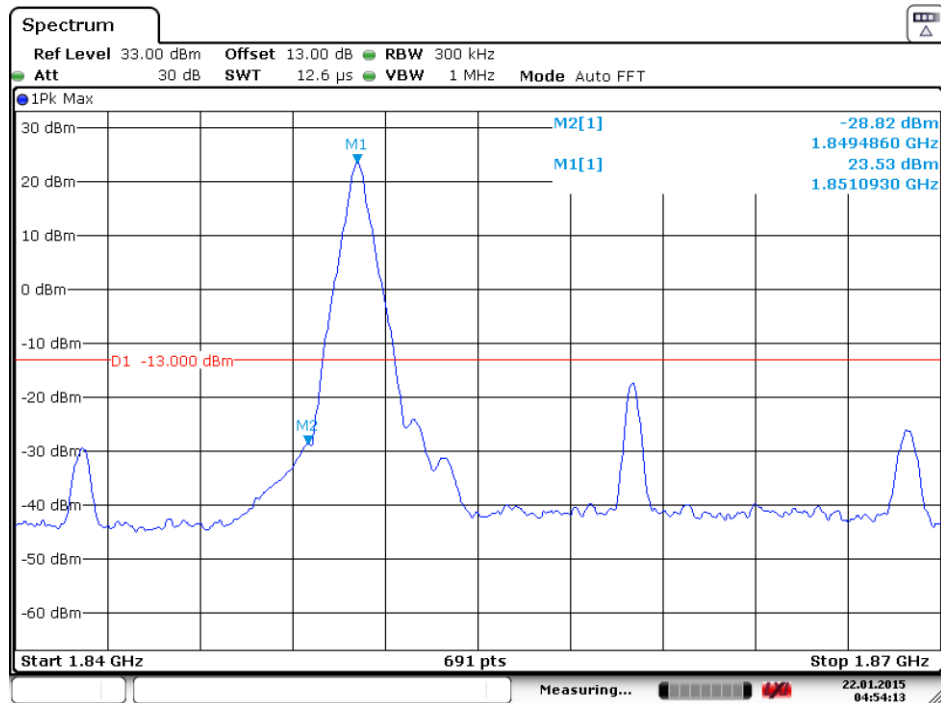
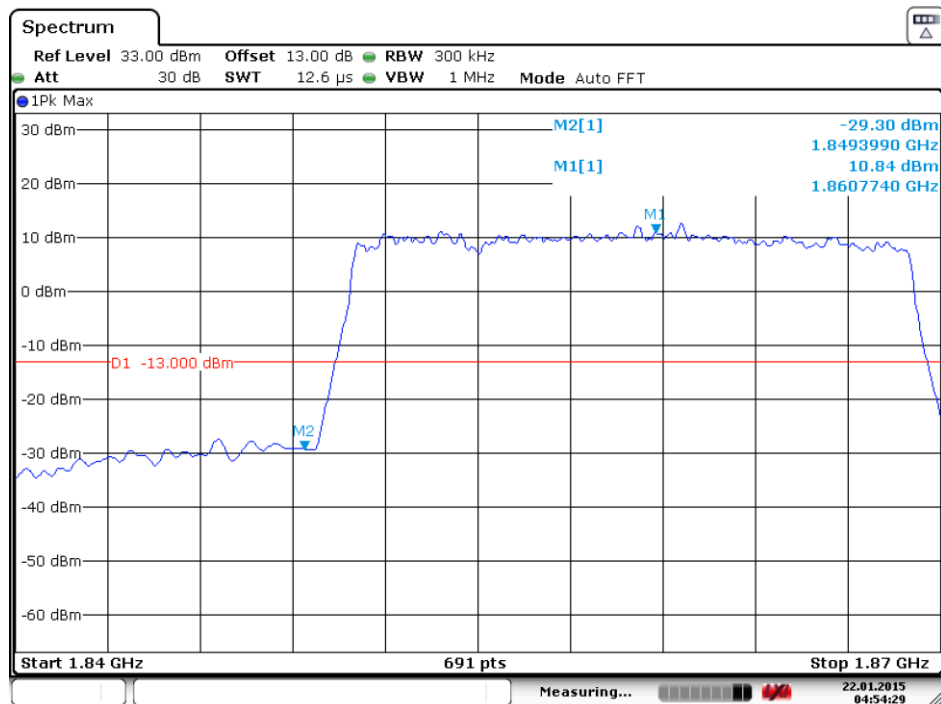


Band	LTE Band 2	Modulation	QPSK
Bandwidth	20MHz		



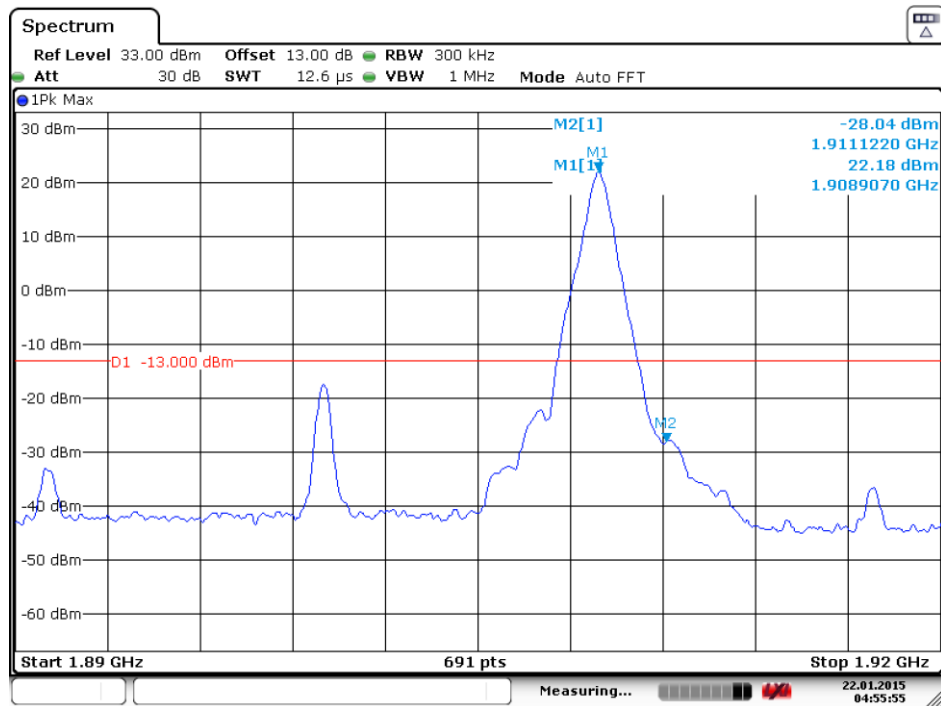
Date: 22.JAN.2015 04:54:14

Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



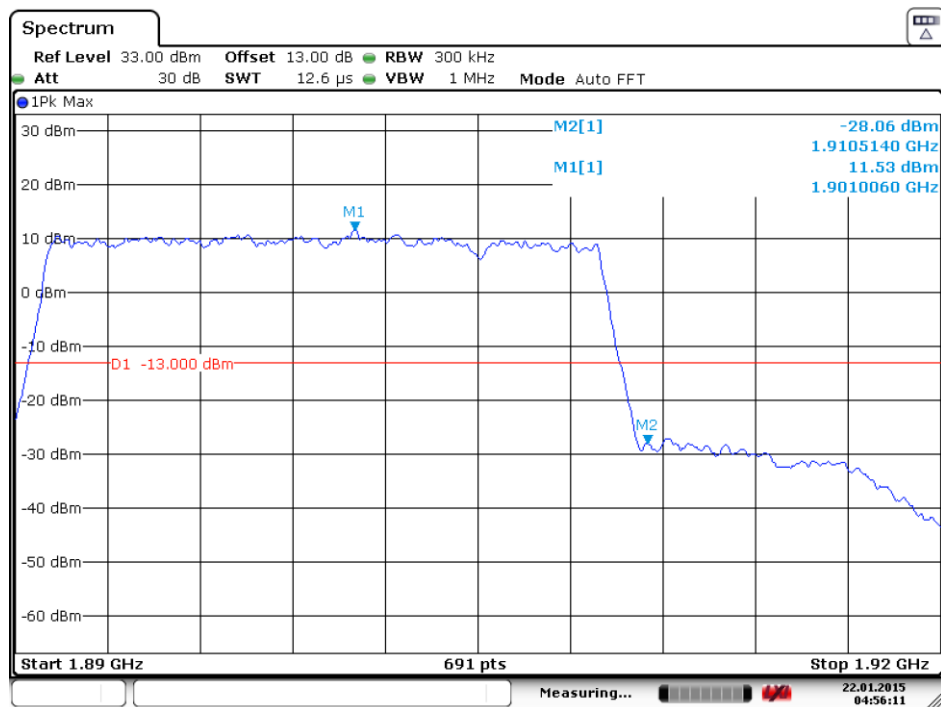
Date: 22.JAN.2015 04:54:29

Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 22.JAN.2015 04:55:55

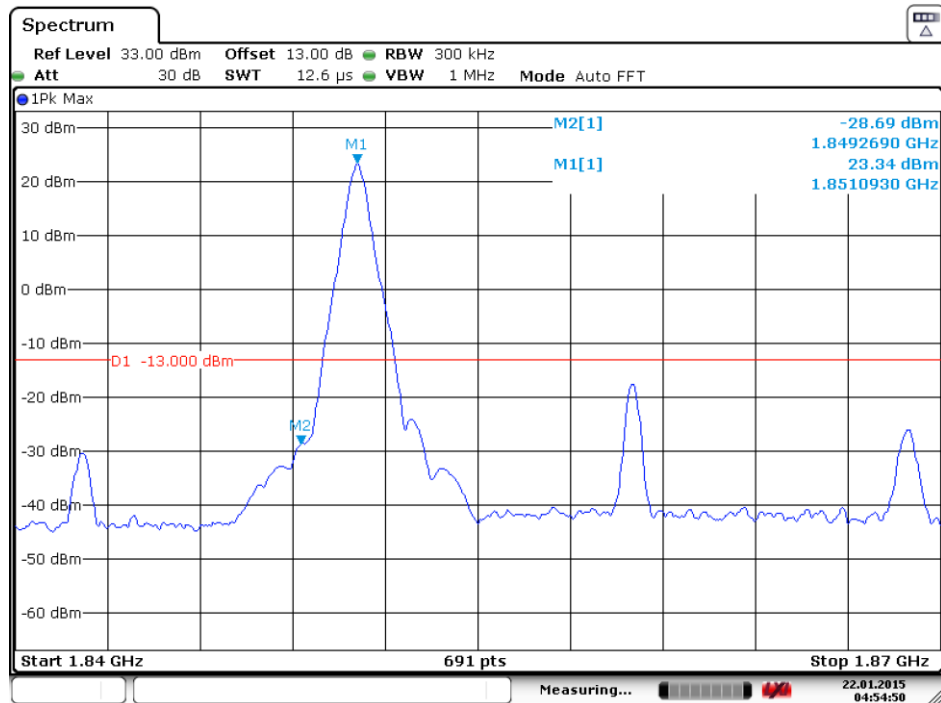
Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 22.JAN.2015 04:56:12

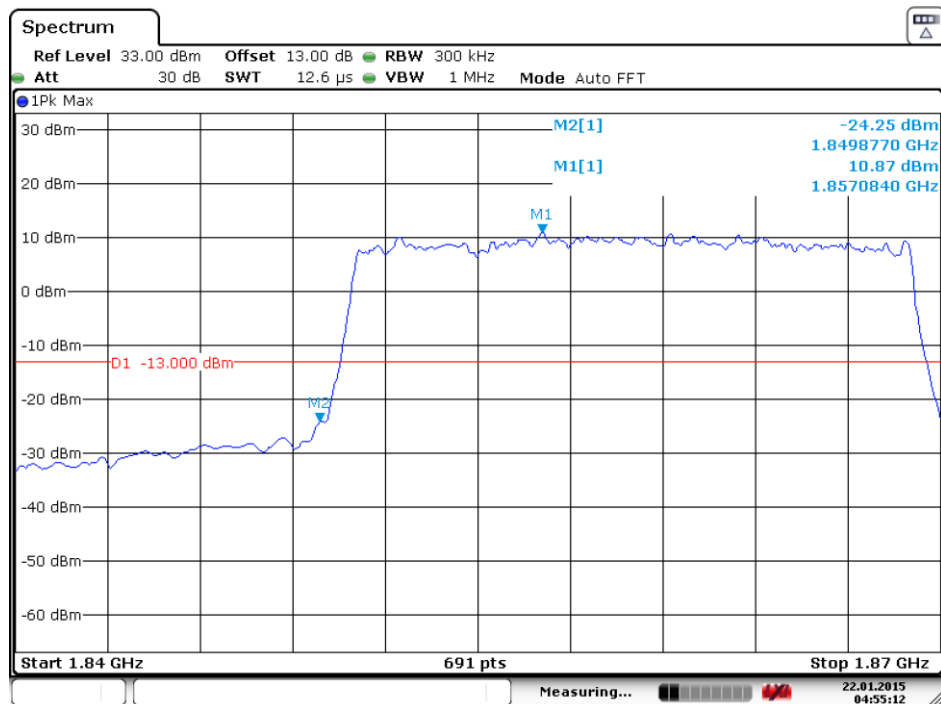
Higher Band Edge Plot for QPSK-RB Size 100, RB Offset 0

Band	LTE Band 2	Modulation	16QAM
Bandwidth	20MHz		



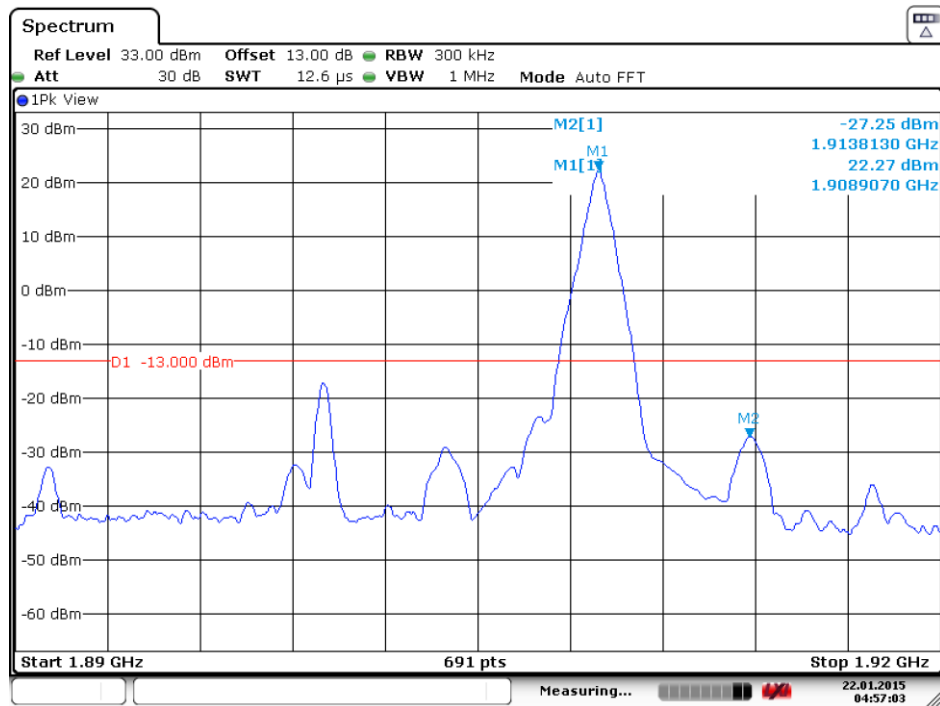
Date: 22.JAN.2015 04:54:50

Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



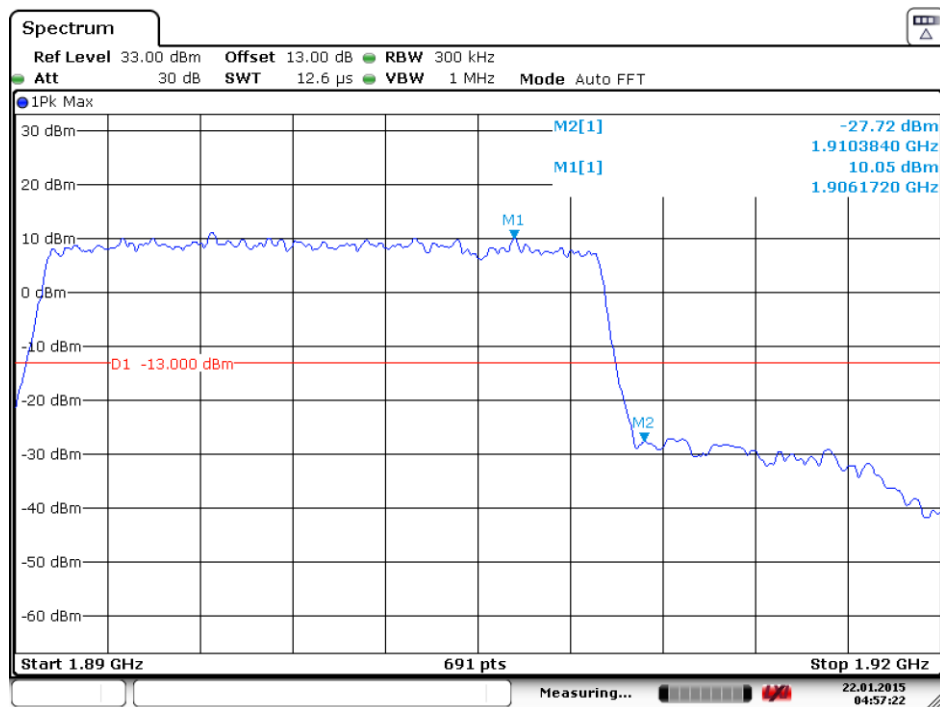
Date: 22.JAN.2015 04:55:12

Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 22.JAN.2015 04:57:02

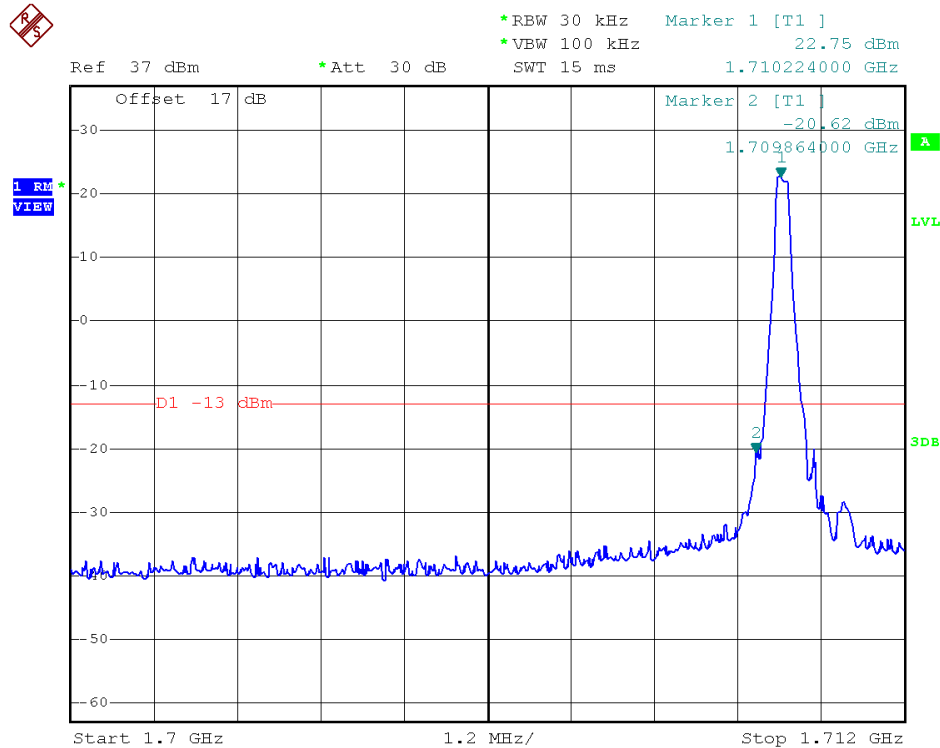
Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



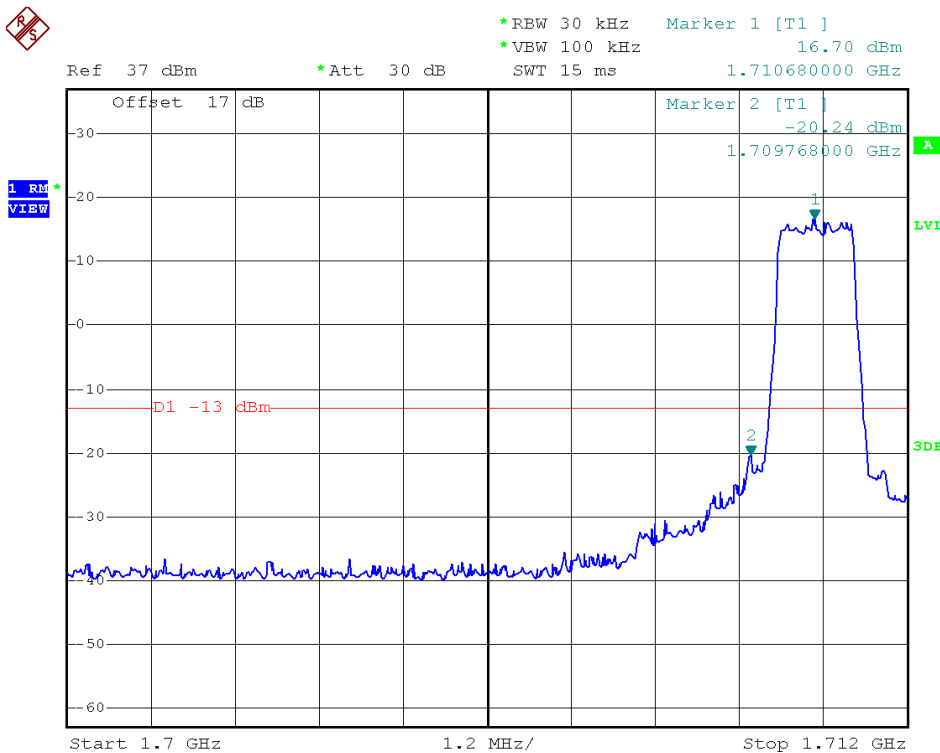
Date: 22.JAN.2015 04:57:22

Higher Band Edge Plot for 16QAM-RB Size 100, RB Offset 0

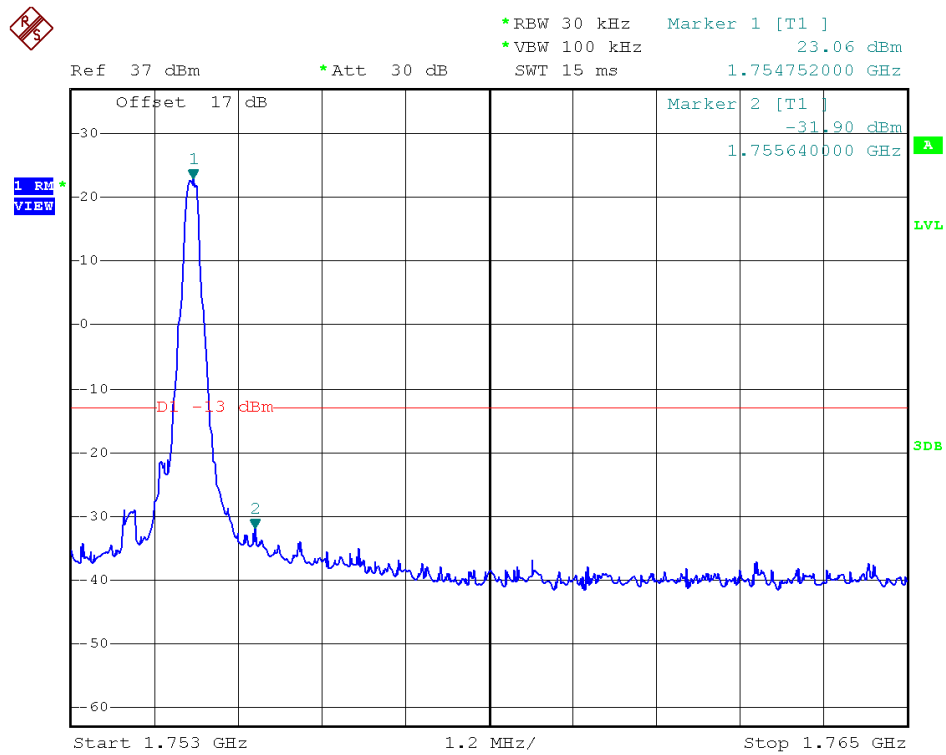
Band	LTE Band 4	Modulation	QPSK
Bandwidth	1.4MHz		



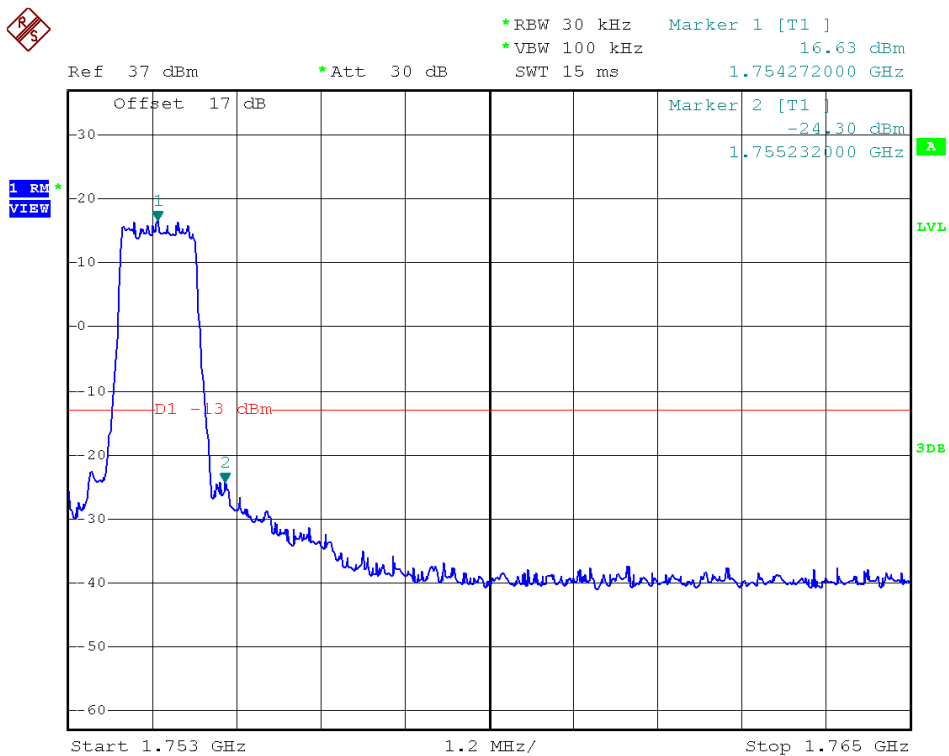
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0

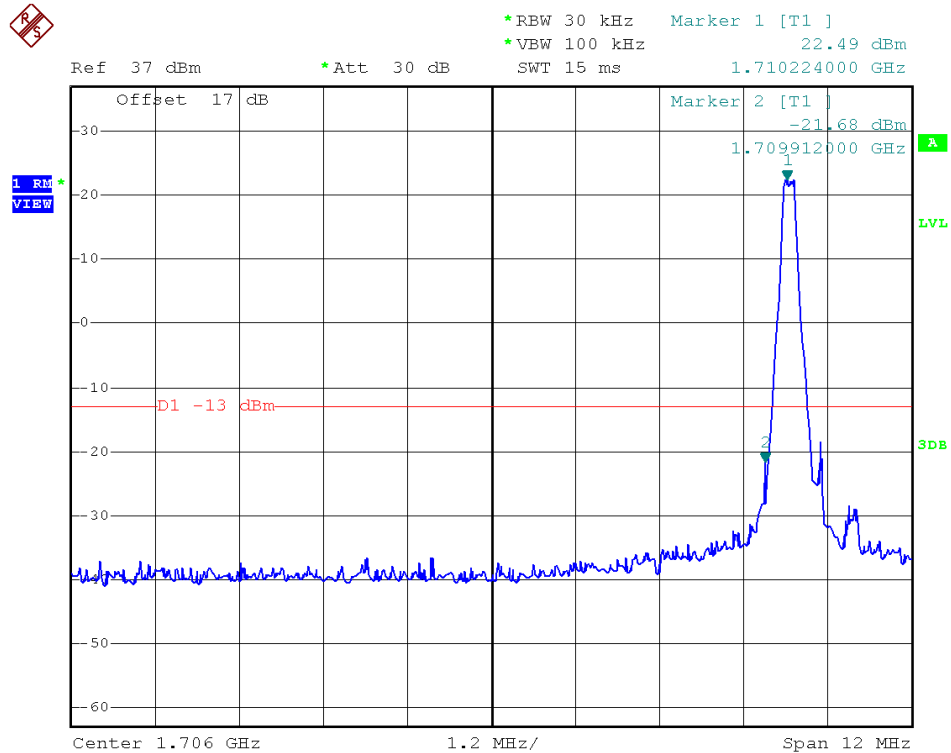


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5

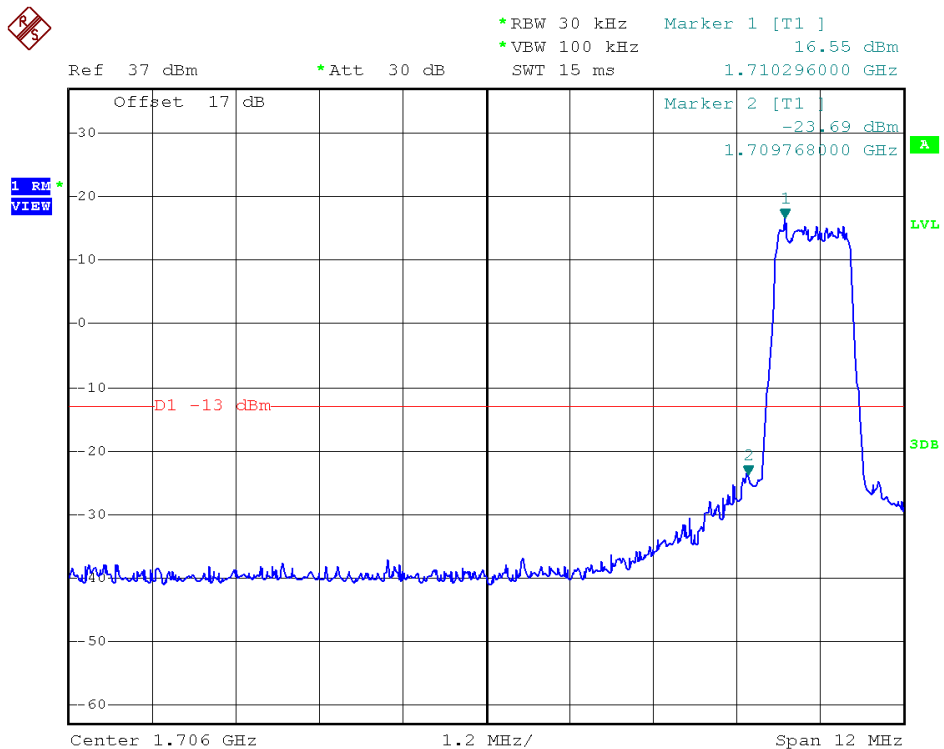


Higher Band Edge Plot for QPSK-RB Size 6, RB Offset 0

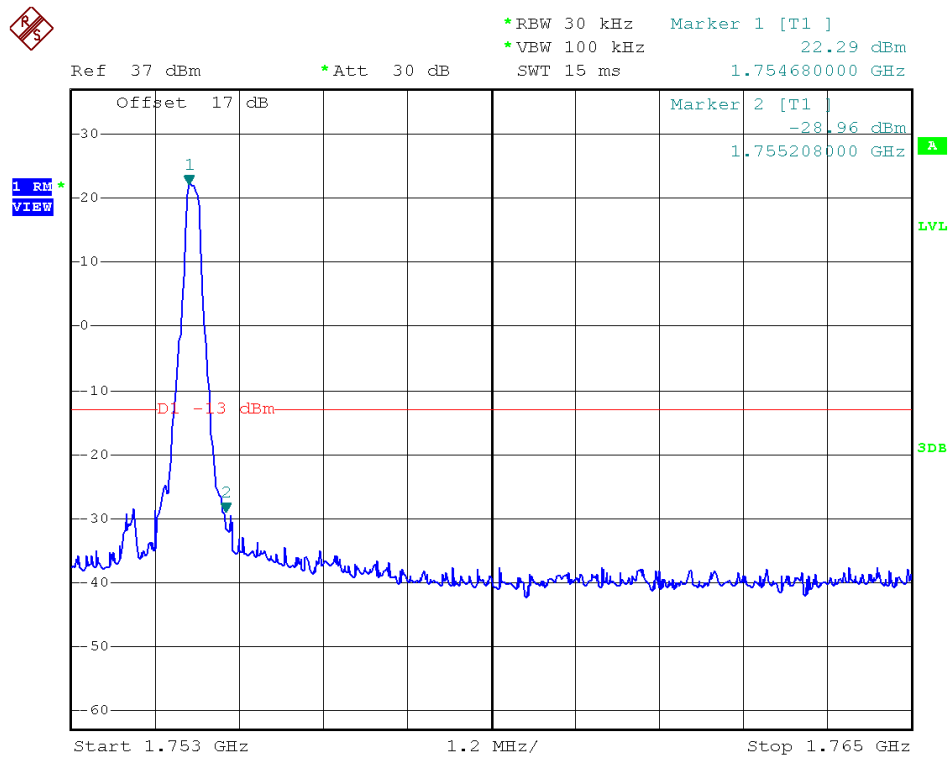
Band	LTE Band 4	Modulation	16QAM
Bandwidth	1.4MHz		



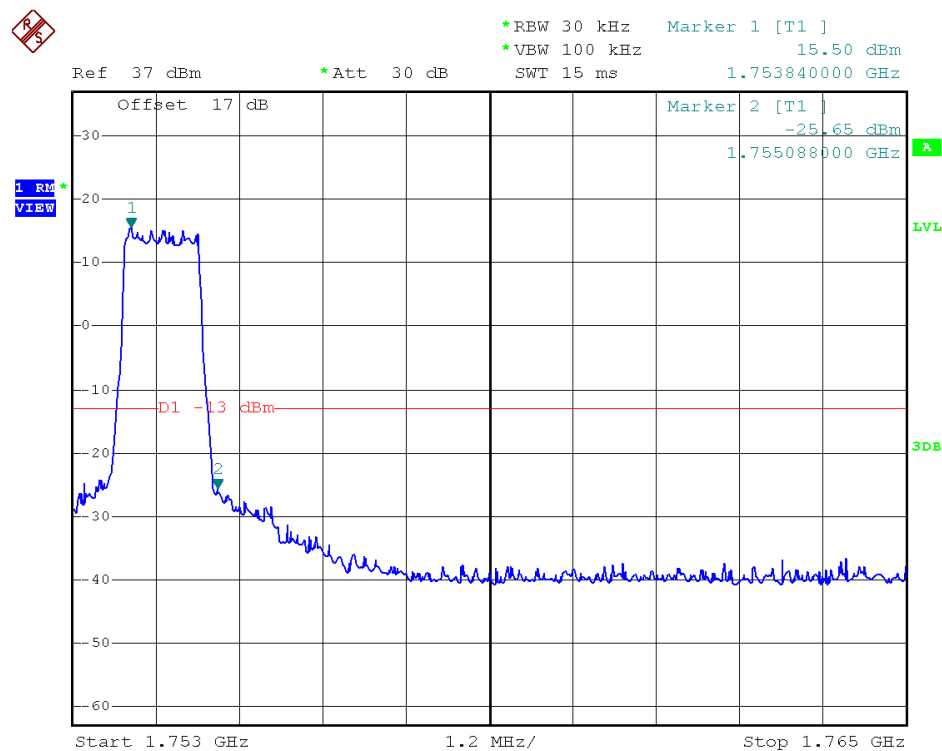
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 6, RB Offset 0

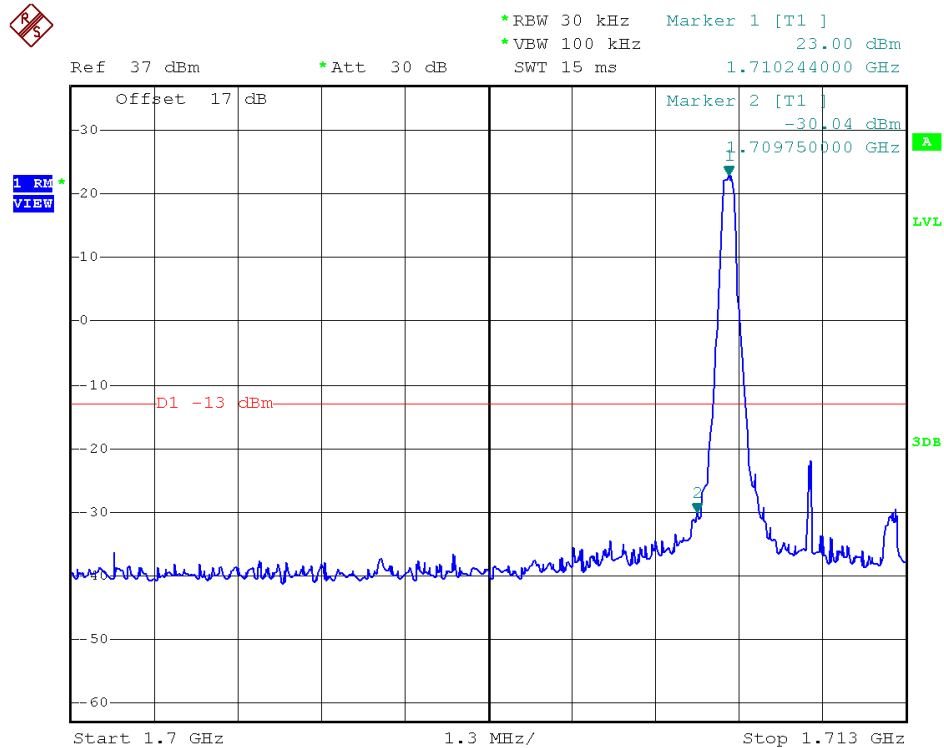


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 5

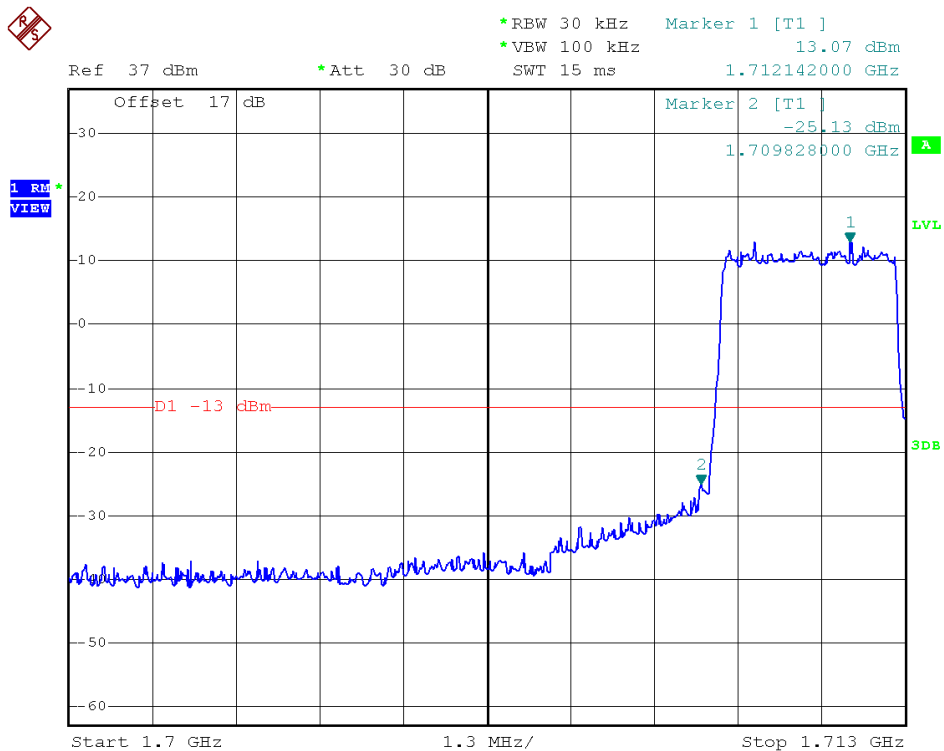


Higher Band Edge Plot for 16QAM -RB Size 6, RB Offset 0

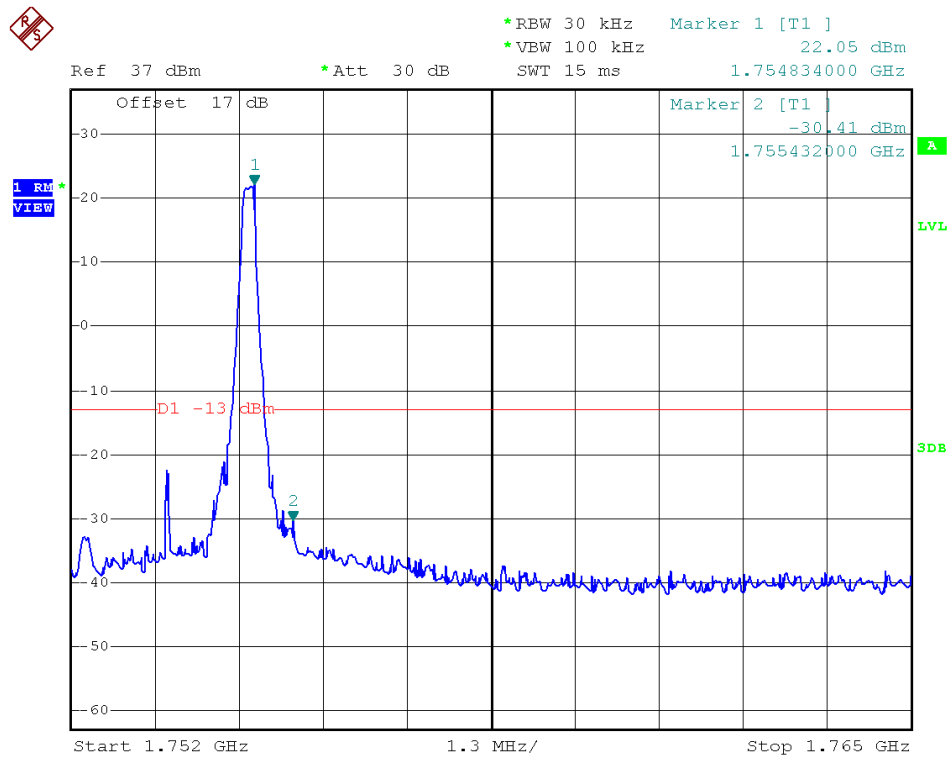
Band	LTE Band 4	Modulation	QPSK
Bandwidth	3MHz		



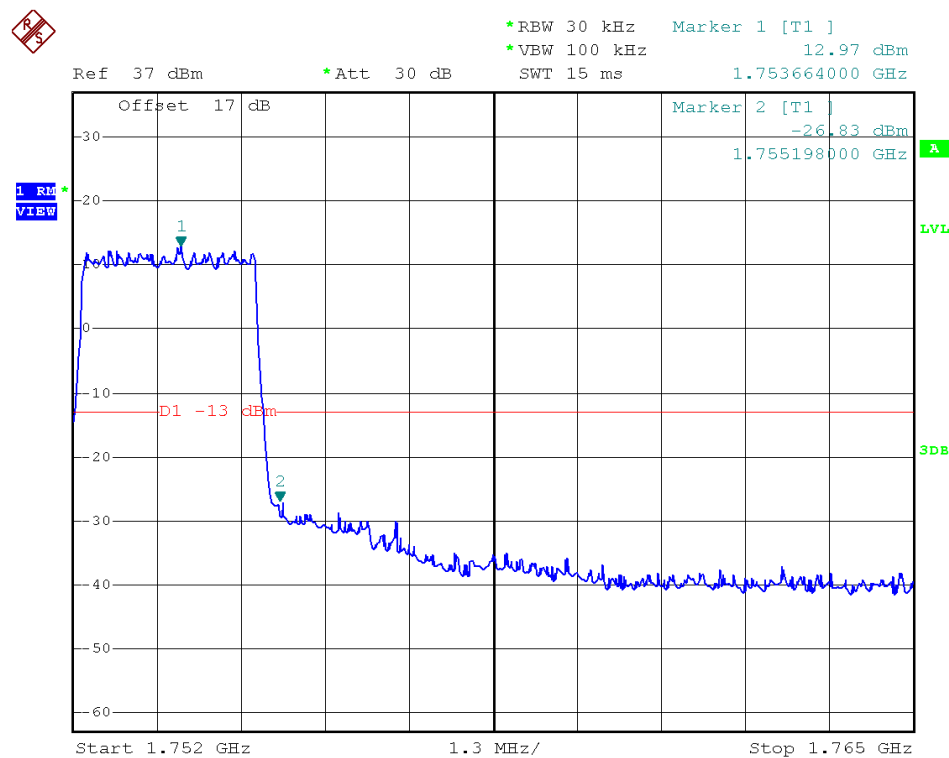
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0

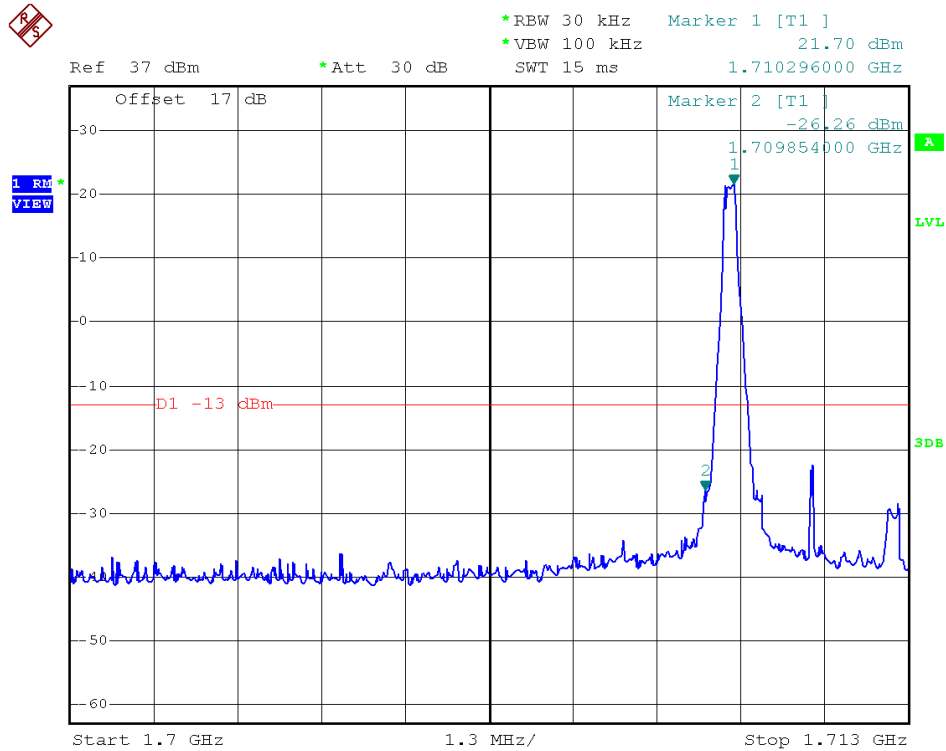


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14

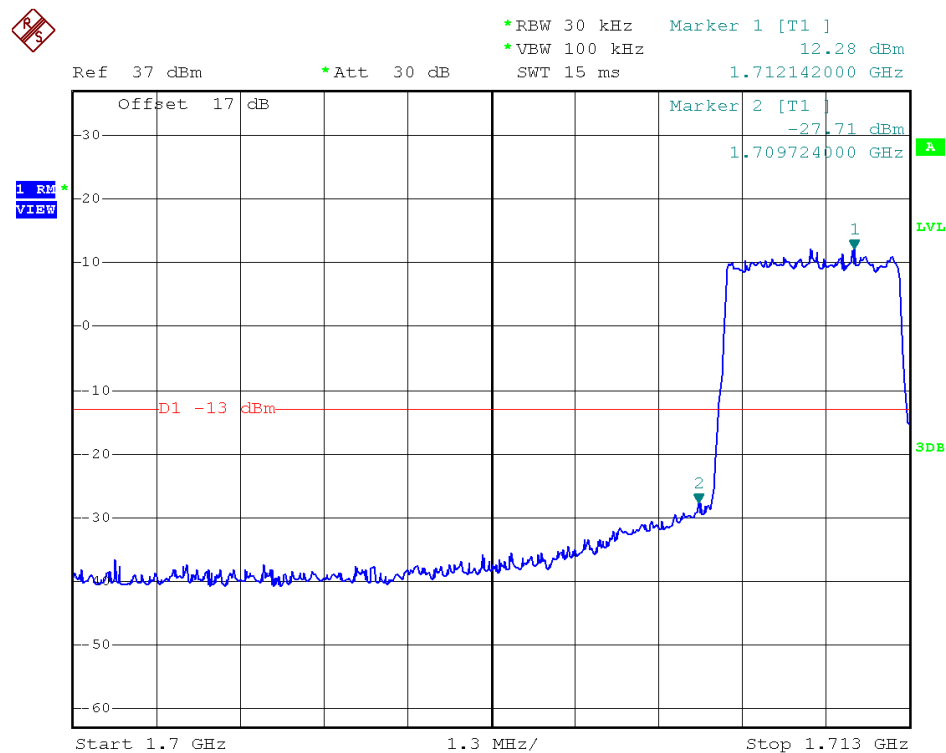


Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0

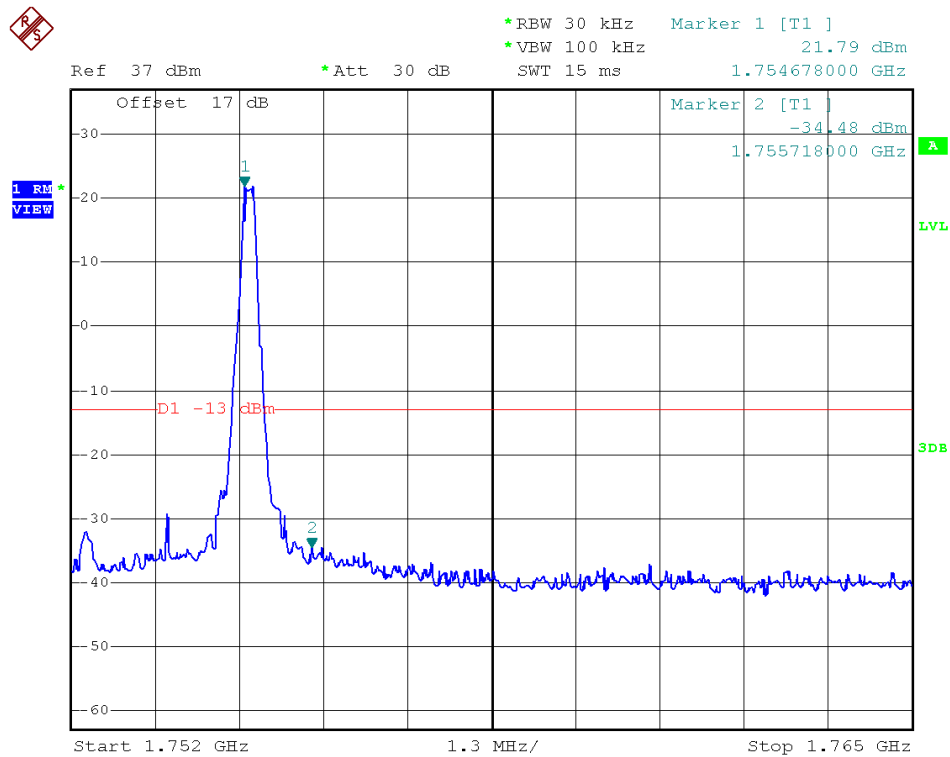
Band	LTE Band 4	Modulation	16QAM
Bandwidth	3MHz		



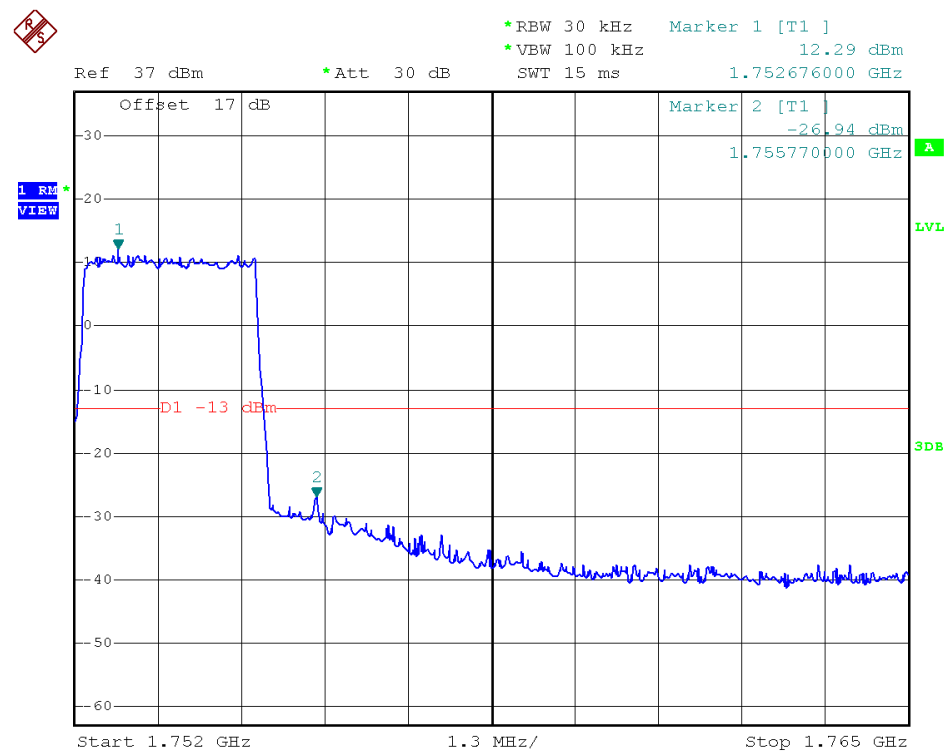
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 15, RB Offset 0

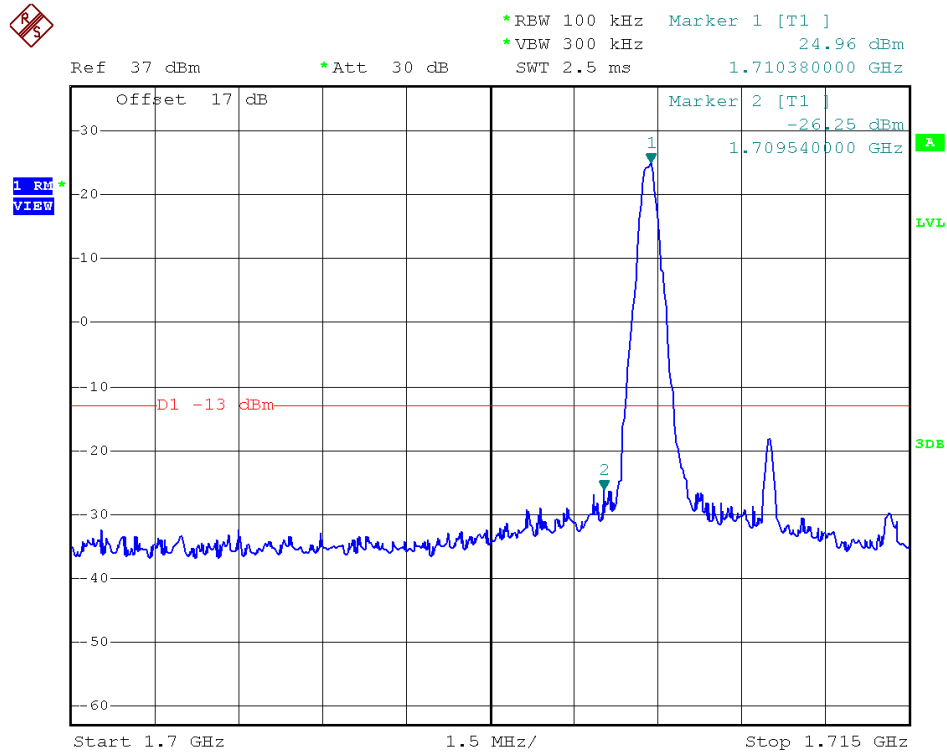


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 14

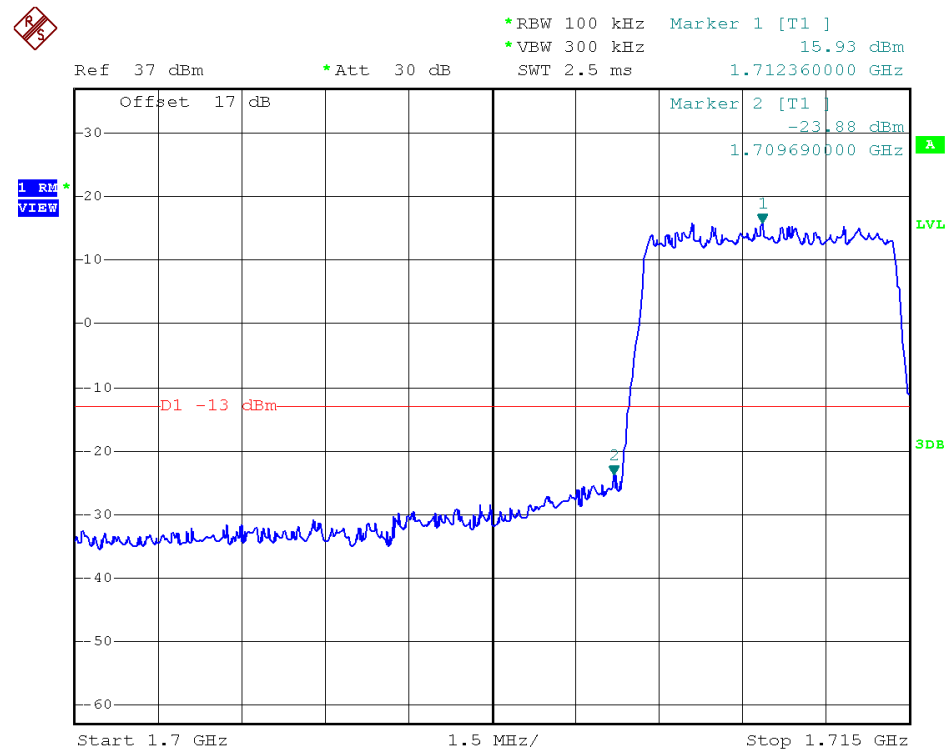


Higher Band Edge Plot for 16QAM -RB Size 15, RB Offset 0

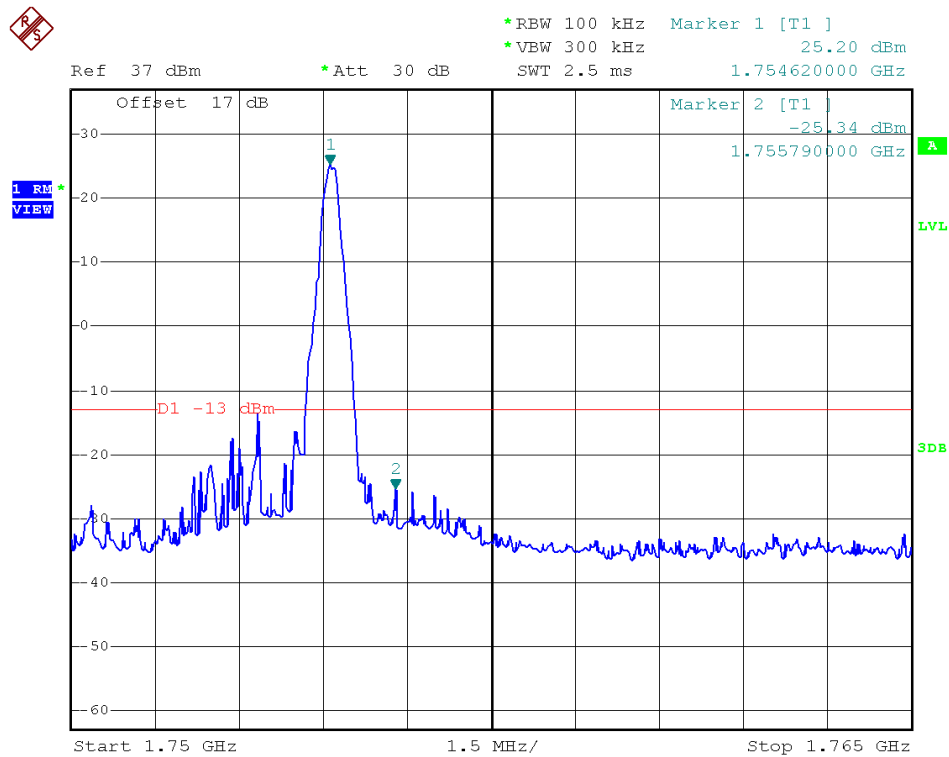
Band	LTE Band 4	Modulation	QPSK
Bandwidth	5MHz		



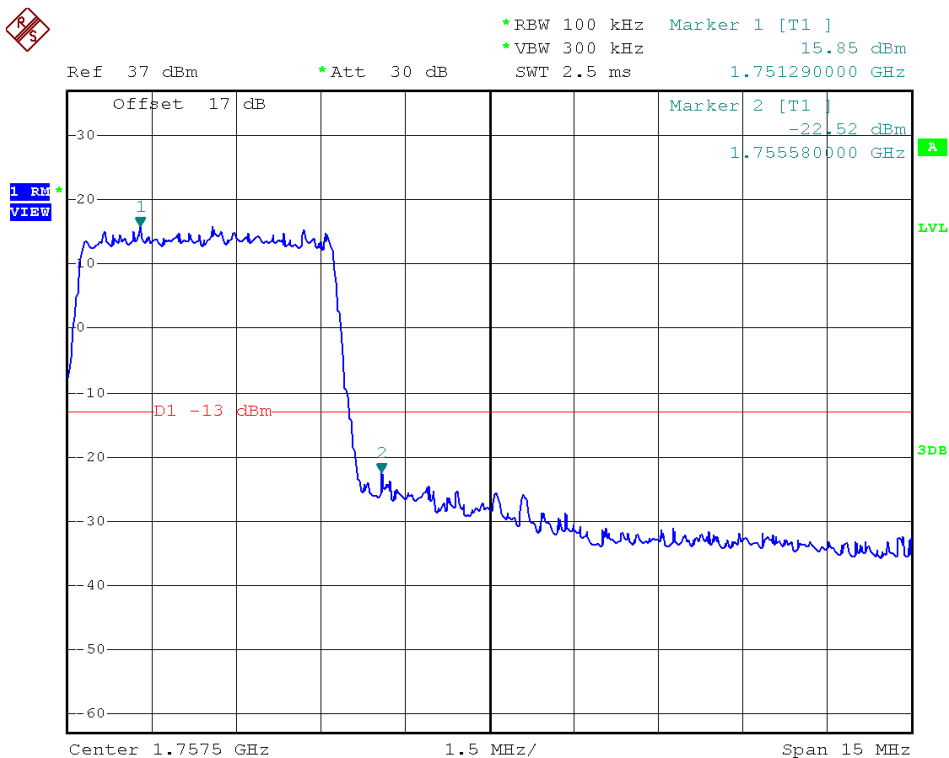
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0

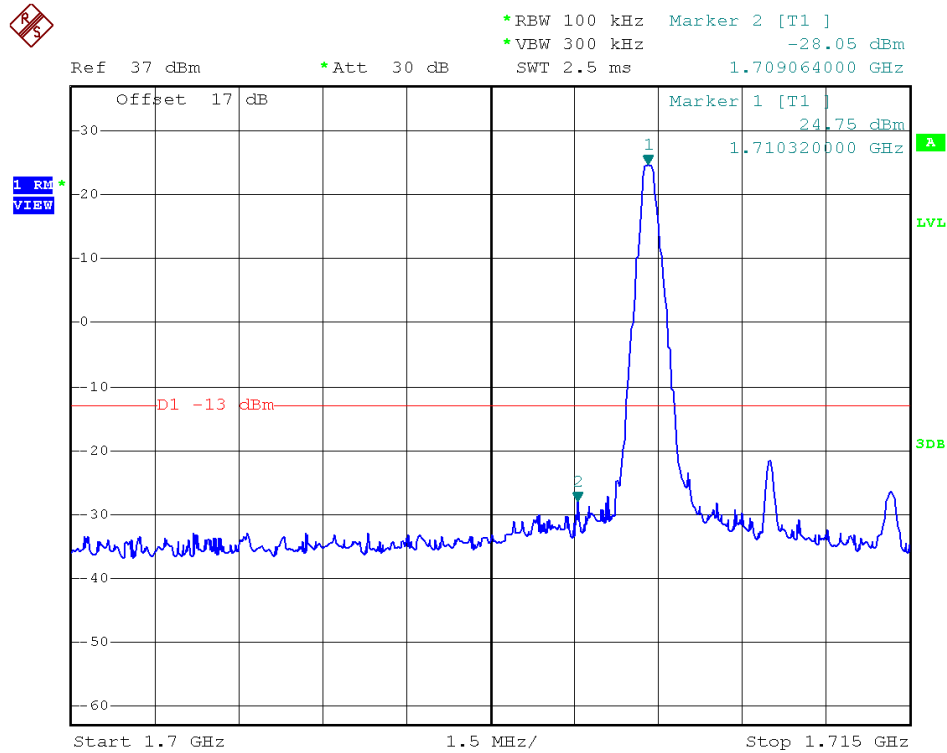


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24

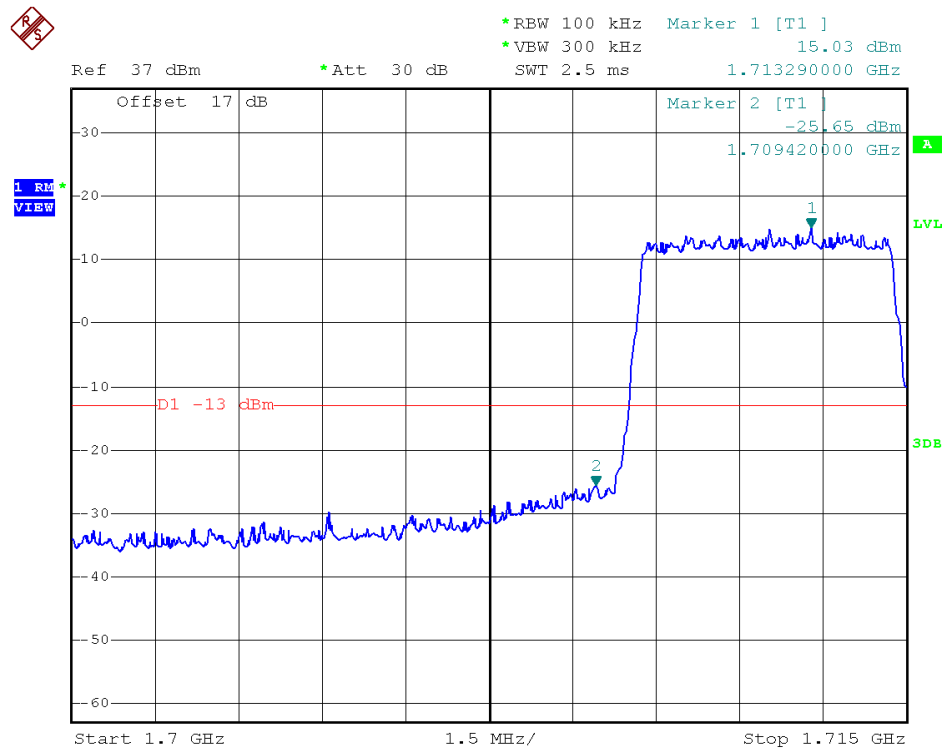


Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

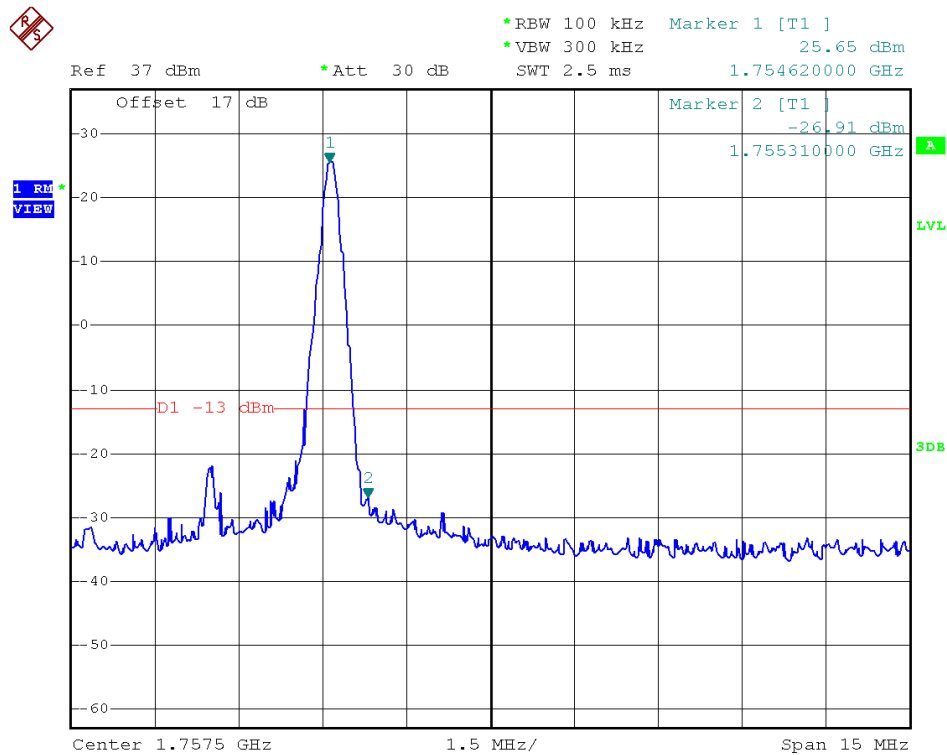
Band	LTE Band 4	Modulation	16QAM
Bandwidth	5MHz		



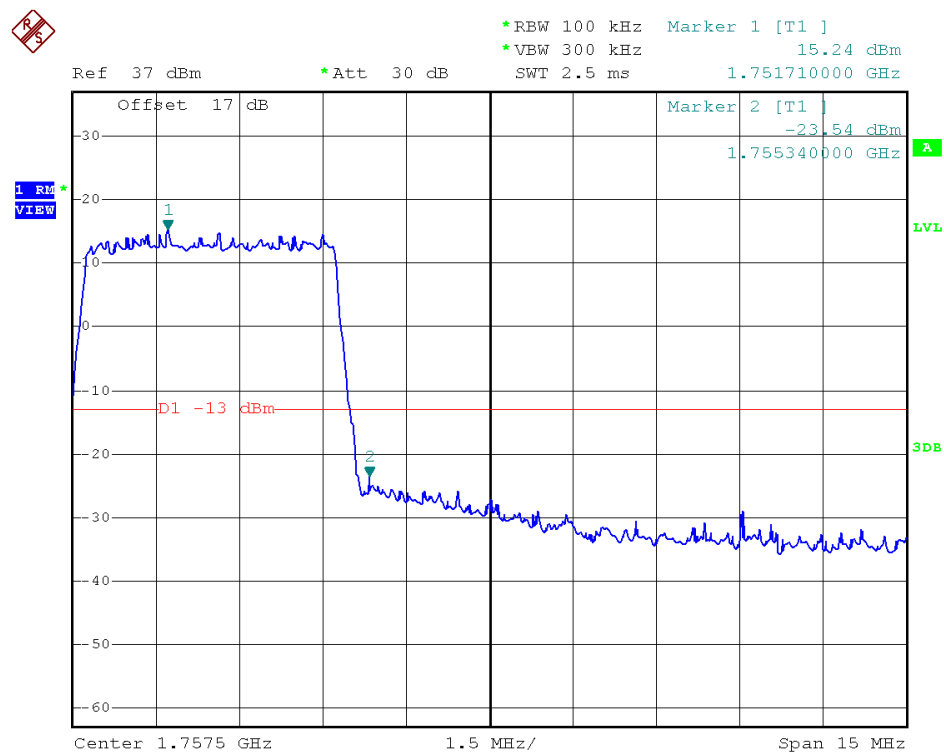
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 25, RB Offset 0

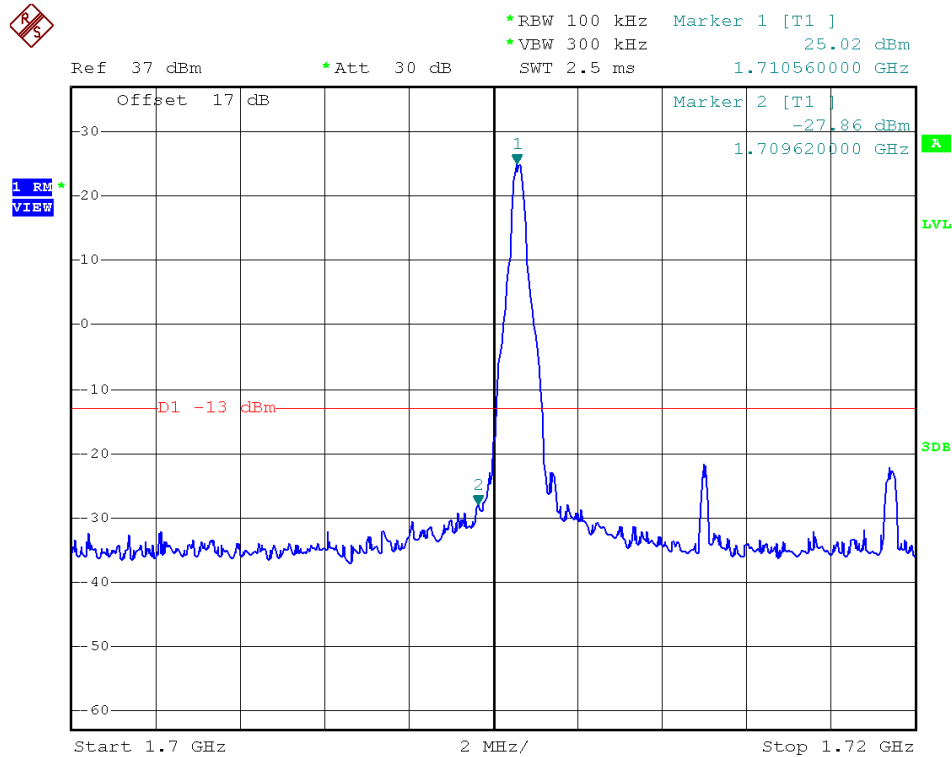


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 24

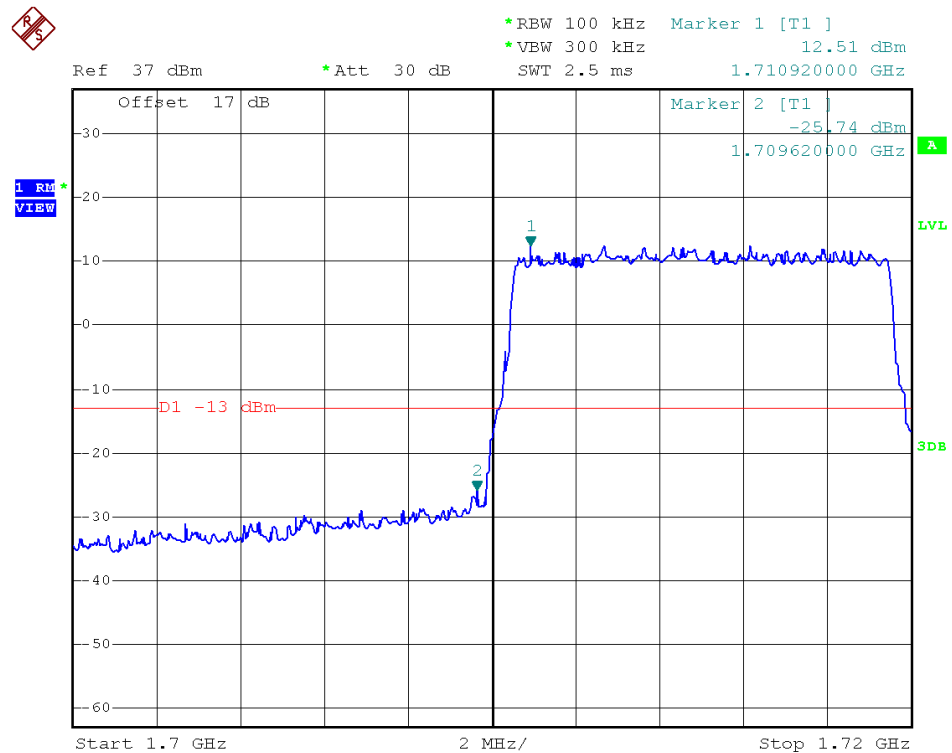


Higher Band Edge Plot for 16QAM -RB Size 25, RB Offset 0

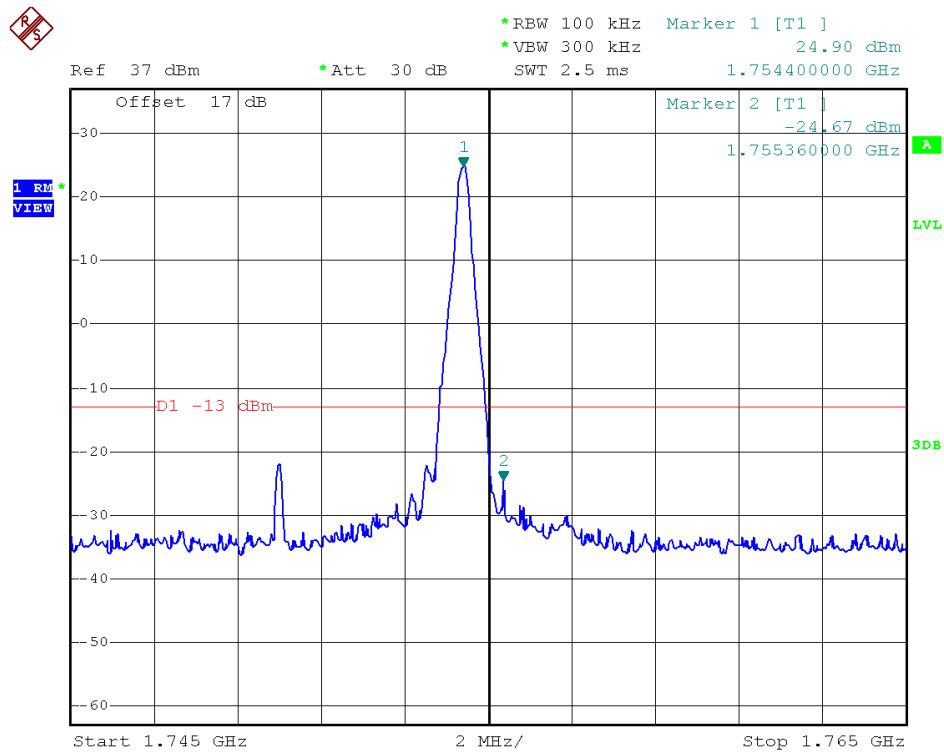
Band	LTE Band 4	Modulation	QPSK
Bandwidth	10MHz		



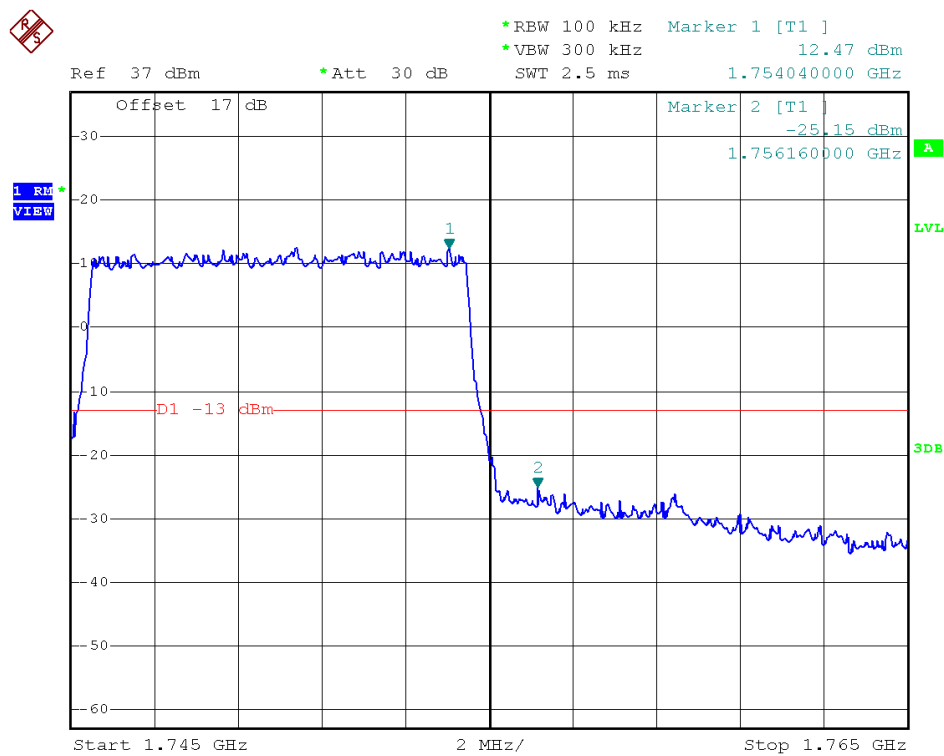
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0

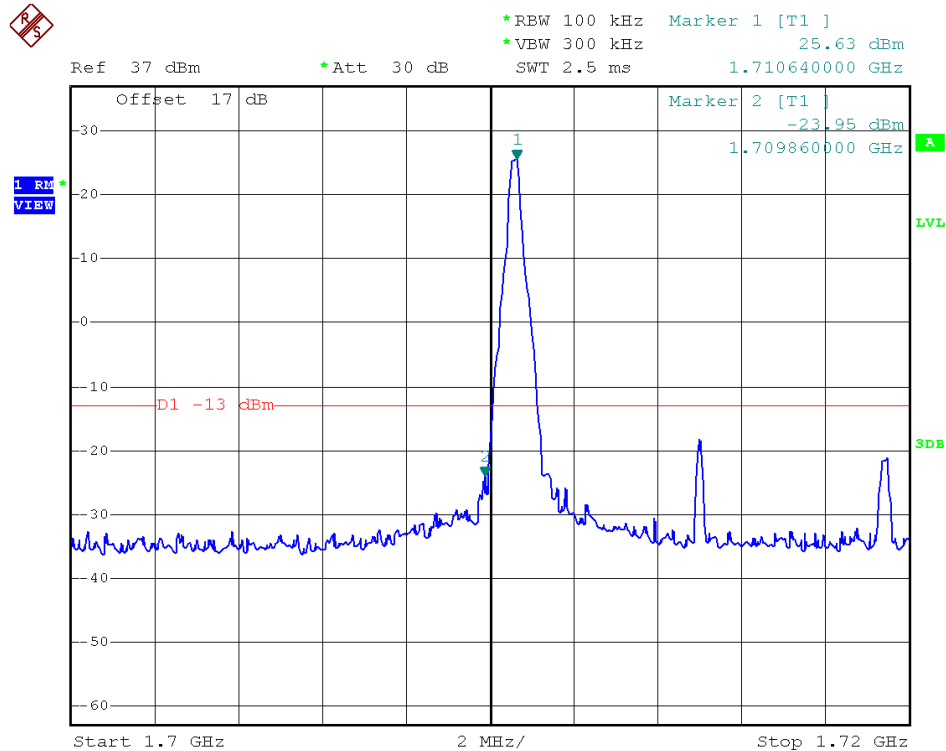


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49

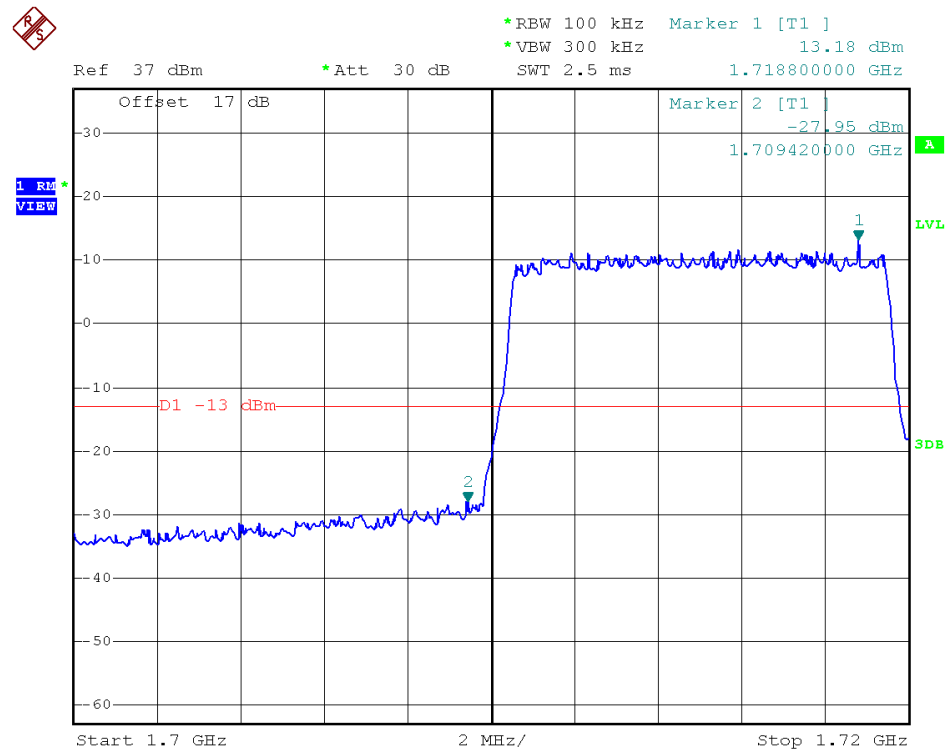


Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

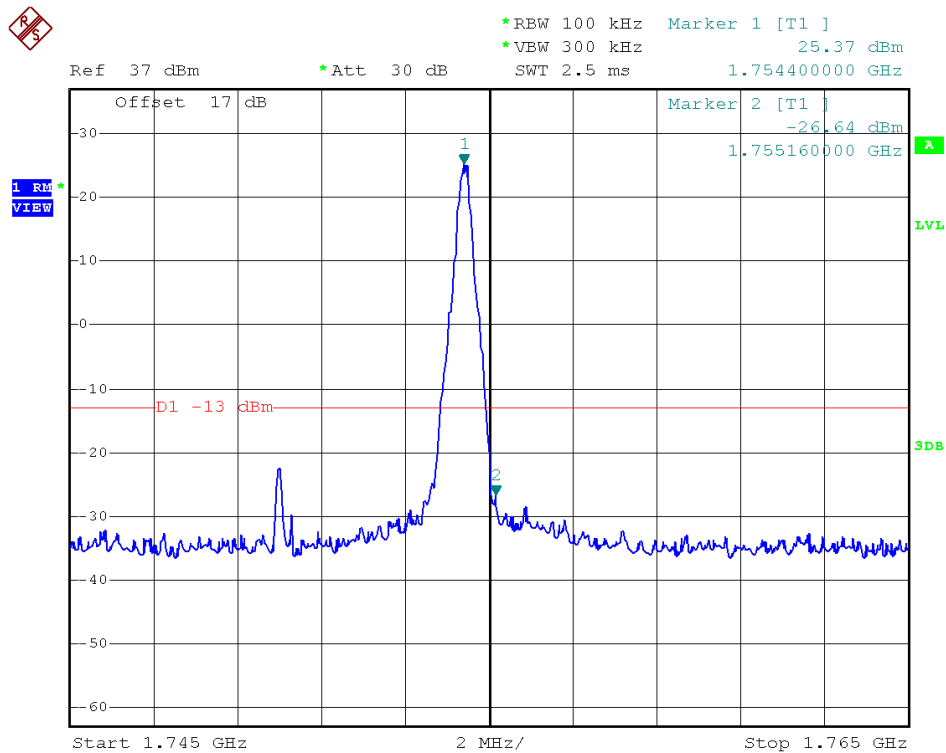
Band	LTE Band 4	Modulation	16QAM
Bandwidth	10MHz		



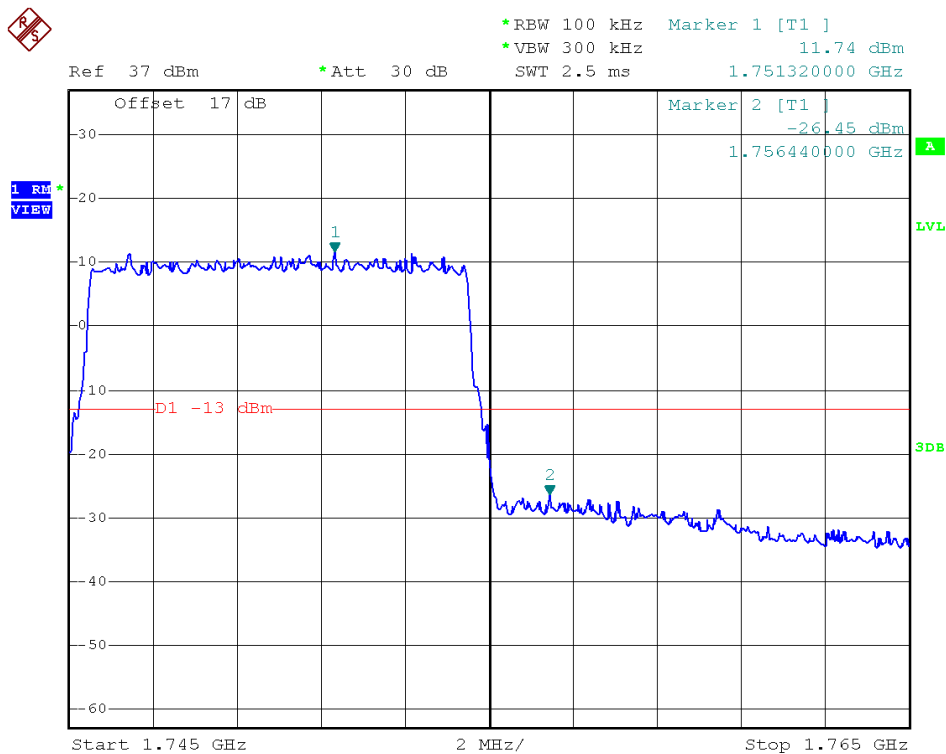
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0

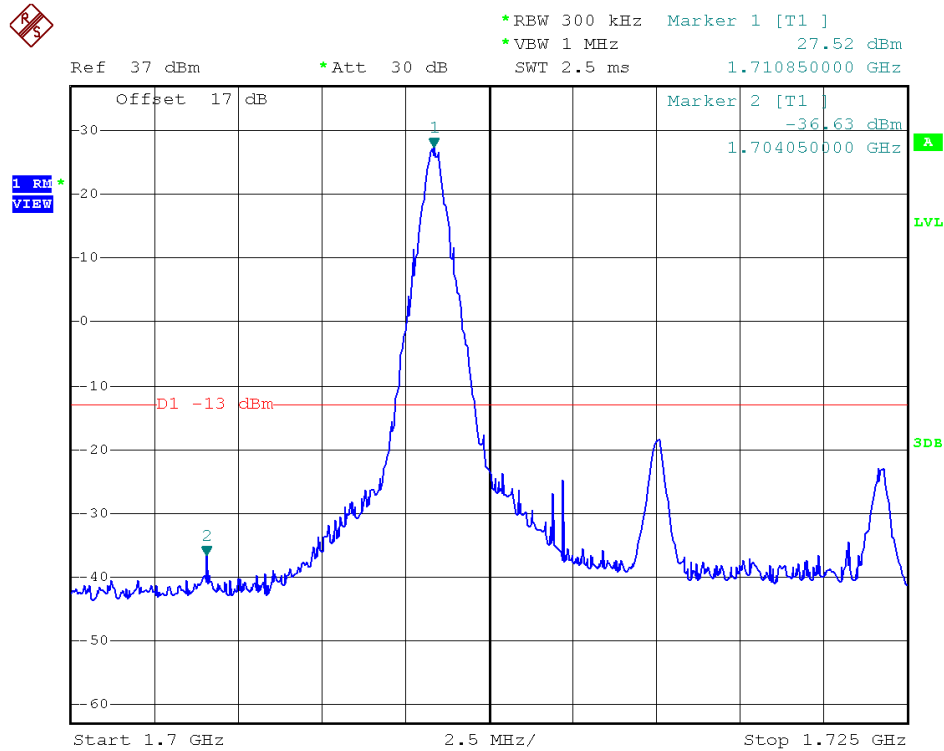


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 49

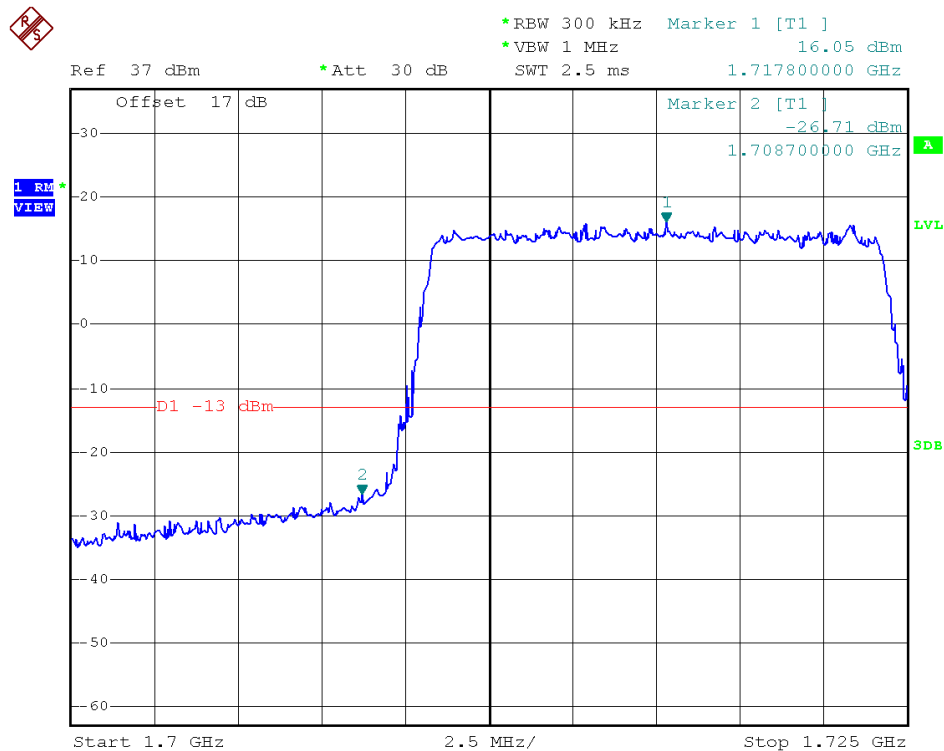


Higher Band Edge Plot for 16QAM -RB Size 50, RB Offset 0

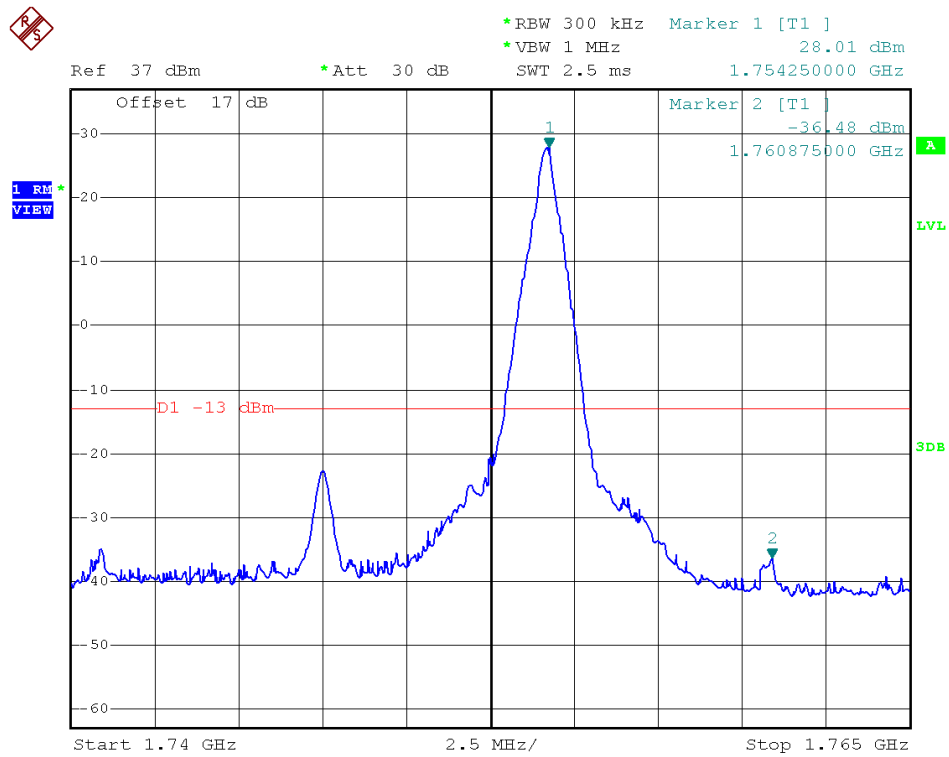
Band	LTE Band 4	Modulation	QPSK
Bandwidth	15MHz		



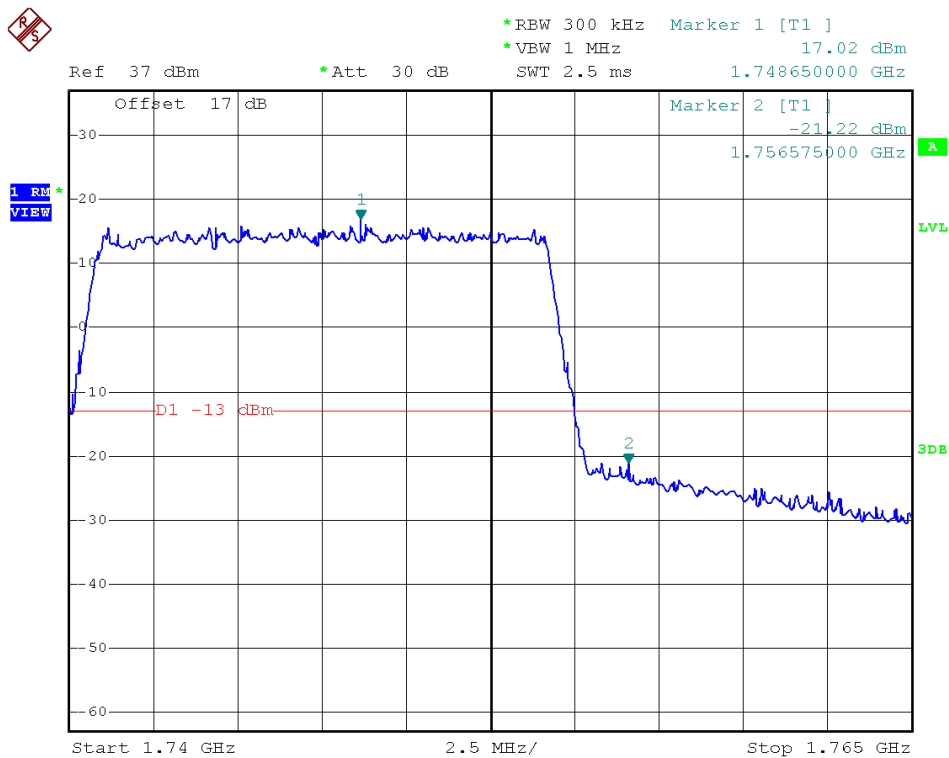
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0

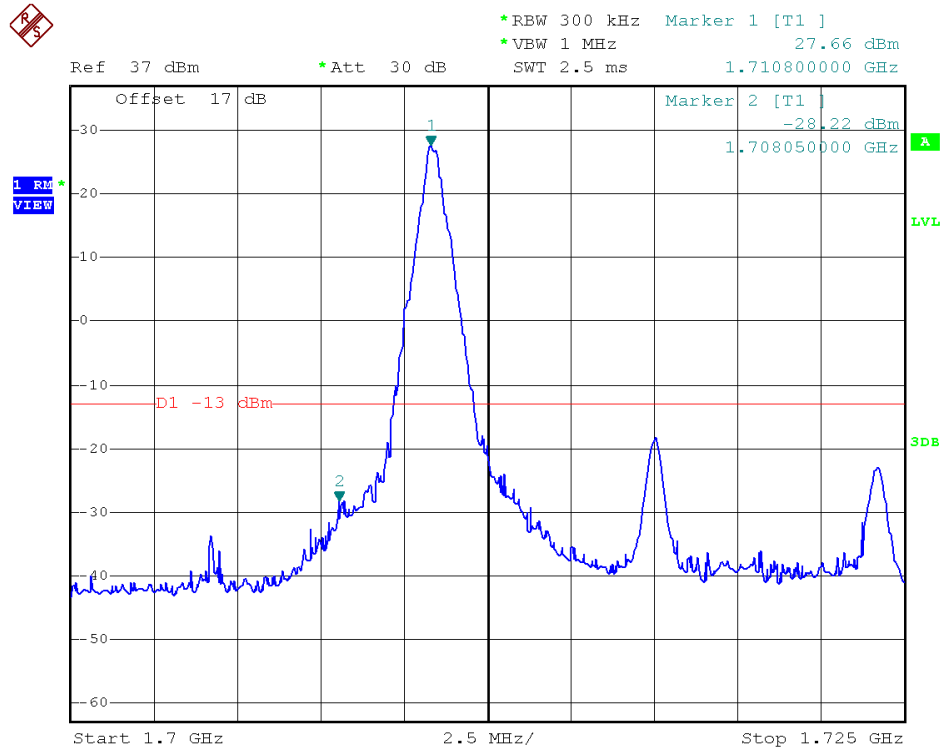


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74

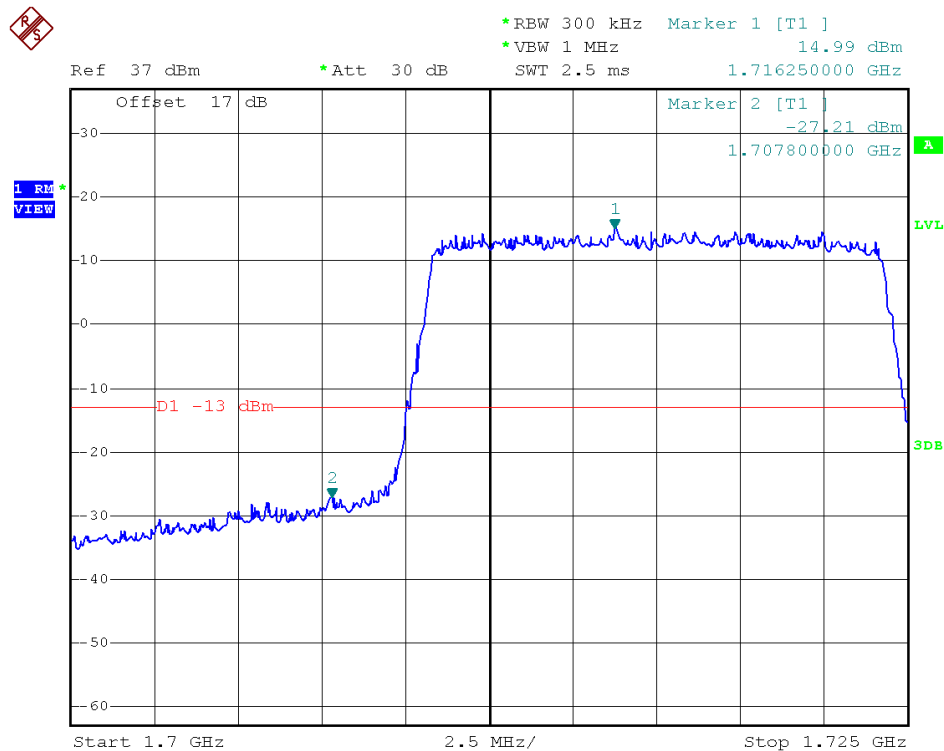


Higher Band Edge Plot for QPSK-RB Size 75, RB Offset 0

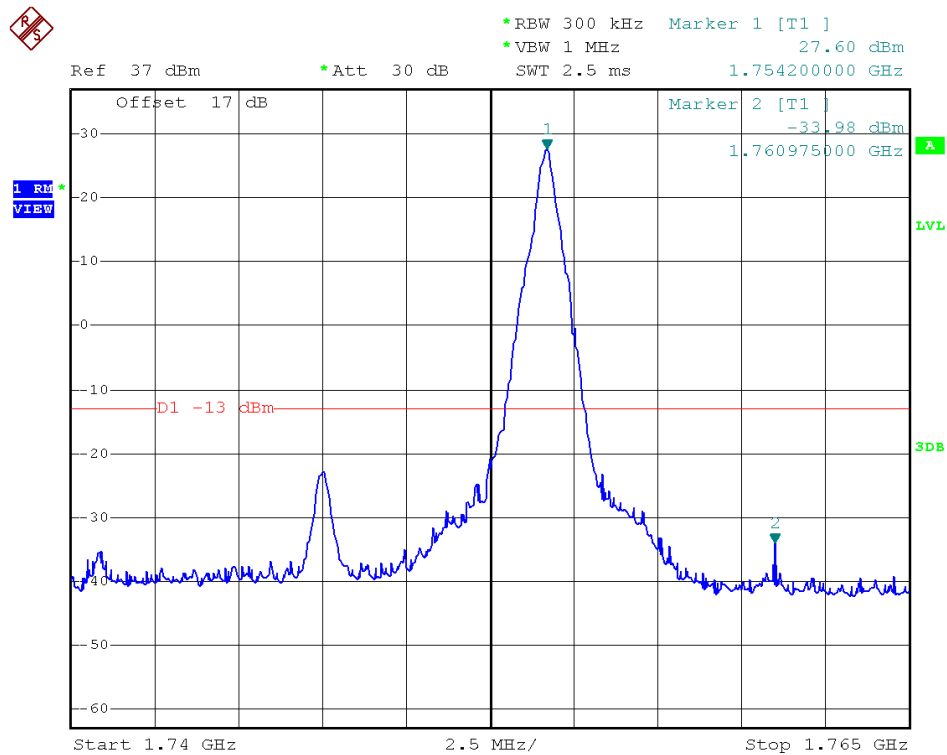
Band	LTE Band 4	Modulation	16QAM
Bandwidth	15MHz		



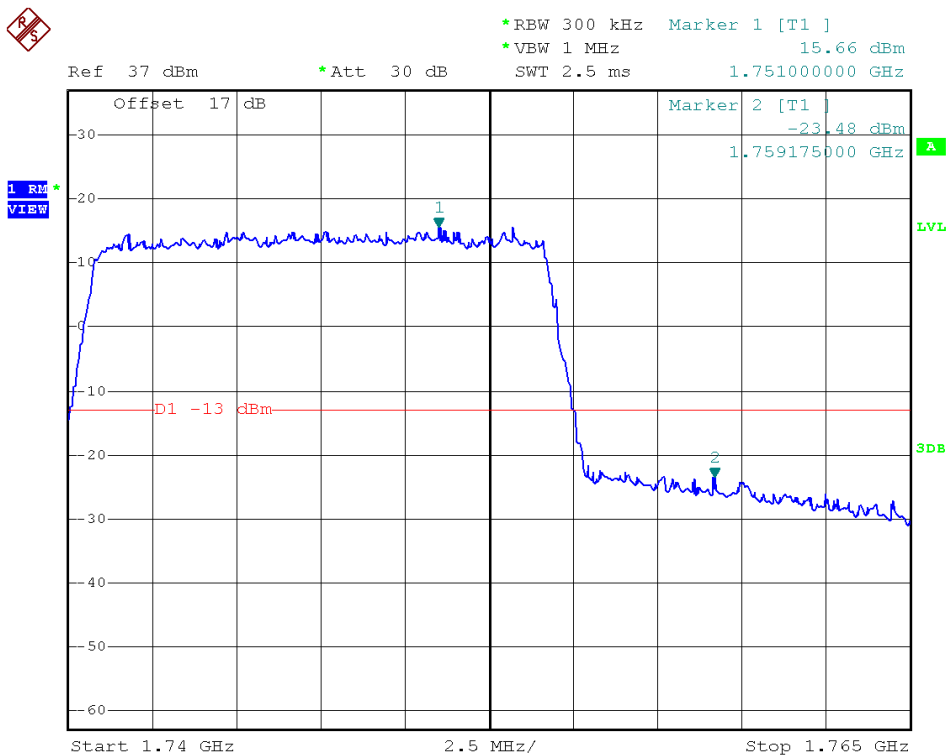
Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 75, RB Offset 0

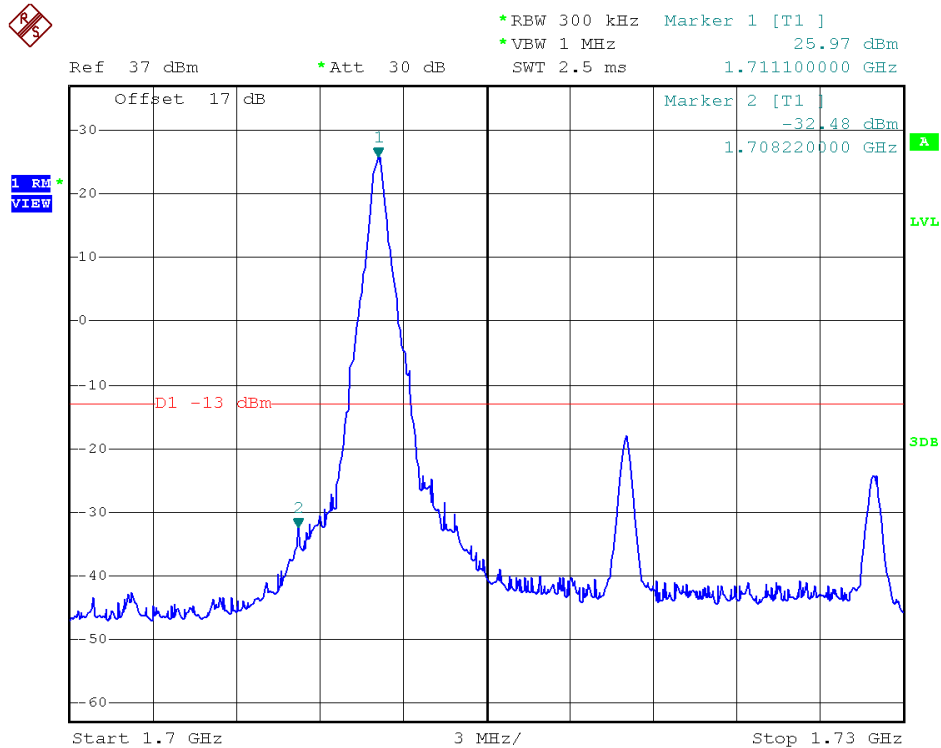


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 74

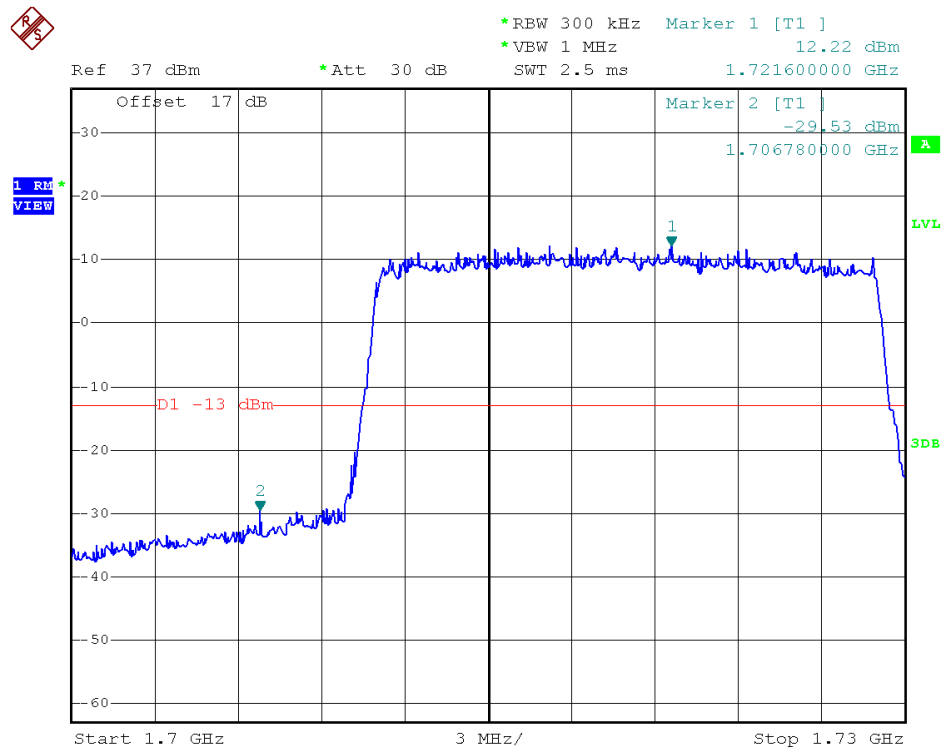


Higher Band Edge Plot for 16QAM -RB Size 75, RB Offset 0

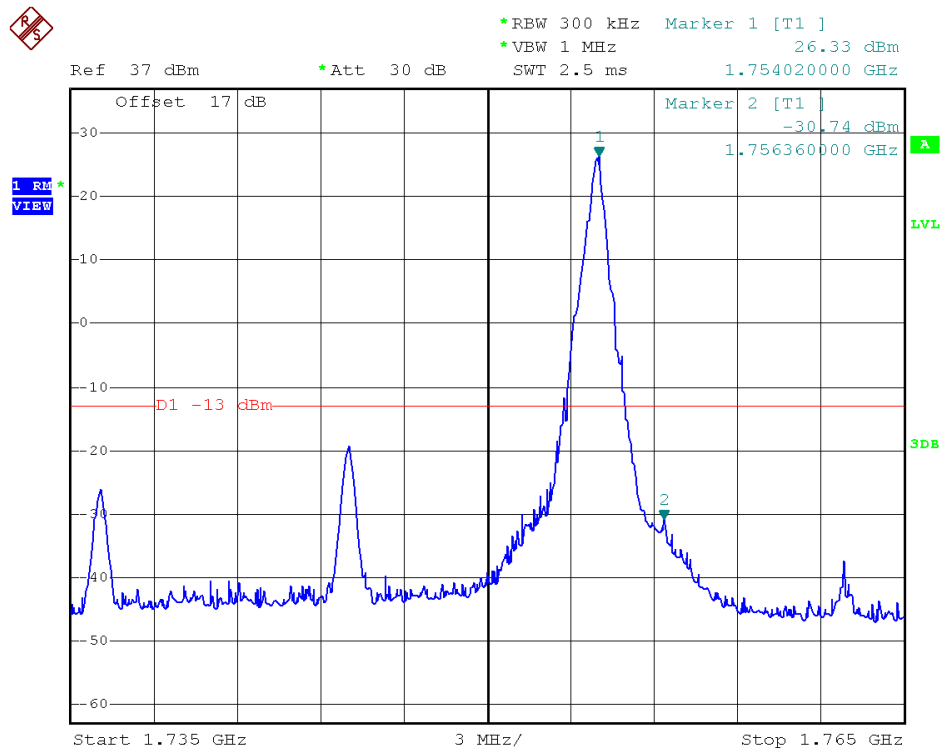
Band	LTE Band 4	Modulation	QPSK
Bandwidth	20MHz		



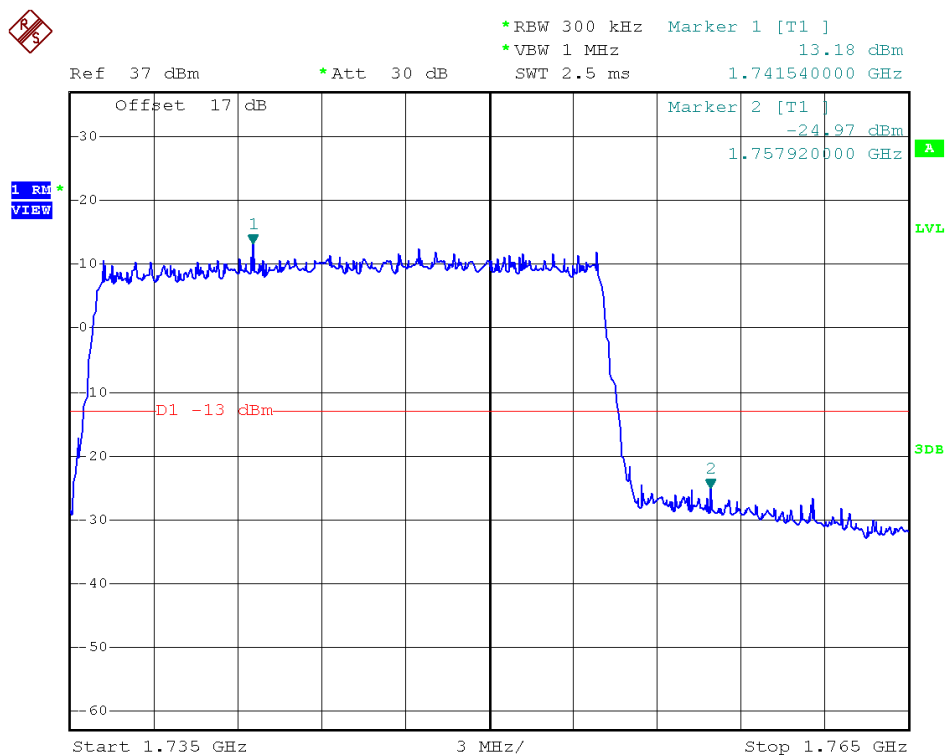
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0

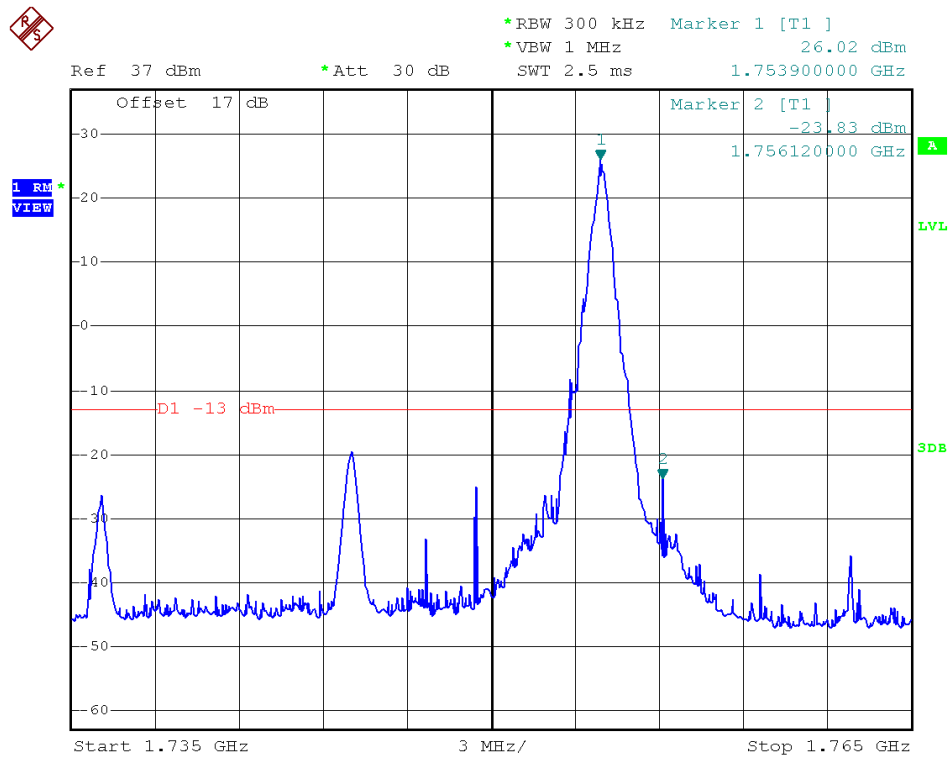


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99

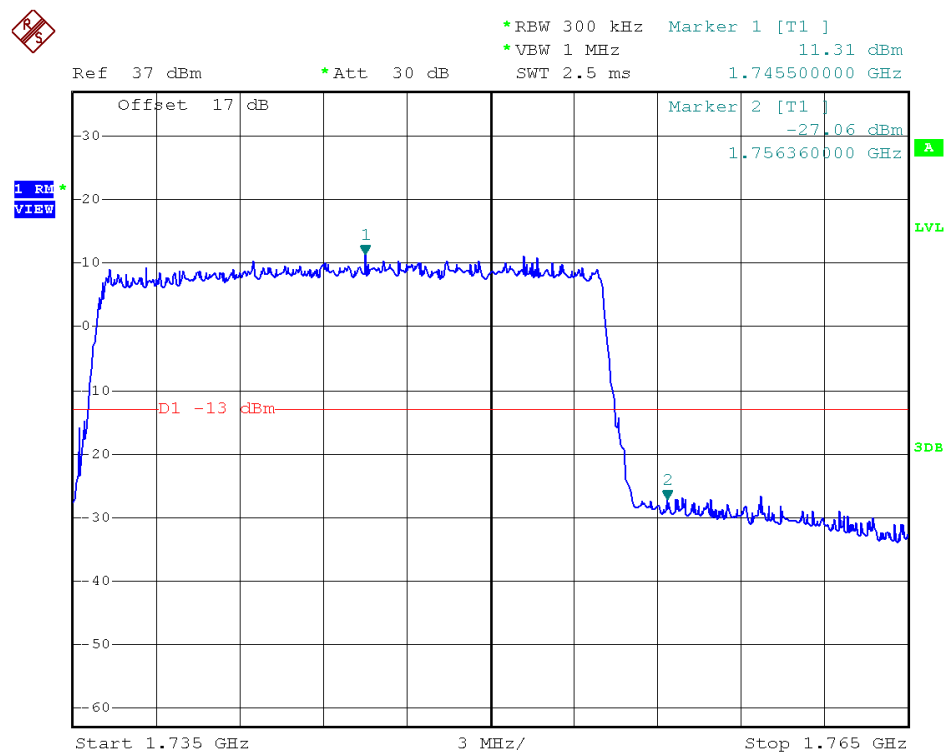


Higher Band Edge Plot for QPSK-RB Size 100, RB Offset 0





Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 99

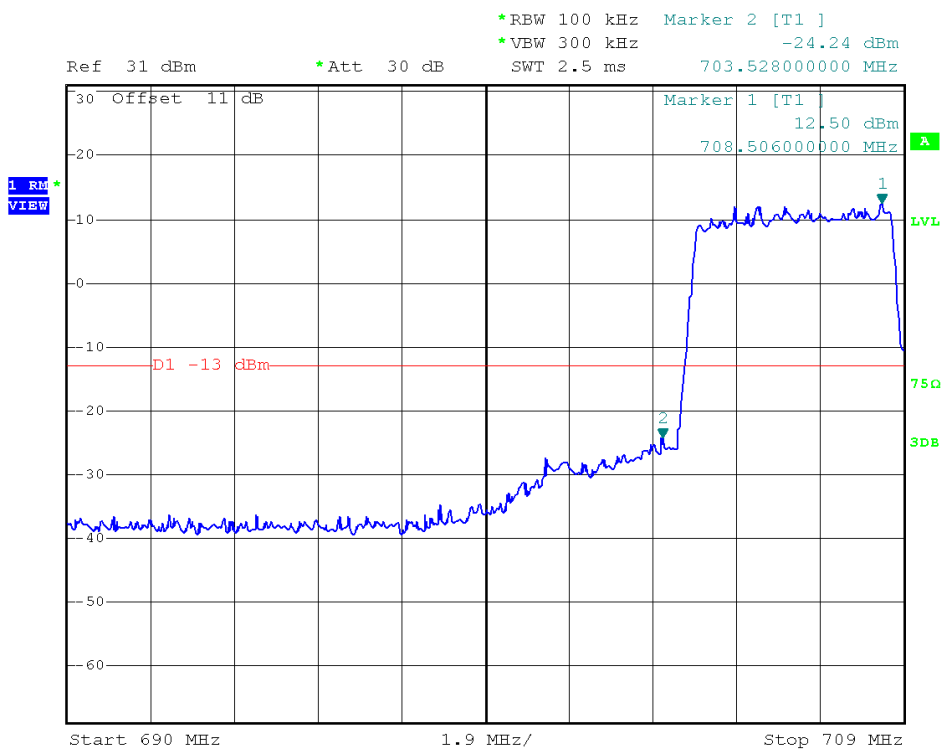


Higher Band Edge Plot for 16QAM -RB Size 100, RB Offset 0

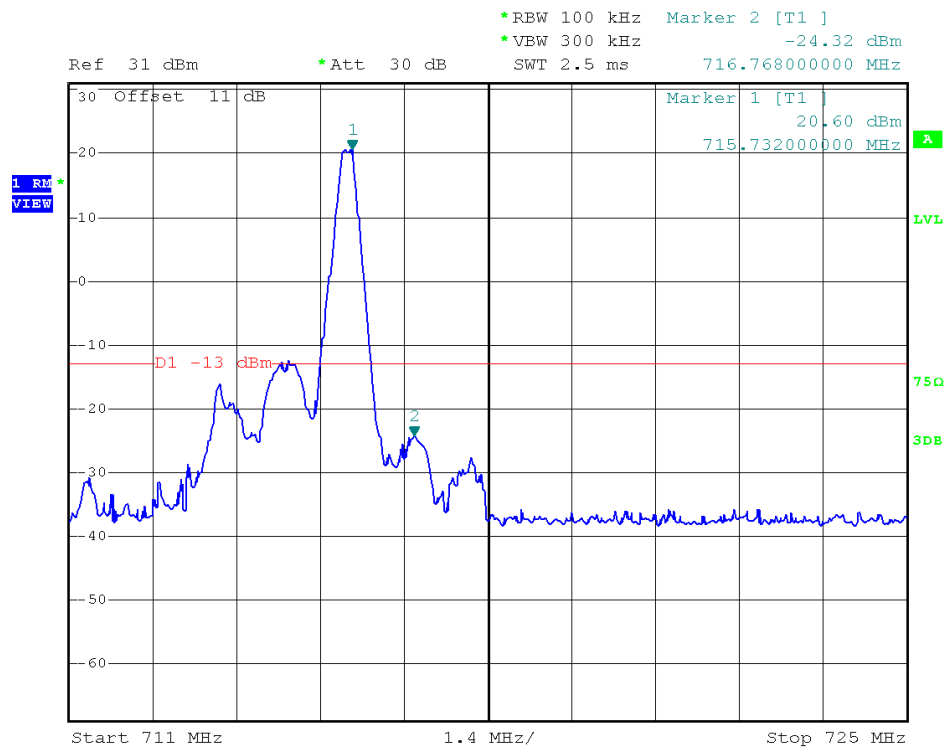
Band	LTE Band 17	Modulation	QPSK
Bandwidth	5MHz		



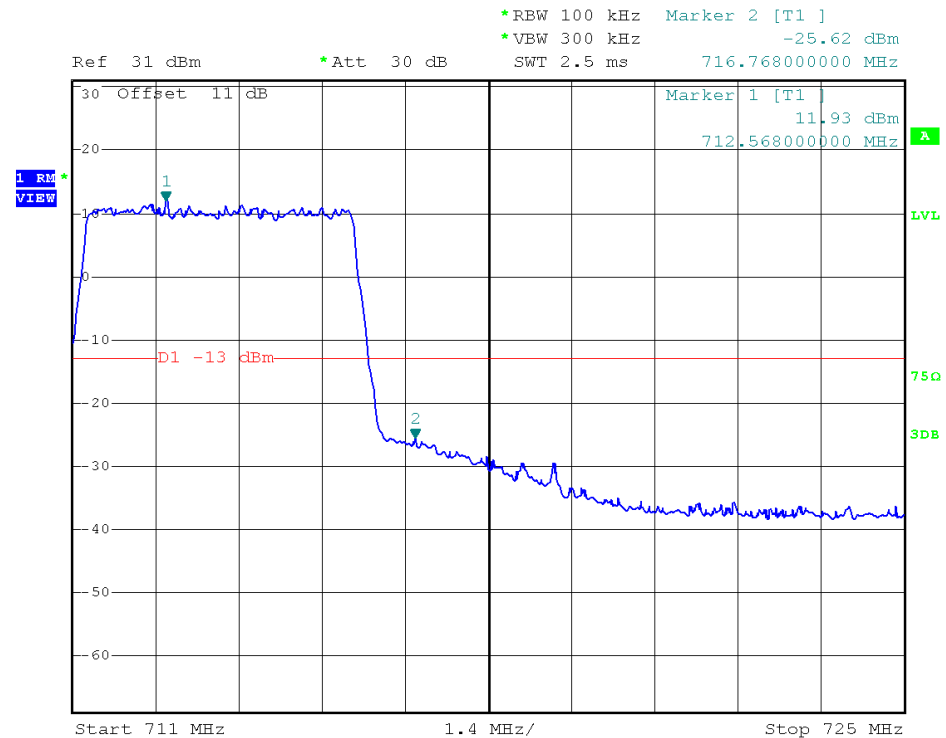
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



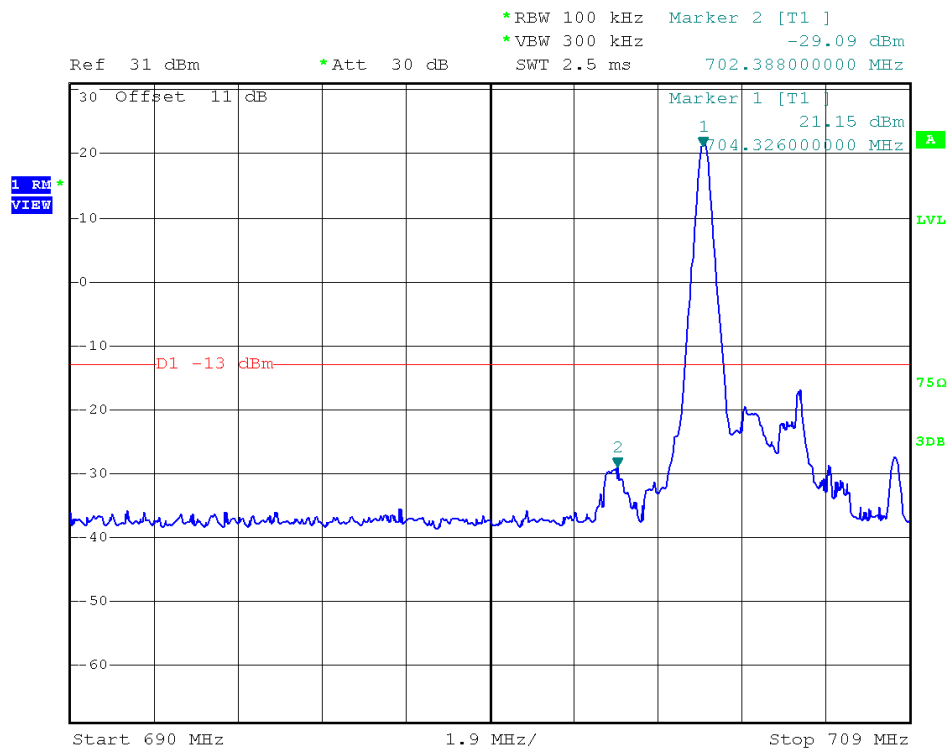
Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



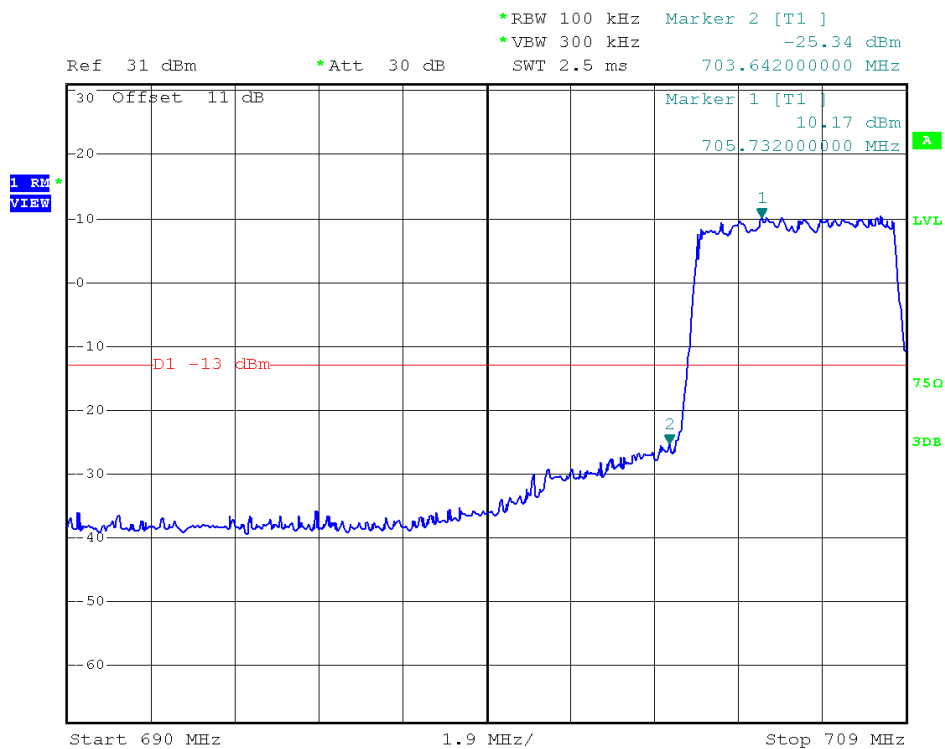
Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0



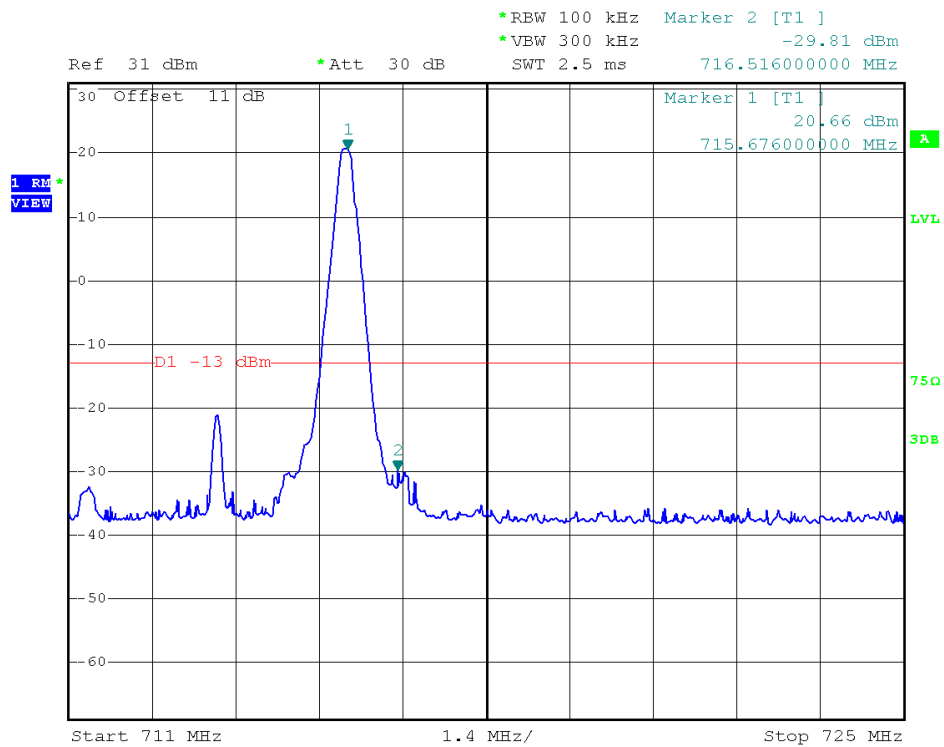
Band	LTE Band 17	Modulation	16QAM
Bandwidth	5MHz		



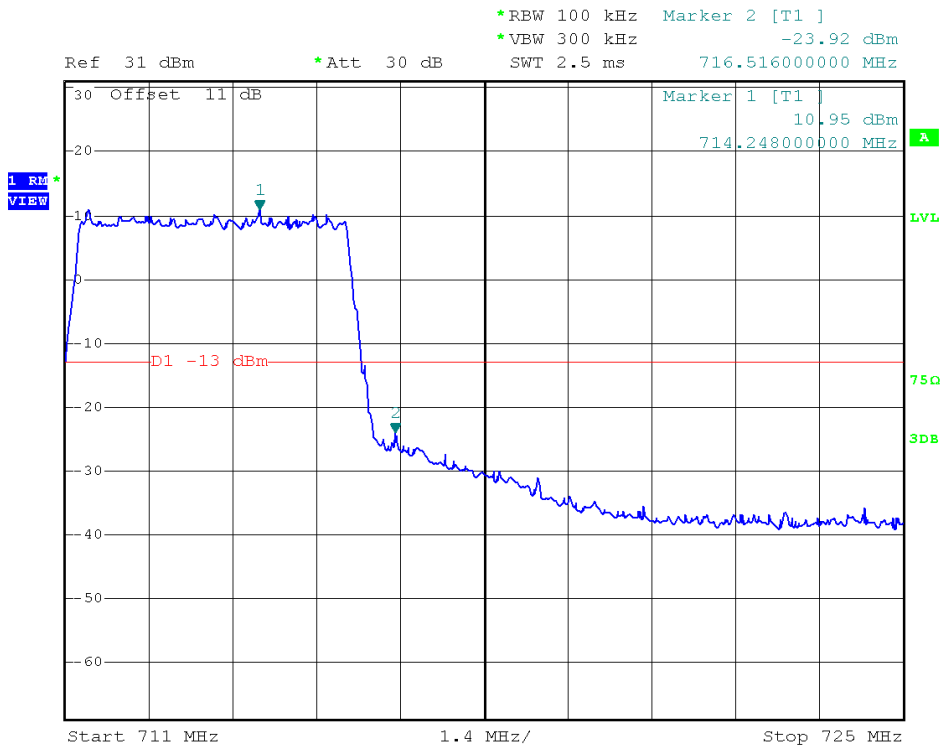
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 25, RB Offset 0

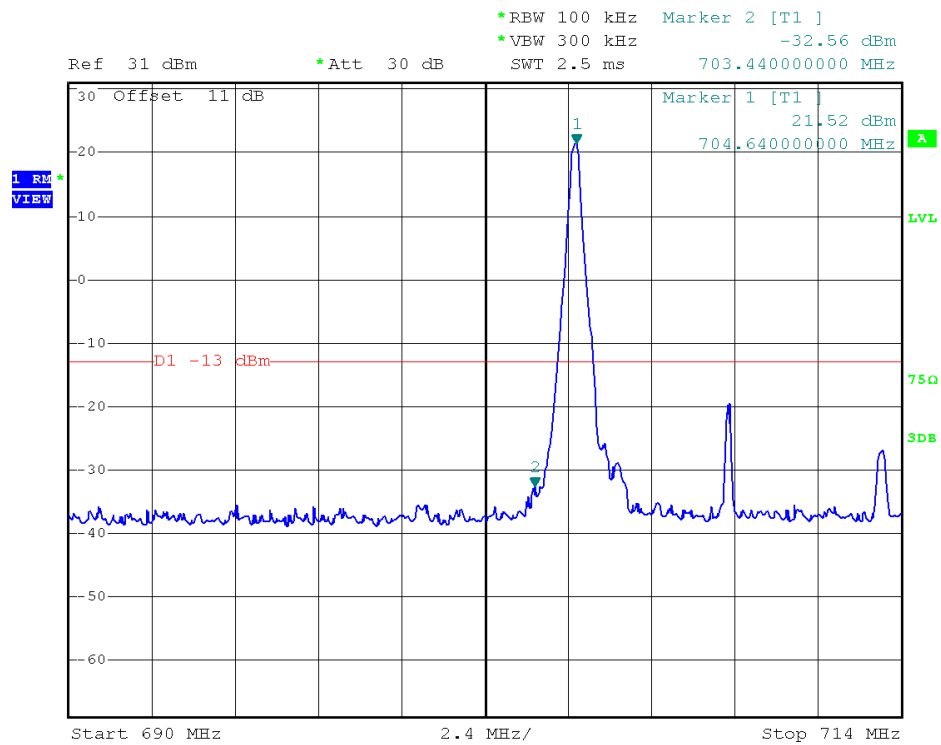


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 24

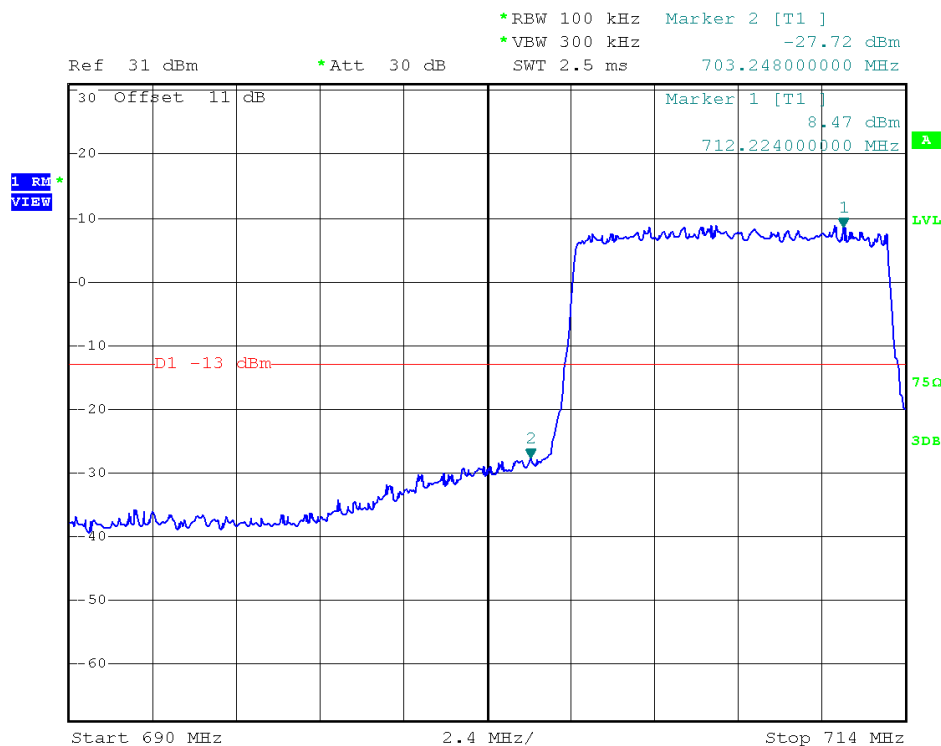


Higher Band Edge Plot for 16QAM -RB Size 25, RB Offset 0

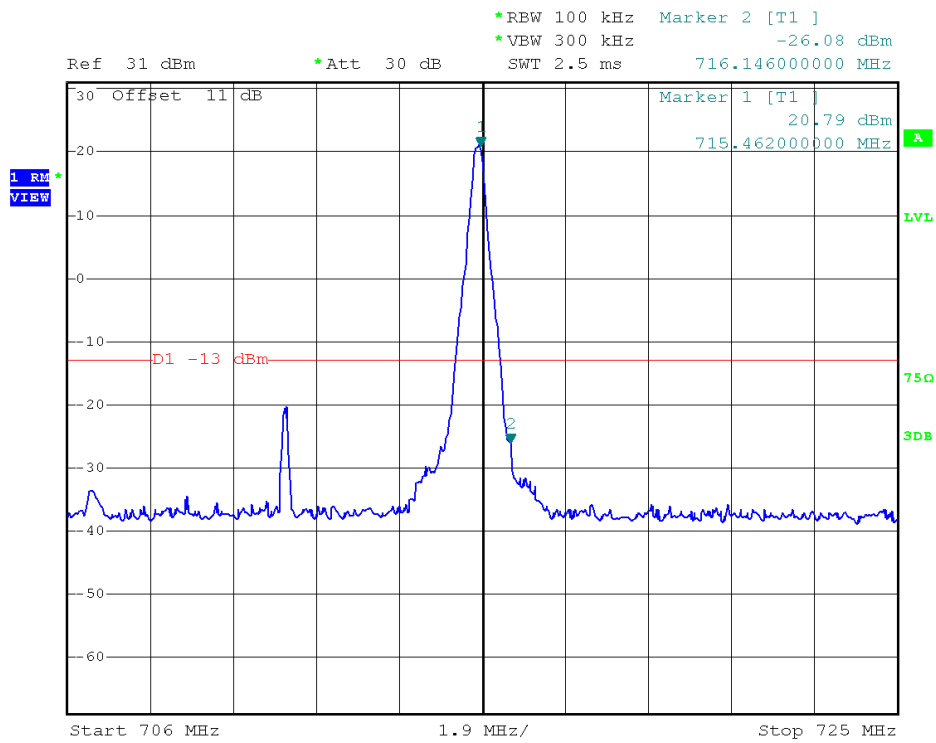
Band	LTE Band 17	Modulation	QPSK
Bandwidth	10MHz		



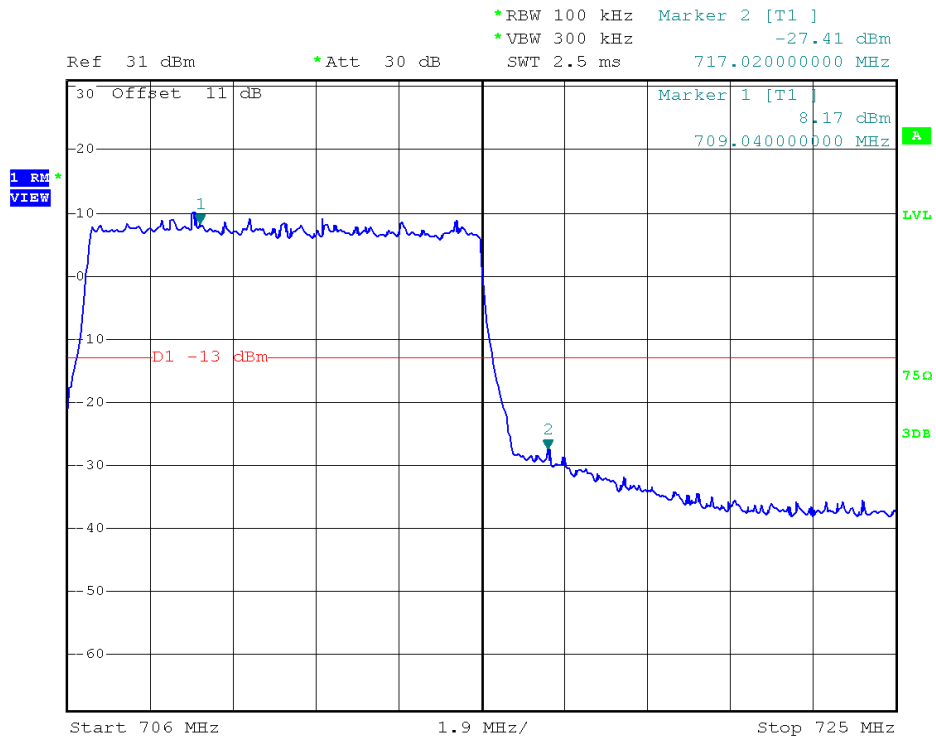
Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0

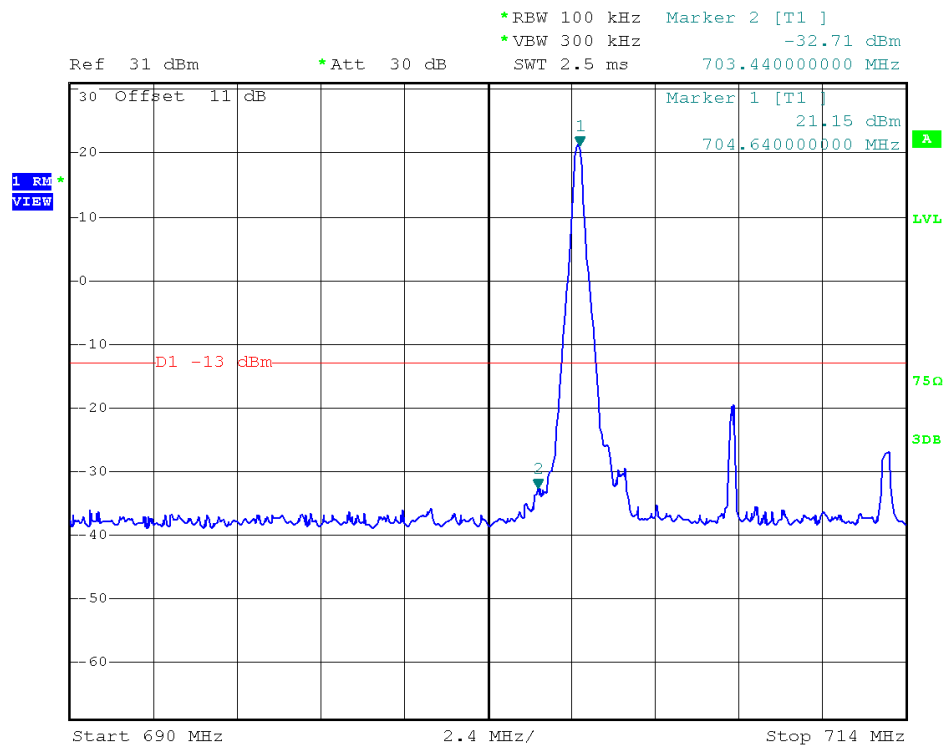


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49

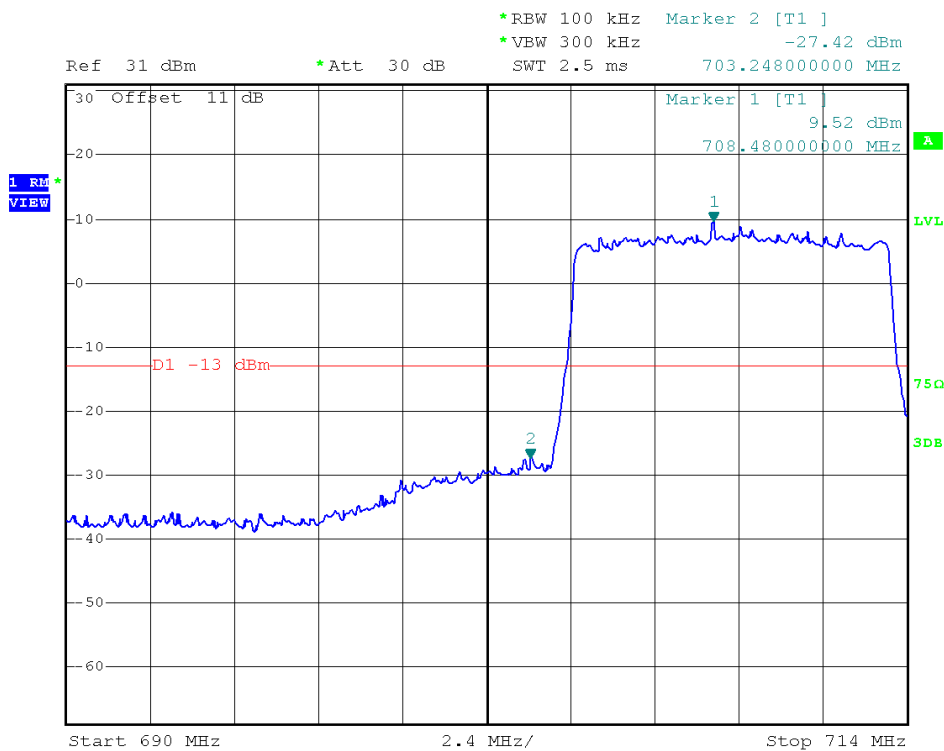


Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

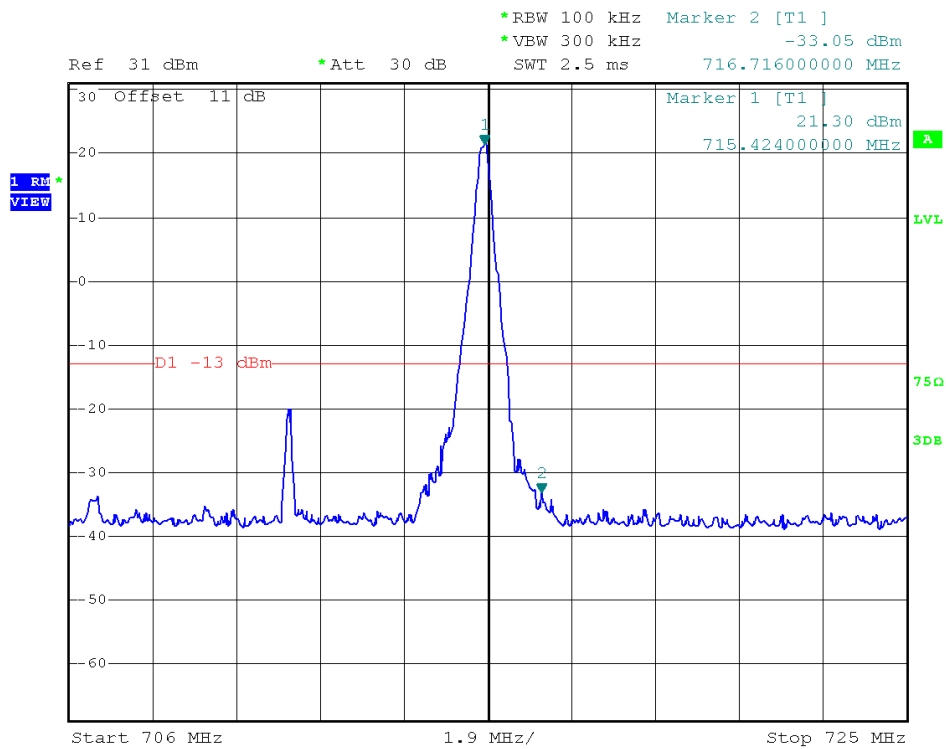
Band	LTE Band 17	Modulation	16QAM
Bandwidth	10MHz		



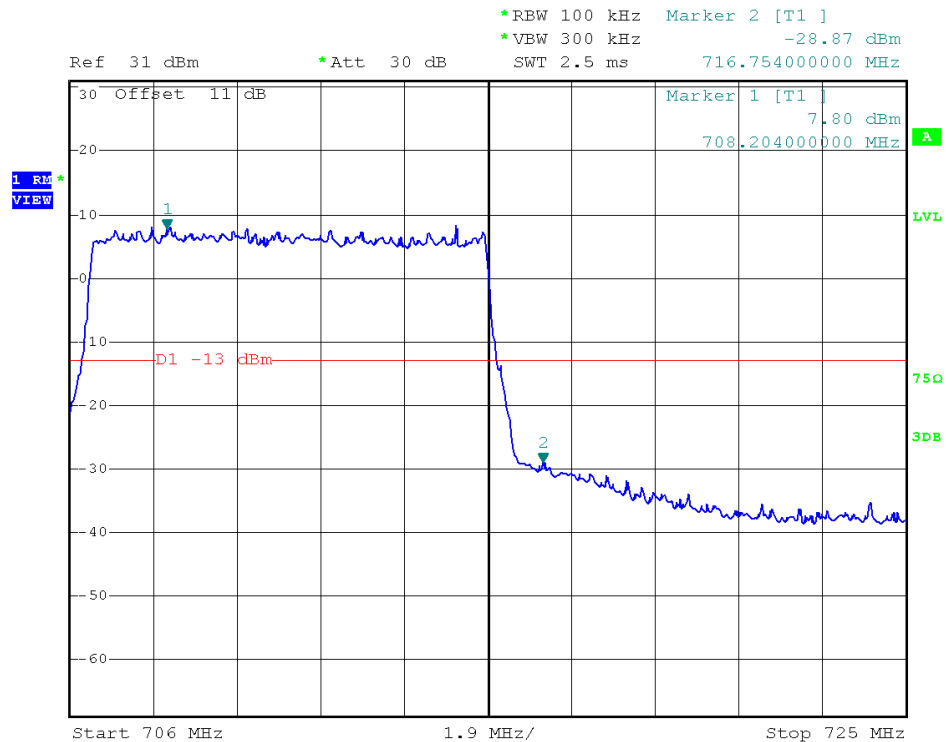
Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0



Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 49



Higher Band Edge Plot for 16QAM -RB Size 50, RB Offset 0

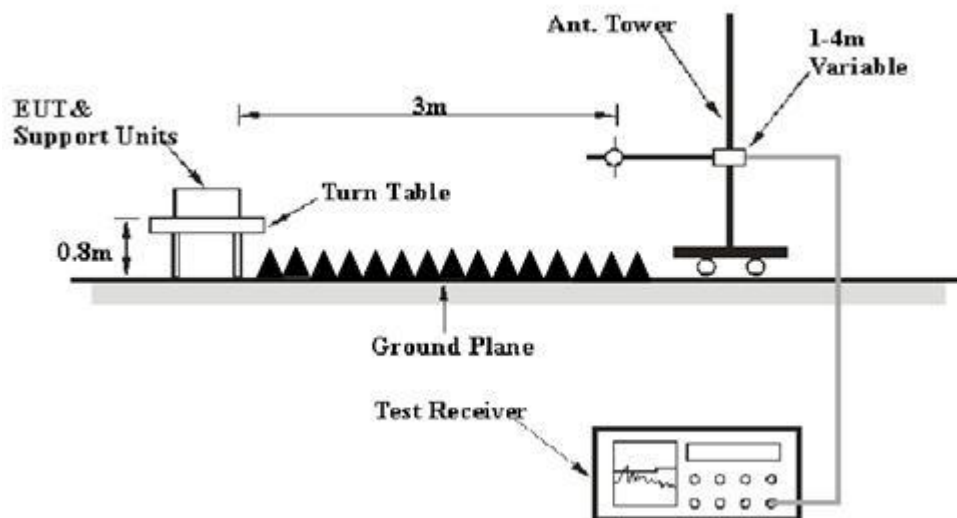
2.7 Transmitter Radiated Power (EIRP/ERP)

2.7.1 Requirement

Effective radiated power output measurements by substitution method according to ANSI / TIA /EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r01. Mobile and portable (hand-held) stations operating are limited to average ERP of 3 watts.

2.7.2 Test Description

1. Test Setup:



The EUT, which is powered by the DC 3.8V Power Supply directly, is located in a 3m Full-Anechoic Chamber; the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.

A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.

2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due Date
System Simulator	R&S	CMW500	149333	2014.07.21	2015.07.20
EMI Test Receiver	R&S	ESIB26	100130	2014.07.07	2015.07.06

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due Date
System Simulator	R&S	CMW500	149333	2014.07.21	2015.07.20
Full-Anechoic Chamber	Albatross~ Projects	12.8m*6.8m *6.4m	A0412372	2014.01.05	2015.01.04
Double ridge horn antenna(1GHz~18G Hz)	R&S	HF906	100150	2014.06.11	2015.06.10
Broadband antenna (30MHz~1GHz)	R&S	HL562	101341	2014.06.11	2015.06.10
Cable	SUNHNER	SUCOFLEX 100	/	2014.06.05	2015.06.04
Cable	SUNHNER	SUCOFLEX 104	/	2014.06.05	2015.06.04

2.7.3 Test Procedures

1. The EUT was placed on a turntable with 1.5 meter height in a fully anechoic chamber.
2. The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer which used a channel power option across EUT's signal bandwidth per section 4.0 of KDB 971168 D01.
4. The table was rotated 360 degrees to determine the position of the highest radiated power.
5. The height of the receiving antenna is adjusted to look for the maximum ERP/EIRP.
6. Taking the record of maximum ERP/EIRP.
7. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
8. The conducted power at the terminal of the dipole antenna is measured.
9. Repeat step 3 to step 5 to get the maximum ERP/EIRP of the substitution antenna.
10. $ERP/EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$
 P_s (dBm): Input power to substitution antenna.
 G_s (dBi or dBd): Substitution antenna Gain.
 $E_t = R_t + AF$
 $E_s = R_s + AF$
 AF (dB/m): Receive antenna factor
 R_t : The highest received signal in spectrum analyzer for EUT.
 R_s : The highest received signal in spectrum analyzer for substitution antenna.

2.7.4 Test Result of ERP/EIRP



1. LTE Band 2 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	H/V	Verdict
			RB Size	RB Offset				
2	1.4	QPSK	1	2	1850.7	19.62	H	PASS
2	1.4	QPSK	1	2	1880	19.51	H	PASS
2	1.4	QPSK	1	2	1909.3	19.54	H	PASS
2	1.4	QPSK	1	2	1850.7	18.88	V	PASS
2	1.4	QPSK	1	2	1880	18.91	V	PASS
2	1.4	QPSK	1	2	1909.3	18.76	V	PASS
2	1.4	16QAM	1	5	1850.7	17.51	H	PASS
2	1.4	16QAM	1	0	1880	17.59	H	PASS
2	1.4	16QAM	1	0	1909.3	17.61	H	PASS
2	1.4	16QAM	1	5	1850.7	16.94	V	PASS
2	1.4	16QAM	1	0	1880	16.92	V	PASS
2	1.4	16QAM	1	0	1909.3	16.93	V	PASS
2	3	QPSK	1	7	1851.5	19.59	H	PASS
2	3	QPSK	1	7	1880	19.51	H	PASS
2	3	QPSK	1	7	1908.5	19.48	H	PASS
2	3	QPSK	1	7	1851.5	18.92	V	PASS
2	3	QPSK	1	7	1880	18.88	V	PASS
2	3	QPSK	1	7	1908.5	18.67	V	PASS
2	3	16QAM	1	14	1851.5	17.85	H	PASS
2	3	16QAM	1	0	1880	17.75	H	PASS
2	3	16QAM	1	0	1908.5	17.77	H	PASS
2	3	16QAM	1	14	1851.5	16.91	V	PASS
2	3	16QAM	1	0	1880	16.88	V	PASS
2	3	16QAM	1	0	1908.5	16.79	V	PASS
2	5	QPSK	1	12	1852.5	19.57	H	PASS
2	5	QPSK	1	12	1880	19.62	H	PASS
2	5	QPSK	1	12	1907.5	19.63	H	PASS
2	5	QPSK	1	12	1852.5	18.90	V	PASS
2	5	QPSK	1	12	1880	18.93	V	PASS
2	5	QPSK	1	12	1907.5	18.81	V	PASS
2	5	16QAM	1	24	1852.5	17.77	H	PASS
2	5	16QAM	1	0	1880	17.69	H	PASS
2	5	16QAM	1	0	1907.5	17.78	H	PASS
2	5	16QAM	1	24	1852.5	16.95	V	PASS
2	5	16QAM	1	0	1880	16.90	V	PASS
2	5	16QAM	1	0	1907.5	16.84	V	PASS



LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	H/V	Verdict
			RB Size	RB Offset				
2	10	QPSK	1	24	1855	19.61	H	PASS
2	10	QPSK	1	24	1880	19.54	H	PASS
2	10	QPSK	1	24	1905	19.57	H	PASS
2	10	QPSK	1	24	1855	18.81	V	PASS
2	10	QPSK	1	24	1880	18.84	V	PASS
2	10	QPSK	1	24	1905	18.75	V	PASS
2	10	16QAM	1	49	1855	17.54	H	PASS
2	10	16QAM	1	0	1880	17.62	H	PASS
2	10	16QAM	1	0	1905	17.65	H	PASS
2	10	16QAM	1	49	1855	16.87	V	PASS
2	10	16QAM	1	0	1880	16.91	V	PASS
2	10	16QAM	1	0	1905	16.81	V	PASS
2	15	QPSK	1	37	1857.5	19.51	H	PASS
2	15	QPSK	1	37	1880	19.62	H	PASS
2	15	QPSK	1	37	1902.5	19.57	H	PASS
2	15	QPSK	1	37	1857.5	18.75	V	PASS
2	15	QPSK	1	37	1880	18.81	V	PASS
2	15	QPSK	1	37	1902.5	18.77	V	PASS
2	15	16QAM	1	74	1857.5	17.61	H	PASS
2	15	16QAM	1	0	1880	17.55	H	PASS
2	15	16QAM	1	0	1902.5	17.63	H	PASS
2	15	16QAM	1	74	1857.5	16.89	V	PASS
2	15	16QAM	1	0	1880	16.80	V	PASS
2	15	16QAM	1	0	1902.5	16.79	V	PASS
2	20	QPSK	1	49	1860	19.75	H	PASS
2	20	QPSK	1	49	1880	19.72	H	PASS
2	20	QPSK	1	49	1900	19.76	H	PASS
2	20	QPSK	1	49	1860	19.60	V	PASS
2	20	QPSK	1	49	1880	19.54	V	PASS
2	20	QPSK	1	49	1900	19.48	V	PASS
2	20	16QAM	1	99	1860	17.83	H	PASS
2	20	16QAM	1	0	1880	17.76	H	PASS
2	20	16QAM	1	0	1900	17.90	H	PASS
2	20	16QAM	1	99	1860	17.33	V	PASS
2	20	16QAM	1	0	1880	17.26	V	PASS
2	20	16QAM	1	0	1900	17.34	V	PASS



2. LTE Band 4 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	H/V	Verdict
			RB Size	RB Offset				
4	1.4	QPSK	1	2	1710.7	19.51	H	PASS
4	1.4	QPSK	1	2	1732.5	19.48	H	PASS
4	1.4	QPSK	1	2	1754.3	19.53	H	PASS
4	1.4	QPSK	1	2	1710.7	18.86	V	PASS
4	1.4	QPSK	1	2	1732.5	18.95	V	PASS
4	1.4	QPSK	1	2	1754.3	18.47	V	PASS
4	1.4	16QAM	1	5	1710.7	17.49	H	PASS
4	1.4	16QAM	1	0	1732.5	17.56	H	PASS
4	1.4	16QAM	1	0	1754.3	17.55	H	PASS
4	1.4	16QAM	1	5	1710.7	16.87	V	PASS
4	1.4	16QAM	1	0	1732.5	16.88	V	PASS
4	1.4	16QAM	1	0	1754.3	16.92	V	PASS
4	3	QPSK	1	7	1711.5	19.55	H	PASS
4	3	QPSK	1	7	1732.5	19.47	H	PASS
4	3	QPSK	1	7	1753.5	19.50	H	PASS
4	3	QPSK	1	7	1711.5	18.75	V	PASS
4	3	QPSK	1	7	1732.5	18.84	V	PASS
4	3	QPSK	1	7	1753.5	18.56	V	PASS
4	3	16QAM	1	14	1711.5	17.52	H	PASS
4	3	16QAM	1	0	1732.5	17.54	H	PASS
4	3	16QAM	1	0	1753.5	17.57	H	PASS
4	3	16QAM	1	14	1711.5	16.87	V	PASS
4	3	16QAM	1	0	1732.5	16.92	V	PASS
4	3	16QAM	1	0	1753.5	16.90	V	PASS
4	5	QPSK	1	12	1712.5	19.62	H	PASS
4	5	QPSK	1	12	1732.5	19.52	H	PASS
4	5	QPSK	1	12	1752.5	19.49	H	PASS
4	5	QPSK	1	12	1712.5	18.86	V	PASS
4	5	QPSK	1	12	1732.5	18.80	V	PASS
4	5	QPSK	1	12	1752.5	18.76	V	PASS
4	5	16QAM	1	24	1712.5	17.65	H	PASS
4	5	16QAM	1	0	1732.5	17.58	H	PASS
4	5	16QAM	1	0	1752.5	17.66	H	PASS
4	5	16QAM	1	24	1712.5	16.92	V	PASS
4	5	16QAM	1	0	1732.5	16.95	V	PASS
4	5	16QAM	1	0	1752.5	16.80	V	PASS



LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	H/V	Verdict
			RB Size	RB Offset				
4	10	QPSK	1	24	1715	19.57	H	PASS
4	10	QPSK	1	24	1732.5	19.59	H	PASS
4	10	QPSK	1	24	1750	19.51	H	PASS
4	10	QPSK	1	24	1715	18.77	V	PASS
4	10	QPSK	1	24	1732.5	18.82	V	PASS
4	10	QPSK	1	24	1750	18.73	V	PASS
4	10	16QAM	1	49	1715	17.59	H	PASS
4	10	16QAM	1	0	1732.5	17.55	H	PASS
4	10	16QAM	1	0	1750	17.63	H	PASS
4	10	16QAM	1	49	1715	16.82	V	PASS
4	10	16QAM	1	0	1732.5	16.85	V	PASS
4	10	16QAM	1	0	1750	16.83	V	PASS
4	15	QPSK	1	37	1717.5	19.54	H	PASS
4	15	QPSK	1	37	1732.5	19.60	H	PASS
4	15	QPSK	1	37	1747.5	19.57	H	PASS
4	15	QPSK	1	37	1717.5	18.73	V	PASS
4	15	QPSK	1	37	1732.5	18.85	V	PASS
4	15	QPSK	1	37	1747.5	18.79	V	PASS
4	15	16QAM	1	74	1717.5	17.54	H	PASS
4	15	16QAM	1	0	1732.5	17.52	H	PASS
4	15	16QAM	1	0	1747.5	17.61	H	PASS
4	15	16QAM	1	74	1717.5	16.86	V	PASS
4	15	16QAM	1	0	1732.5	16.81	V	PASS
4	15	16QAM	1	0	1747.5	16.89	V	PASS
4	20	QPSK	1	49	1720	19.73	H	PASS
4	20	QPSK	1	49	1732.5	19.75	H	PASS
4	20	QPSK	1	49	1745	19.52	H	PASS
4	20	QPSK	1	49	1720	19.69	V	PASS
4	20	QPSK	1	49	1732.5	19.64	V	PASS
4	20	QPSK	1	49	1745	19.58	V	PASS
4	20	16QAM	1	99	1720	17.83	H	PASS
4	20	16QAM	1	0	1732.5	17.76	H	PASS
4	20	16QAM	1	0	1745	17.95	H	PASS
4	20	16QAM	1	99	1720	17.13	V	PASS
4	20	16QAM	1	0	1732.5	17.06	V	PASS
4	20	16QAM	1	0	1745	17.24	V	PASS



3. LTE Band 17 Test Verdict:

LTE Band	BW (MHz)	Modulation	RB Configuration		Freq. (MHz)	ERP (dBm)	H/V	Verdict
			RB Size	RB Offset				
17	5	QPSK	1	24	706.5	19.25	H	PASS
17	5	QPSK	1	24	710	19.30	H	PASS
17	5	QPSK	1	12	713.5	19.33	H	PASS
17	5	QPSK	1	24	706.5	18.46	V	PASS
17	5	QPSK	1	24	710	18.55	V	PASS
17	5	QPSK	1	12	713.5	18.47	V	PASS
17	5	16QAM	1	24	706.5	17.59	H	PASS
17	5	16QAM	1	24	710	17.76	H	PASS
17	5	16QAM	1	12	713.5	17.65	H	PASS
17	5	16QAM	1	24	706.5	16.57	V	PASS
17	5	16QAM	1	24	710	16.48	V	PASS
17	5	16QAM	1	12	713.5	16.62	V	PASS
17	10	QPSK	1	49	709	19.63	H	PASS
17	10	QPSK	1	49	710	19.71	H	PASS
17	10	QPSK	1	49	711	19.80	H	PASS
17	10	QPSK	1	49	709	18.29	V	PASS
17	10	QPSK	1	49	710	18.64	V	PASS
17	10	QPSK	1	49	711	18.58	V	PASS
17	10	16QAM	1	24	709	17.73	H	PASS
17	10	16QAM	1	49	710	17.86	H	PASS
17	10	16QAM	1	24	711	17.95	H	PASS
17	10	16QAM	1	24	709	16.73	V	PASS
17	10	16QAM	1	49	710	16.86	V	PASS
17	10	16QAM	1	24	711	16.64	V	PASS

2.8 Radiated Out of Band Emissions

2.8.1 Requirement

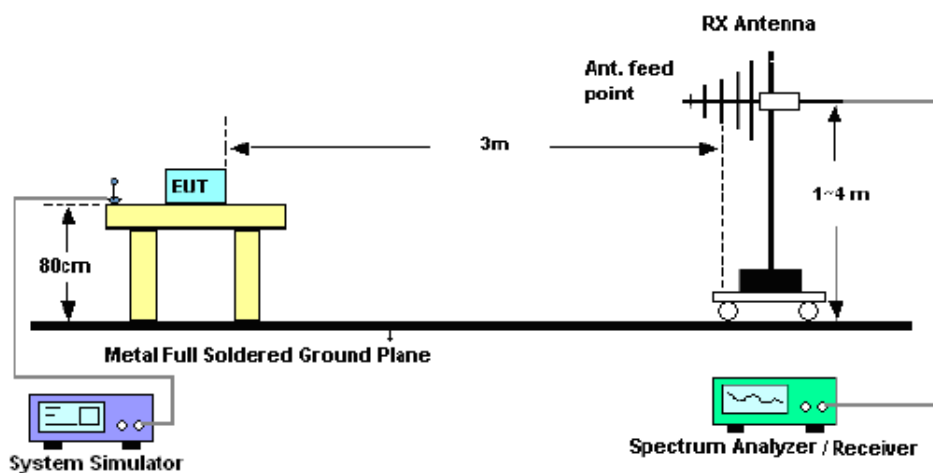
The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For LTE Band 17

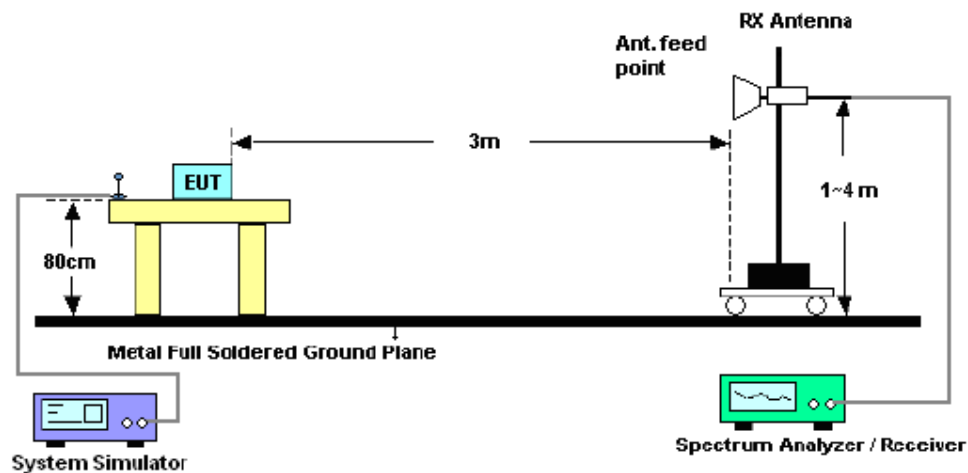
For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

2.8.2 Test Description

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due Date
System Simulator	R&S	CMW500	149333	2014.07.21	2015.07.20
EMI Test Receiver	R&S	ESIB26	100130	2014.07.07	2015.07.06
Full-Anechoic Chamber	Albatross ~ Projects	12.8m*6.8m*6.4m	A0412372	2015.01.05	2016.01.04
Double ridge horn antenna(1GHz~18GHz)	R&S	HF906	100150	2014.06.11	2015.06.10
Broadband antenna (30MHz~1GHz)	R&S	HL562	101341	2014.06.11	2015.06.10
Horn antenna (18GHz~26.5GHz)	R&S	HM118	101286	2014.06.11	2015.06.10
Cable	SUNHNER	SUCOFLEX 100	/	2014.06.05	2015.06.04
Cable	SUNHNER	SUCOFLEX 104	/	2014.06.05	2015.06.04

2.8.3 Test Procedures

1. All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR detectors, are reported. All other emissions were relatively insignificant.
2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
3. Radiated Emissions Measurement Uncertainty

All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 1GHz – 40GH is $\pm 6.0\text{dB}$ (for EUTs < 0.5m X 0.5m X 0.5m).

4. Environmental Conditions

Temperature 23°C
 Relative Humidity 49%
 Atmospheric Pressure 1010mbar
5. The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.
6. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

7. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

8. Sample Calculation:

EUT Field Strength (dBm) = Reading (Signal generator) + Antenna Gain (substitution antenna) - Cable loss (From Signal Generator to substitution antenna)

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

= $P(W) - [43 + 10\log(P)]$ (dB)

= $[30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)

= -13dBm.

2.8.4 Test Result

LTE Band 2 (Low Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
3720	-45.62	H	8.65	2.45	-39.42	-13	Pass
3720	-46.15	V	8.65	2.45	-39.95	-13	Pass
255.8	-55.14	H	3.15	0.50	-52.49	-13	Pass
638.5	-54.79	V	3.40	0.66	-52.05	-13	Pass

LTE Band 2 (Middle Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
3760	-45.17	H	8.65	2.45	-38.97	-13	Pass
3760	-46.35	V	8.65	2.45	-40.15	-13	Pass
256.3	-55.85	H	3.15	0.50	-53.20	-13	Pass
640.2	-54.94	V	3.40	0.66	-52.20	-13	Pass



LTE Band 2 (High Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
3800	-46.25	H	8.65	2.45	-40.05	-13	Pass
3800	-46.74	V	8.65	2.45	-40.54	-13	Pass
254.5	-54.61	H	3.15	0.50	-51.96	-13	Pass
640.7	-52.34	V	3.40	0.66	-49.60	-13	Pass

LTE Band 4 (Low Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
3440	-46.32	H	8.62	2.39	-40.09	-13	Pass
3440	-46.44	V	8.62	2.39	-40.21	-13	Pass
257.4	-54.25	H	3.15	0.50	-51.60	-13	Pass
640.2	-52.17	V	3.40	0.66	-49.43	-13	Pass

LTE Band 4 (Middle Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
3465	-45.56	H	8.62	2.39	-39.33	-13	Pass
3465	-46.19	V	8.62	2.39	-39.96	-13	Pass
256.8	-54.68	H	3.15	0.50	-52.03	-13	Pass
639.7	-52.24	V	3.40	0.66	-49.50	-13	Pass

LTE Band 4 (High Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
3490	-47.35	H	8.62	2.39	-41.12	-13	Pass
3490	-46.59	V	8.62	2.39	-40.36	-13	Pass
254.1	-54.44	H	3.15	0.50	-51.79	-13	Pass
639.4	-52.33	V	3.40	0.66	-49.59	-13	Pass



LTE Band 17 (Low Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
1418	-42.54	H	6.24	1.16	-37.46	-13	Pass
1418	-43.14	V	6.24	1.16	-38.06	-13	Pass
256.3	-54.75	H	3.15	0.50	-52.10	-13	Pass
638.7	-52.33	V	3.40	0.66	-49.59	-13	Pass

LTE Band 17 (Middle Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
1420	-41.52	H	6.24	1.16	-36.44	-13	Pass
1420	-42.19	V	6.24	1.16	-37.11	-13	Pass
256.5	-54.31	H	3.15	0.50	-51.66	-13	Pass
636.4	-50.42	V	3.40	0.66	-47.68	-13	Pass

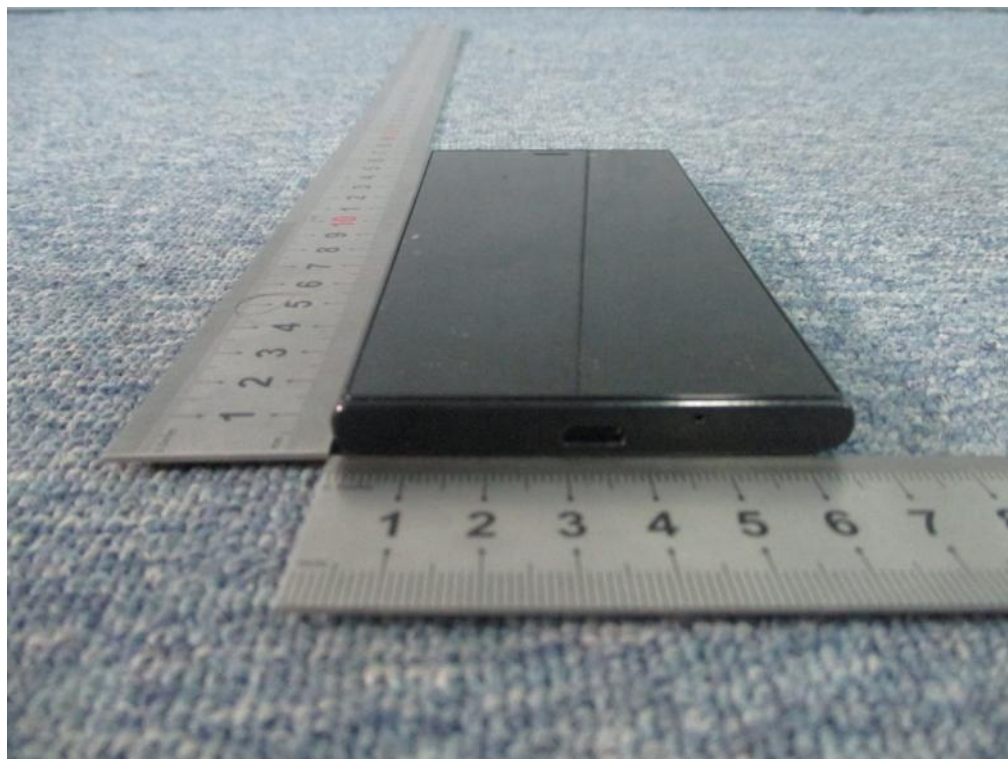
LTE Band 17 (High Channel)							
Frequency (MHz)	Substituted level(dBm)	Polarity (H/V)	Antenna Gain(dBi)	Cable Loss (dB)	Corrected Reading (dBm)	Limit (dBm)	Result
1422	-42.17	H	6.24	1.16	-37.09	-13	Pass
1422	-42.03	V	6.24	1.16	-36.95	-13	Pass
256.4	-54.66	H	3.15	0.50	-52.01	-13	Pass
636.4	-51.65	V	3.40	0.66	-48.91	-13	Pass

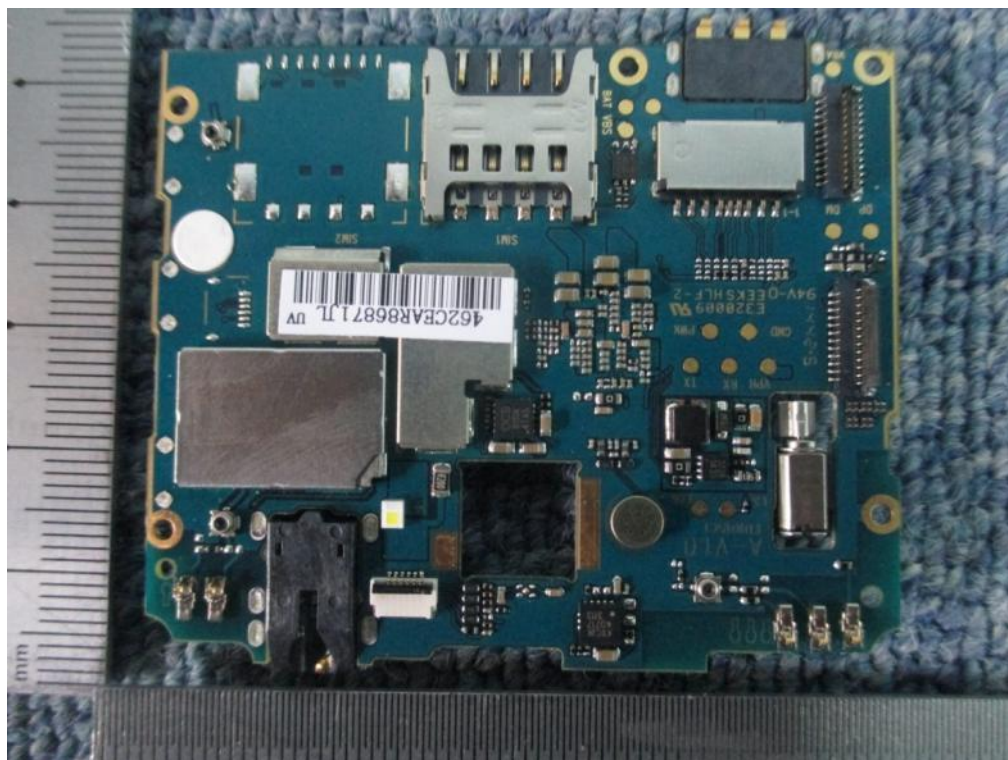
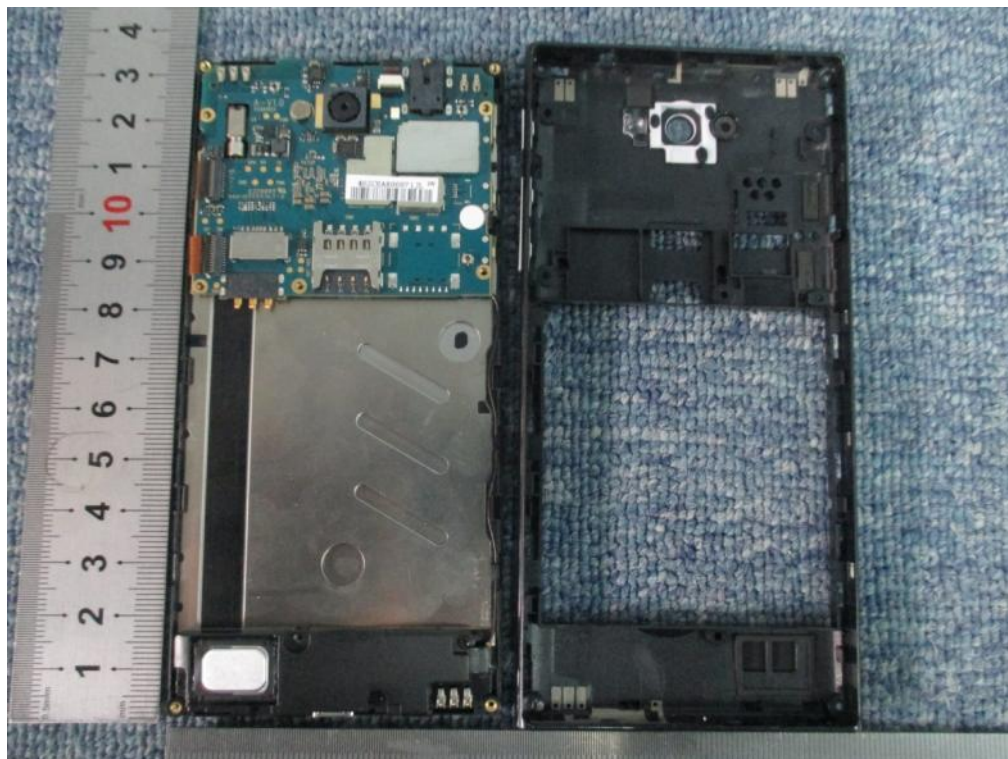
Annex A Accreditation Certificate

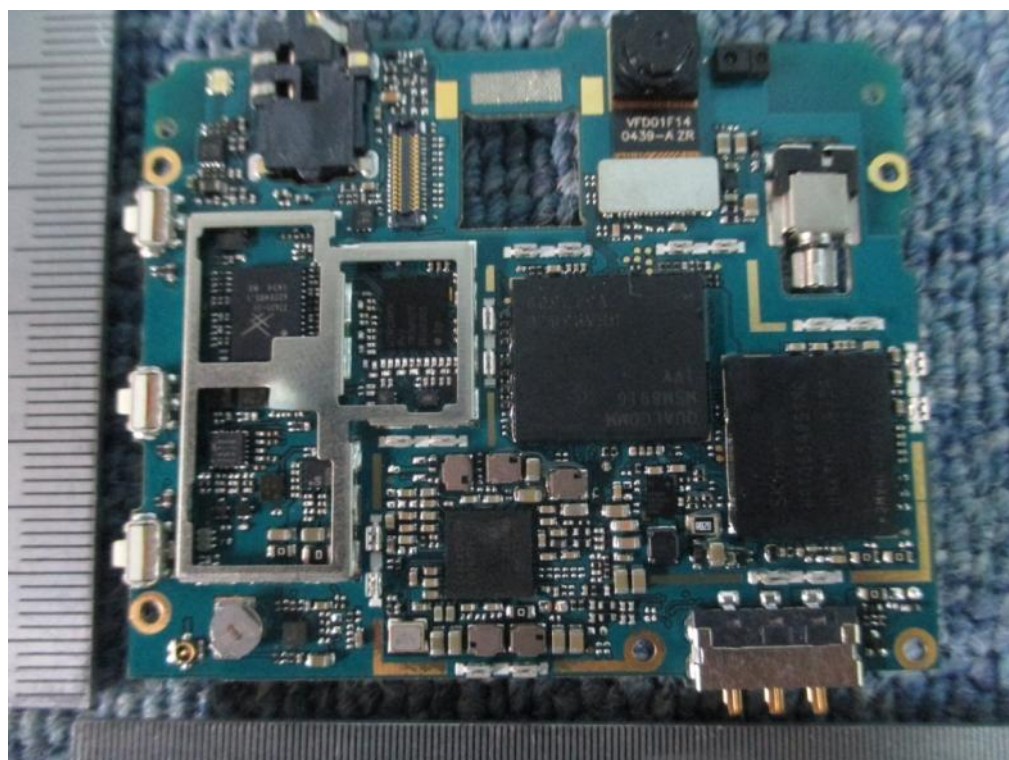
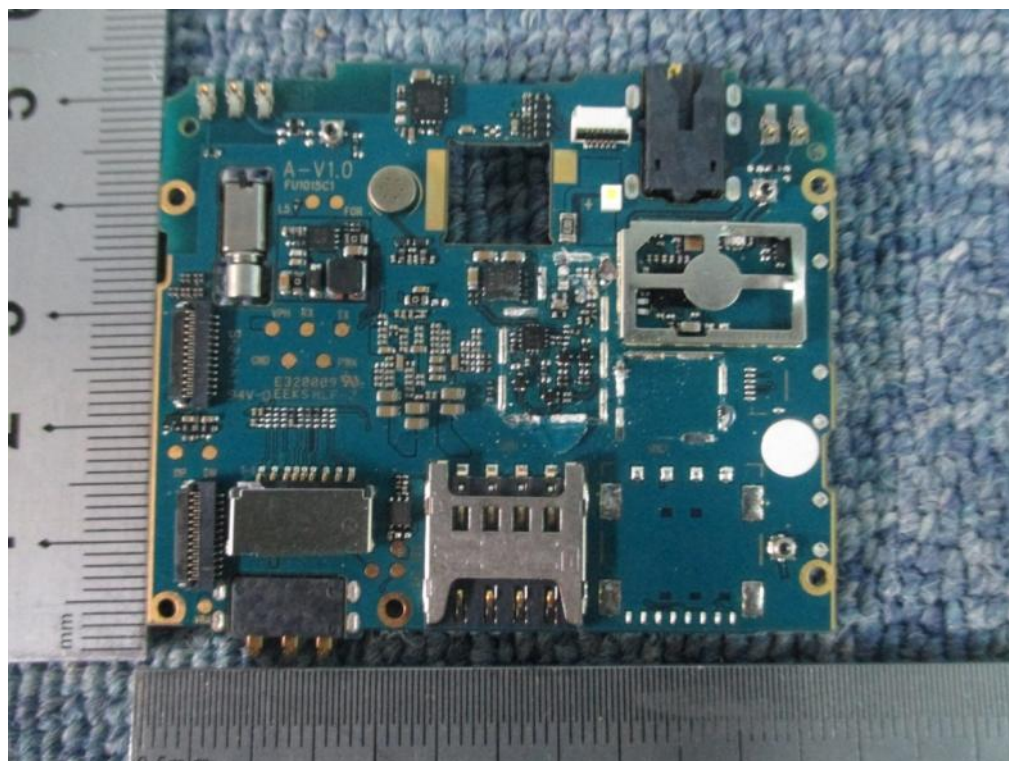
 
China National Accreditation Service for Conformity Assessment
LABORATORY ACCREDITATION CERTIFICATE
(Registration No. CNAS L1659)
CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd. <u>Building 28/29, Shigudong, Xili Industrial Area, Xili Street,</u> <u>Nanshan District, Shenzhen, Guangdong, China</u>
<i>is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories(CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence of testing and calibration.</i> <i>The scope of accreditation is detailed in the attached appendices bearing the same registration number as above. The appendices form an integral part of this certificate.</i>
Date of Issue: 2012-09-29 Date of Expiry: 2015-09-28 Date of Initial Accreditation: 1999-08-03 Date of Update: 2012-09-29
 Signed on behalf of China National Accreditation Service for Conformity Assessment
China National Accreditation Service for Conformity Assessment (CNAS) is authorized by Certification and Accreditation Administration of the People's Republic of China (CNCA) to operate the national accreditation schemes for conformity assessment. CNAS is the signatory to International Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (ILAC MRA) and Asia Pacific Laboratory Accreditation Cooperation Multilateral Recognition Arrangement (APLAC MRA).
No.CNAS AL 2 0005210

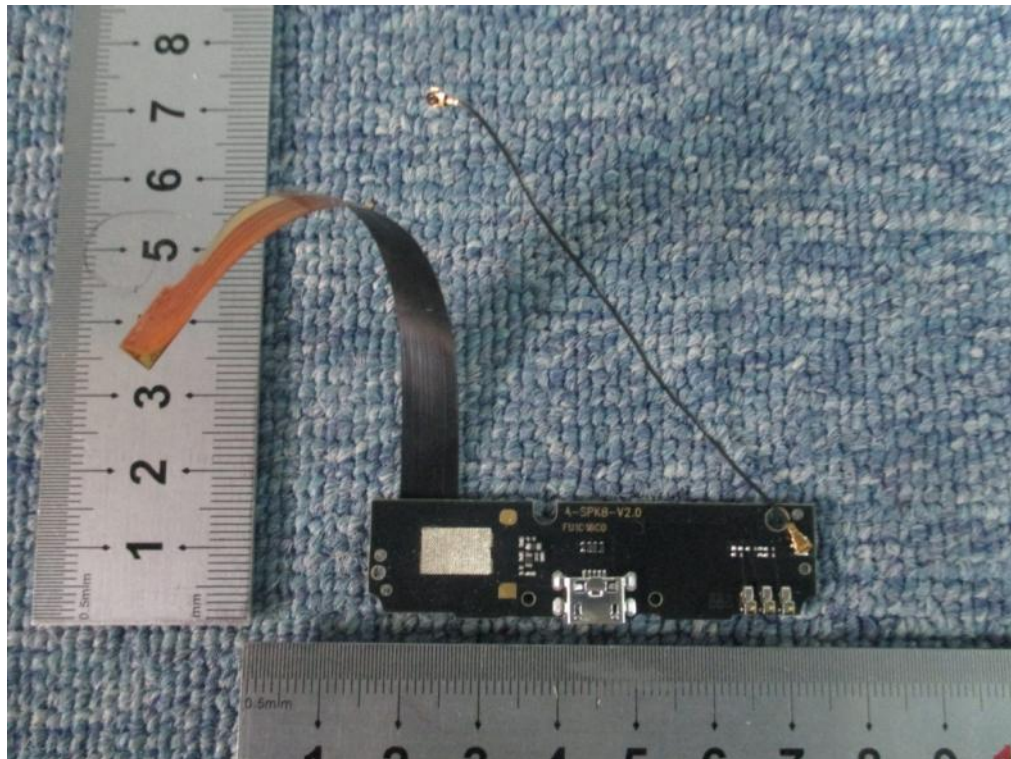
Annex B PHOTOGRAPHS OF THE EUT











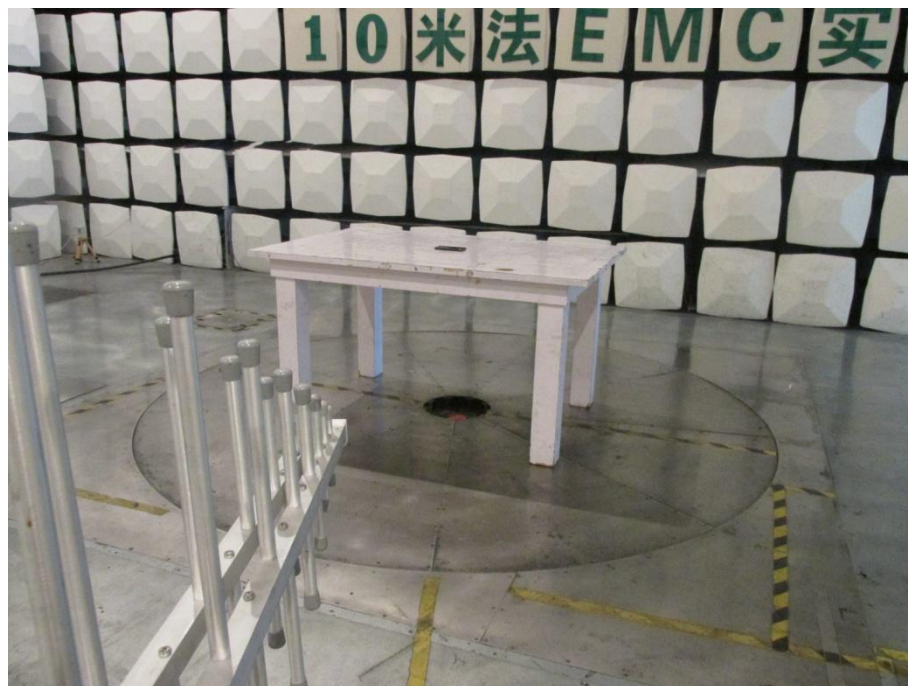


Annex C PHOTOGRAPHS OF THE TEST SETUP

1. Conducted Measurement Setup



2. Radiated Measurement Setup



Below 1GHz



Above 1GHz

**** END OF REPORT ****