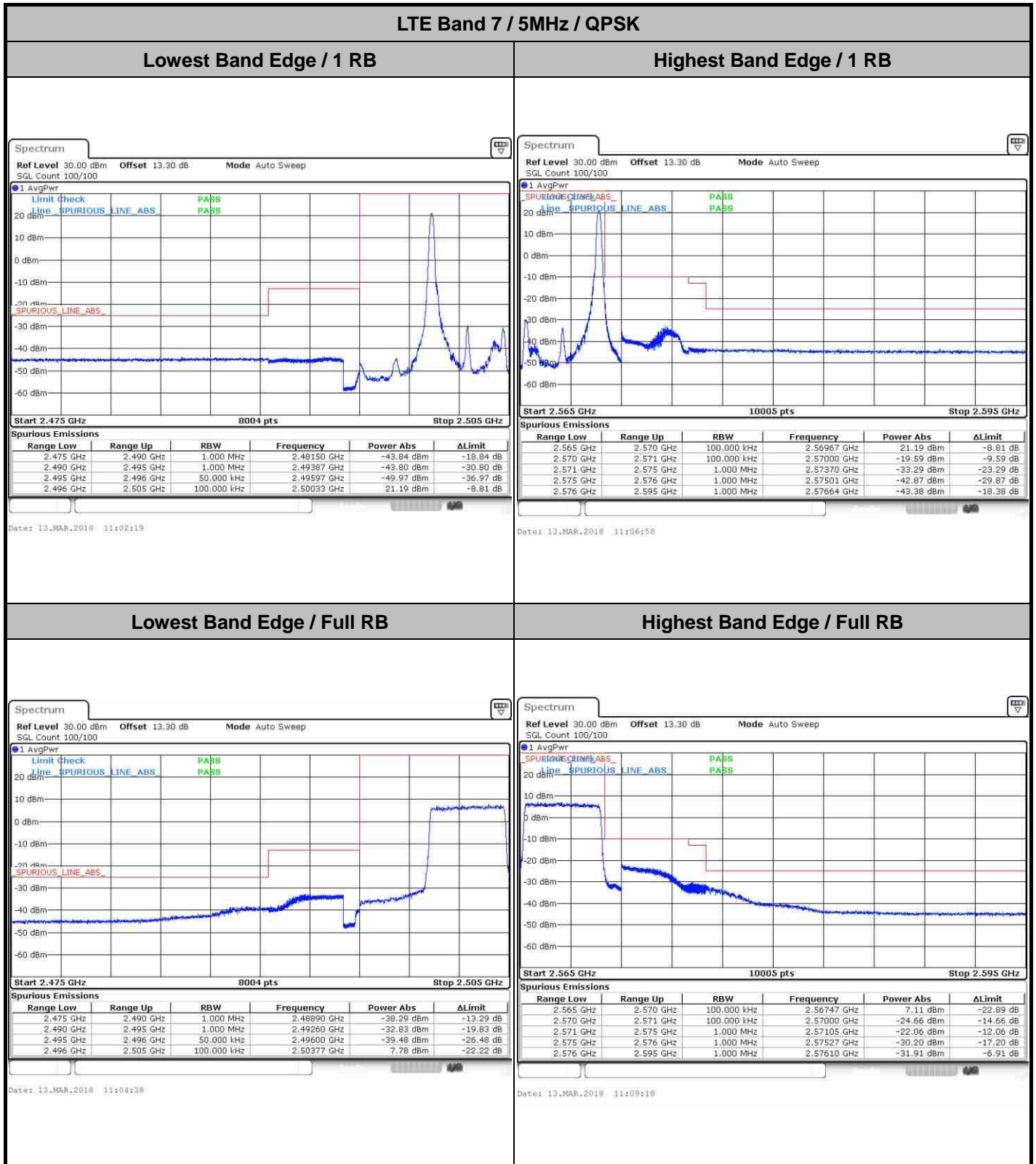
Highest Channel / 20MHz / 64QAM



Date: 16/MAR/2018 11:25:50



# Conducted Band Edge

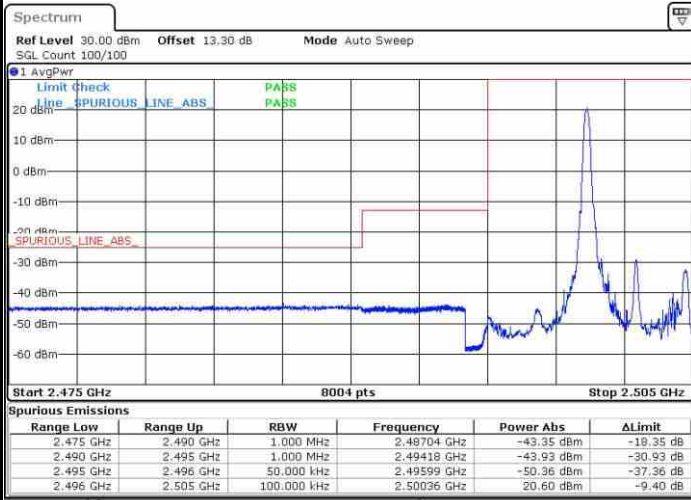






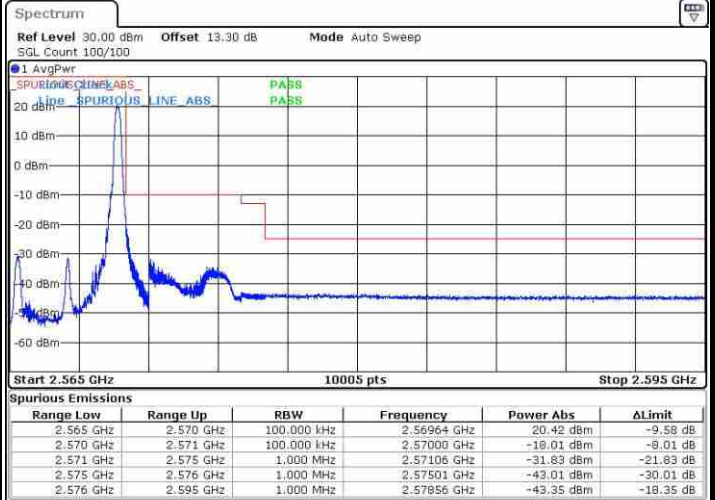
LTE Band 7 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



Date: 13.MAR.2019 11:03:28

Highest Band Edge / 1 RB



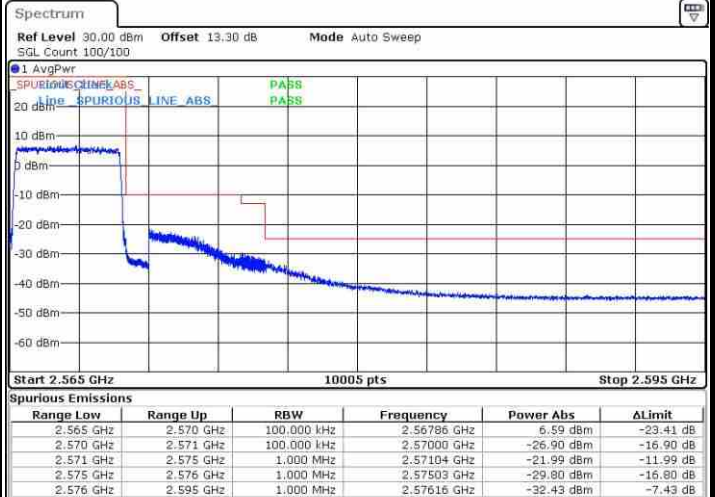
Date: 13.MAR.2019 11:08:07

Lowest Band Edge / Full RB



Date: 13.MAR.2019 11:05:49

Highest Band Edge / Full RB

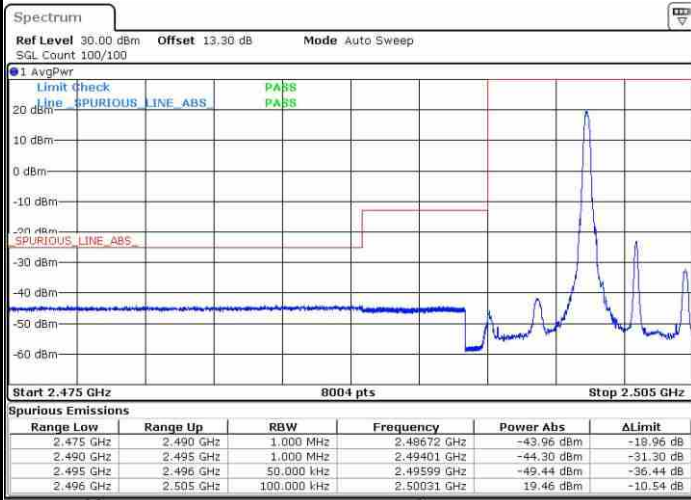


Date: 13.MAR.2019 11:10:27



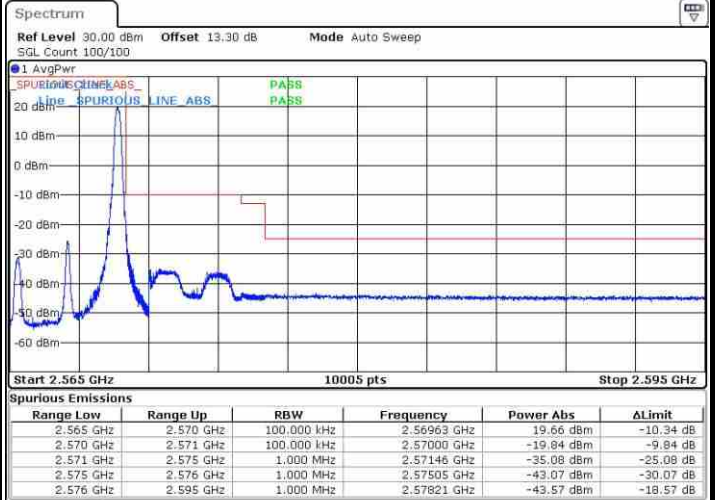
LTE Band 7 / 5MHz / 64QAM

Lowest Band Edge / 1RB



Date: 16.MAR.2018 10:29:09

Highest Band Edge / 1 RB



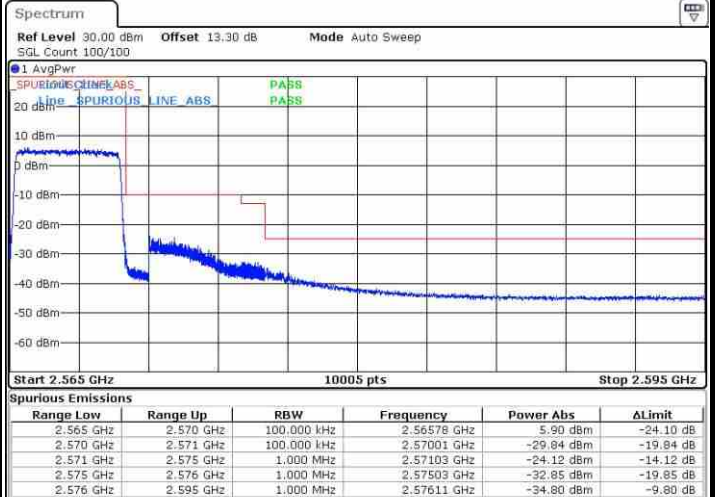
Date: 16.MAR.2018 10:34:15

Lowest Band Edge / Full RB



Date: 16.MAR.2018 10:30:19

Highest Band Edge / Full RB



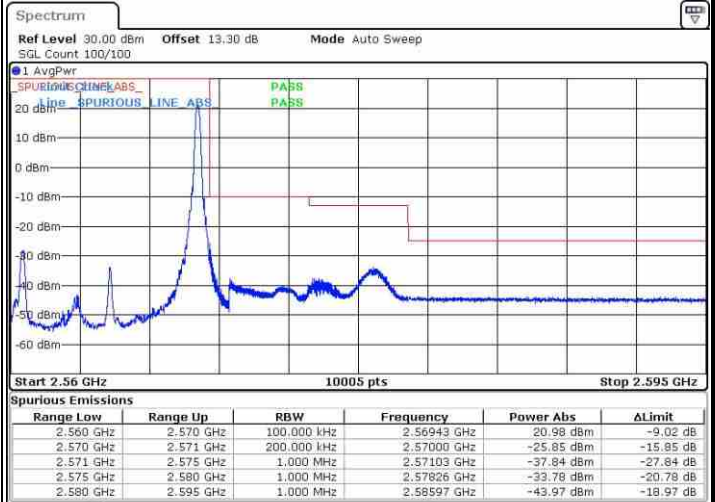
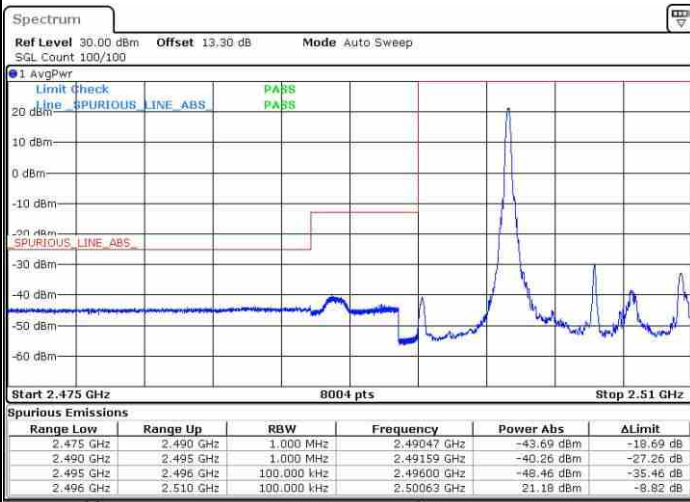
Date: 16.MAR.2018 10:35:25



LTE Band 7 / 10MHz / QPSK

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

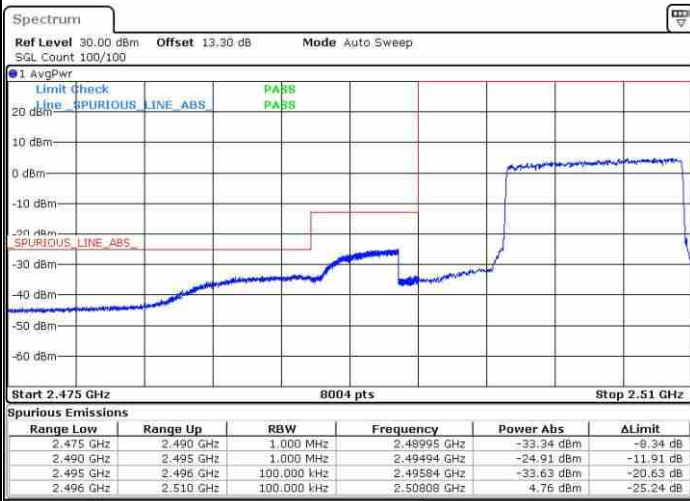


Date: 13.MAR.2018 11:11:37

Date: 13.MAR.2018 11:16:17

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



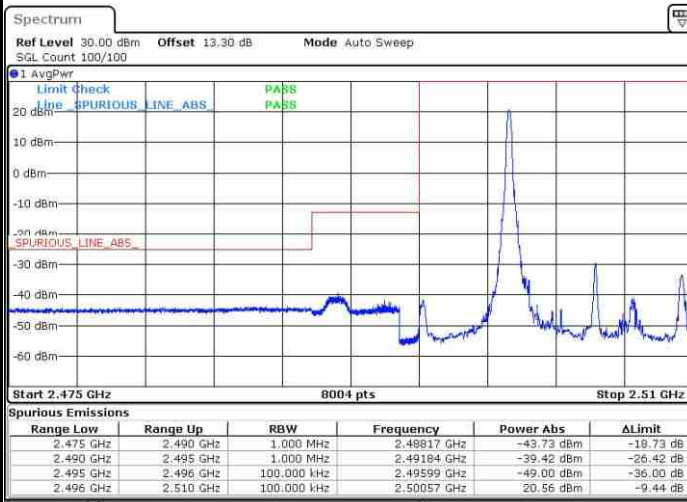
Date: 13.MAR.2018 11:13:57

Date: 13.MAR.2018 11:18:37



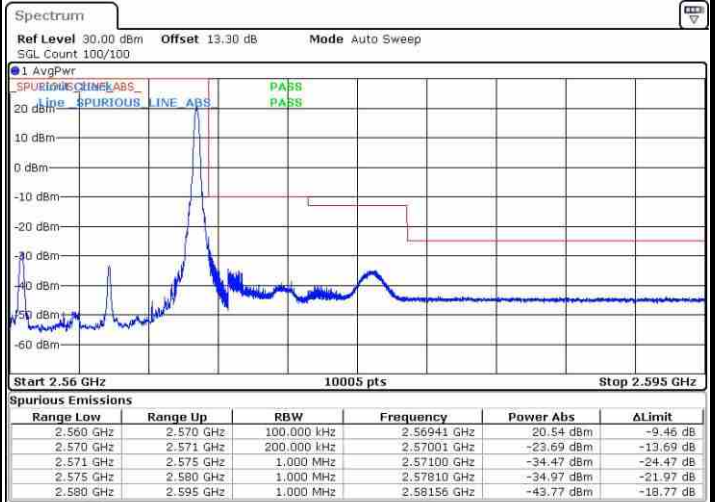
LTE Band 7 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



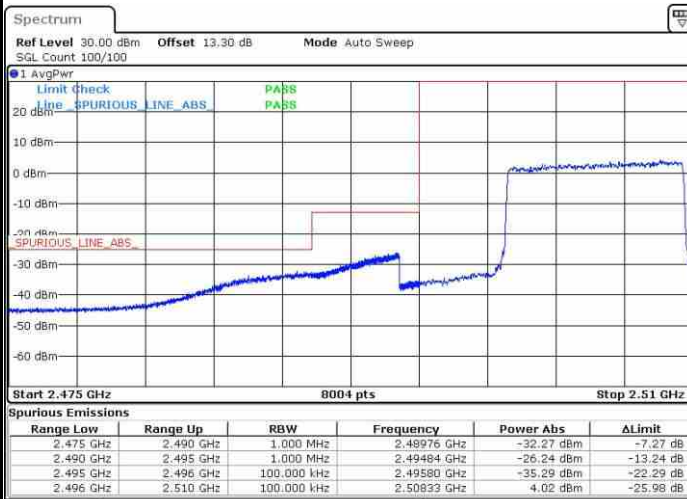
Date: 13.MAR.2018 11:12:47

Highest Band Edge / 1 RB



Date: 13.MAR.2018 11:17:27

Lowest Band Edge / Full RB



Date: 13.MAR.2018 11:15:07

Highest Band Edge / Full RB

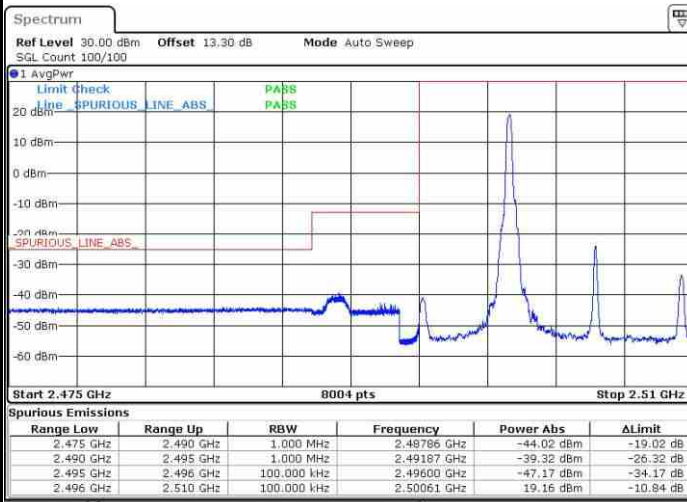


Date: 13.MAR.2018 11:19:47



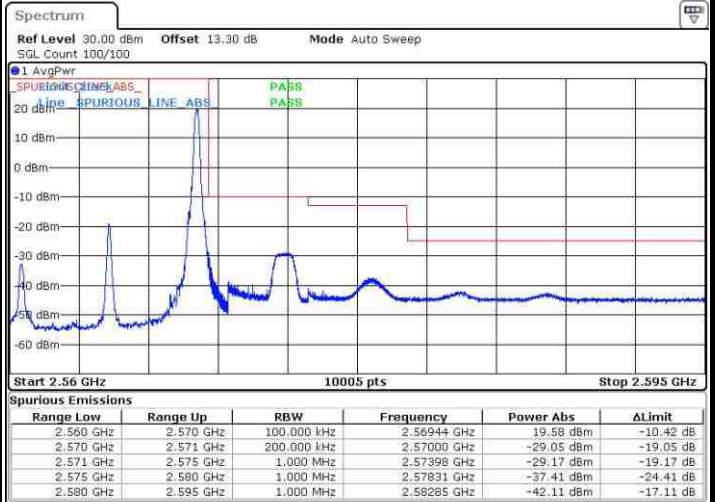
LTE Band 7 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



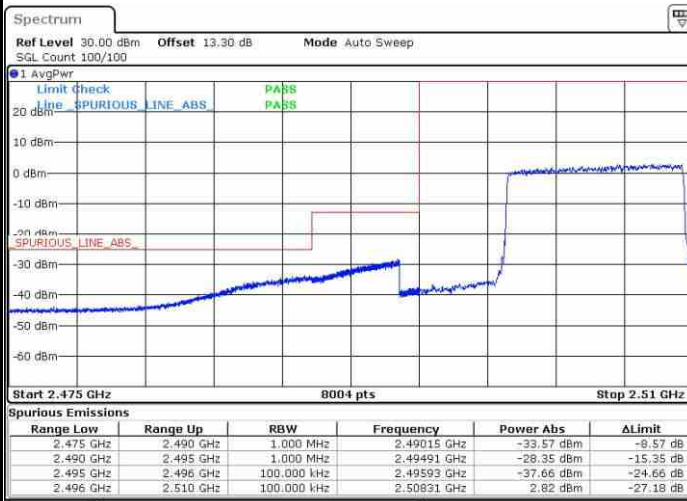
Date: 16.MAR.2018 10:37:58

Highest Band Edge / 1 RB



Date: 16.MAR.2018 10:44:10

Lowest Band Edge / Full RB



Date: 16.MAR.2018 10:39:08

Highest Band Edge / Full RB

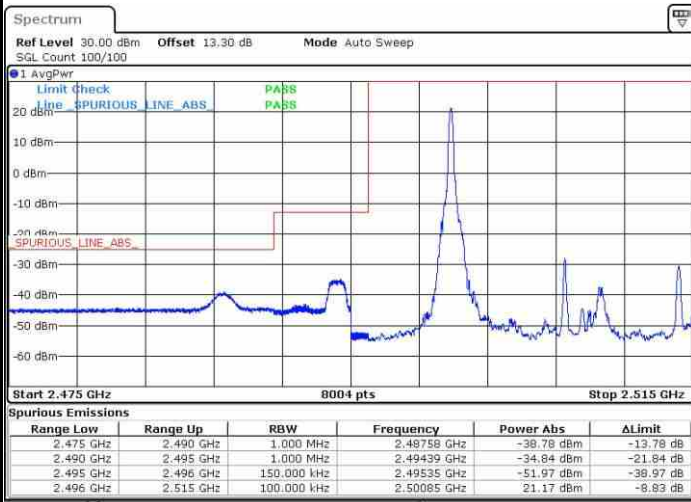


Date: 16.MAR.2018 10:45:21



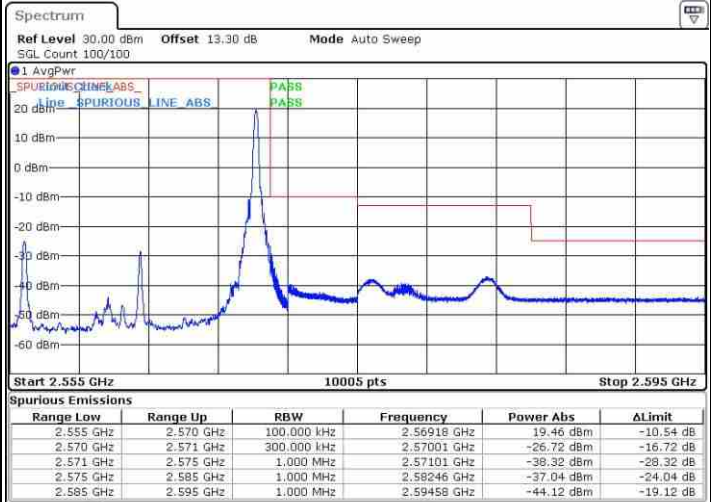
LTE Band 7 / 15MHz / QPSK

Lowest Band Edge / 1 RB



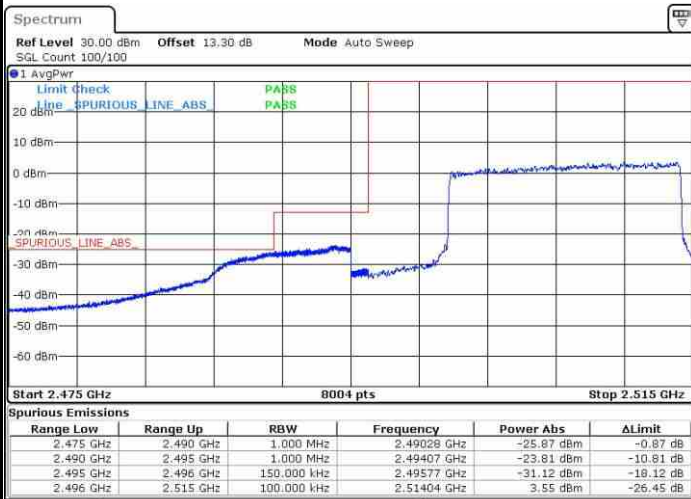
Date: 13.MAR.2018 11:20:56

Highest Band Edge / 1 RB



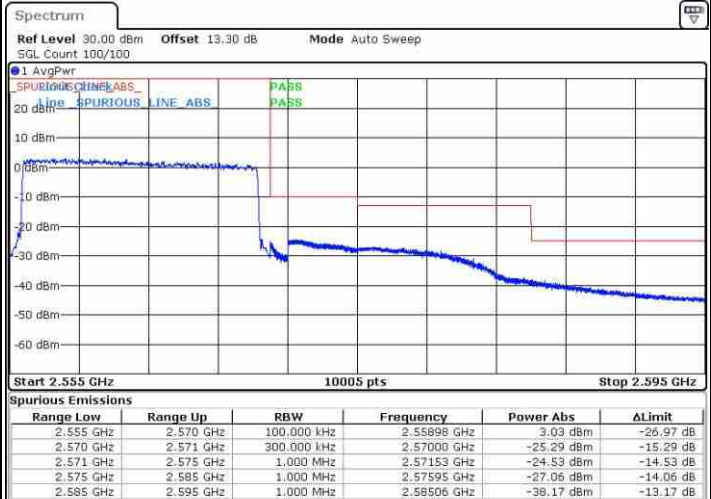
Date: 16.MAR.2018 11:32:47

Lowest Band Edge / Full RB



Date: 13.MAR.2018 11:23:16

Highest Band Edge / Full RB

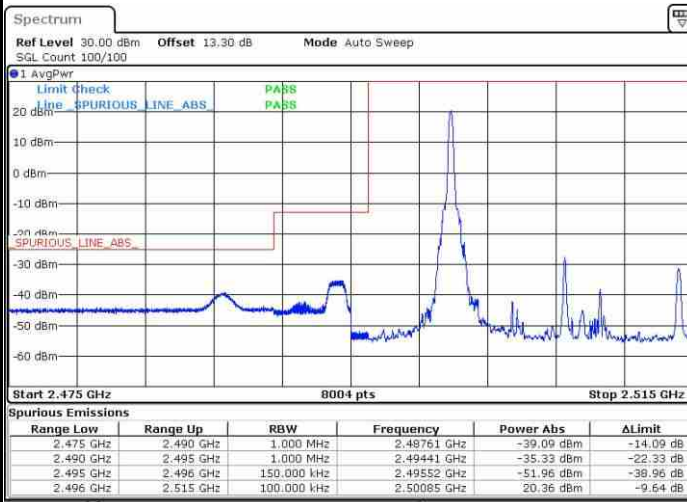


Date: 13.MAR.2018 11:27:56



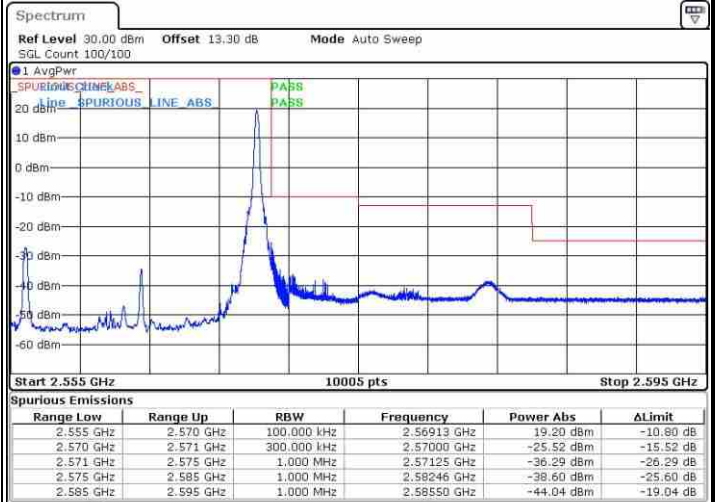
LTE Band 7 / 15MHz / 16QAM

Lowest Band Edge / 1 RB



Date: 13.MAR.2018 11:22:06

Highest Band Edge / 1 RB



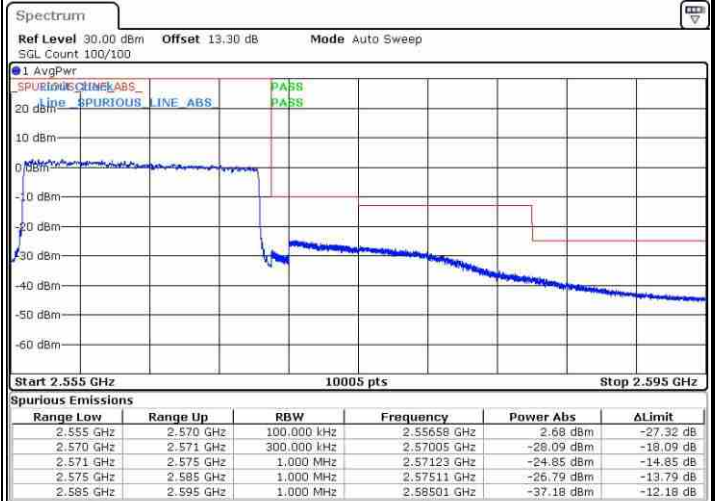
Date: 13.MAR.2018 11:26:46

Lowest Band Edge / Full RB



Date: 13.MAR.2018 11:24:26

Highest Band Edge / Full RB

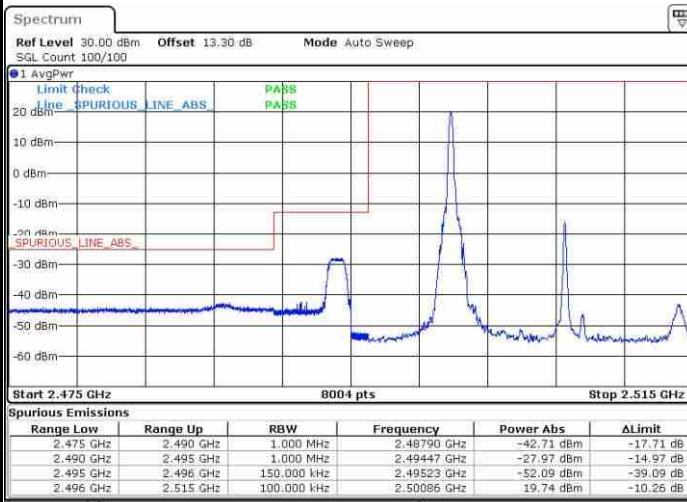


Date: 13.MAR.2018 11:29:05



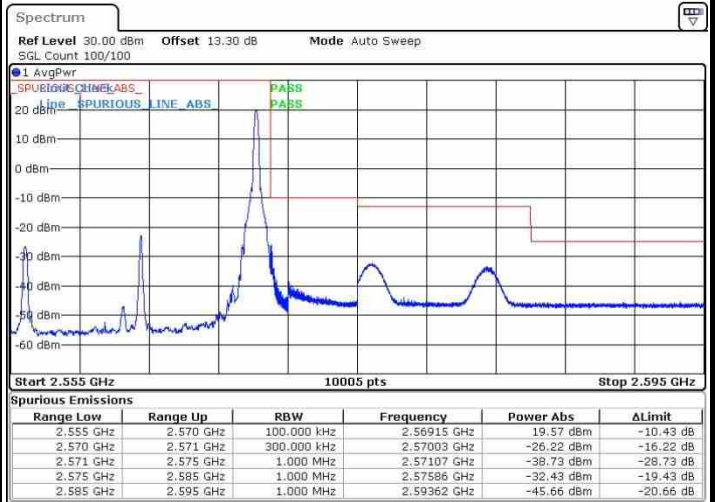
LTE Band 7 / 15MHz / 64QAM

Lowest Band Edge / 1 RB



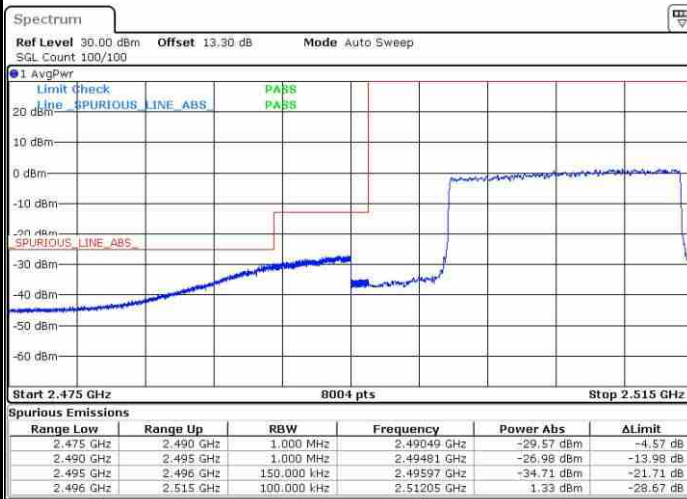
Date: 16.MAR.2018 10:47:53

Highest Band Edge / 1 RB



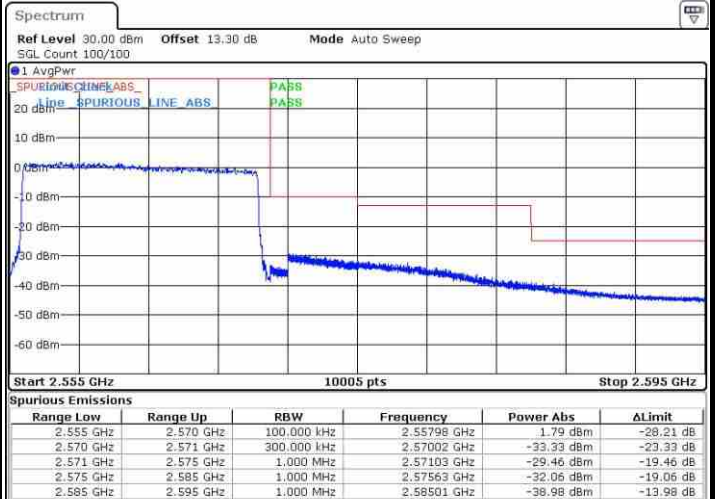
Date: 18.MAR.2018 14:14:49

Lowest Band Edge / Full RB



Date: 16.MAR.2018 10:49:03

Highest Band Edge / Full RB



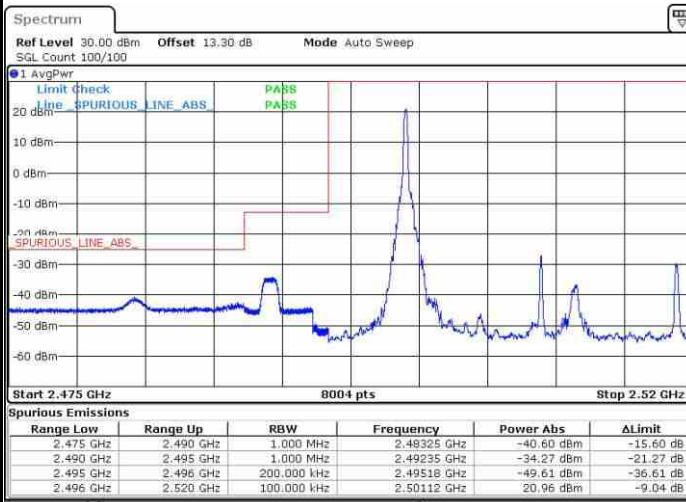
Date: 16.MAR.2018 10:54:21





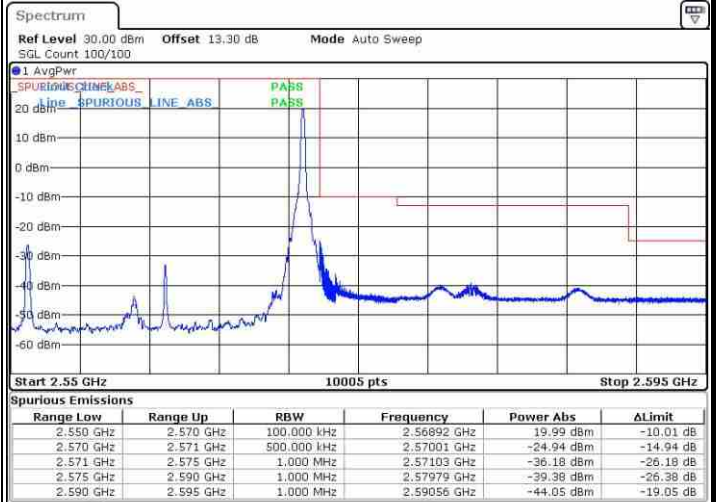
LTE Band 7 / 20MHz / QPSK

Lowest Band Edge / 1 RB



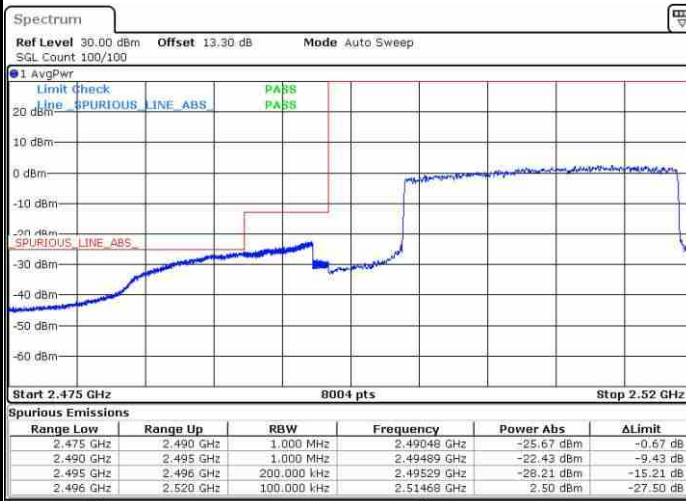
Date: 13.MAR.2018 11:30:15

Highest Band Edge / 1 RB



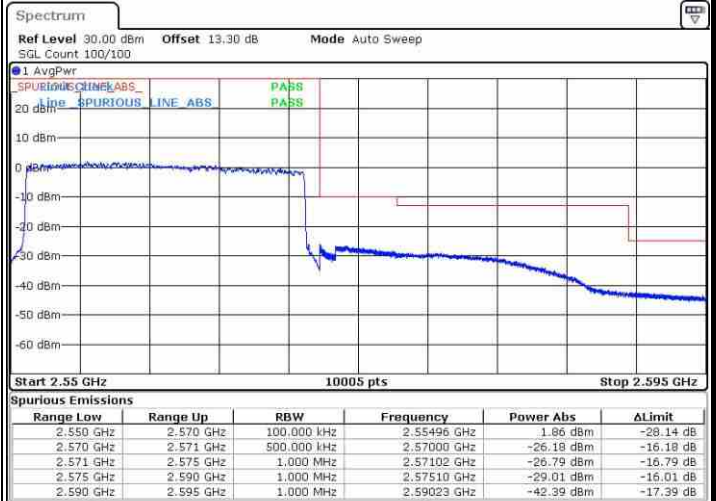
Date: 13.MAR.2018 11:34:54

Lowest Band Edge / Full RB



Date: 13.MAR.2018 11:32:35

Highest Band Edge / Full RB

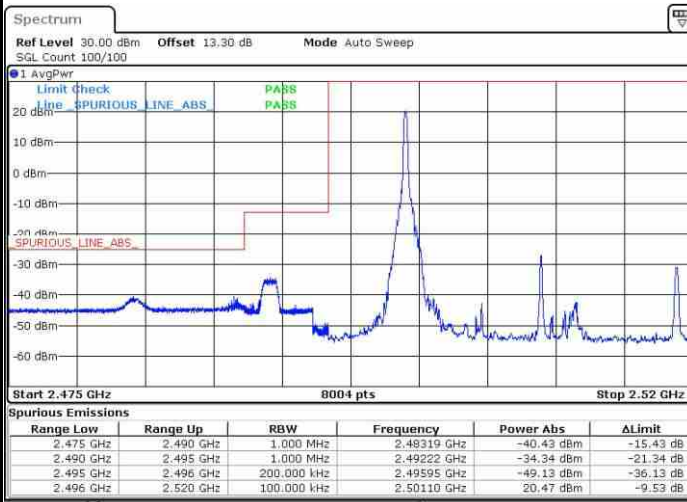


Date: 13.MAR.2018 11:38:24



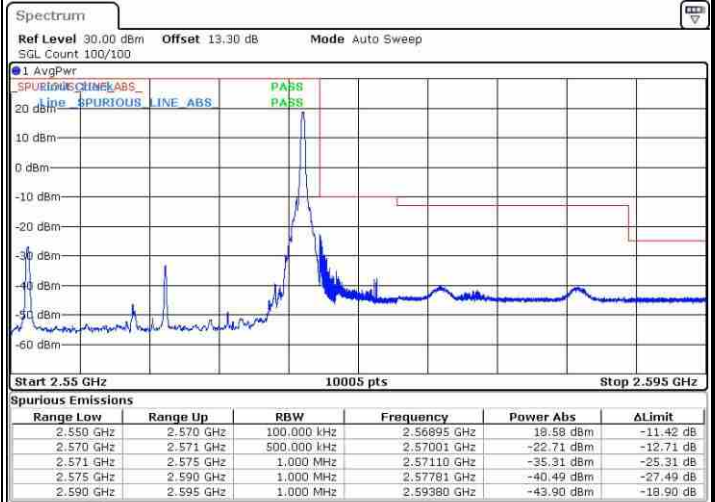
LTE Band 7 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



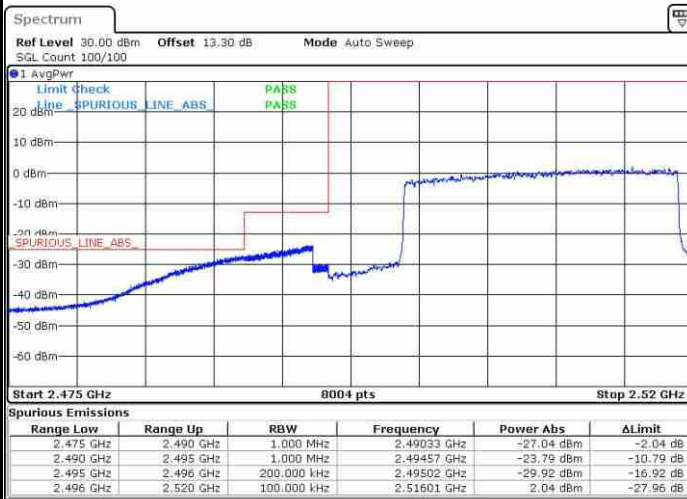
Date: 13.MAR.2018 11:31:25

Highest Band Edge / 1RB



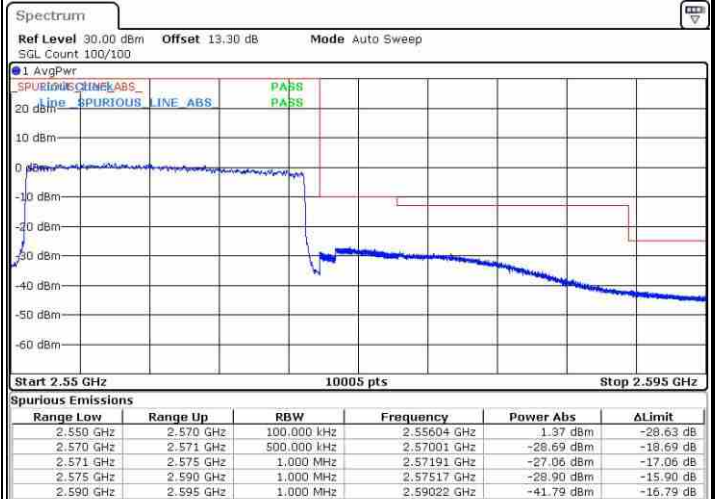
Date: 13.MAR.2018 11:36:04

Lowest Band Edge / Full RB



Date: 13.MAR.2018 11:33:44

Highest Band Edge / Full RB

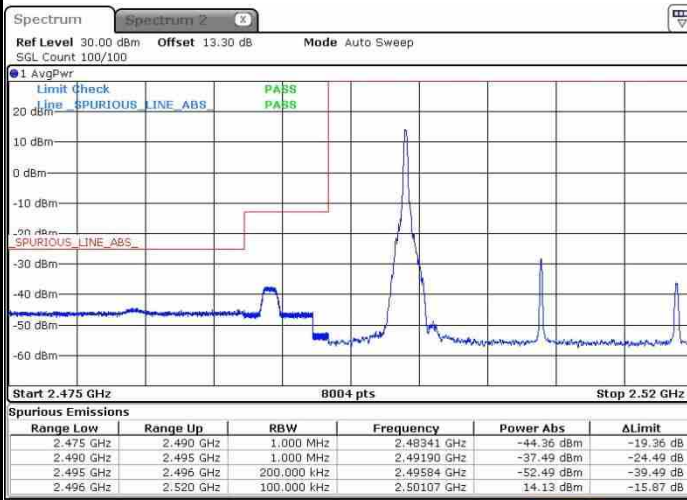


Date: 13.MAR.2018 11:37:14



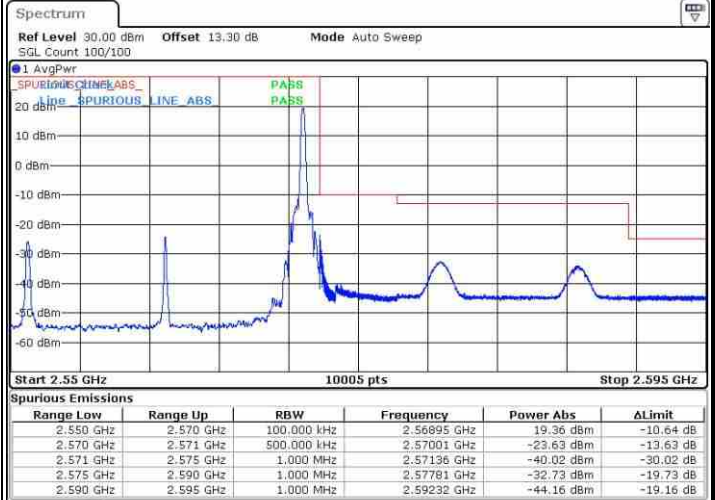
LTE Band 7 / 20MHz / 64QAM

Lowest Band Edge / 1 RB



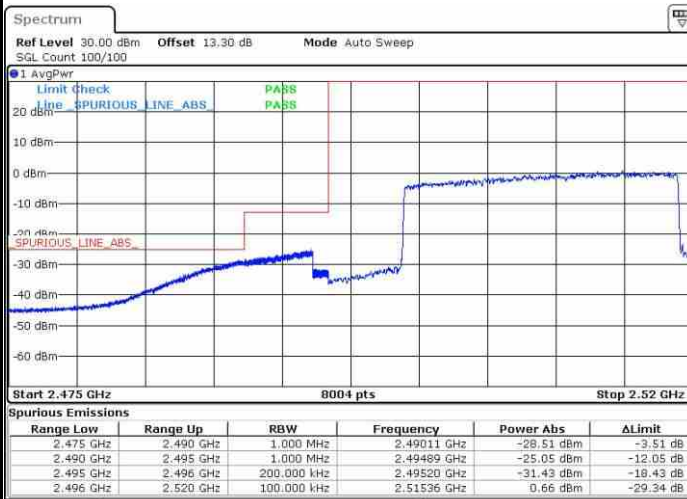
Date: 27.MAR.2018 00:09:11

Highest Band Edge / 1 RB



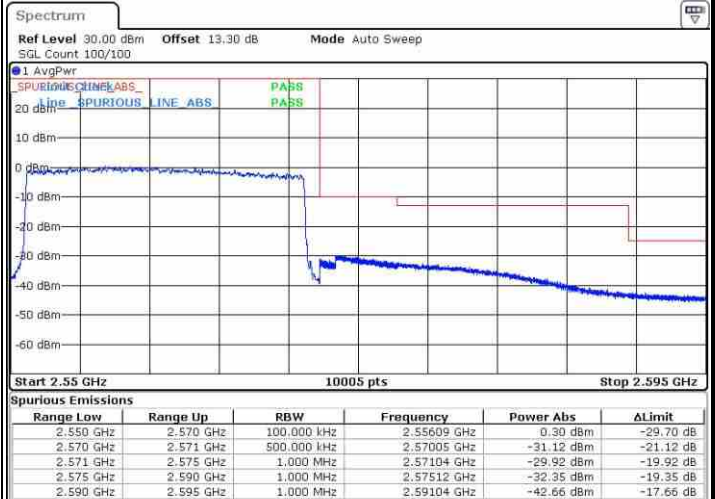
Date: 16.MAR.2018 11:27:12

Lowest Band Edge / Full RB



Date: 16.MAR.2018 11:22:16

Highest Band Edge / Full RB



Date: 16.MAR.2018 11:28:23