RF TEST REPORT

Report No.:	SET2015-01606
Product:	LTE Mobile Phone
FCC ID:	CLNSS4445T
Model No.:	M4 SS4445T
Applicant:	MFOURTEL MEXICO S.A. DE C.V.
Address:	Av. Ejército Nacional 436 Piso 3 Chapultepec Morales Miguel Hidalgo Distrito Federal 11570.
Issued by:	CCIC-SET
Lab Location:	Electronic Testing Building, Shahe Road，Xili, Nanshan District, Shenzh China
	Tel：86 755 26627338 **Fax**：86 755 26627238

Test Report

Product..... :	LTE Mobile Phone
Brand Name ..... :	M4
Trade Name ..... :	M4
Applicant ..... :	MFOURTEL MEXICO S.A. DE C.V.
Applicant Address ..... :	Av. Ejército Nacional 436 Piso 3 Chapultepec Morales Miguel Hidalgo Distrito Federal 11570.
Manufacturer..... :	CK Telecom Limited
Manufacturer Address ..... :	Technology Road.High-Tech Development Zone. Heyuan, Guangdong,P.R.China.
Test Standards..... :	47 CFR Part 2 Frequency Allocations and Radio Treaty Matters; General Rules and Regulations 47 CFR Part 27(H) 27(L)Miscellaneous wireless communications services 47 CFR Part 24(10-1-12 Edition)Personal Communications Services
Test Result .....:	PASS

Tested by ..... : Haigang He 2015.01.26

Haigang He，Test Engineer

Reviewed by ..... : Zhu Qi 2015.01.26

Zhu Qi, Senior Egineer

Approved by……: Wu Li'an 2015.01.26

Wu Li'an，Manager

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Change History		
Issue	Date	Reason for change
1.0	2015-01-26	First edition

1. GENERAL INFORMATION

1.1 EUT Description

EUT Type	LTE Mobile Phone
Serial No.	SS44456B4000114
IMEI No.	355616029894916
Hardware Version	A-V1.0
Software Version	M4_SS4445_S10_Ver200
EUT supports Radios application	GSM/GPRS/WCDMA/HSPA/LTE WLAN2.4GHz 802.11b/g/n (HT20/HT40) Bluetooth v4.0 LE
Frequency Range	LTE Band 2 Tx: 1850.7MHz~1909.3MHz Rx: 1930.7MHz~1989.3MHz LTE Band 4 Tx: 1710.7MHz~1754.3MHz Rx: 2110.7MHz~2154.3MHz LTE Band 17 Tx: 706.5MHz - 713.5MHz; Rx: 736.5MHz - 891.6MHz
Maximum Output Power to Antenna	LTE Band 2：23.59dBm LTE Band 4：23.60dBm LTE Band 17：23.57dBm
Bandwidth	LTE Band 2：1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz LTE Band 4：1.4MHz/3MHz/5MHz/10MHz/15MHz/20MHz LTE Band17：5MHz/10MHz
Modulation Type	QPSK/16QAM
Antenna Type	PIFA Antenna

1.2 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

FCC Rule	System	Type of Modulation	BW (MHz)	Emission Designator	Frequency Tolerance (ppm)	Maximum ERP/EIRP(W)
Part 24	LTE Band 2	QPSK	1.4	1M10G7D	0.03	0.092
Part 24	LTE Band 2	16QAM	1.4	1M10W7D		0.058
Part 24	LTE Band 2	QPSK	3	2M74G7D		0.091

Part 24	LTE Band 2	16QAM	3	2M75W7D		0.061
Part 24	LTE Band 2	QPSK	5	4M52G7D		0.092
Part 24	LTE Band 2	16QAM	5	4M50W7D		0.060
Part 24	LTE Band 2	QPSK	10	8M97G7D		0.091
Part 24	LTE Band 2	16QAM	10	8M94W7D		0.058
Part 24	LTE Band 2	QPSK	15	13M5G7D		0.092
Part 24	LTE Band 2	16QAM	15	13M5W7D		0.058
Part 24	LTE Band 2	QPSK	20	18M4G7D		0.095
Part 24	LTE Band 2	16QAM	20	18M4W7D		0.062
Part 27	LTE Band 4	QPSK	1.4	1M10G7D	0.03	0.090
Part 27	LTE Band 4	16QAM	1.4	1M10W7D		0.057
Part 27	LTE Band 4	QPSK	3	2M75G7D		0.090
Part 27	LTE Band 4	16QAM	3	2M74W7D		0.057
Part 27	LTE Band 4	QPSK	5	4M52G7D		0.092
Part 27	LTE Band 4	16QAM	5	4M52W7D		0.058
Part 27	LTE Band 4	QPSK	10	9M08G7D		0.091
Part 27	LTE Band 4	16QAM	10	9M12W7D		0.058
Part 27	LTE Band 4	QPSK	15	13M5G7D		0.091
Part 27	LTE Band 4	16QAM	15	13M5W7D		0.058
Part 27	LTE Band 4	QPSK	20	18M6G7D		0.094
Part 27	LTE Band 4	16QAM	20	18M6W7D		0.062
Part 27	LTE Band 17	QPSK	5	4M52G7D	0.05	0.086
Part 27	LTE Band 17	16QAM	5	4M52W7D		0.060
Part 27	LTE Band 17	QPSK	10	9M08G7D		0.096
Part 27	LTE Band 17	16QAM	10	9M04W7D		0.062

1.3 Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 24, Part27 for the EUT FCC ID Certification:

1. 47 CFR Part 2, 24(E), 27(H) 27(L)

2. ANSI/TIA/EIA-603-C-2004

3. FCC KDB 971168 D01 Power Meas. License Digital Systems v02r01

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Limit	Result
1	2.1046	Conducted RF Output Power	Reporting Only	PASS
2	24.232(d)	Peak to Average Radio	＜13dB	PASS
3	27.50(c)(10)	Effective Radiated Power(Band 17)	ERP＜3Watt	PASS
	24.232(c)	Effective Radiated Power(Band 2)	EIRP＜2Watt	PASS
	27.50(d)(4)	Effective Radiated Power(Band 4)	EIRP＜1Watt	PASS
4	2.1049 24.238(b) 27.53(h)(3) 27.53(m)(6)	Occupied Bandwidth	Reporting Only	PASS
5	2.1051 24.238(b) 27.53(h)(3)	Band Edge	＜43+10log10(P[watt])	PASS
6	2.1051 24.238(a) 27.53(g) 27.53(h)	Conducted Spurious Emission	＜43+10log10(P[watt])	PASS
7	2.1053 24.238(a) 27.53(g) 27.53(h)	Radiated Spurious Emission	＜43+10log10(P[watt])	PASS
8	2.1055, 24.235 27.54	Frequency Stability	＜2.5ppm	PASS

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.

1.4 Test Configuration of Equipment Under Test

1.4.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth(MHz)						Modulation		RB#			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	2	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	4	√	√	√	√	√	√	√	√	√	√	√	√	√	√
	17			√	√			√	√	√	√	√	√	√	√
Peak-to-Average Ratio	2	√	√	√	√	√	√	√	√	√		√	√	√	√
	4	√	√	√	√	√	√	√	√	√		√	√	√	√
	17			√	√				√	√		√	√	√	√
26dB and 99% Bandwidth	2	√	√	√	√	√	√	√	√			√		√	
	4	√	√	√	√	√	√	√	√			√		√	
	17			√	√			√	√			√		√	
Conducted Band Edge	2	√	√	√	√	√	√	√	√	√		√	√		√
	4	√	√	√	√	√	√	√	√	√		√	√		√
	17			√	√			√	√	√		√	√		√
Conducted Spurious Emission	2	√	√	√	√	√	√	√	√	√			√	√	√
	4	√	√	√	√	√	√	√	√	√			√	√	√
	17			√	√			√	√	√			√	√	√
Frequency Stability	2	√	√	√	√	√	√	√				√	√	√	√
	4	√	√	√	√	√	√	√				√	√	√	√
	17			√	√			√				√	√	√	√
ERP/EIRP	2	√	√	√	√	√	√	√	√	√			√	√	√
	4	√	√	√	√	√	√	√	√	√			√	√	√
	17			√	√			√	√	√			√	√	√
Radiated Spurious Emission	2	√	√	√	√	√	√	√		√			√	√	√
	4	√	√	√	√	√	√	√		√			√	√	√
	17			√	√			√		√			√	√	√
Note	1. The mark "√" means that this configuration is chosen for testing. 2. 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. 3. For E.R.P/E.I.R.P. measurement, the widest bandwidth and the bandwidth with the highest conducted power of each band is chosen for testing. Besides, the lowest bandwidth of each band is also measured for reporting only.														

1.5 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.

Offset = RF cable loss + attenuator factor.
Following shows an offset computation example with cable loss 7.5dB and 10dB attenuator.

Example:

Offset (dB) = RF cable loss(dB) + attenuator factor(dB).
= 7 + 10 = 17 (dB)

1.6 Facilities and Accreditations

1.6.1 Test Facilities

CNAS-Lab Code: L1659
CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd. CCIC is a third party testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L1659. A 12.8*6.8*6.4 (m) fully anechoic chamber was used for the radiated spurious emissions test.
FCC-Registration No.: 406086
CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 406086, valid time is until October 28, 2017.

IC-Registration No.: 11185A-1

CCIC Southern Electronic Product Testing (Shenzhen) Co., Ltd. EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 11185A-1 on July. 15, 2013, valid time is until July. 15, 2016.

1.6.2 Test Environment Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (℃):	15℃- 35℃
Relative Humidity (%):	30% -60%
Atmospheric Pressure (kPa):	86KPa-106KPa

2. 47 CFR PART 2, PART 27H REQUIREMENTS

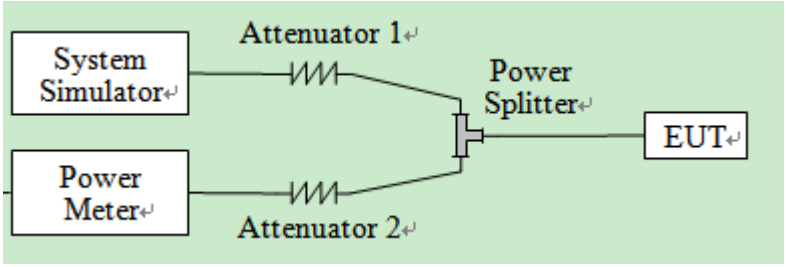
2.1 Conducted RF Output Power

2.1.1 Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

2.1.2 Test Description

1. Test Setup:



The EUT, which is powered by 3.8V DC power, is coupled to the Power Meter and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

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
Power Meter	R&S	NRV2	1020.1809.02	2014.06.08	2015.06.07
Power Sensor	R&S	NRV-Z4	823.3618.03	2014.06.08	2015.06.07
Attenuator 1	Resent	10dB	(n.a.)	2014.06.11	2015.06.10
Attenuator 2	Resent	3dB	(n.a.)	2014.06.11	2015.06.10

2.1.3 Test Results

Here the lowest, middle and highest channels are selected to perform testing to verify the conducted RF output power of the EUT.

1. LTE Band 2 Conducted Power Test Verdict:

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				18700	18900	19100
Frequency(MHz)				1860	1880	1900
20	QPSK	1	0	23.50	23.51	23.55
20	QPSK	1	49	23.52	**23.59**	23.48
20	QPSK	1	99	23.42	23.54	23.42
20	QPSK	50	0	22.96	22.97	22.93
20	QPSK	50	24	22.87	22.85	22.84
20	QPSK	50	49	22.78	22.76	22.82
20	QPSK	100	0	22.75	22.77	22.77
20	16QAM	1	0	22.20	22.31	22.31
20	16QAM	1	49	22.14	22.25	22.23
20	16QAM	1	99	22.14	22.10	22.14
20	16QAM	50	0	21.87	21.89	21.86
20	16QAM	50	24	21.85	21.87	21.88
20	16QAM	50	49	21.87	21.88	21.81
20	16QAM	100	0	21.79	21.85	21.83
Channel				18675	18900	19125
Frequency(MHz)				1857.5	1880	1902.5
15	QPSK	1	0	23.45	23.50	23.51
15	QPSK	1	37	23.47	23.51	23.45
15	QPSK	1	74	23.41	23.44	23.40
15	QPSK	36	0	22.71	22.70	22.74
15	QPSK	36	18	22.64	22.64	22.62
15	QPSK	36	37	22.61	22.65	22.63
15	QPSK	75	0	22.63	22.64	22.64
15	16QAM	1	0	22.71	22.63	22.67
15	16QAM	1	37	22.46	22.37	22.49
15	16QAM	1	74	22.57	22.62	22.65
15	16QAM	36	0	21.95	21.91	21.95
15	16QAM	36	18	21.84	21.86	21.89
15	16QAM	36	37	21.81	21.84	21.85
15	16QAM	75	0	21.79	21.75	21.77

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				18650	18900	19150
Frequency(MHz)				1855	1880	1905
10	QPSK	1	0	23.41	23.44	23.43
10	QPSK	1	24	23.32	23.41	23.46
10	QPSK	1	49	23.32	23.39	23.41
10	QPSK	25	0	22.64	22.66	22.75
10	QPSK	25	12	22.88	22.86	22.88
10	QPSK	25	24	22.64	22.70	22.65
10	QPSK	50	0	22.66	22.72	22.71
10	16QAM	1	0	22.61	22.61	22.62
10	16QAM	1	24	22.59	22.64	22.71
10	16QAM	1	49	22.35	22.51	22.28
10	16QAM	25	0	22.54	22.40	22.31
10	16QAM	25	12	21.86	21.94	21.81
10	16QAM	25	24	21.77	21.75	21.81
10	16QAM	50	0	21.74	21.81	21.75
Channel				18625	18900	19175
Frequency(MHz)				1852.5	1880	1907.5
5	QPSK	1	0	23.39	23.42	23.40
5	QPSK	1	12	23.32	23.33	23.35
5	QPSK	1	24	23.28	23.23	23.27
5	QPSK	12	0	22.64	22.63	22.62
5	QPSK	12	6	22.44	22.44	22.45
5	QPSK	12	11	22.51	22.64	22.57
5	QPSK	25	0	22.61	22.71	22.62
5	16QAM	1	0	22.17	22.15	22.14
5	16QAM	1	12	22.14	22.12	22.11
5	16QAM	1	24	22.15	22.19	22.16
5	16QAM	12	0	21.60	21.70	21.74
5	16QAM	12	6	21.59	21.63	21.55
5	16QAM	12	11	21.54	21.57	21.64
5	16QAM	25	0	21.56	21.51	21.51

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				18615	18900	19185
Frequency(MHz)				1851.5	1880	1908.5
3	QPSK	1	0	23.43	23.52	23.47
3	QPSK	1	7	23.47	23.51	23.38
3	QPSK	1	14	23.44	23.51	23.52
3	QPSK	8	0	22.65	22.67	22.69
3	QPSK	8	4	22.68	22.85	22.78
3	QPSK	8	7	22.64	22.68	22.75
3	QPSK	15	0	22.71	22.59	22.83
3	16QAM	1	0	22.87	22.79	22.88
3	16QAM	1	7	22.82	22.80	22.85
3	16QAM	1	14	22.67	22.86	22.74
3	16QAM	8	0	22.65	22.71	22.67
3	16QAM	8	4	22.54	22.53	22.45
3	16QAM	8	7	22.50	22.57	22.53
3	16QAM	15	0	22.49	22.51	22.44
Channel				18607	18900	19193
Frequency(MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	23.40	23.44	23.47
1.4	QPSK	1	2	23.40	23.42	23.37
1.4	QPSK	1	5	23.41	23.46	23.49
1.4	QPSK	3	0	22.80	22.71	22.79
1.4	QPSK	3	1	22.74	22.72	22.73
1.4	QPSK	3	2	22.74	22.70	22.71
1.4	QPSK	6	0	22.60	22.56	22.53
1.4	16QAM	1	0	22.31	22.31	22.32
1.4	16QAM	1	2	22.24	22.28	22.23
1.4	16QAM	1	5	22.24	22.25	22.22
1.4	16QAM	3	0	21.97	21.89	21.87
1.4	16QAM	3	1	21.85	21.77	21.92
1.4	16QAM	3	2	21.84	21.79	21.89
1.4	16QAM	6	0	21.67	21.72	21.70

2. LTE Band 4 Conducted Power Test Verdict:

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				20050	20175	20300
Frequency(MHz)				1720	1732.5	1745
20	QPSK	1	0	23.47	**23.60**	23.59
20	QPSK	1	49	23.54	23.55	23.57
20	QPSK	1	99	23.51	23.57	23.35
20	QPSK	50	0	22.82	22.87	22.84
20	QPSK	50	24	22.77	22.75	22.81
20	QPSK	50	49	22.74	22.72	22.82
20	QPSK	100	0	22.71	22.75	22.75
20	16QAM	1	0	22.20	22.31	22.31
20	16QAM	1	49	22.34	22.35	22.33
20	16QAM	1	99	22.24	22.30	22.24
20	16QAM	50	0	21.57	21.75	21.78
20	16QAM	50	24	21.59	21.67	21.80
20	16QAM	50	49	21.61	21.71	21.66
20	16QAM	100	0	21.54	21.65	21.71
Channel				20025	20175	20325
Frequency(MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	23.57	23.60	23.52
15	QPSK	1	37	23.43	23.51	23.44
15	QPSK	1	74	23.49	23.47	23.51
15	QPSK	36	0	22.92	22.97	22.94
15	QPSK	36	18	22.88	22.86	22.81
15	QPSK	36	37	22.86	22.84	22.80
15	QPSK	75	0	22.79	22.76	22.82
15	16QAM	1	0	22.36	22.37	22.33
15	16QAM	1	37	22.10	22.26	22.29
15	16QAM	1	74	22.07	22.22	22.28
15	16QAM	36	0	21.76	21.73	21.84
15	16QAM	36	18	21.69	21.73	21.77
15	16QAM	36	37	21.72	21.70	21.83
15	16QAM	75	0	21.58	21.71	21.81

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				20000	20175	20350
Frequency(MHz)				1715	1732.5	1750
10	QPSK	1	0	23.47	23.50	23.52
10	QPSK	1	24	23.41	23.42	23.45
10	QPSK	1	49	23.32	23.39	23.40
10	QPSK	25	0	22.74	22.76	22.85
10	QPSK	25	12	22.82	22.69	22.80
10	QPSK	25	24	22.81	22.80	22.85
10	QPSK	50	0	22.76	22.82	22.91
10	16QAM	1	0	22.47	22.45	22.44
10	16QAM	1	24	22.31	22.32	22.35
10	16QAM	1	49	22.28	22.29	22.26
10	16QAM	25	0	21.90	21.93	21.96
10	16QAM	25	12	21.84	21.85	21.82
10	16QAM	25	24	21.82	21.85	21.84
10	16QAM	50	0	21.82	21.84	21.79
Channel				19975	20175	20375
Frequency(MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	23.47	23.51	23.52
5	QPSK	1	12	23.45	23.48	23.42
5	QPSK	1	24	23.41	23.43	23.38
5	QPSK	12	0	22.71	22.77	22.82
5	QPSK	12	6	22.71	22.80	22.78
5	QPSK	12	11	22.71	22.73	22.77
5	QPSK	25	0	22.75	22.72	22.65
5	16QAM	1	0	22.37	22.36	22.30
5	16QAM	1	12	22.31	22.27	22.29
5	16QAM	1	24	22.19	22.21	22.25
5	16QAM	12	0	21.81	21.81	21.86
5	16QAM	12	6	21.76	21.72	21.69
5	16QAM	12	11	21.74	21.75	21.72
5	16QAM	25	0	21.73	21.72	21.70

BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				19965	20175	20385
Frequency(MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	23.56	23.59	23.58
3	QPSK	1	7	23.53	23.60	23.50
3	QPSK	1	14	23.52	23.52	23.58
3	QPSK	8	0	22.77	22.71	22.76
3	QPSK	8	4	22.75	22.75	22.78
3	QPSK	8	7	22.69	22.70	22.70
3	QPSK	15	0	22.67	22.67	22.68
3	16QAM	1	0	22.31	22.45	22.49
3	16QAM	1	7	22.47	22.45	22.43
3	16QAM	1	14	22.38	22.30	22.36
3	16QAM	8	0	21.63	21.80	21.82
3	16QAM	8	4	21.64	21.68	21.68
3	16QAM	8	7	21.63	21.62	21.65
3	16QAM	15	0	21.52	21.56	21.58
Channel				19957	20175	20393
Frequency(MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	23.55	23.60	23.49
1.4	QPSK	1	2	23.59	23.52	23.58
1.4	QPSK	1	5	23.49	23.49	23.45
1.4	QPSK	3	0	23.53	23.58	23.42
1.4	QPSK	3	1	23.57	23.47	23.52
1.4	QPSK	3	2	23.56	23.37	23.41
1.4	QPSK	6	0	23.57	23.46	23.53
1.4	16QAM	1	0	22.72	22.77	22.61
1.4	16QAM	1	2	22.63	22.84	22.71
1.4	16QAM	1	5	22.81	22.91	22.94
1.4	16QAM	3	0	22.79	22.74	22.85
1.4	16QAM	3	1	22.52	22.73	22.67
1.4	16QAM	3	2	22.50	22.55	22.67
1.4	16QAM	6	0	22.49	22.55	22.66

3. LTE Band 17 Conducted Power Test Verdict:

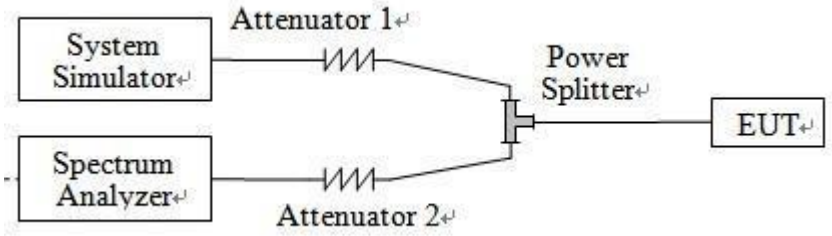
BW(MHz)	Modulation	RB Size	RB Offset	Power(dBm) Low Ch./Freq.	Power(dBm) Middle Ch./Freq.	Power(dBm) High Ch./Freq.
Channel				23780	23790	23800
Frequency(MHz)				709	710	711
10	QPSK	1	0	23.25	23.38	23.33
10	QPSK	1	24	23.49	23.40	23.39
10	QPSK	1	49	23.40	23.57	23.39
10	QPSK	25	0	22.71	22.76	22.72
10	QPSK	25	12	22.67	22.66	22.64
10	QPSK	25	24	22.61	22.61	22.66
10	QPSK	50	0	22.66	22.69	22.67
10	16QAM	1	0	22.14	22.14	22.27
10	16QAM	1	24	22.06	22.11	22.03
10	16QAM	1	49	22.00	22.01	22.02
10	16QAM	25	0	21.41	21.46	21.45
10	16QAM	25	12	21.64	21.75	21.41
10	16QAM	25	24	21.51	21.74	21.56
10	16QAM	50	0	21.53	21.46	21.51
Channel				23755	23790	23825
Frequency(MHz)				706.5	710	713.5
5	QPSK	1	0	23.22	23.34	23.27
5	QPSK	1	12	23.29	23.13	23.16
5	QPSK	1	24	23.28	23.20	23.11
5	QPSK	12	0	22.60	22.63	22.67
5	QPSK	12	6	22.56	22.52	22.52
5	QPSK	12	11	22.56	22.56	22.59
5	QPSK	25	0	22.56	22.53	22.52
5	16QAM	1	0	22.24	22.29	22.19
5	16QAM	1	12	22.25	22.18	22.26
5	16QAM	1	24	22.13	22.17	22.17
5	16QAM	12	0	21.40	21.45	21.45
5	16QAM	12	6	21.42	21.45	21.49
5	16QAM	12	11	21.51	21.54	21.44
5	16QAM	25	0	21.41	21.44	21.44

2.2 Peak to Average Radio

2.2.1 Definition

According to FCC section 2.1049 and FCC 27.50(d), the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

2.2.2 Test Description



Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Date	Cal. Due Date
System Simulator	R&S	CMW500	149333	2014.07.21	2015.07.20
Spectrum Analyzer	R&S	FSP40	100341	2014.07.07	2015.07.06
Attenuator 1	Resent	10dB	(n.a.)	2014.06.11	2015.06.10
Attenuator 2	Resent	3dB	(n.a.)	2014.06.11	2015.06.10

2.2.3 Test Verdict

Here the lowest, middle and highest channels are selected to perform testing to verify the peak-to-average ratio.

Test procedures:

For LTE operating mode:

a. The EUT was connected to spectrum and system simulator via a power divider.

b. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.

c. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%.

d. Record the deviation as Peak to Average Ratio.

1. Test Result of LTE Band 2 Peak-to-Average Ratio:

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power(dBm)		Peak-Average Ratio(PAR)
				Peak	Average	
1.4	1880	RB 1/0	QPSK	23.52	18.50	5.02
			16QAM	23.49	18.41	5.08
3	1880	RB 1/0	QPSK	23.15	18.11	5.04
			16QAM	23.05	18.04	5.01
5	1880	RB 1/0	QPSK	23.27	18.33	4.94
			16QAM	23.13	18.10	5.03
10	1880	RB 1/0	QPSK	23.24	18.17	5.07
			16QAM	23.51	18.41	5.10
15	1880	RB 1/0	QPSK	23.43	18.42	5.01
			16QAM	23.20	18.24	4.96
20	1880	RB 1/0	QPSK	23.28	18.22	5.06
			16QAM	23.14	18.12	5.02

2. Test Result of LTE Band 4 Peak-to-Average Ratio:

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power(dBm)		Peak-Average Ratio(PAR)
				Peak	Average	
1.4	1732.5	RB 1/0	QPSK	23.24	18.21	5.03
			16QAM	23.42	18.35	5.07
3	1732.5	RB 1/0	QPSK	23.25	18.18	5.07
			16QAM	23.41	18.35	5.06
5	1732.5	RB 1/0	QPSK	23.29	18.24	5.05
			16QAM	23.32	18.28	5.04
10	1732.5	RB 1/0	QPSK	23.34	18.30	5.04
			16QAM	23.38	18.29	5.09
15	1732.5	RB 1/0	QPSK	23.44	18.38	5.06
			16QAM	23.31	18.24	5.07
20	1732.5	RB 1/0	QPSK	23.25	18.17	5.08
			16QAM	23.25	18.20	5.05

3. Test Result of LTE Band 17 Peak-to-Average Ratio:

BW(MHz)	Frequency (MHz)	Mode	Modulation	Conducted Power(dBm)		Peak-Average Ratio(PAR)
				Peak	Average	
5	710	RB 1/0	QPSK	23.34	18.25	5.09
			16QAM	23.44	18.33	5.11
10	710	RB 1/0	QPSK	23.45	18.24	5.21
			16QAM	23.40	18.28	5.12

2.3 99% Occupied Bandwidth and 26dB Bandwidth

2.3.1 Definition

According to FCC section 2.1049, 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.

2.3.2 Test Description

See section 2.1.2 of this report.

2.3.3 Test Verdict

Here the middle channels are selected to perform testing to verify the 99% occupied bandwidth and 26dB Bandwidth.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.

2. The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF power with full RB sizes were measured.

1. Test Result of 99% Occupied Bandwidth and 26dB Bandwidth

LTE Band 2						
BW (MHz)	Channel	Frequency (MHz)	Mode	99% Occupied Bandwidth(MHz)	26dBBandwidth (MHz)	Refer to Plot
1.4	18900	1880	QPSK	1.10	1.28	Plot A1 to A2
			16QAM	1.10	1.30	Plot A3 to A4
3	18900	1880	QPSK	2.74	3.07	Plot B1 to B2
			16QAM	2.75	3.06	Plot B3 to B4
5	18900	1880	QPSK	4.52	5.04	Plot C1 to C2
			16QAM	4.50	4.98	Plot C3 to C4
10	18900	1880	QPSK	8.97	9.81	Plot D1 to D2
			16QAM	8.94	9.67	Plot D3 to D4

15	18900	1880	QPSK	13.46	14.76	Plot E1 to E2
			16QAM	13.46	14.72	Plot E3 to E4
20	18900	1880	QPSK	18.41	20.38	Plot F1 to F2
			16QAM	18.35	20.26	Plot F3 to F4

LTE Band 4						
BW (MHz)	Channel	Frequency (MHz)	Mode	99% Occupied Bandwidth(MHz)	26dBBandwidth (MHz)	Refer to Plot
1.4	20175	1732.5	QPSK	1.10	1.30	Plot G1 to G2
			16QAM	1.10	1.29	Plot G3 to G4
3	20175	1732.5	QPSK	2.75	3.07	Plot H1 to H2
			16QAM	2.74	3.08	Plot H3 to H4
5	20175	1732.5	QPSK	4.52	4.98	Plot I1 to I2
			16QAM	4.52	5.06	Plot I3 to I4
10	20175	1732.5	QPSK	9.08	10.24	Plot J1 to J2
			16QAM	9.12	10.24	Plot J3 to J4
15	20175	1732.5	QPSK	13.50	14.94	Plot K1 to K2
			16QAM	13.50	14.82	Plot K3 to K4
20	20175	1732.5	QPSK	18.56	21.20	Plot L1 to L2
			16QAM	18.64	21.28	Plot L3 to L4

LTE Band 17						
BW (MHz)	Channel	Frequency (MHz)	Mode	99% Occupied Bandwidth(MHz)	26dBBandwidth (MHz)	Refer to Plot
5	23790	710	QPSK	4.52	5.00	Plot M1 to M2
			16QAM	4.52	5.00	Plot M3 to M4
10	23790	710	QPSK	9.08	10.24	Plot N1 to N2
			16QAM	9.04	10.20	Plot N3 to N4

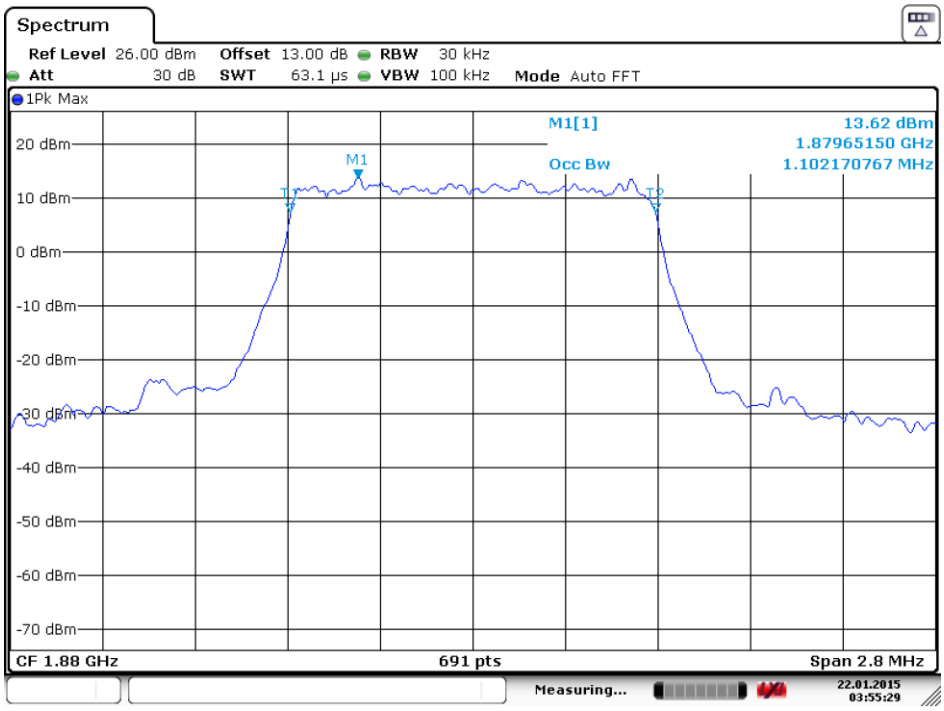
Note: The maximum RB configurations of the 99% Occupied Bandwidth and 26dB Bandwidth summary as below:

BW1.4MHz RB setting: RB Size 6,RB Offset 0 BW3MHz RB setting: RB Size 15,RB Offset 0

BW5MHz RB setting: RB Size 25,RB Offset 0 BW10MHz RB setting: RB Size 50,RB Offset 0

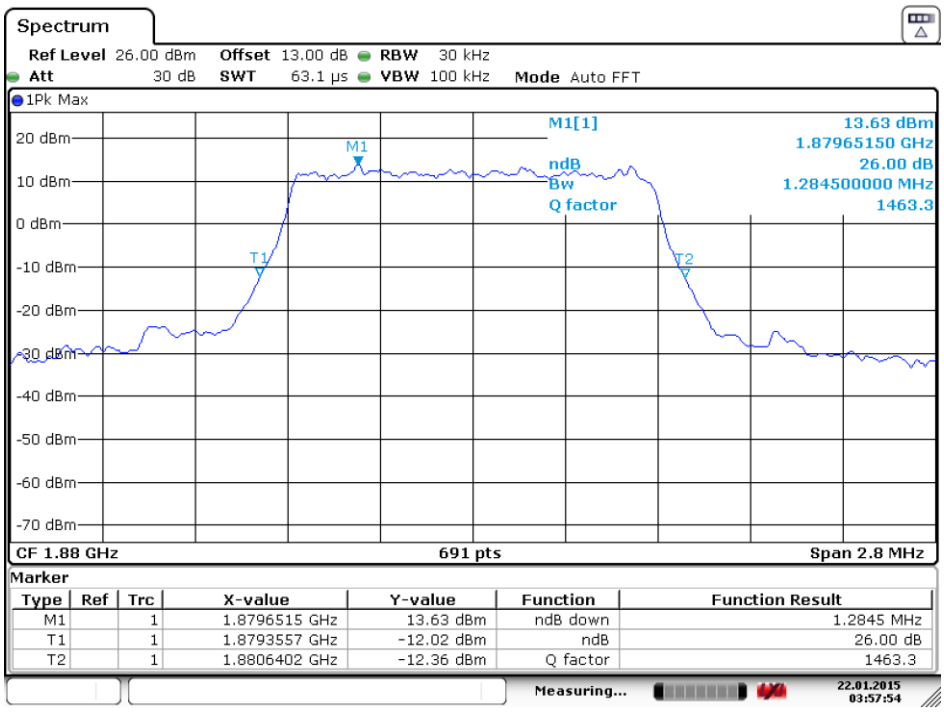
BW15MHz RB setting: RB Size 75,RB Offset 0 BW20MHz RB setting: RB Size 100,RB Offset 0

2. Test Plots:



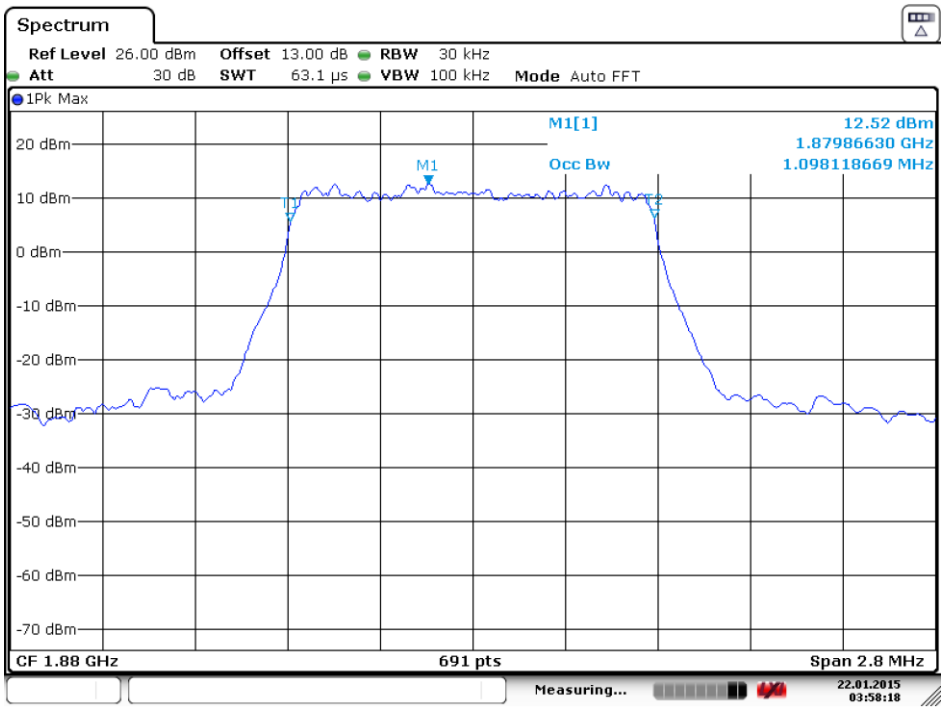
Date: 22.JAN.2015 03:55:29

(Plot A1: 99% Occupied Bandwidth LTE Band 2 1.4MHz/QPSK)



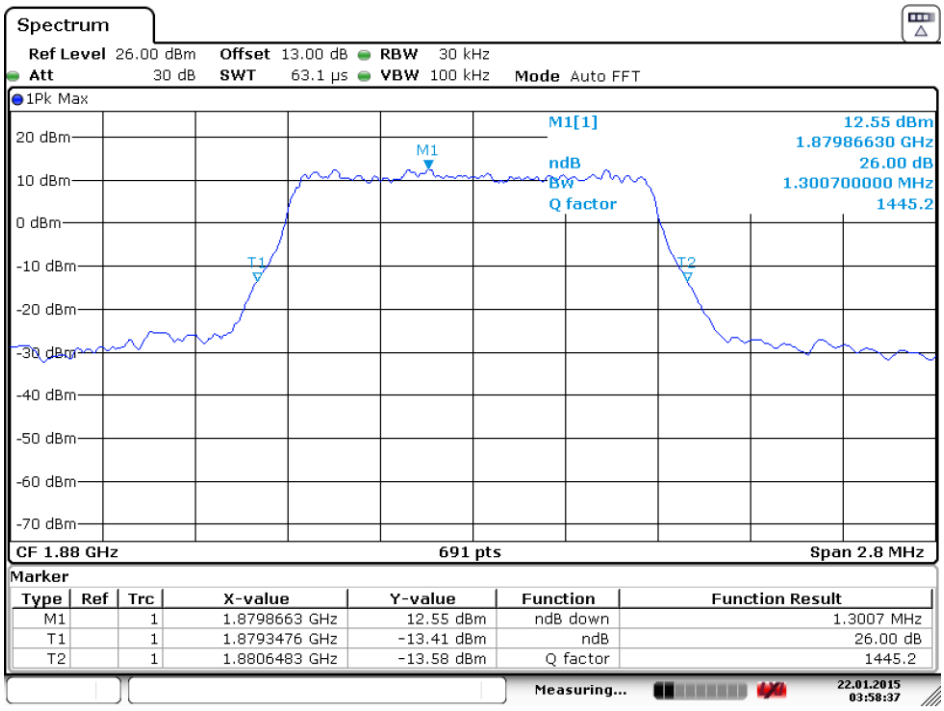
Date: 22.JAN.2015 03:57:54

(Plot A2: 26dB Bandwidth LTE Band 2 1.4MHz/QPSK)



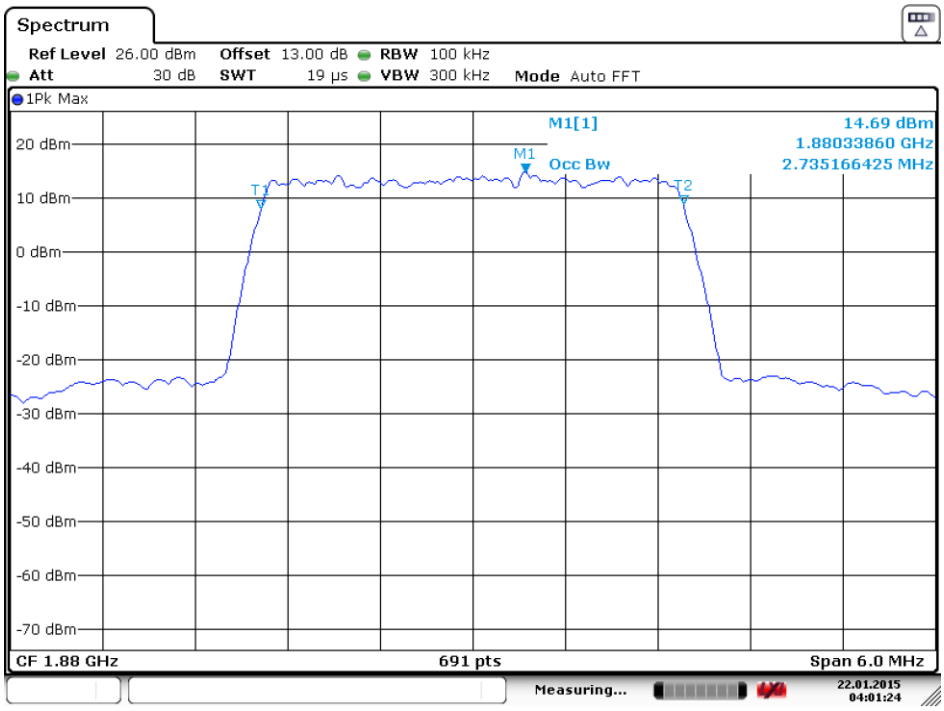
Date: 22.JAN.2015 03:58:18

(Plot A3: 99% Occupied Bandwidth LTE Band 2 1.4MHz/16QAM)



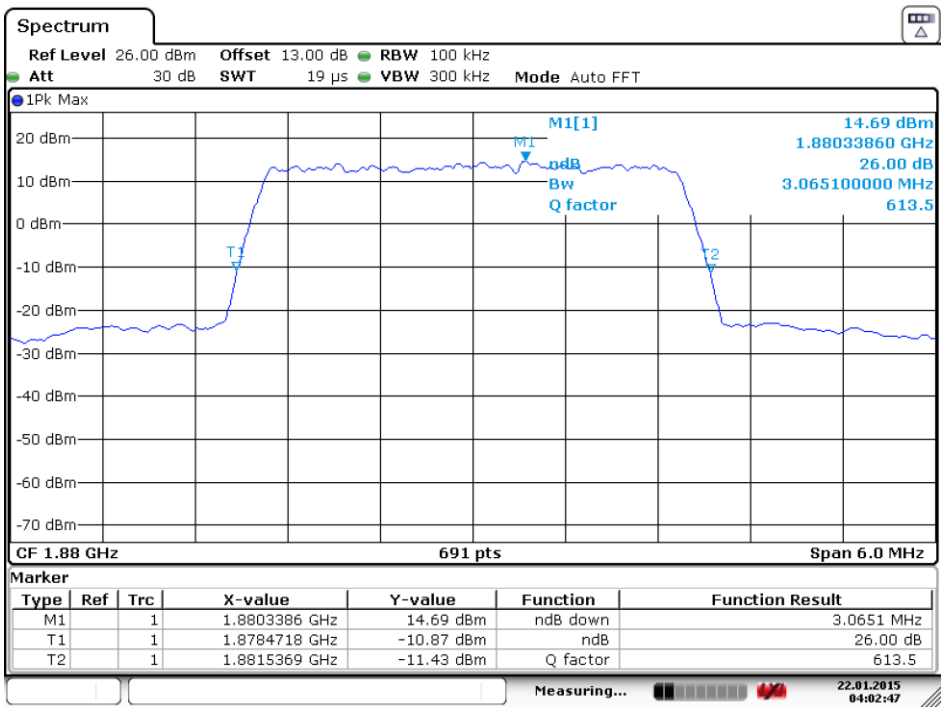
Date: 22.JAN.2015 03:58:38

(Plot A4: 26dB Bandwidth LTE Band 2 1.4MHz/16QAM)



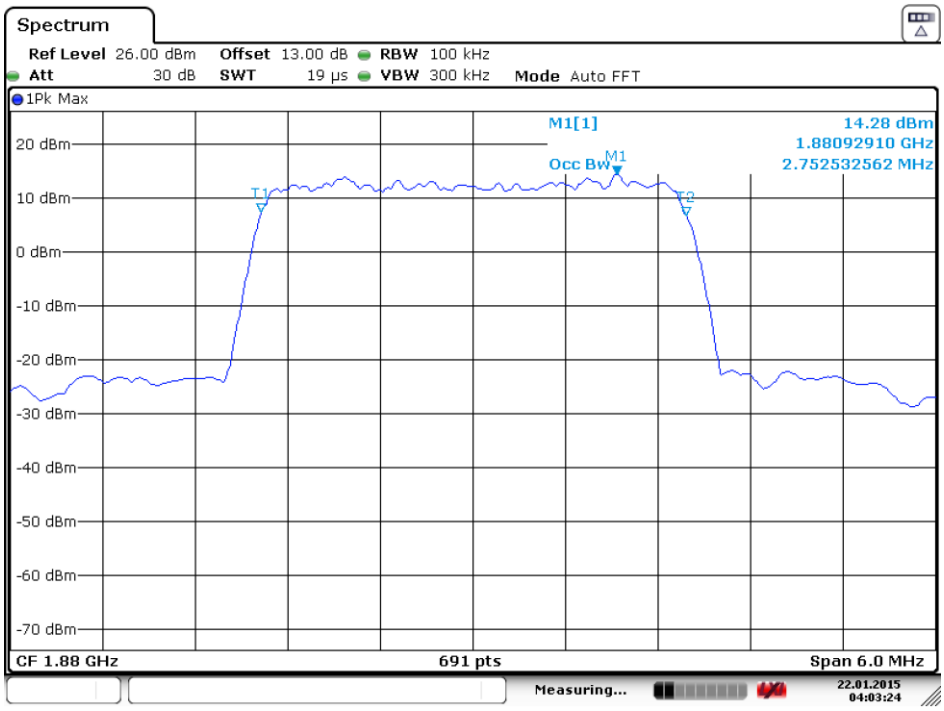
Date: 22.JAN.2015 04:01:24

(Plot B1: 99% Occupied Bandwidth LTE Band 2/3MHz/QPSK)



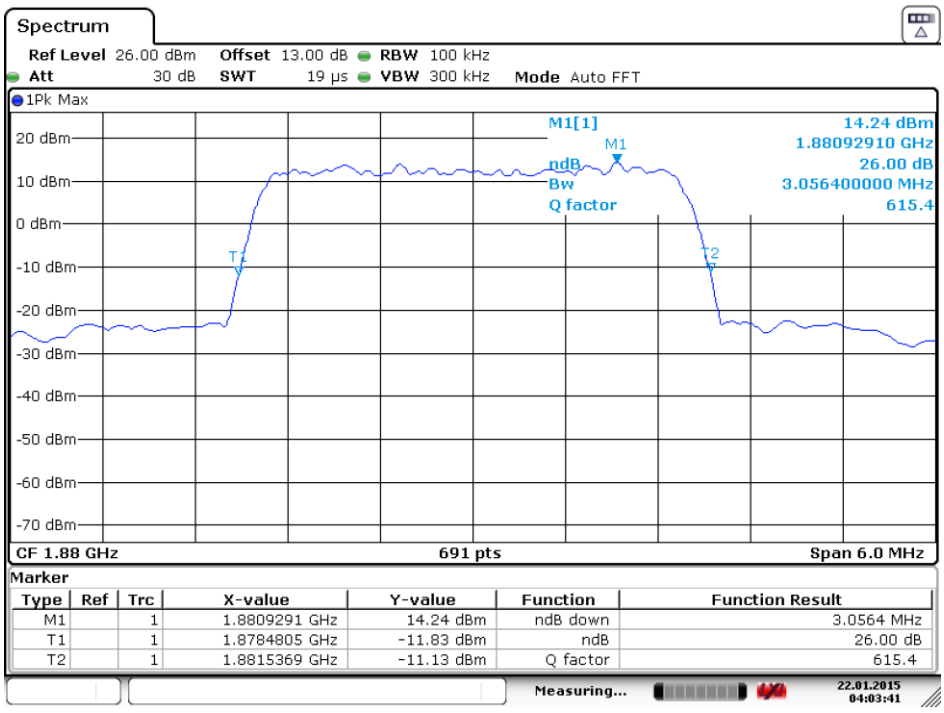
Date: 22.JAN.2015 04:02:47

(Plot B2: 26dB Bandwidth LTE Band 2/3MHz/QPSK)



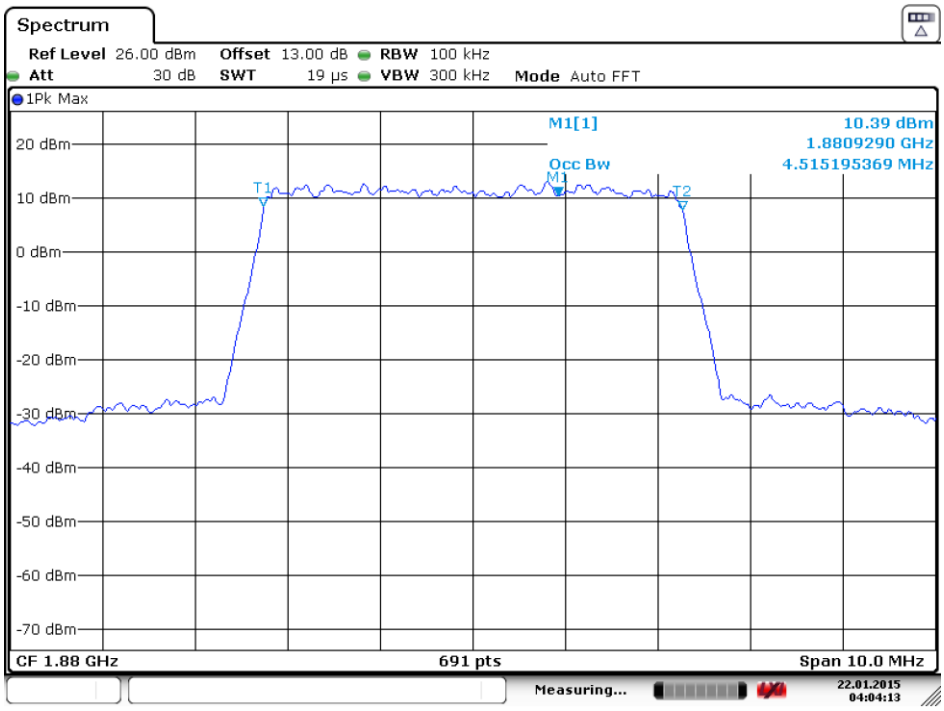
Date: 22.JAN.2015 04:03:25

(Plot B3: 99% Occupied Bandwidth LTE Band 2/3MHz/16QAM)



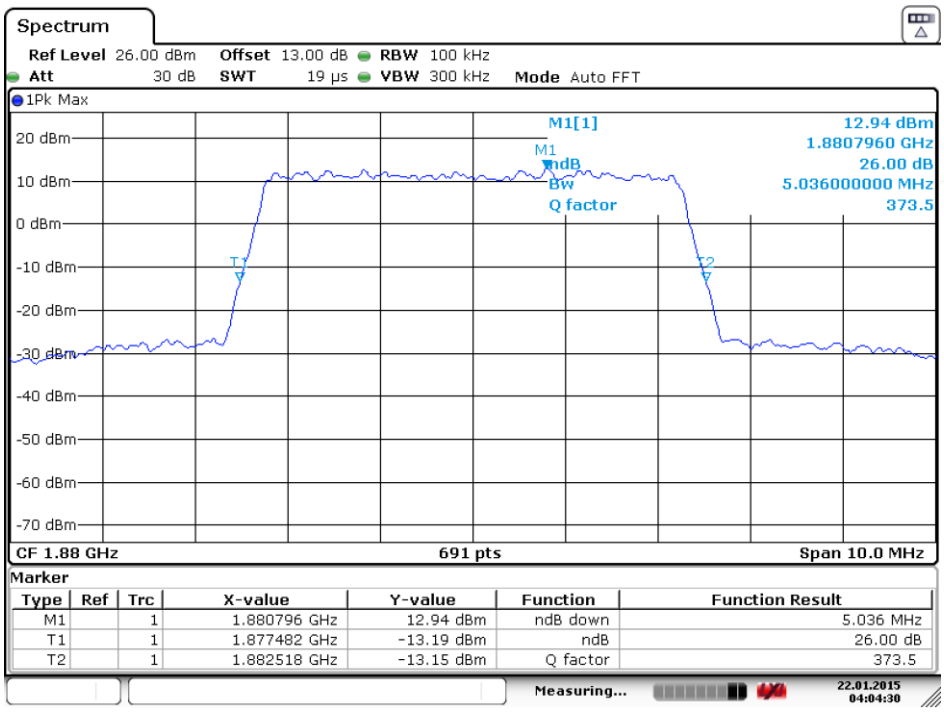
Date: 22.JAN.2015 04:03:40

(Plot B4: 26dB Bandwidth LTE Band 2/3MHz/16QAM)



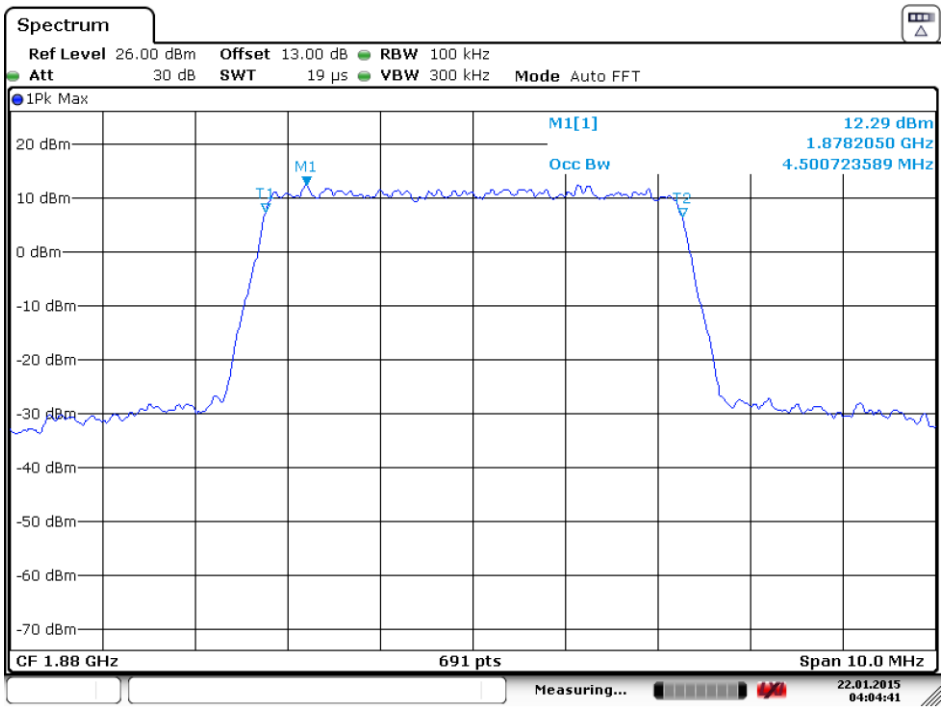
Date: 22.JAN.2015 04:04:13

(Plot C1: 99% Occupied Bandwidth LTE Band 2/5MHz/QPSK)



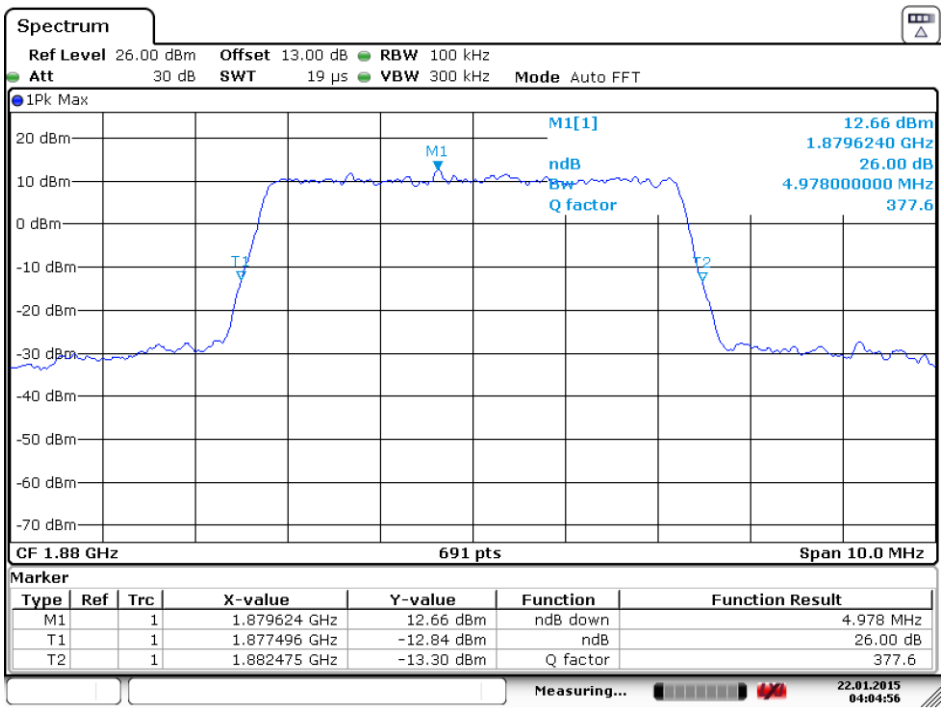
Date: 22.JAN.2015 04:04:30

(Plot C2: 26dB Bandwidth LTE Band 2/5MHz/QPSK)



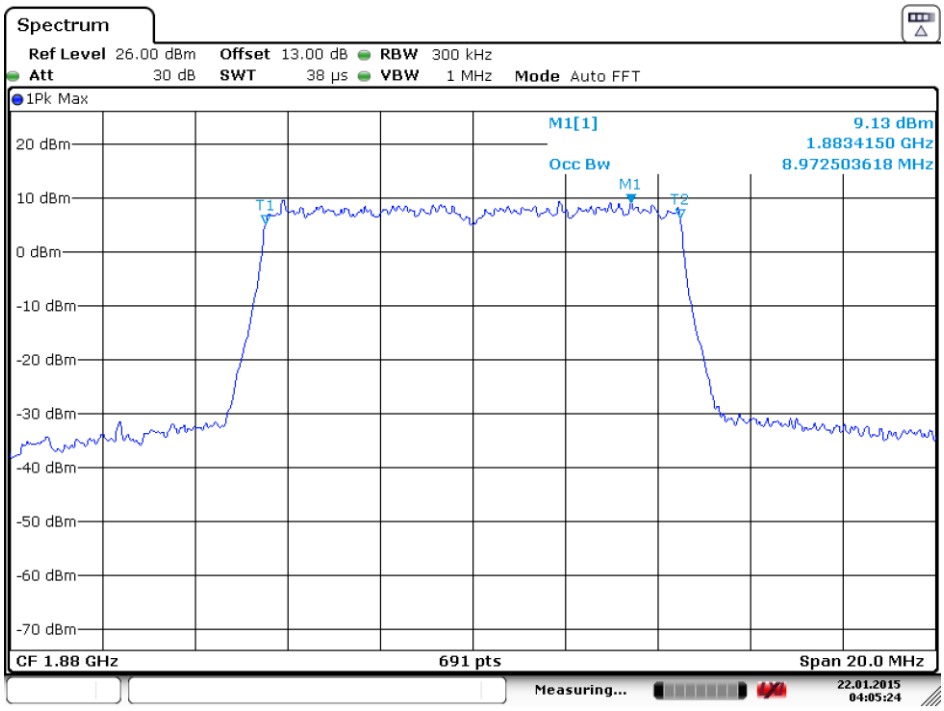
Date: 22.JAN.2015 04:04:41

(Plot C3: 99% Occupied Bandwidth LTE Band 2/5MHz/16QAM)



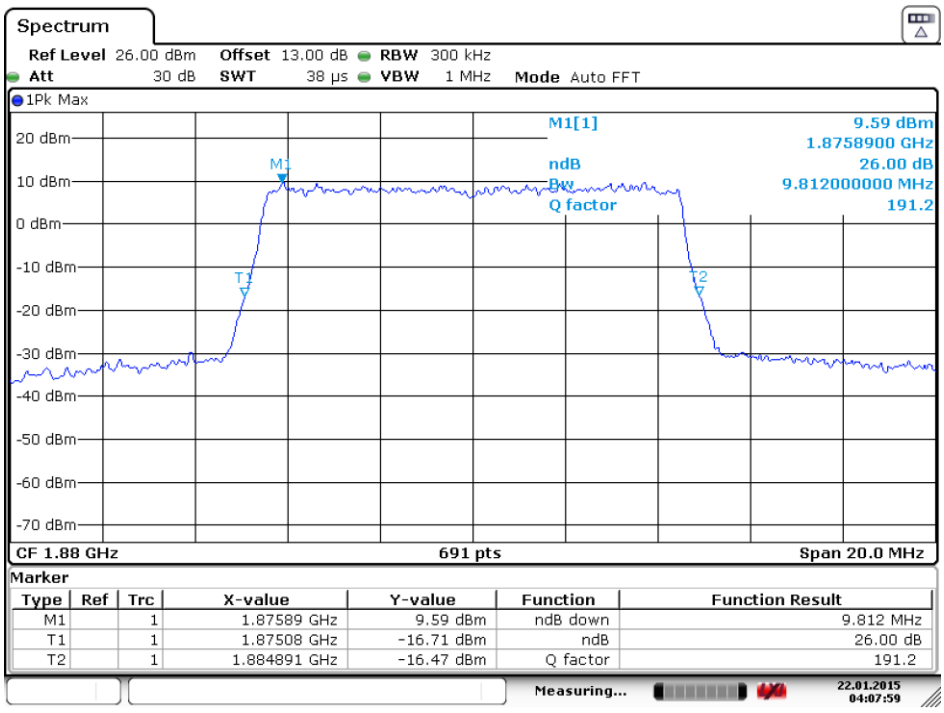
Date: 22.JAN.2015 04:04:56

(Plot C4: 26dB Bandwidth LTE Band 2/5MHz/16QAM)



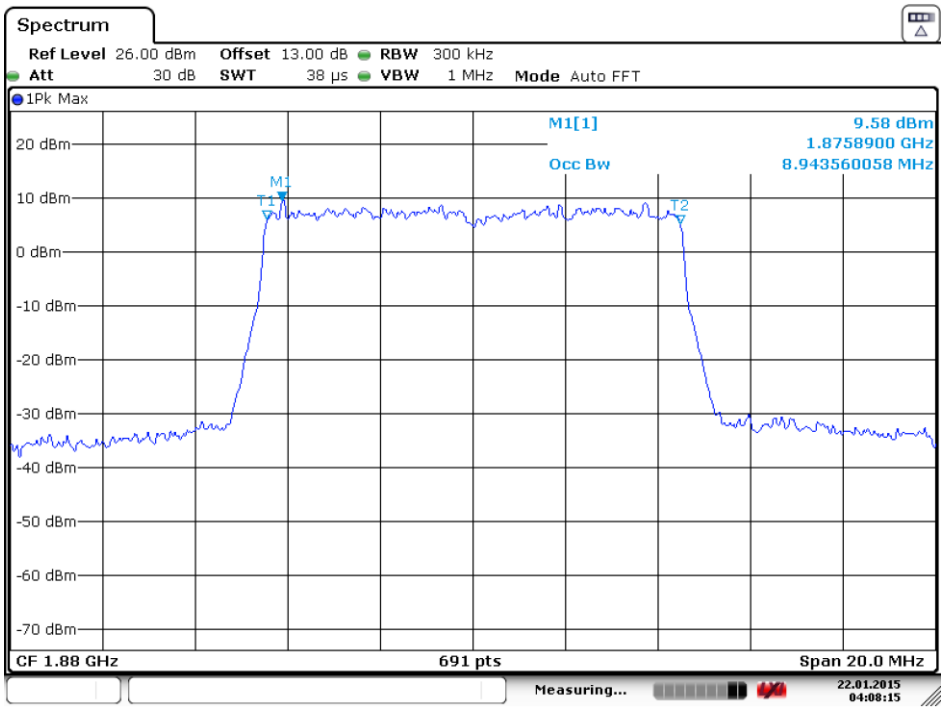
Date: 22.JAN.2015 04:05:24

(Plot D1: 99% Occupied Bandwidth LTE Band 2/10MHz/QPSK)



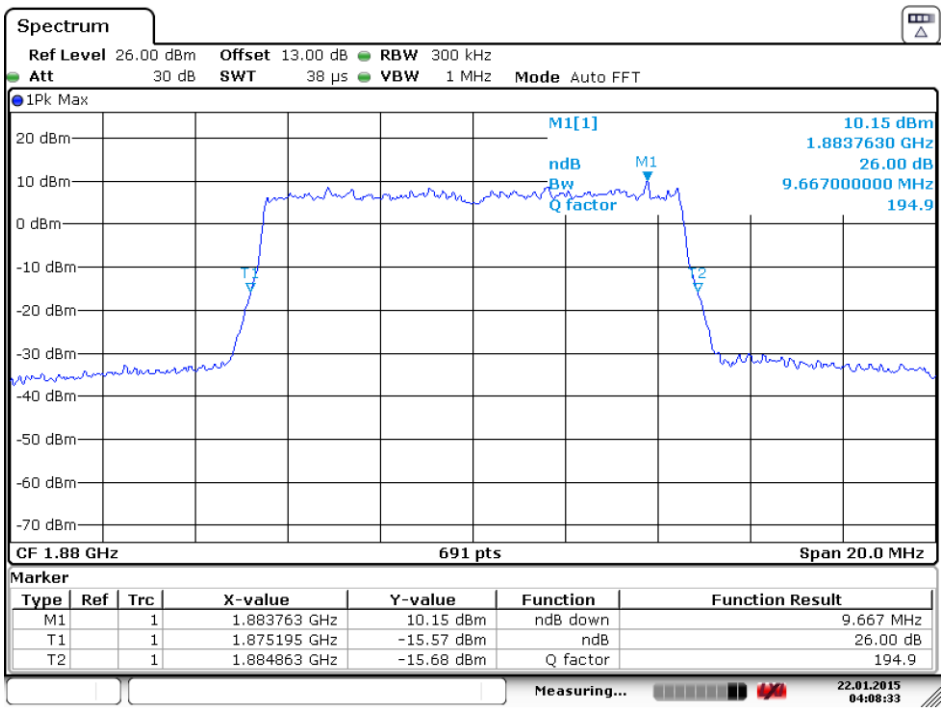
Date: 22.JAN.2015 04:07:59

(Plot D2: 26dB Bandwidth LTE Band 2/10MHz/QPSK)



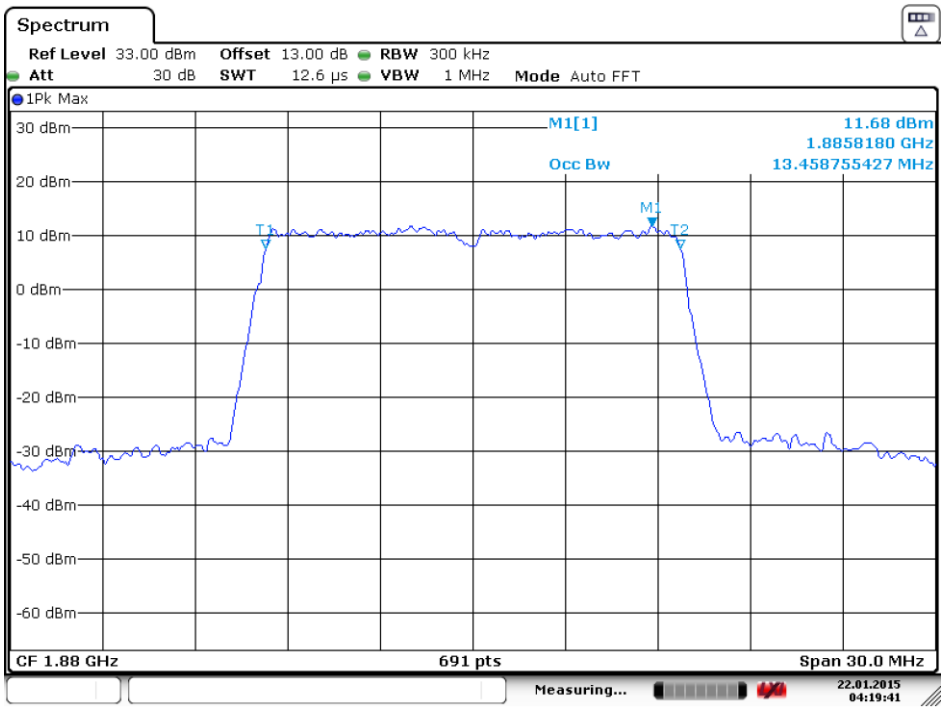
Date: 22.JAN.2015 04:08:15

(Plot D3: 99% Occupied Bandwidth LTE Band 2/10MHz/16QAM)



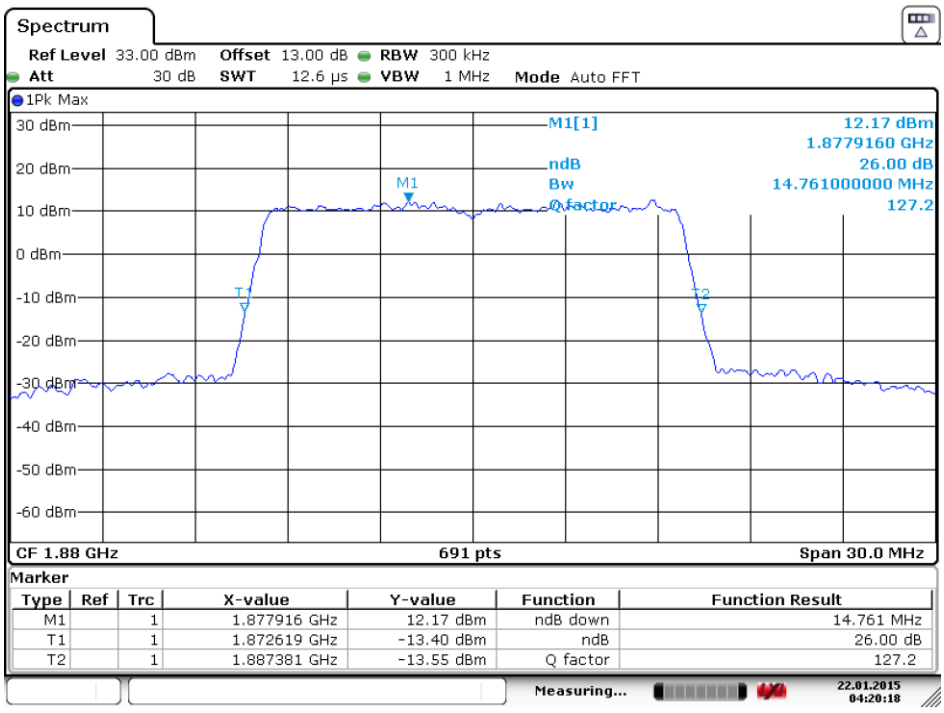
Date: 22.JAN.2015 04:08:33

(Plot D4: 26dB Bandwidth LTE Band 2/10MHz/16QAM)



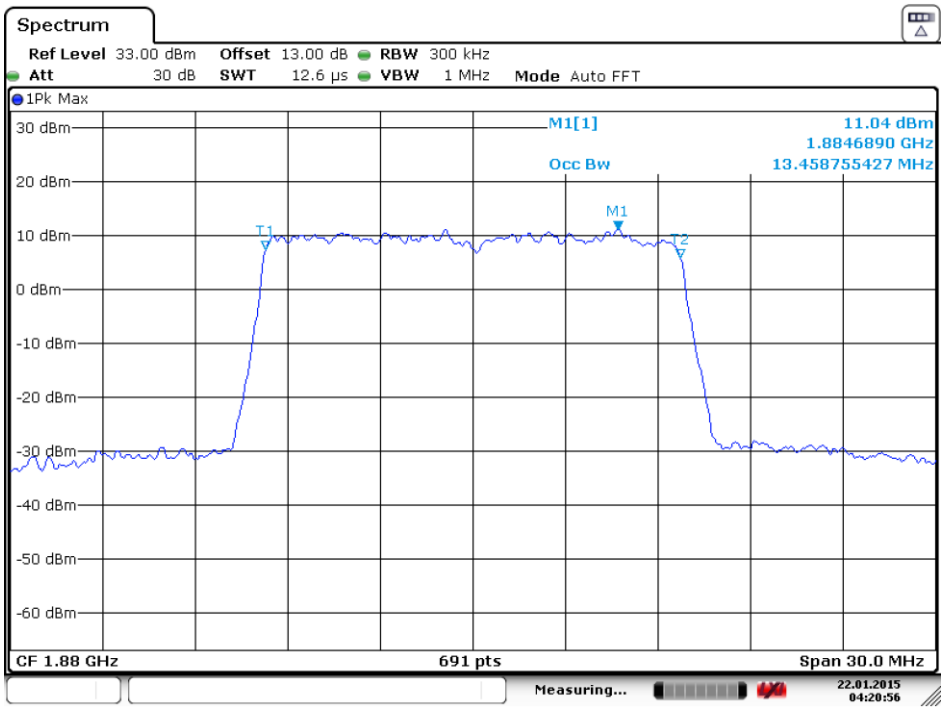
Date: 22.JAN.2015 04:19:41

(Plot E1: 99% Occupied Bandwidth LTE Band 2/15MHz/QPSK)



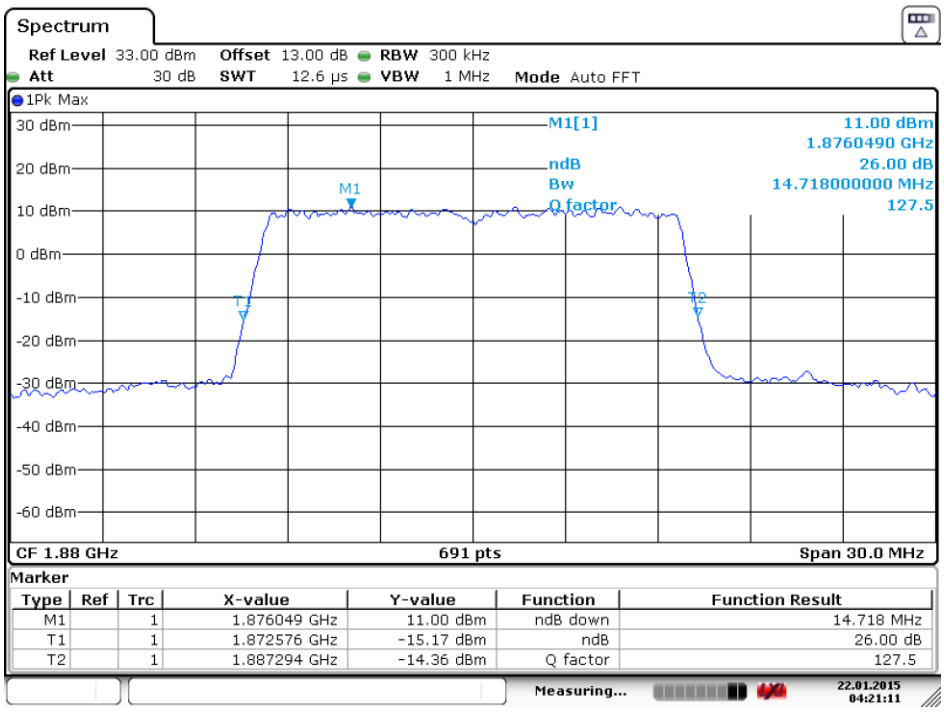
Date: 22.JAN.2015 04:20:18

(Plot E2: 26dB Bandwidth LTE Band 2/15MHz/QPSK)



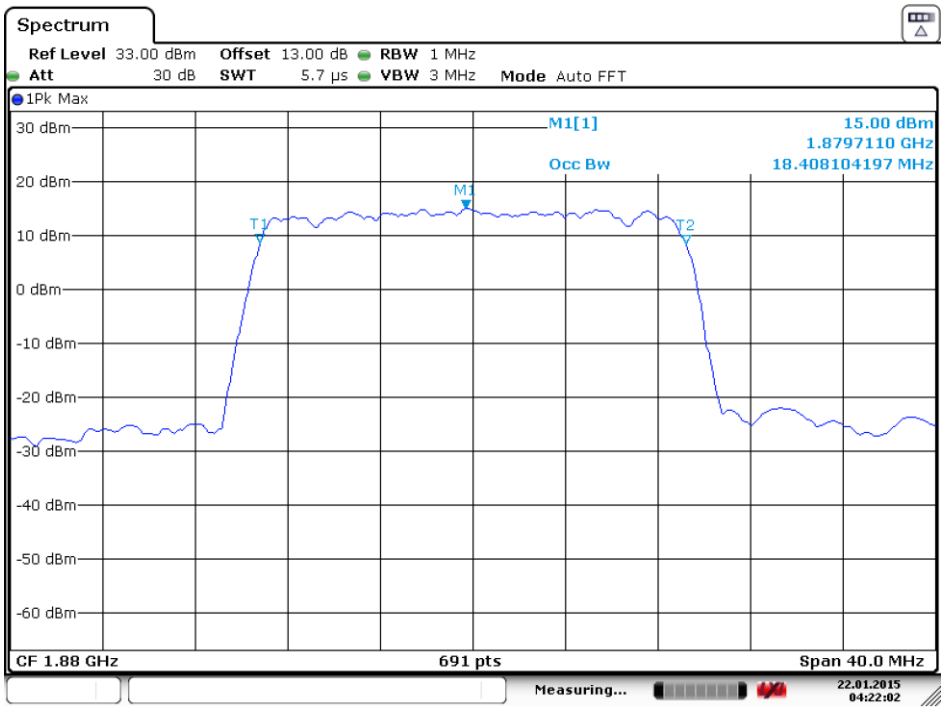
Date: 22.JAN.2015 04:20:56

(Plot E3: 99% Occupied Bandwidth LTE Band 2/15MHz/16QAM)



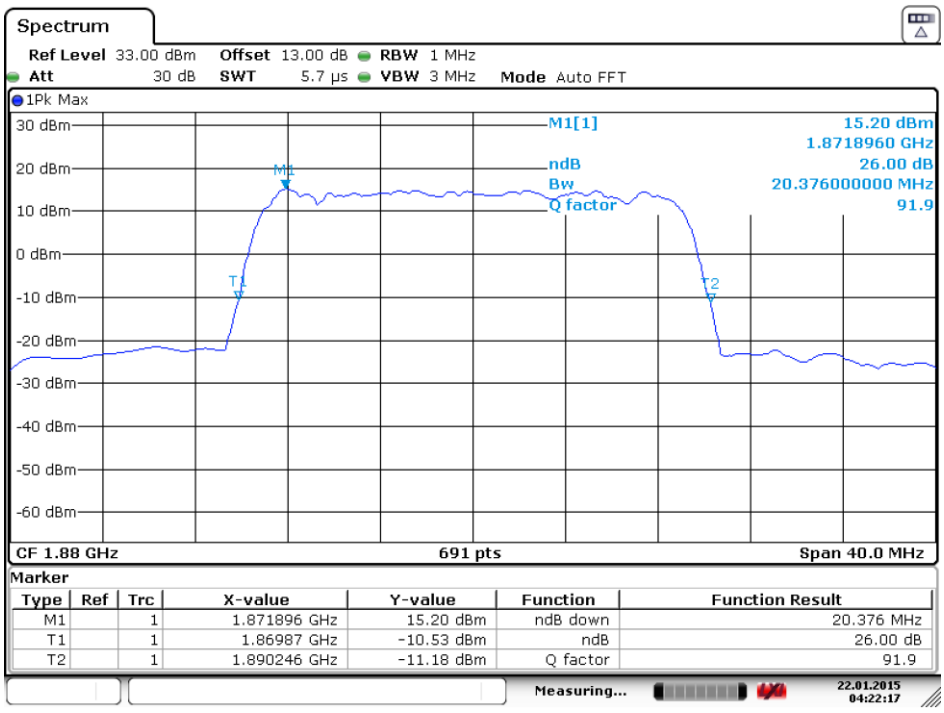
Date: 22.JAN.2015 04:21:11

(Plot E4: 26dB Bandwidth LTE Band 2/15MHz/16QAM)



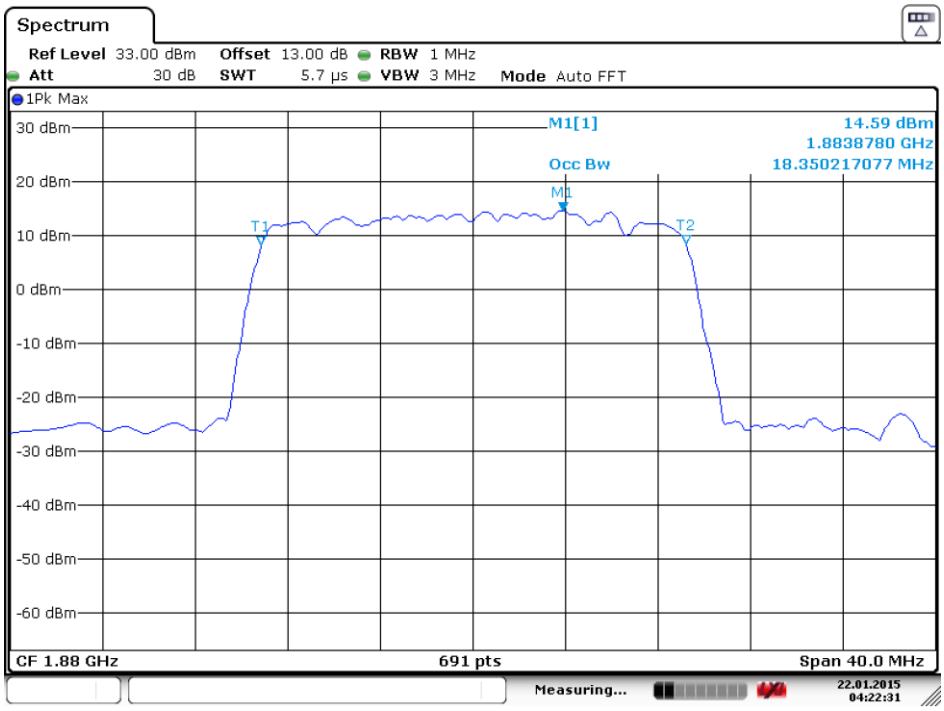
Date: 22.JAN.2015 04:22:02

(Plot F1: 99% Occupied Bandwidth LTE Band 2/20MHz/QPSK)



Date: 22.JAN.2015 04:22:17

(Plot F2: 26dB Bandwidth LTE Band 2/20MHz/QPSK)



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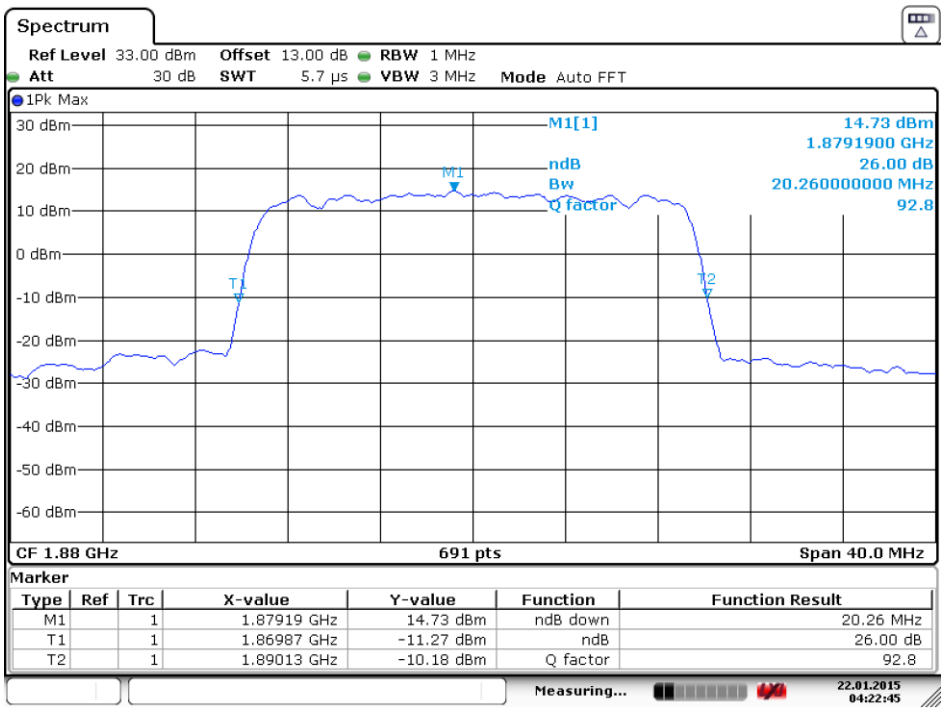
(Plot F3: 99% Occupied Bandwidth LTE Band 2/20MHz/16QAM)



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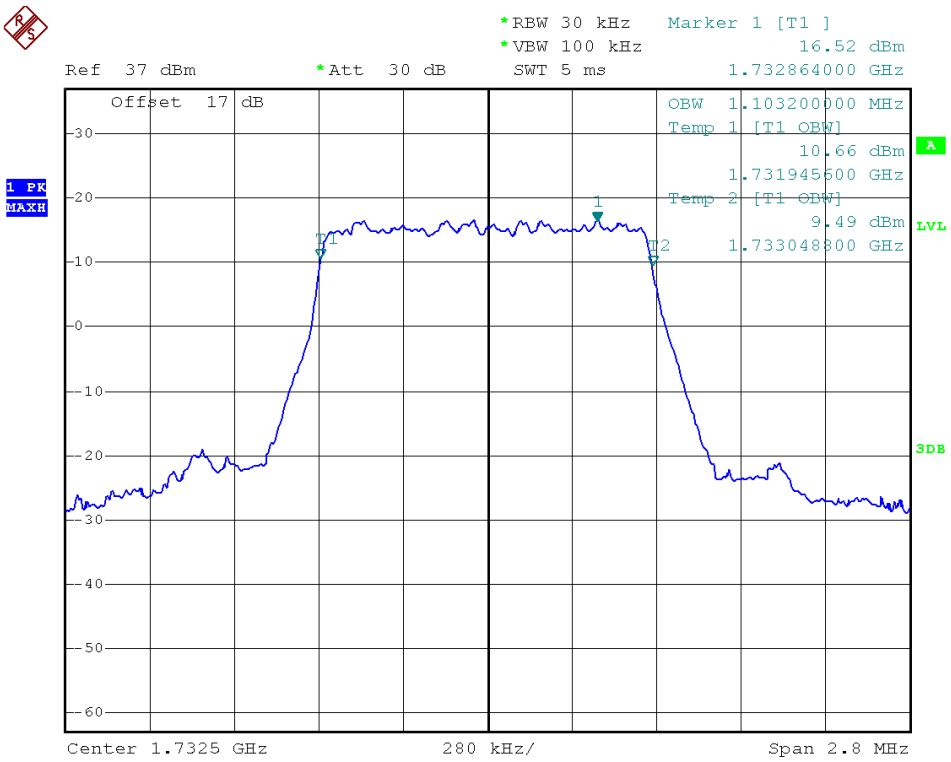
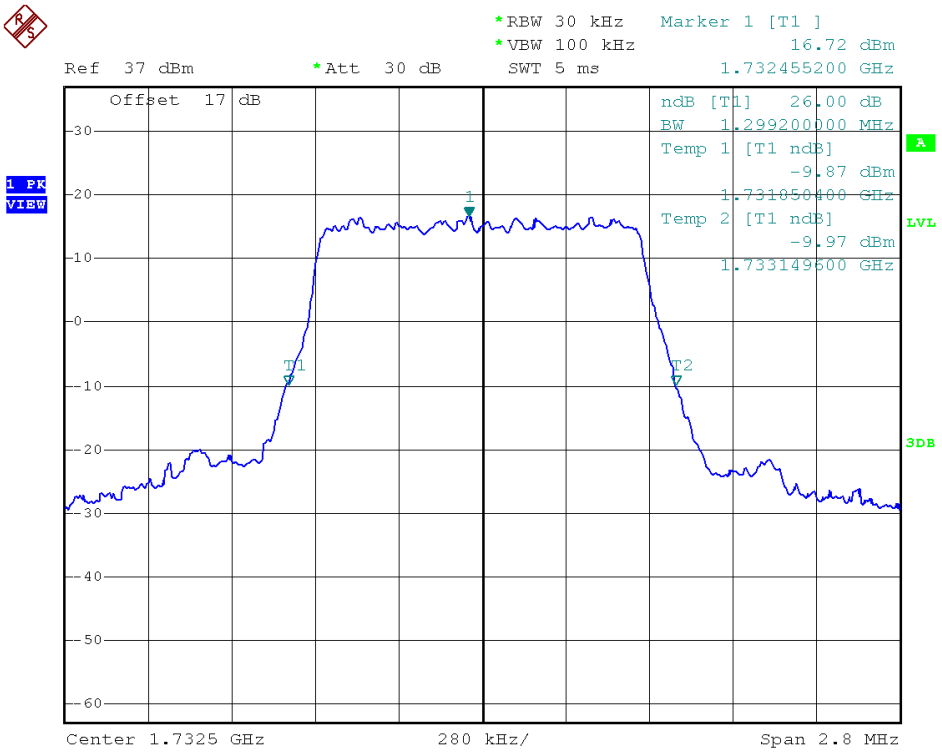
(Plot F4: 26dB Bandwidth LTE Band 2/20MHz/16QAM)



(Plot G1: 99% Occupied Bandwidth LTE Band 4/1.4MHz/QPSK)



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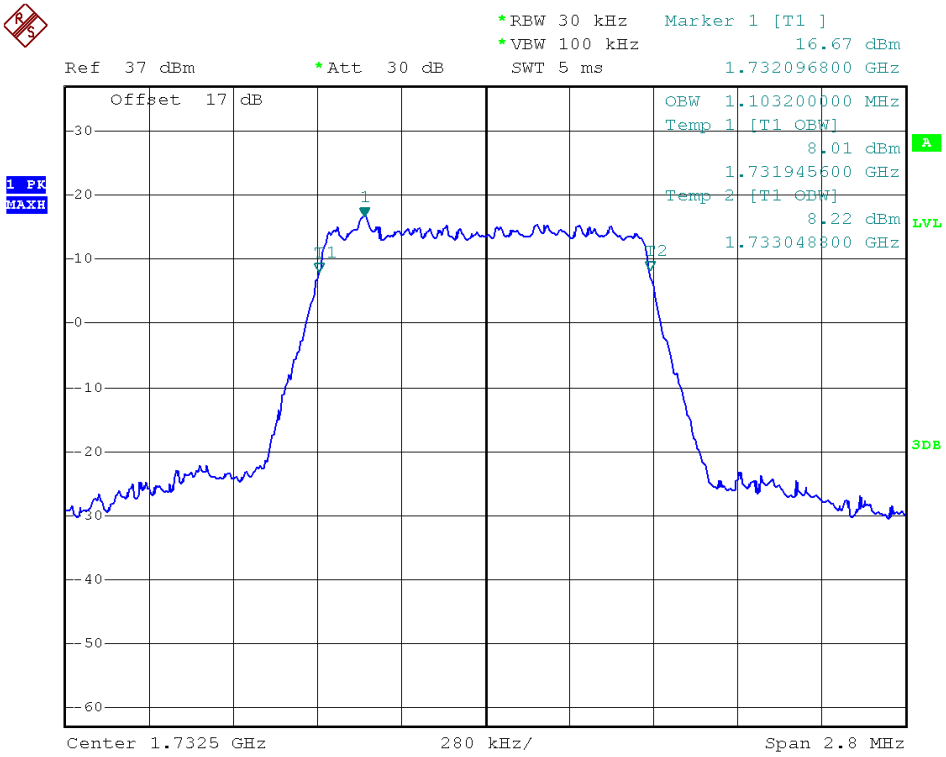
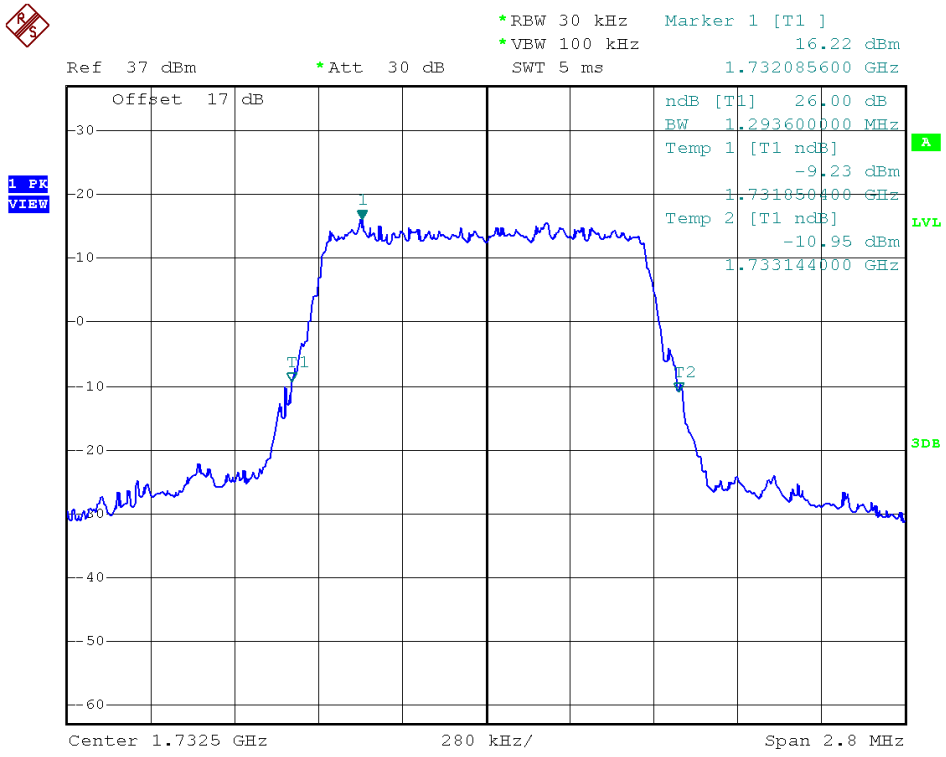


(Plot G3: 99% Occupied Bandwidth LTE Band 4/1.4MHz/16QAM)



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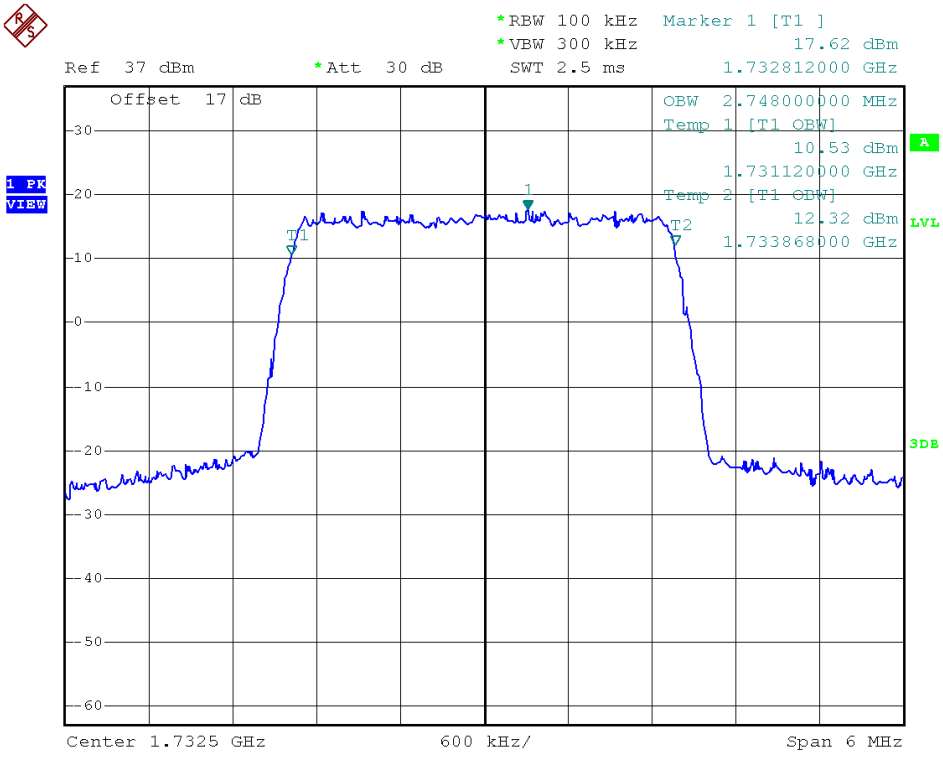
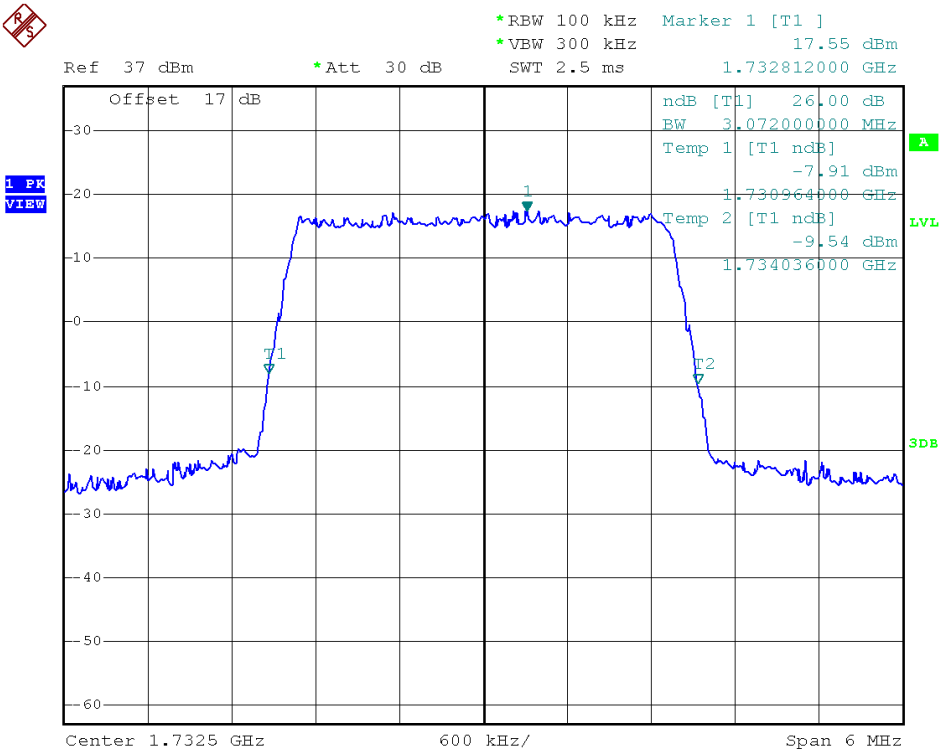
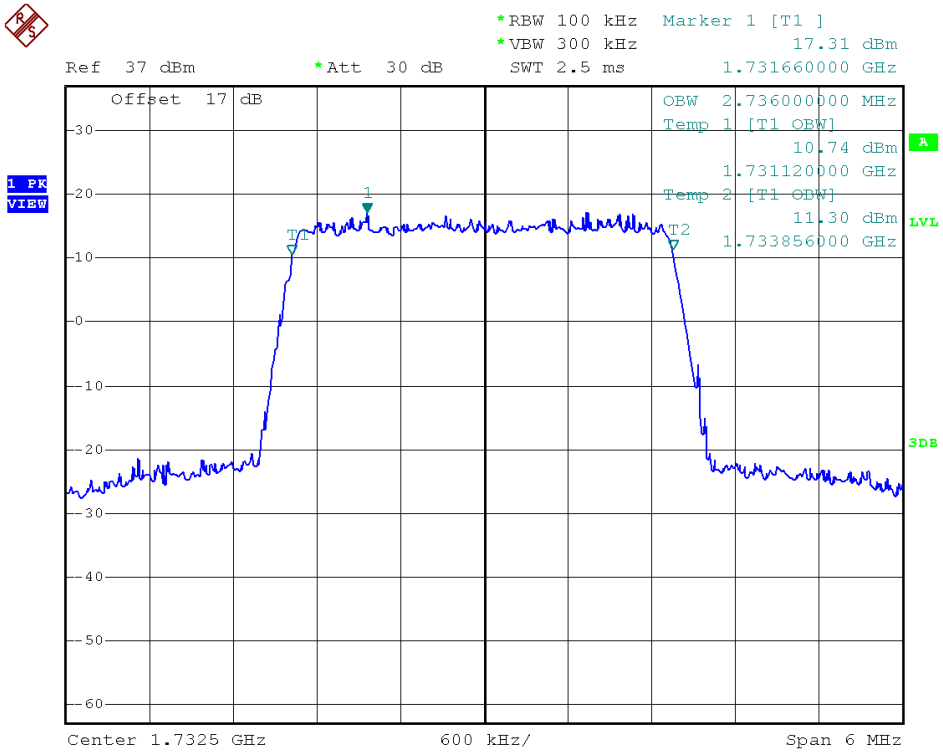


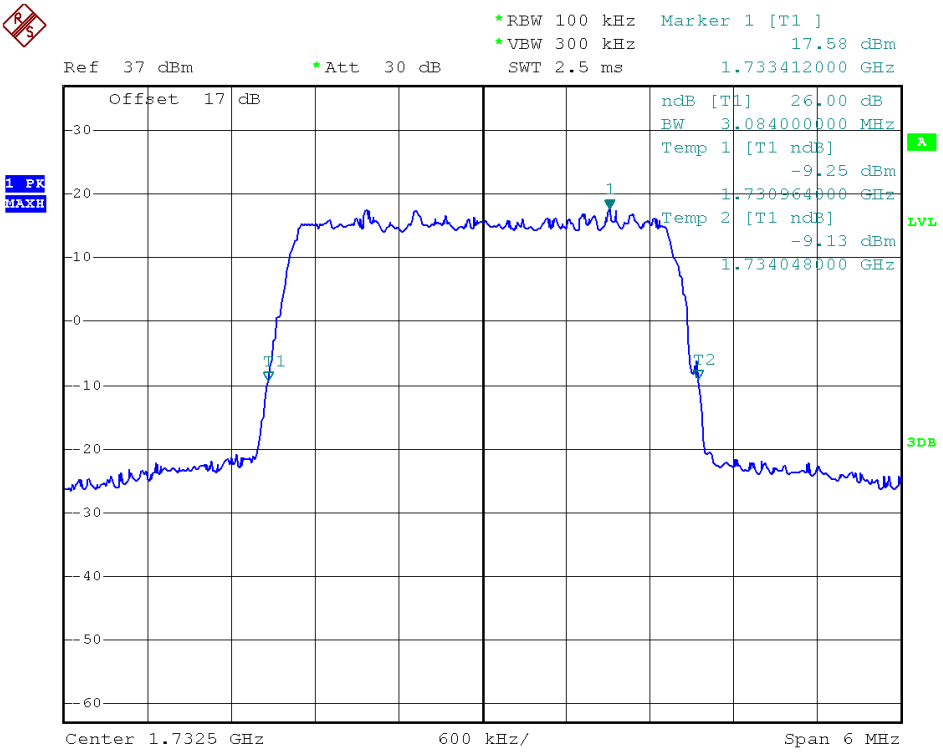
(Plot H1: 99% Occupied Bandwidth LTE Band 4/3MHz/QPSK)



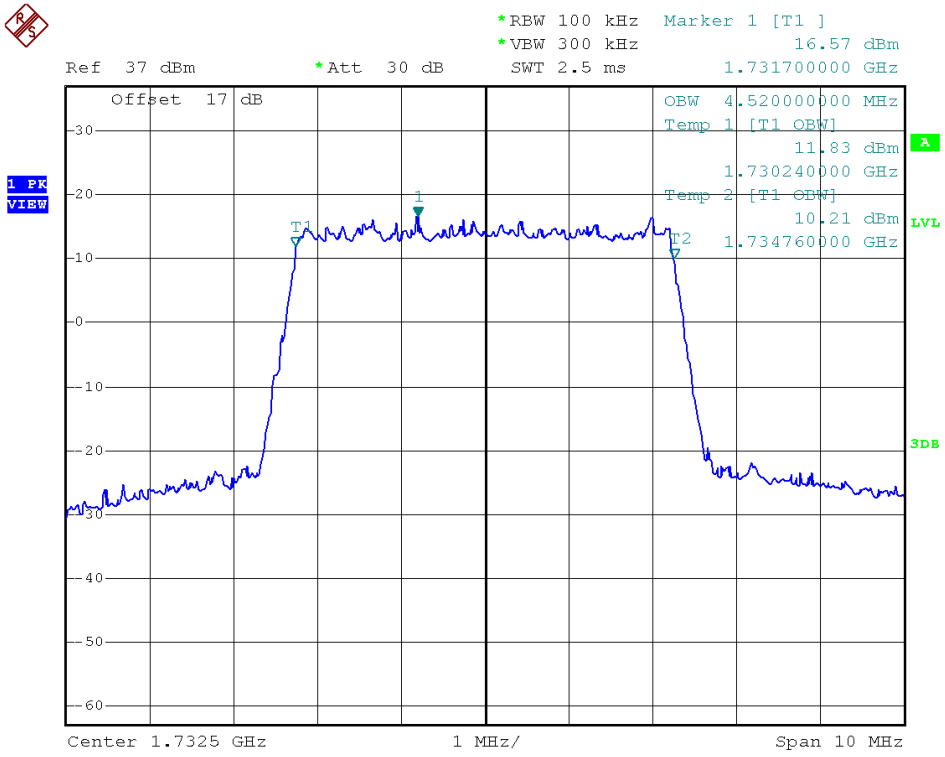
(Plot H2: 26dB Bandwidth LTE Band 4/3MHz/QPSK)



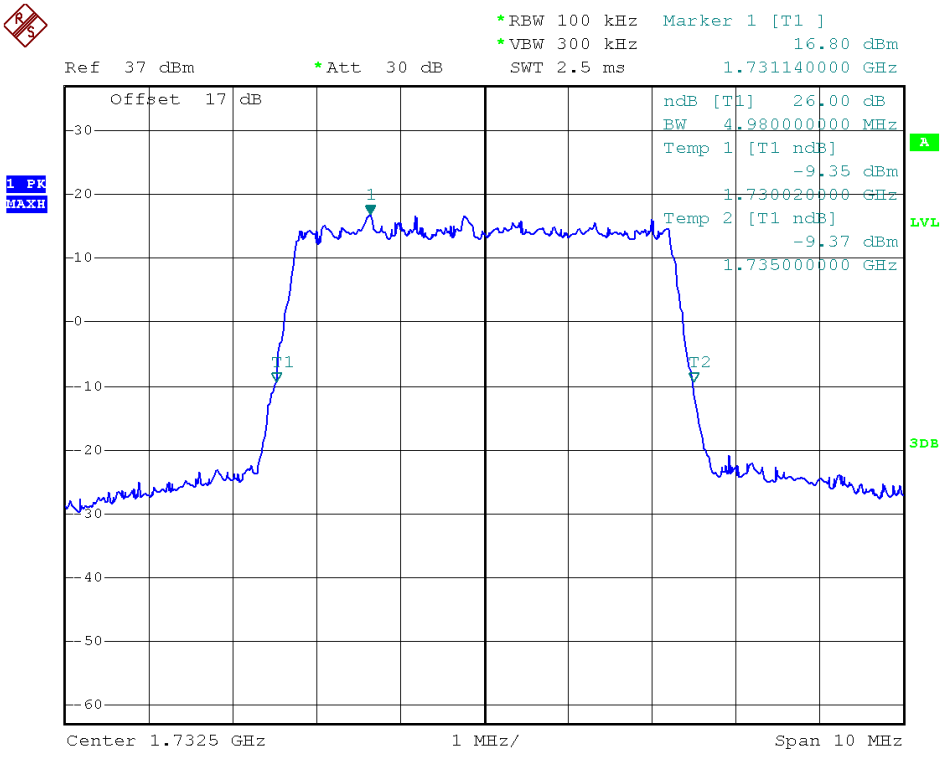
(Plot H3: 99% Occupied Bandwidth LTE Band 4/3MHz/16QAM)



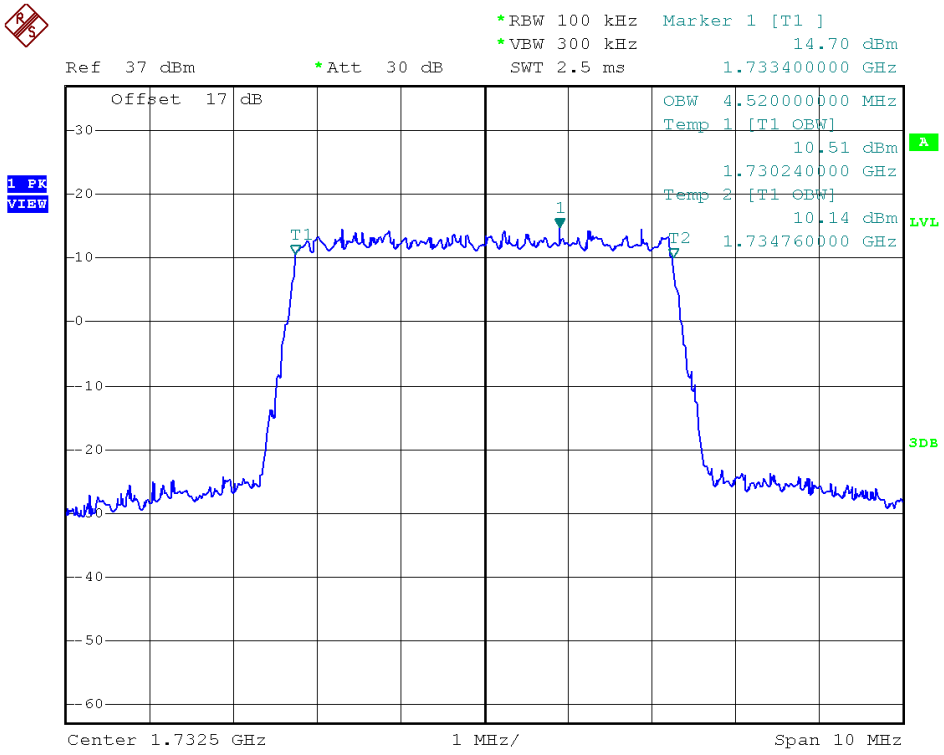
(Plot H4: 26dB Bandwidth LTE Band 4/3MHz/16QAM)



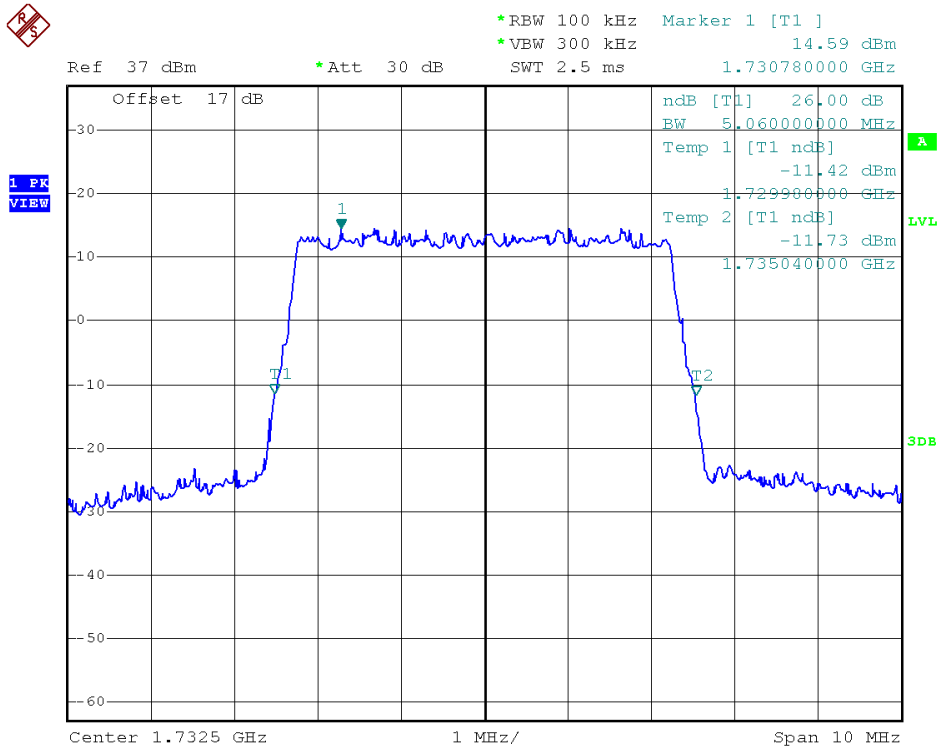
(Plot I1: 99% Occupied Bandwidth LTE Band 4/5MHz/QPSK)



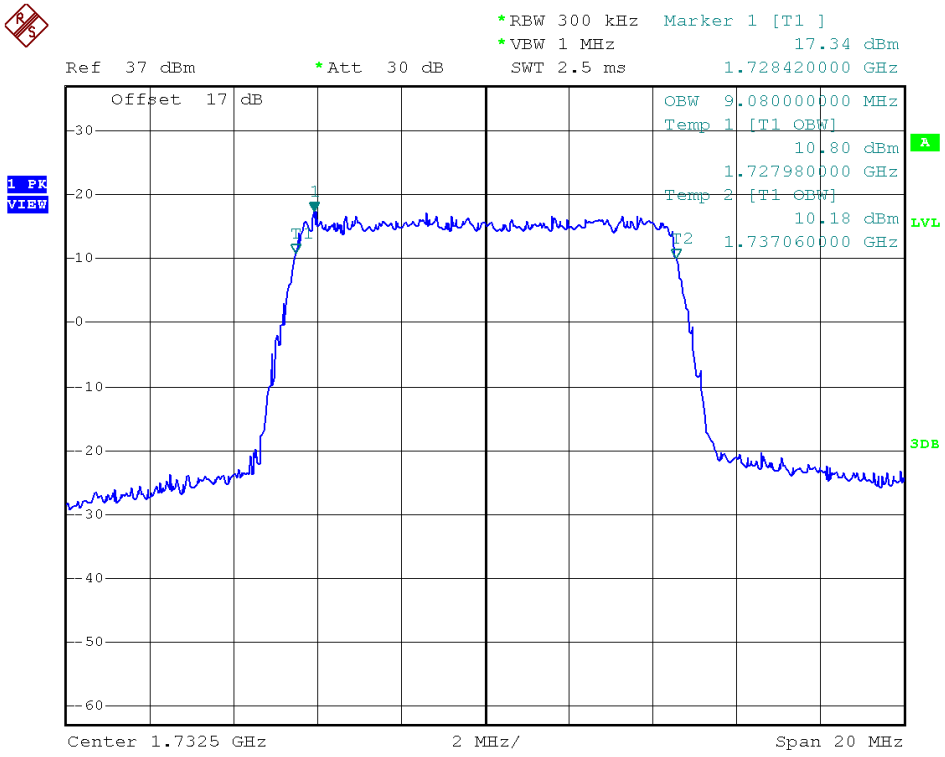
(Plot I2: 26dB Bandwidth LTE Band 4/5MHz/QPSK)



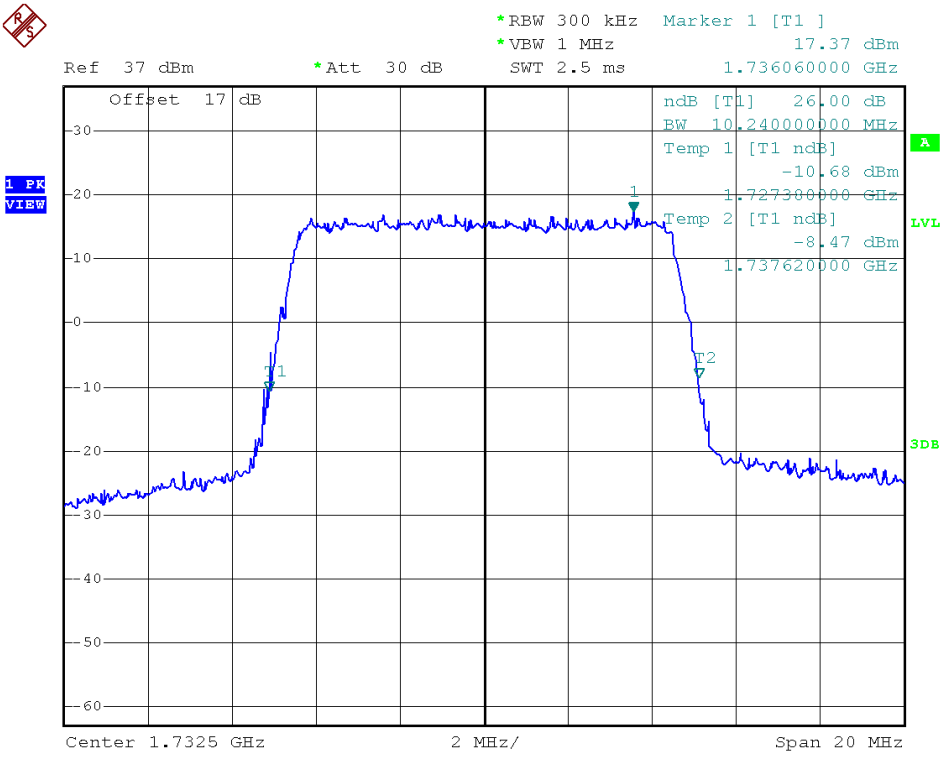
(Plot I3: 99% Occupied Bandwidth LTE Band 4/5MHz/16QAM)



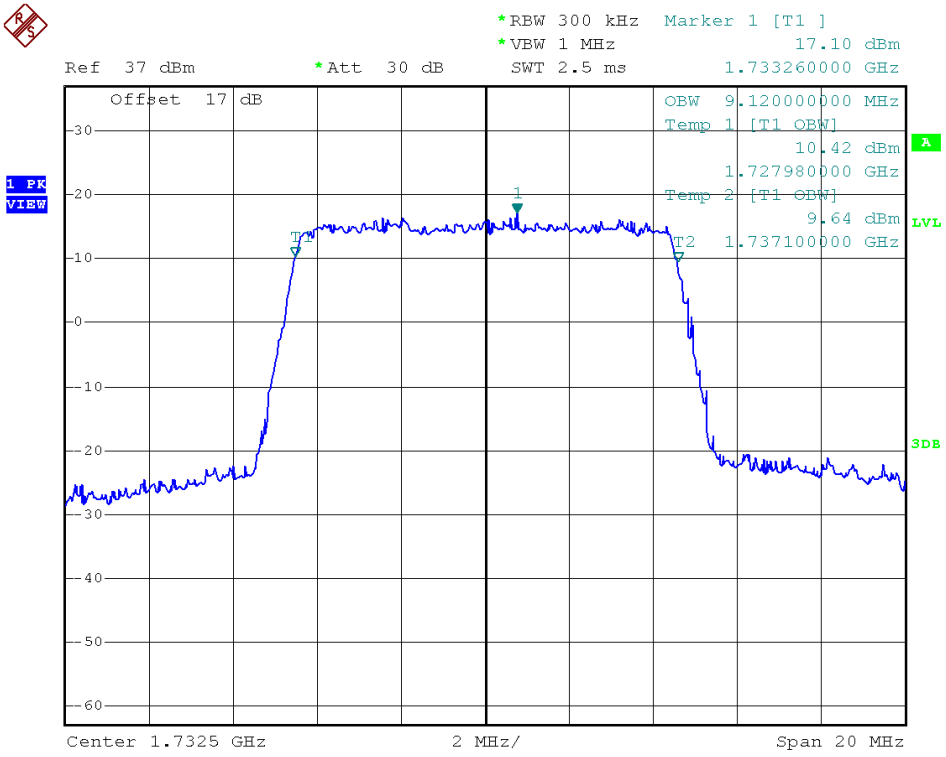
(Plot I4: 26dB Bandwidth LTE Band 4/5MHz/16QAM)



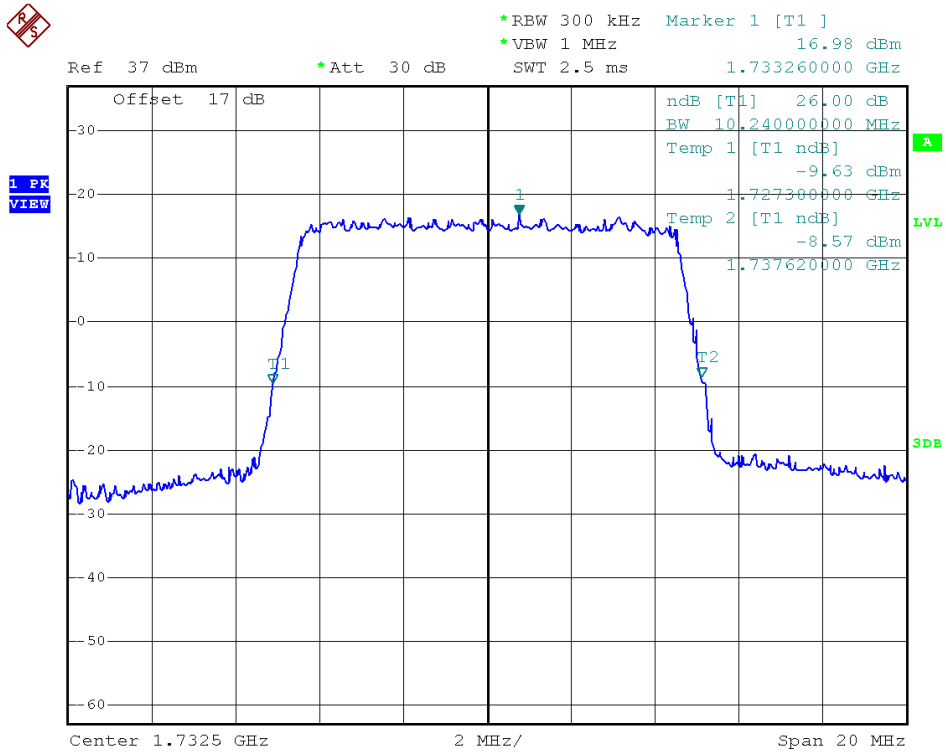
(Plot J1: 99% Occupied Bandwidth LTE Band 4/10MHz/QPSK)



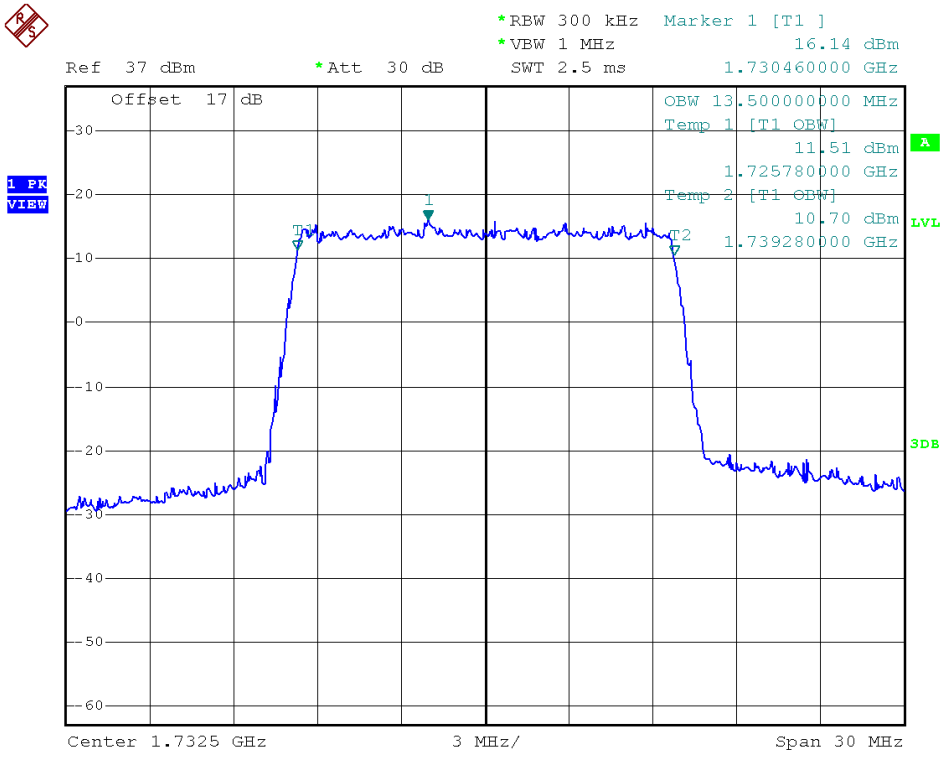
(Plot J2: 26dB Bandwidth LTE Band 4/10MHz/QPSK)



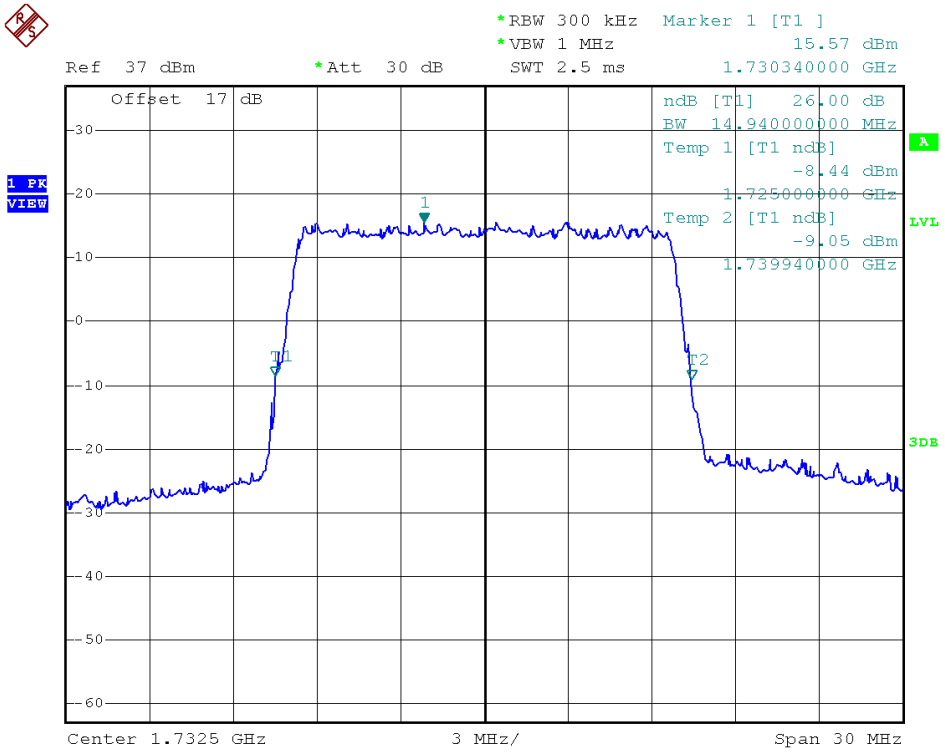
(Plot J3: 99% Occupied Bandwidth LTE Band 4/10MHz/16QAM)



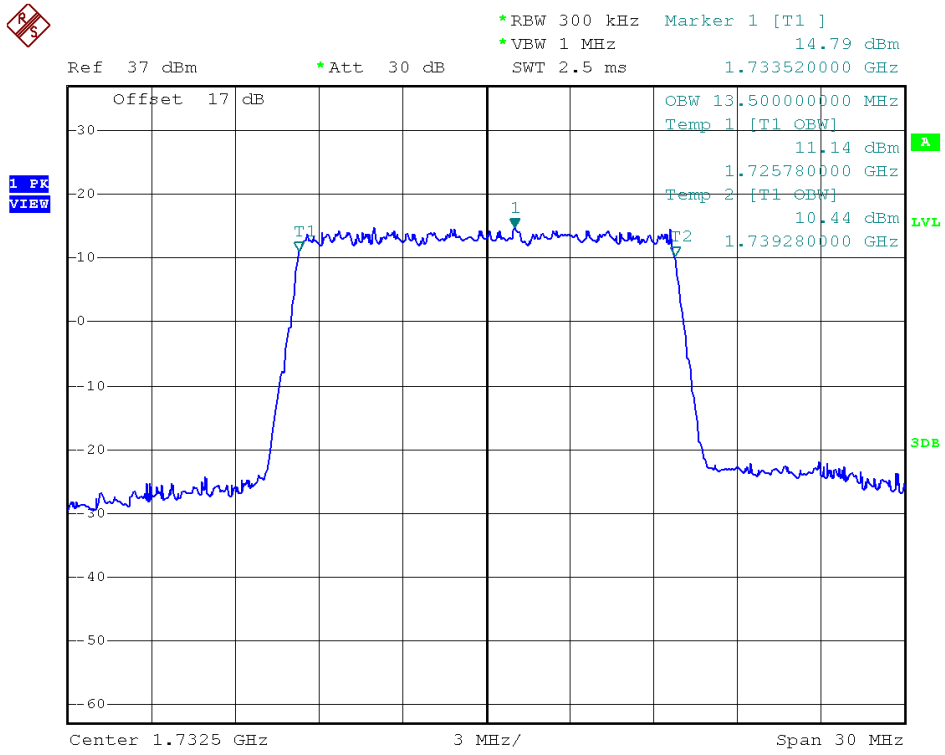
(Plot J4: 26dB Bandwidth LTE Band 4/10MHz/16QAM)



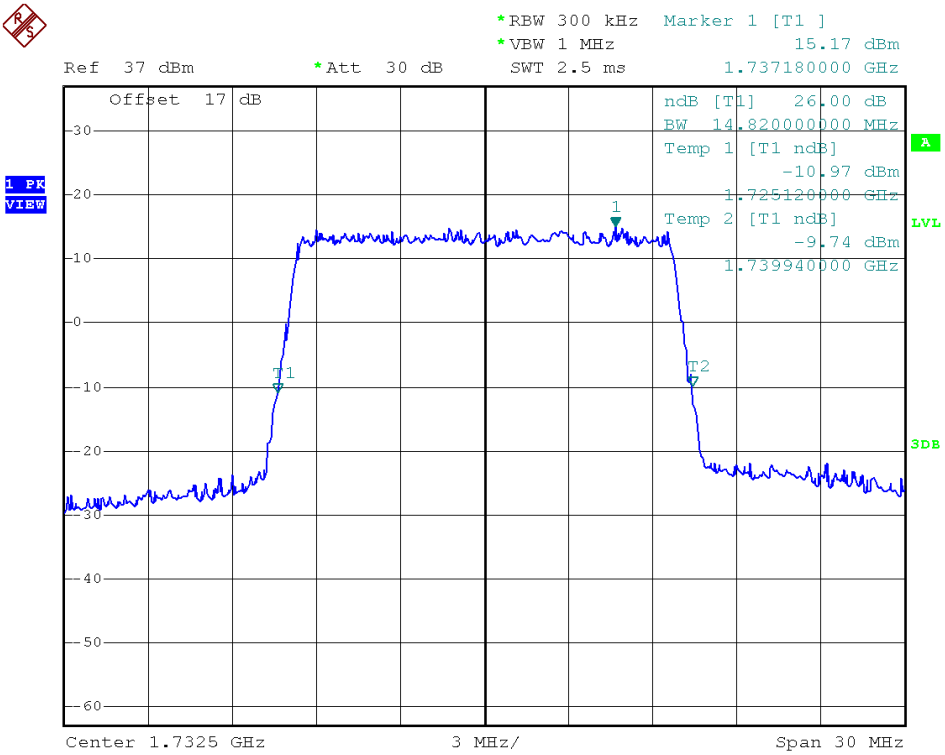
(Plot K1: 99% Occupied Bandwidth LTE Band 4/15MHz/QPSK)



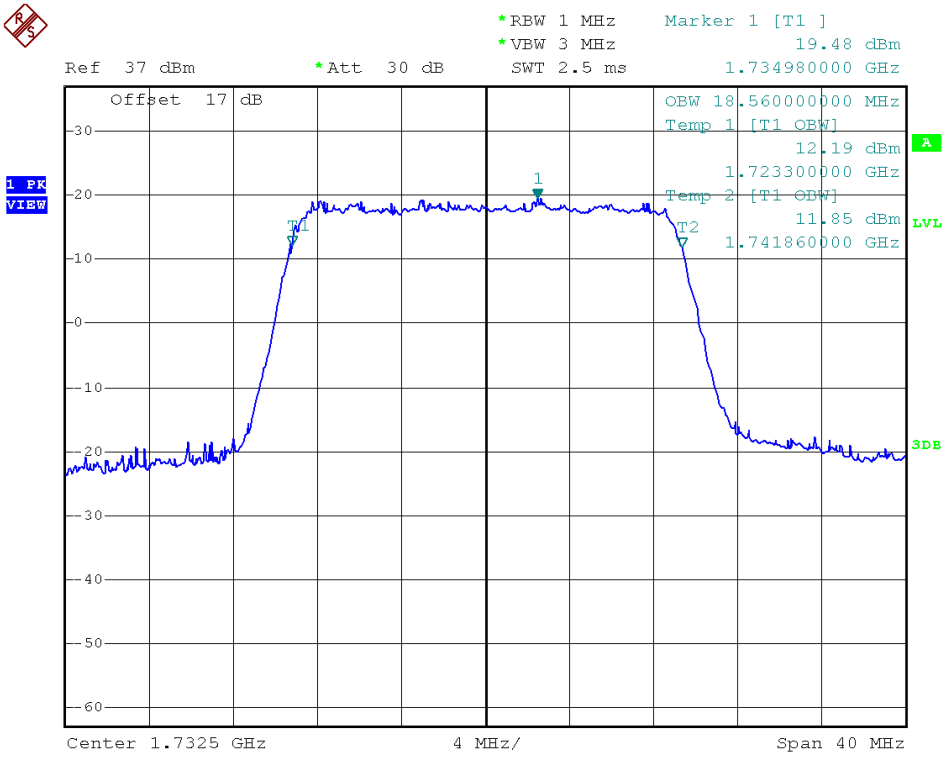
(Plot K2: 26dB Bandwidth LTE Band 4/15MHz/QPSK)



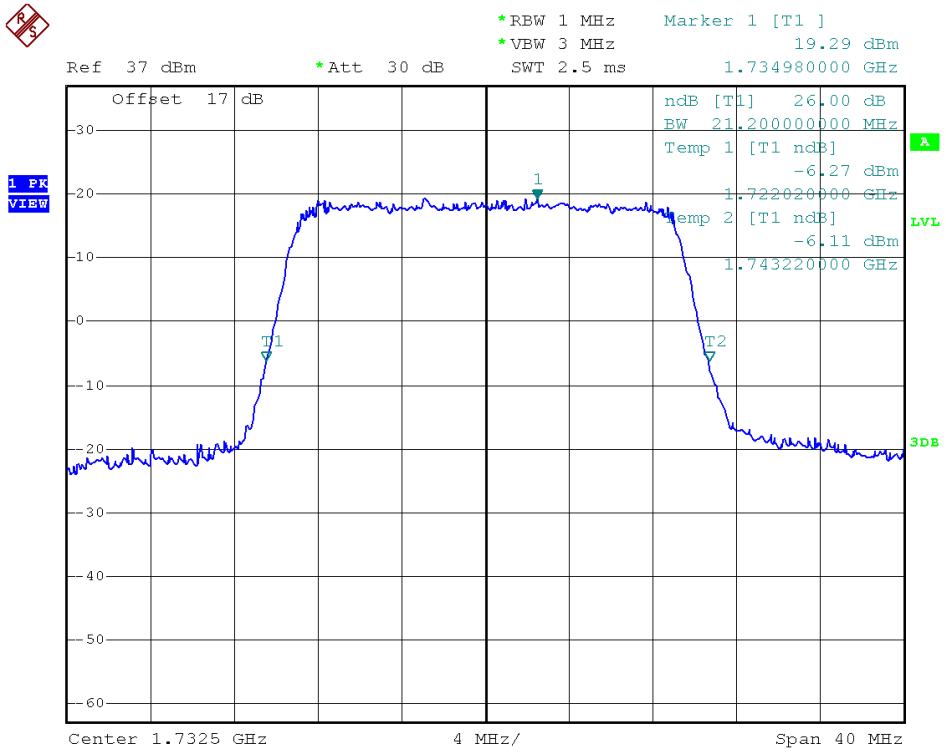
(Plot K3: 99% Occupied Bandwidth LTE Band 4/15MHz/16QAM)



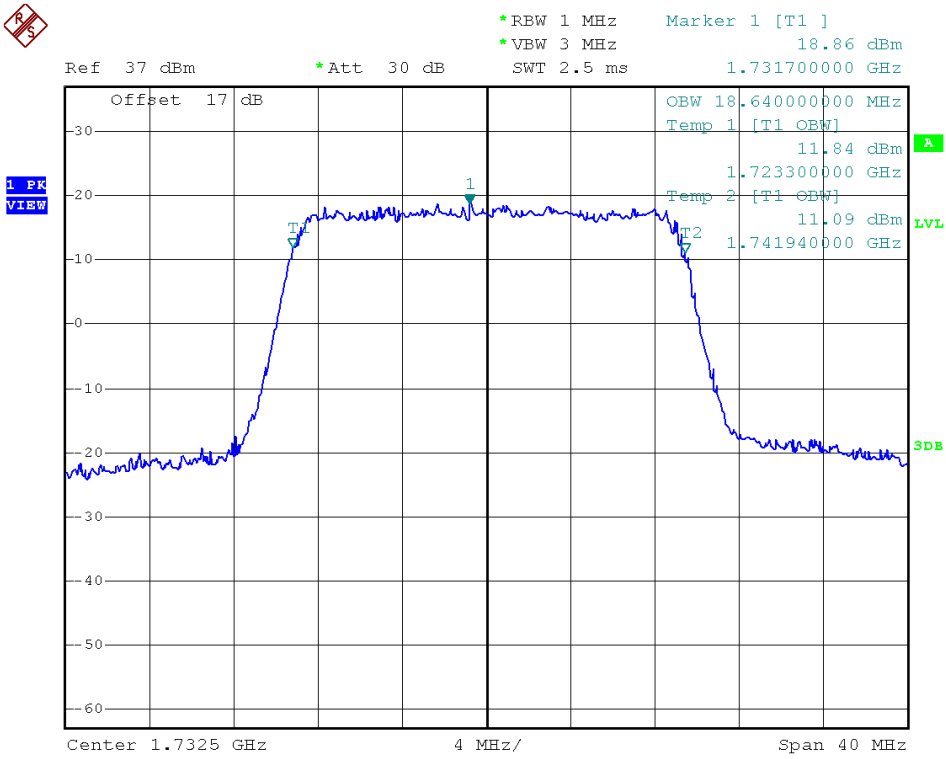
(Plot K4: 26dB Bandwidth LTE Band 4/15MHz/16QAM)



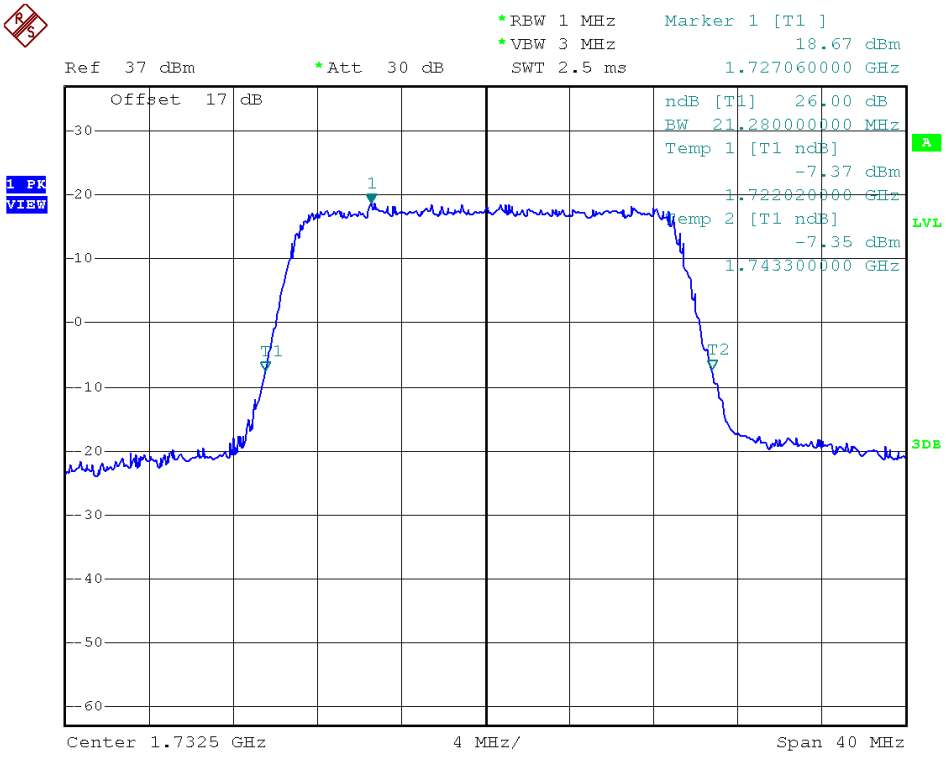
(Plot L1: 99% Occupied Bandwidth LTE Band 4/20MHz/QPSK)



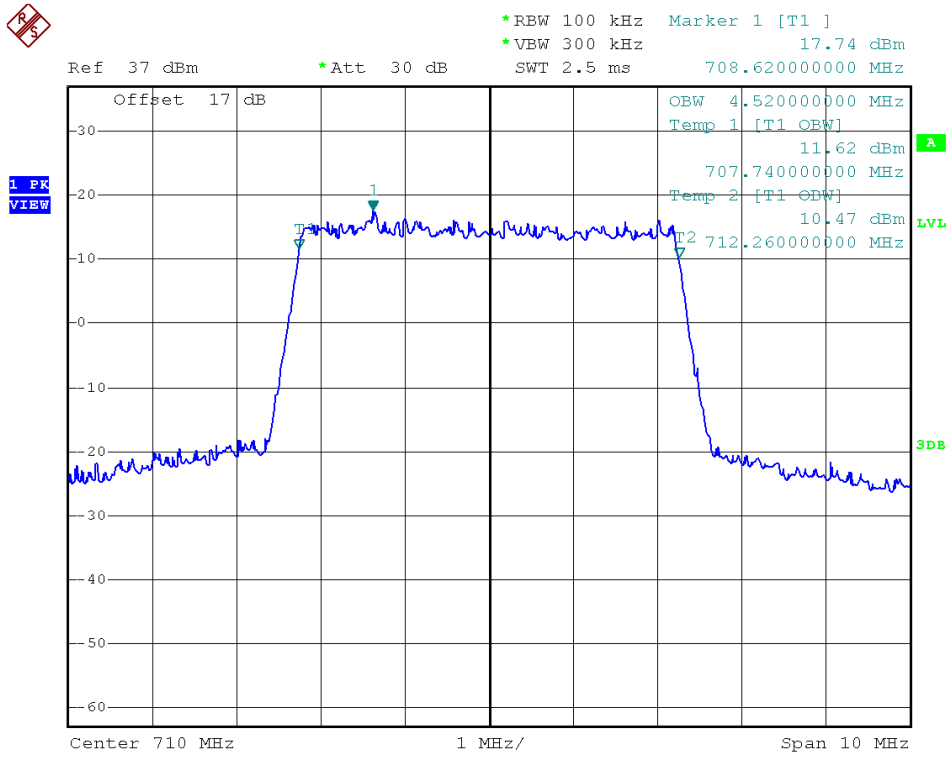
(Plot L2: 26dB Bandwidth LTE Band 4/20MHz/QPSK)



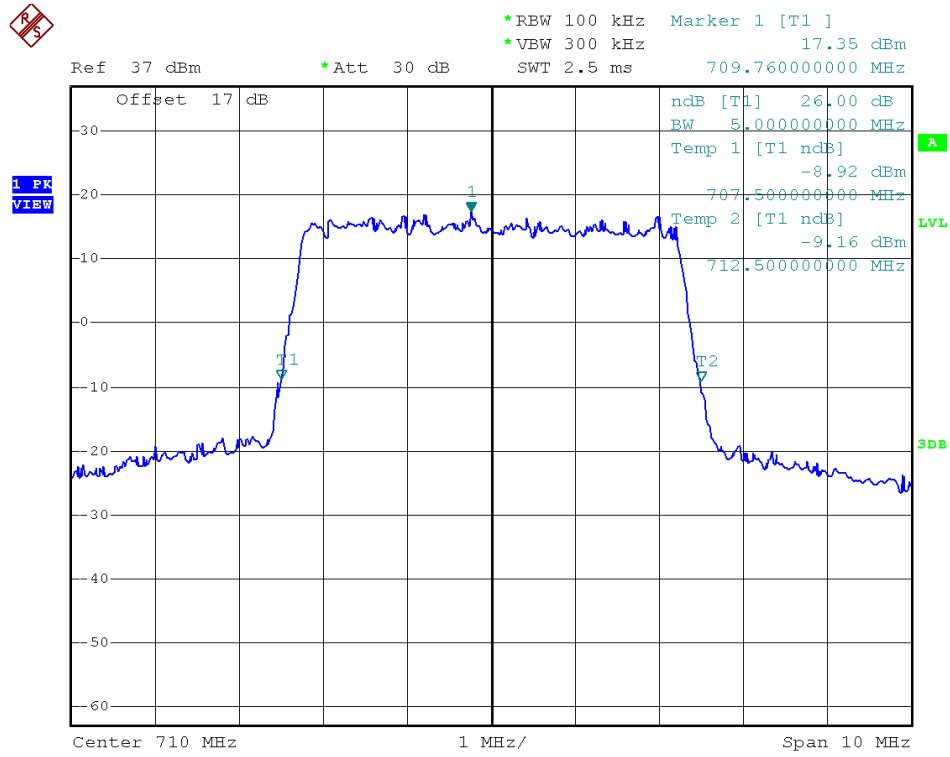
(Plot L3: 99% Occupied Bandwidth LTE Band 4/20MHz/16QAM)



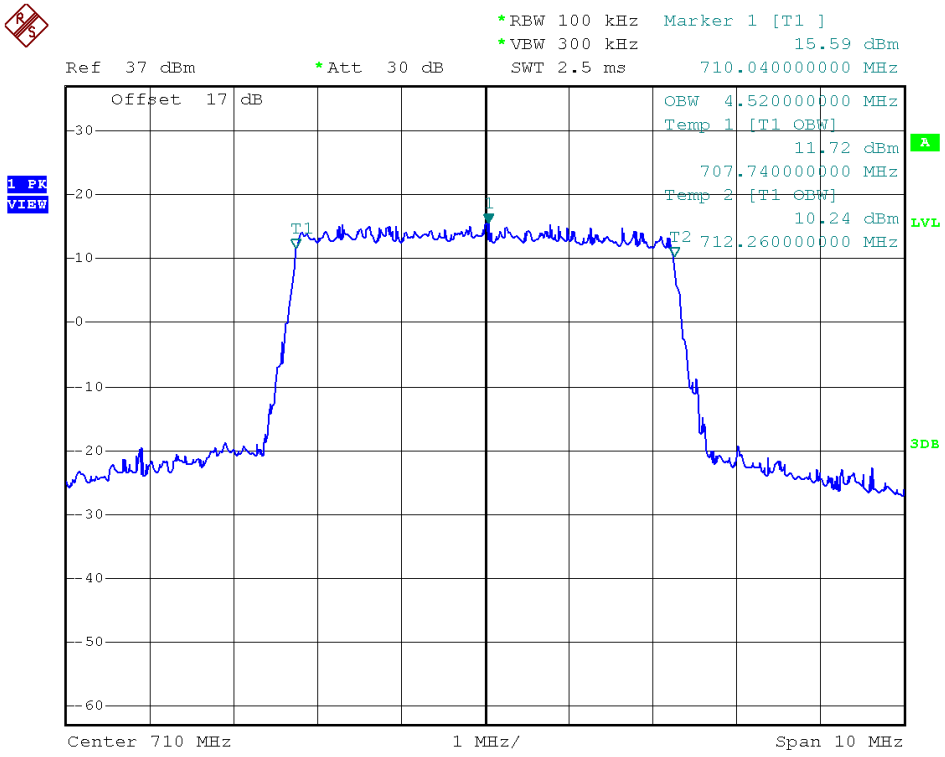
(Plot L4: 26dB Bandwidth LTE Band 4/20MHz/16QAM)



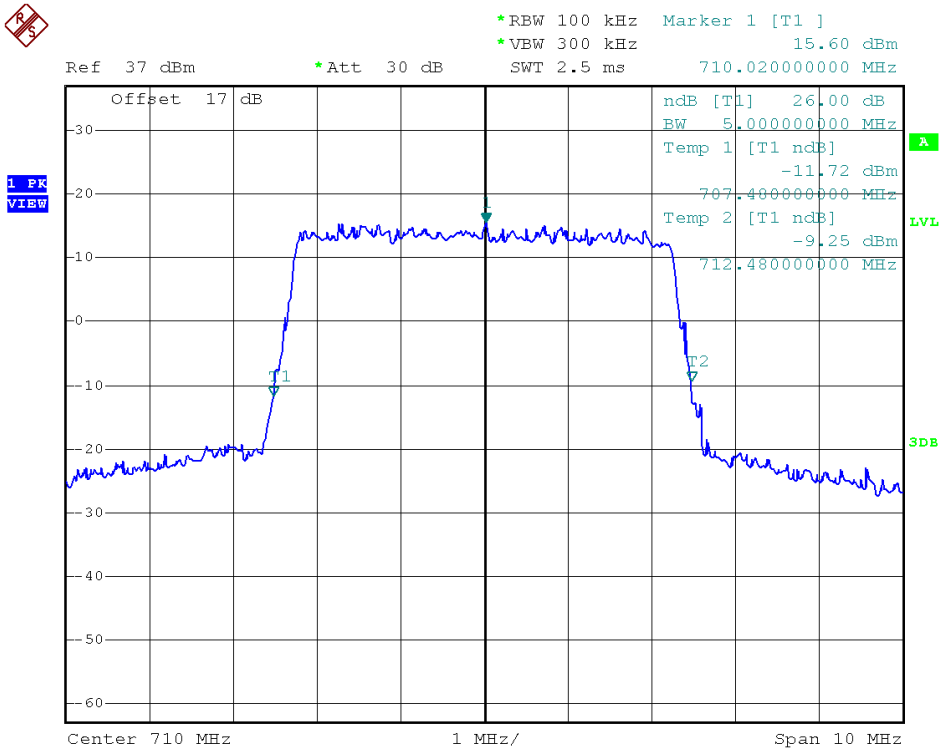
(Plot M1: 99% Occupied Bandwidth LTE Band 17/5MHz/QPSK)



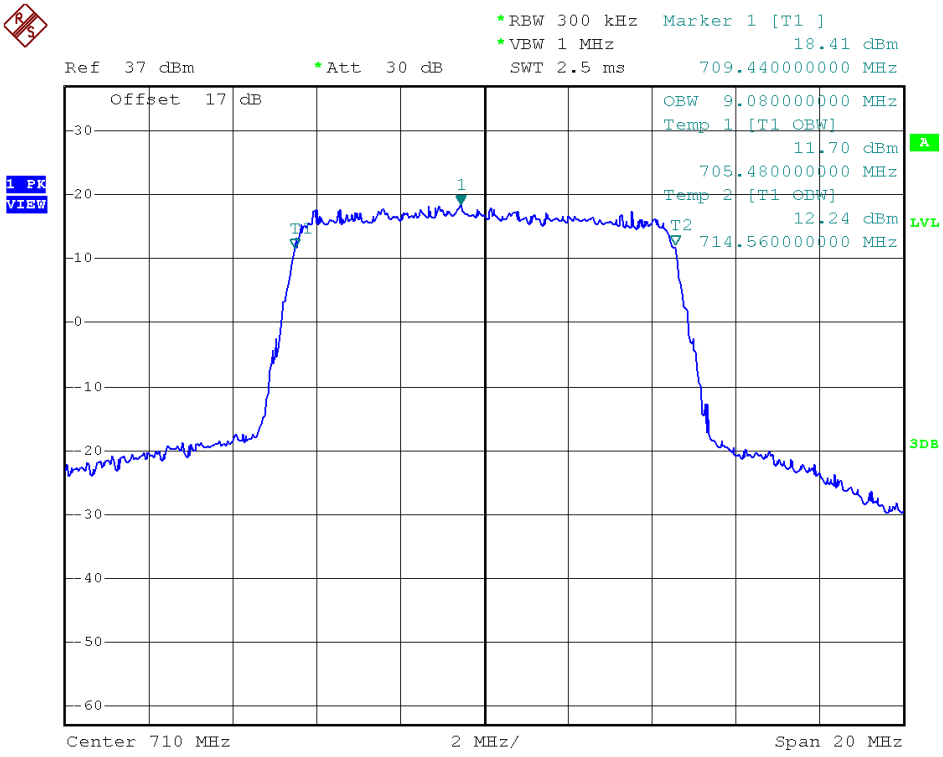
(Plot M2: 26dB Bandwidth LTE Band 17/5MHz/QPSK)



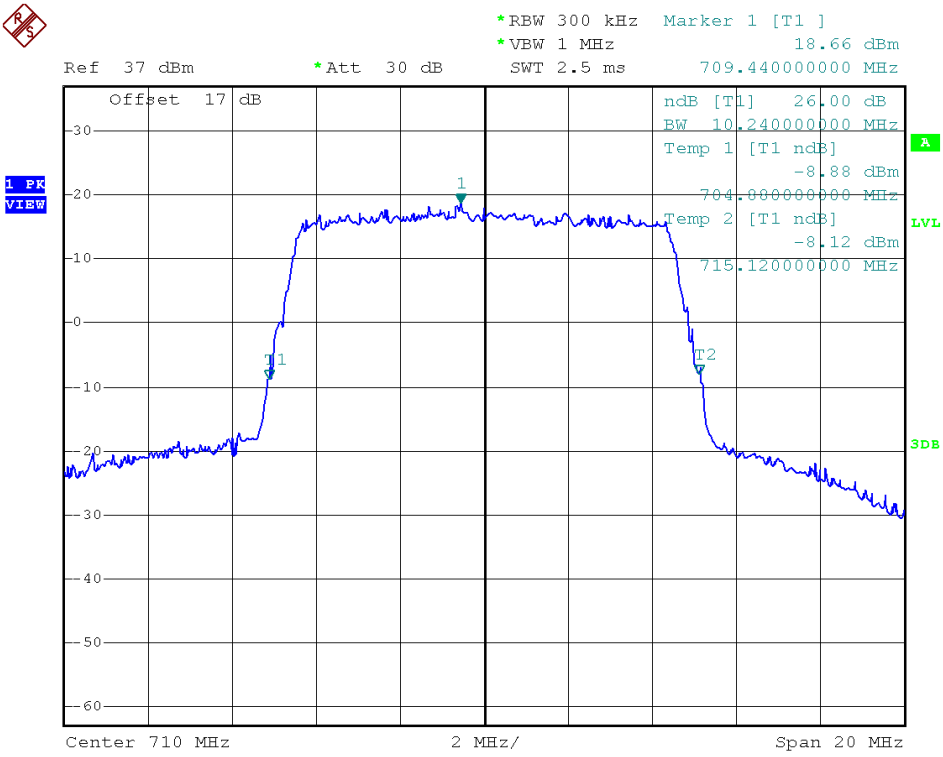
(Plot M3: 99% Occupied Bandwidth LTE Band 17/5MHz/16QAM)



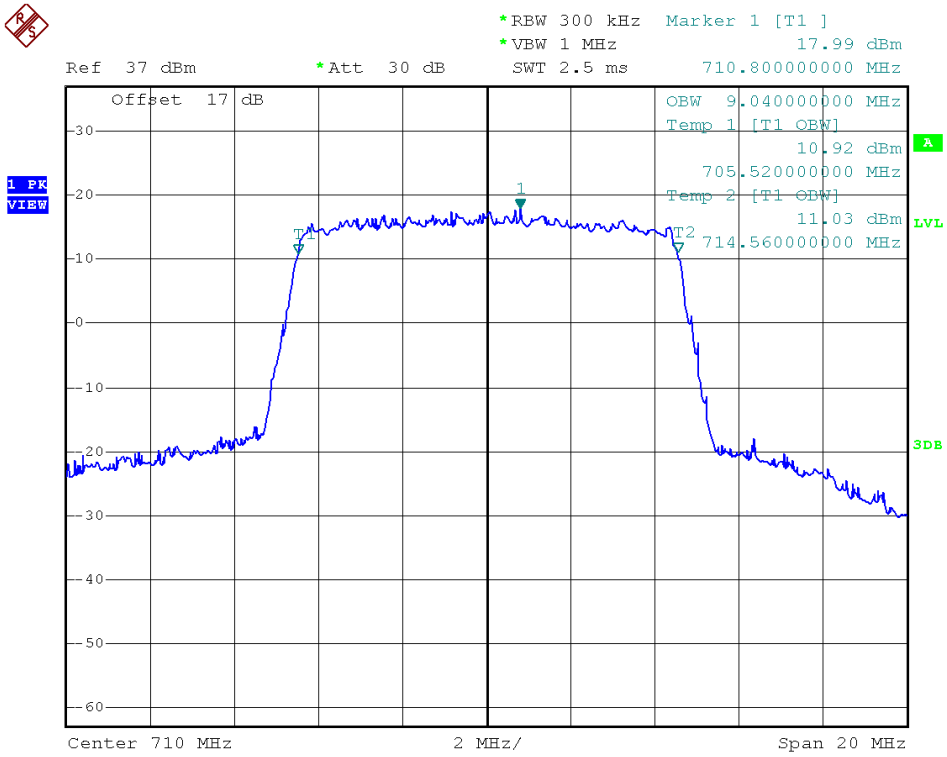
(Plot M4: 26dB Bandwidth LTE Band 17/5MHz/16QAM)



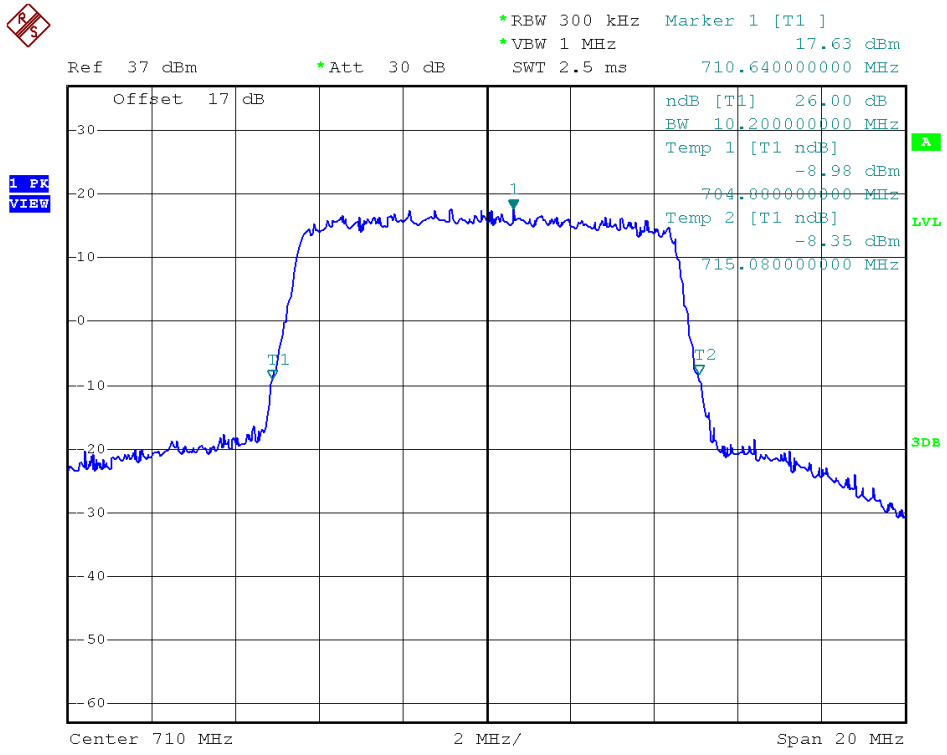
(Plot N1: 99% Occupied Bandwidth LTE Band 17/10MHz/QPSK)



(Plot N2: 26dB Bandwidth LTE Band 17/10MHz/QPSK)



(Plot N3: 99% Occupied Bandwidth LTE Band 17/10MHz/16QAM)



(Plot N4: 26dB Bandwidth LTE Band 17/10MHz/16QAM)

2.4 Frequency Stability

2.4.1 Requirement

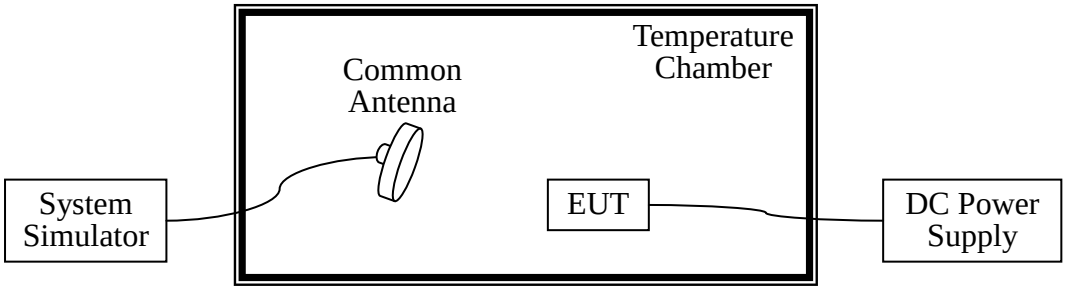
According to FCC section 27.54, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency. According to FCC section 2.1055, the test conditions are:

(a) The temperature is varied from -30℃ to +50℃ at intervals of not more than 10℃.

(b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

2.4.2 Test Description

1. Test Setup:



2. Equipments List:

Description	Manufacturer	Model	Serial No.	Cal. Data	Cal. Due Data
System Simulator	R&S	CMW500	149333	2014.07.21	2015.07.20
DC Power Supply	Good Will	GPS-3030DD	EF920938	2014.06.11	2015.06.10
Temperature Chamber	YinHe Experimental Equip.	HL4003T	(n.a.)	2014.06.11	2015.06.10
Cable	SUNHNER	SUCOFLEX 100	/	2014.06.05	2015.06.04

2.4.3 Test Verdict

The nominal, highest and lowest extreme voltages are separately 3.8VDC, 4.2VDC and 3.6VDC, which are specified by the applicant; the normal temperature here used is 25℃.

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℃ 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℃ step up to 50℃. 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.

4. The variation in frequency was measured for the worst case.

2.4.4 Test Result of Frequency Stability

1. LTE Band 2

Test Conditions		Frequency Deviation Middle Channel 1880MHz		
Power (VDC)	Temperature (℃)	Frequency Error	Frequency Error	Limit
		Hz	ppm	ppm
3.8	-30	39.06	0.02	2.5
	-20	48.73	0.03	
	-10	32.16	0.02	
	0	19.61	0.01	
	+10	53.81	0.03	
	+20	18.77	0.01	
	+30	15.01	0.01	
	+40	0.50	0	
	+55	-0.56	0	
4.2	+25	19.71	0.01	
3.6	+25	23.51	0.01	

2. LTE Band 4

Test Conditions		Frequency Deviation Middle Channel 1732.5MHz		
Power (VDC)	Temperature (℃)	Frequency Error	Frequency Error	Limit
		Hz	ppm	ppm
3.8	-30	46.68	0.03	2.5
	-20	28.10	0.02	
	-10	-4.27	0	
	0	36.69	0.02	
	+10	13.61	0.01	
	+20	12.15	0.01	
	+30	23.94	0.01	
	+40	13.56	0.01	
	+55	47.64	0.03	
4.2	+25	52.86	0.03	
3.6	+25	3.68	0	

3. LTE Band 17

Test Conditions		Frequency Deviation Middle Channel 710MHz		
Power (VDC)	Temperature (℃)	Frequency Error	Frequency Error	Limit
		Hz	ppm	ppm
3.8	-30	29.67	0.04	2.5
	-20	-24.35	0.04	
	-10	36.13	0.05	
	0	-14.70	0.02	
	+10	-8.71	0	
	+20	-15.98	0.02	
	+30	21.63	0.03	
	+40	-2.73	0	
	+55	8.69	0	
4.2	+25	38.24	0.05	
3.6	+25	36.41	0.05	

2.5 Conducted Out of Band Emissions

2.5.1 Requirement

According to FCC section 27.53(h), the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43+10*log(P)dB. This calculated to be -13dBm.

2.5.2 Test Description

See section 2.1.2 of this report.

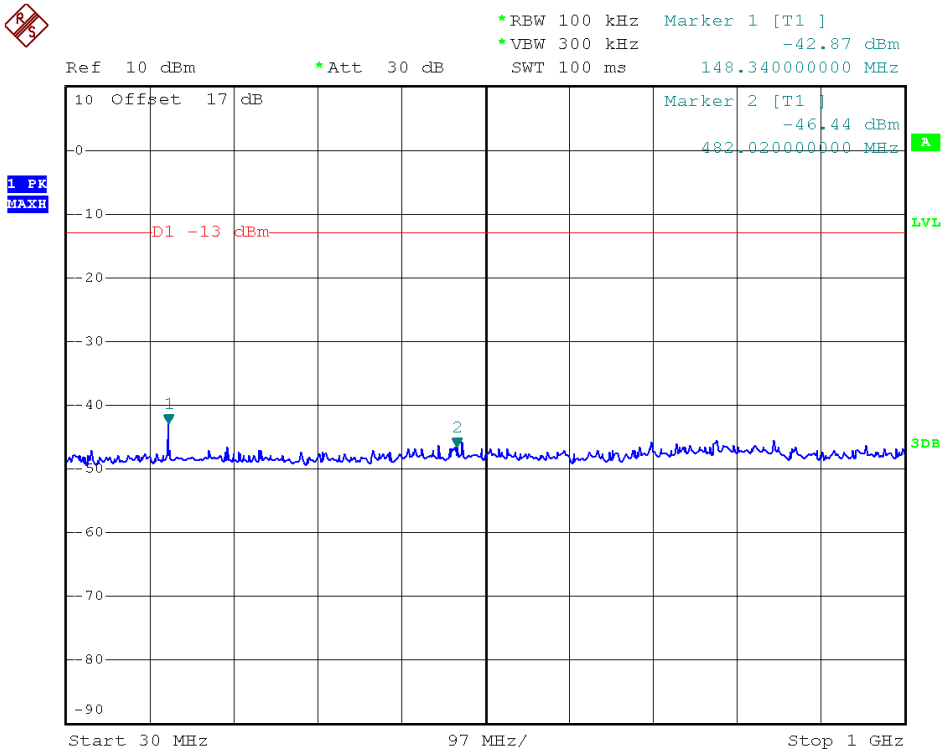
2.5.3 Test Procedures

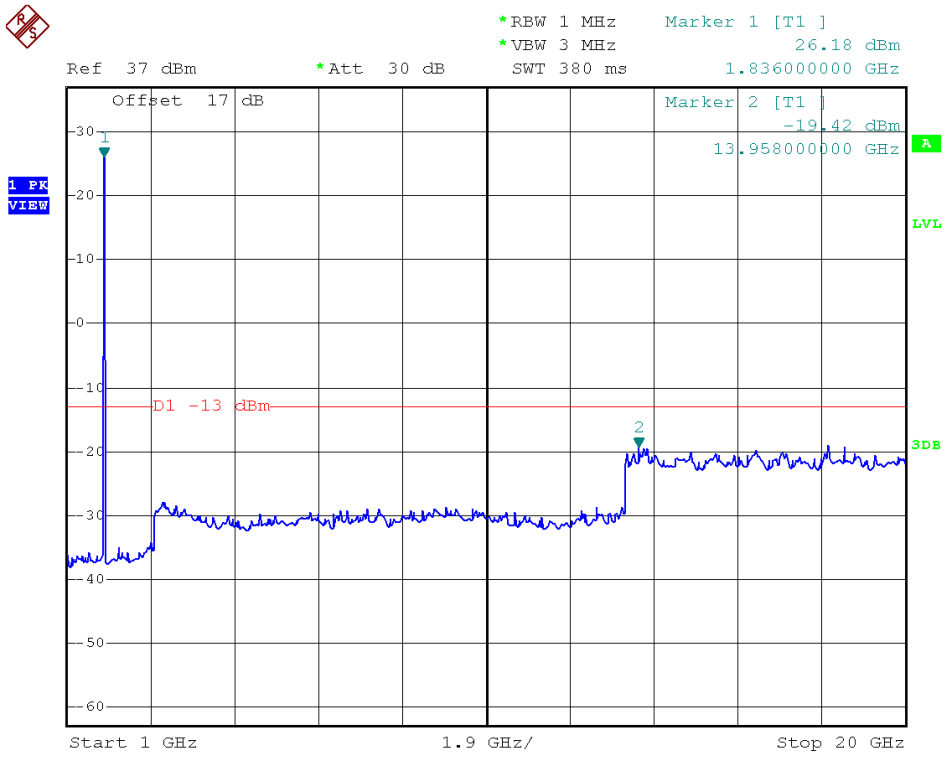
1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the 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, taking the record of maximum spurious emission.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
   = -13dBm.

2.5.4 Test Result of Conducted Spurious Emission

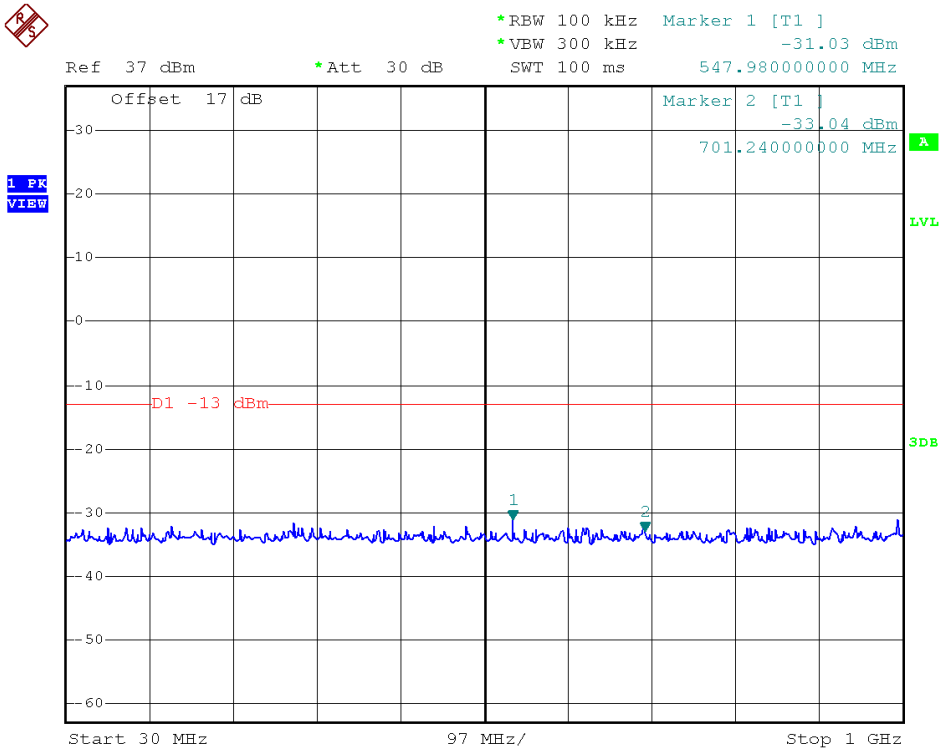
The measurement frequency range is from 30MHz to the 10^{th} harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the out of band emissions.

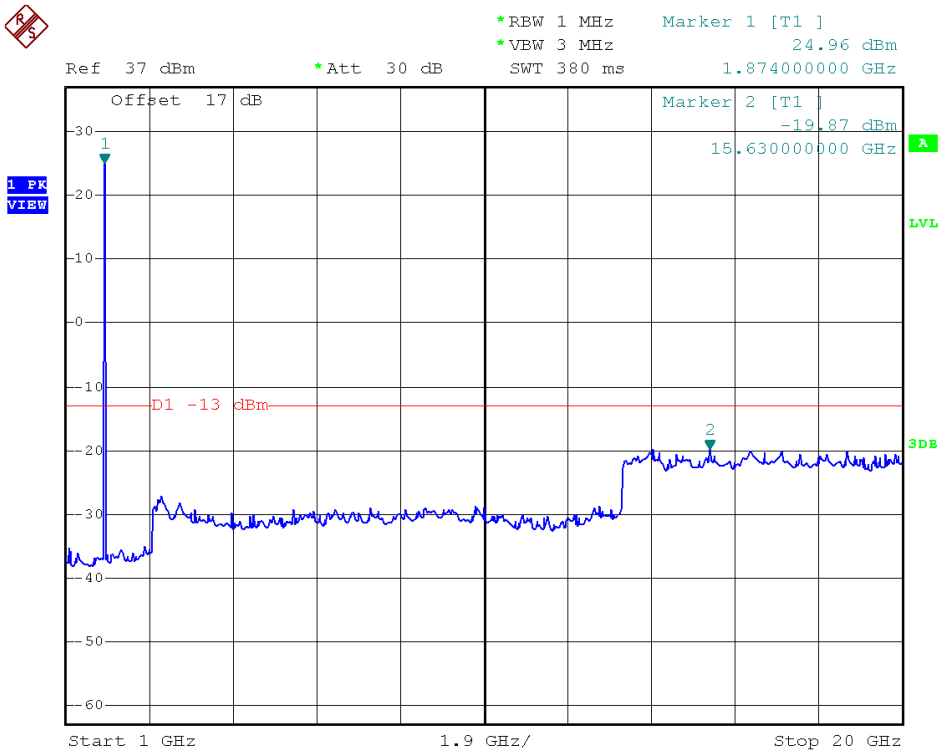
Band	LTE Band 2	Channel	Ch 18607(Low)
Bandwidth	1.4MHz	Modulation	QPSK



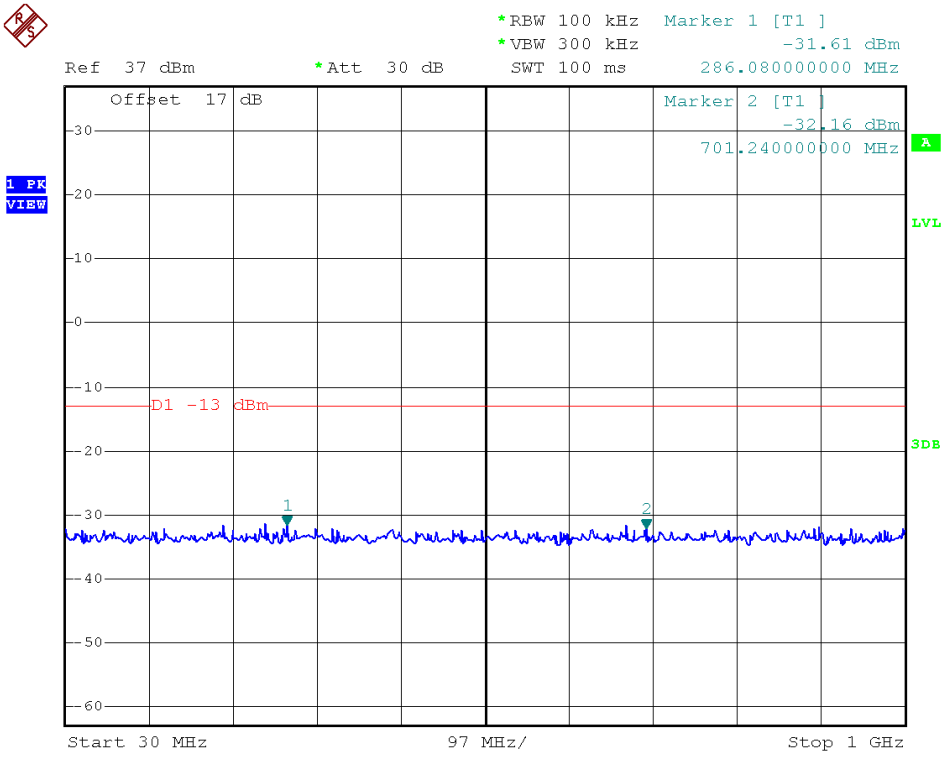


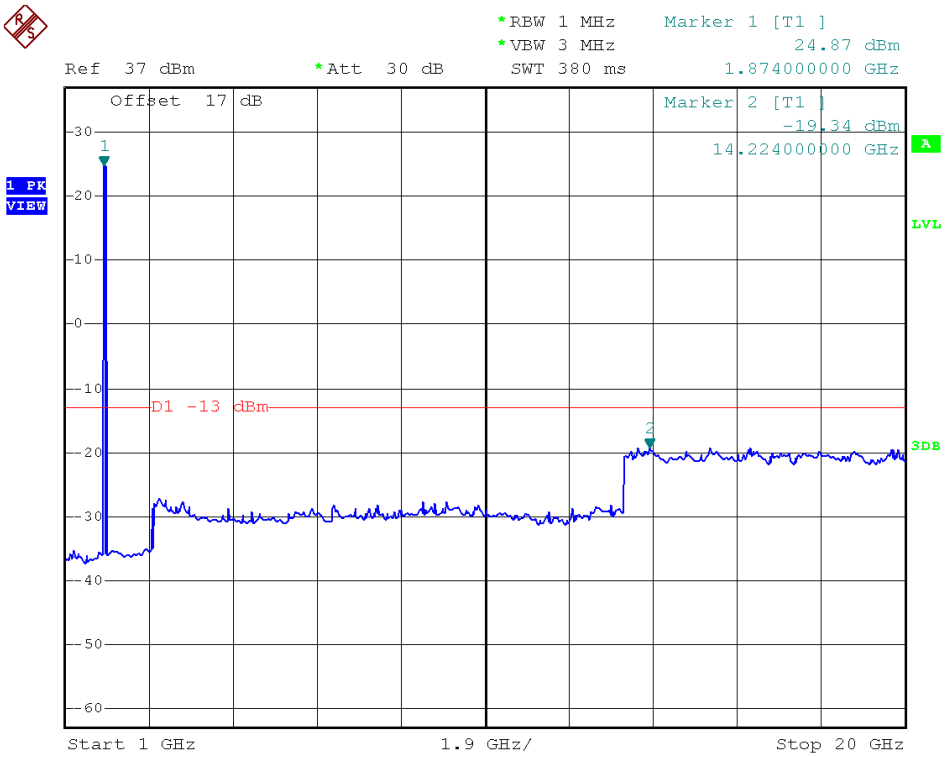
Band	LTE Band 2	Channel	Ch 18900(Middle)
Bandwidth	1.4MHz	Modulation	QPSK



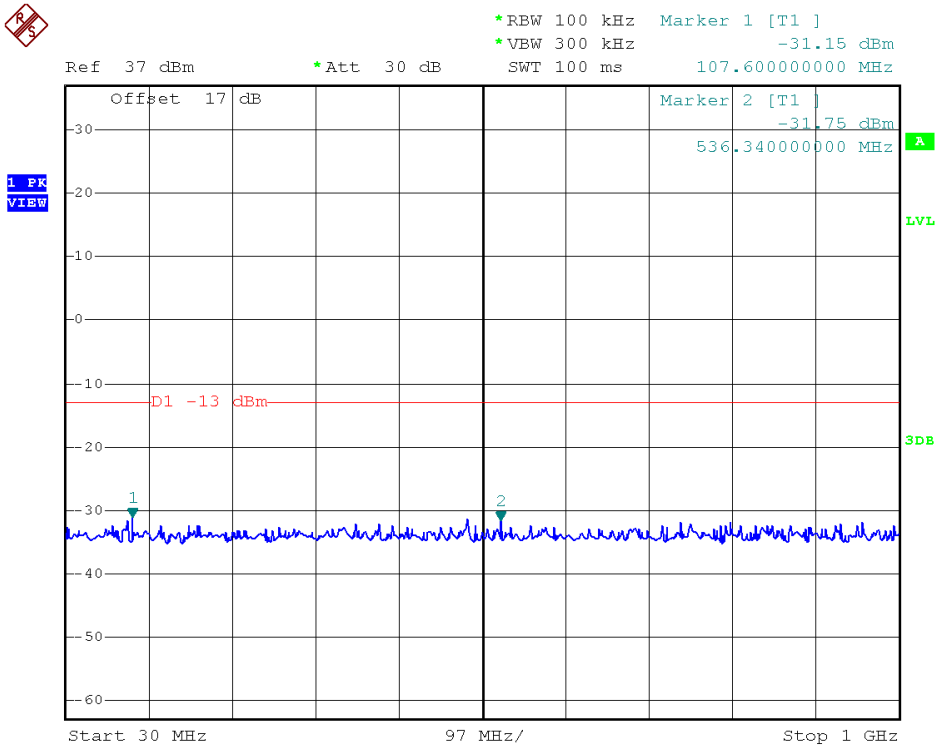


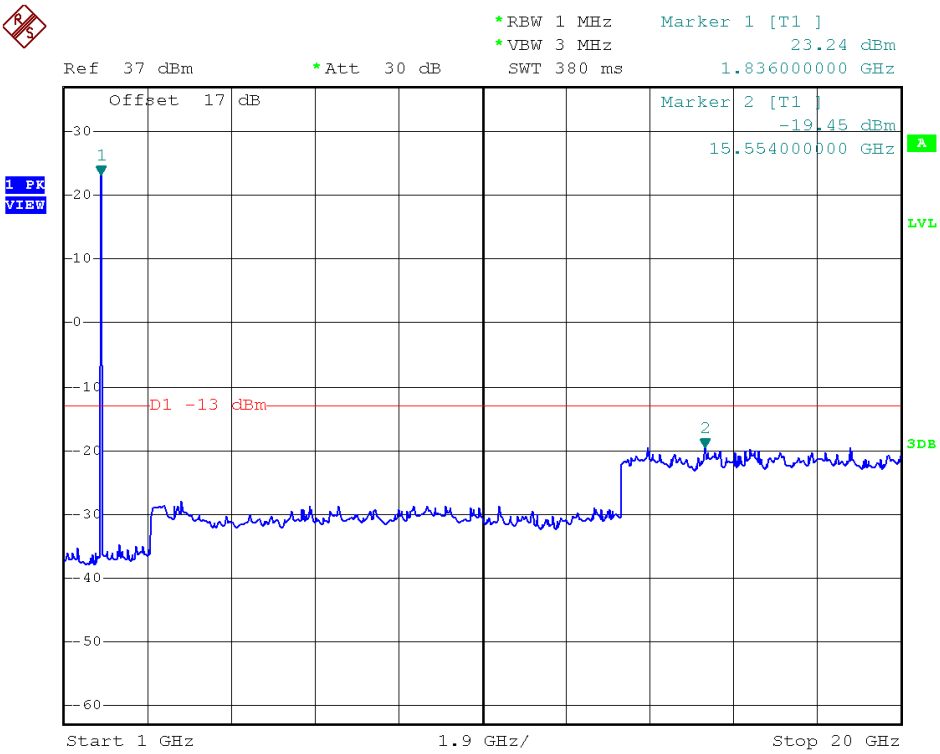
Band	LTE Band 2	Channel	Ch 19193(High)
Bandwidth	1.4MHz	Modulation	QPSK



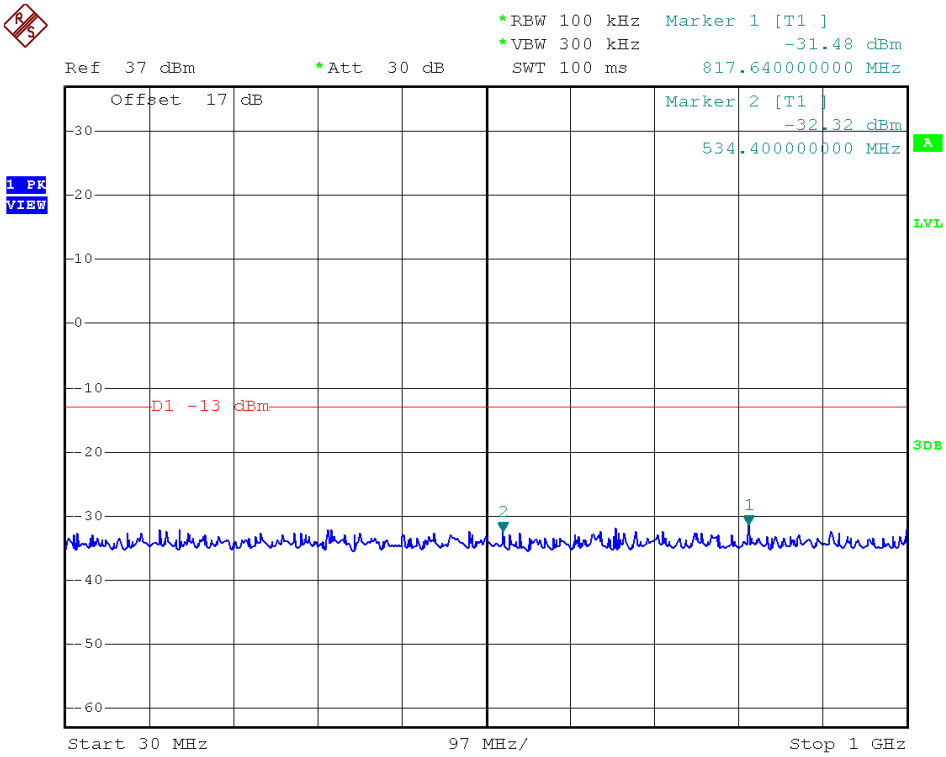


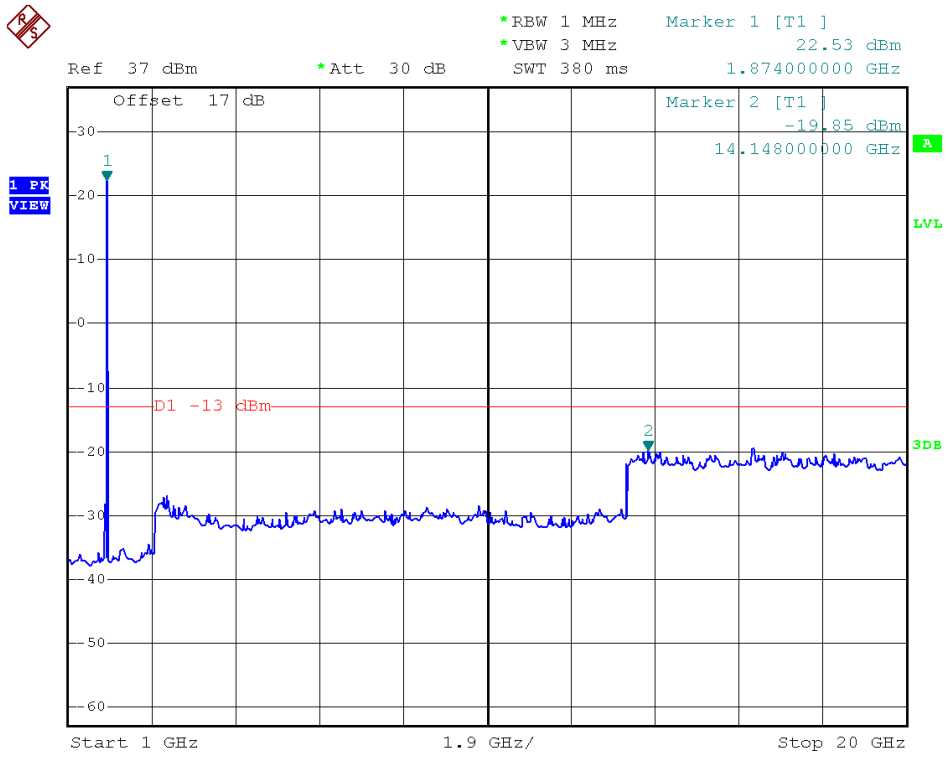
Band	LTE Band 2	Channel	Ch 18615(Low)
Bandwidth	3MHz	Modulation	QPSK



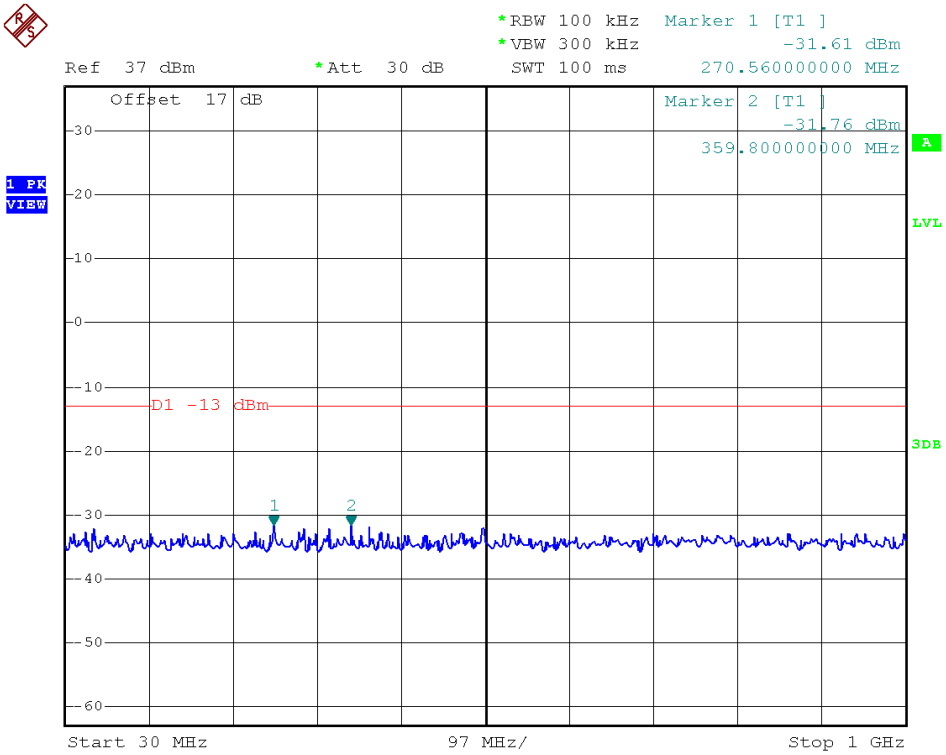


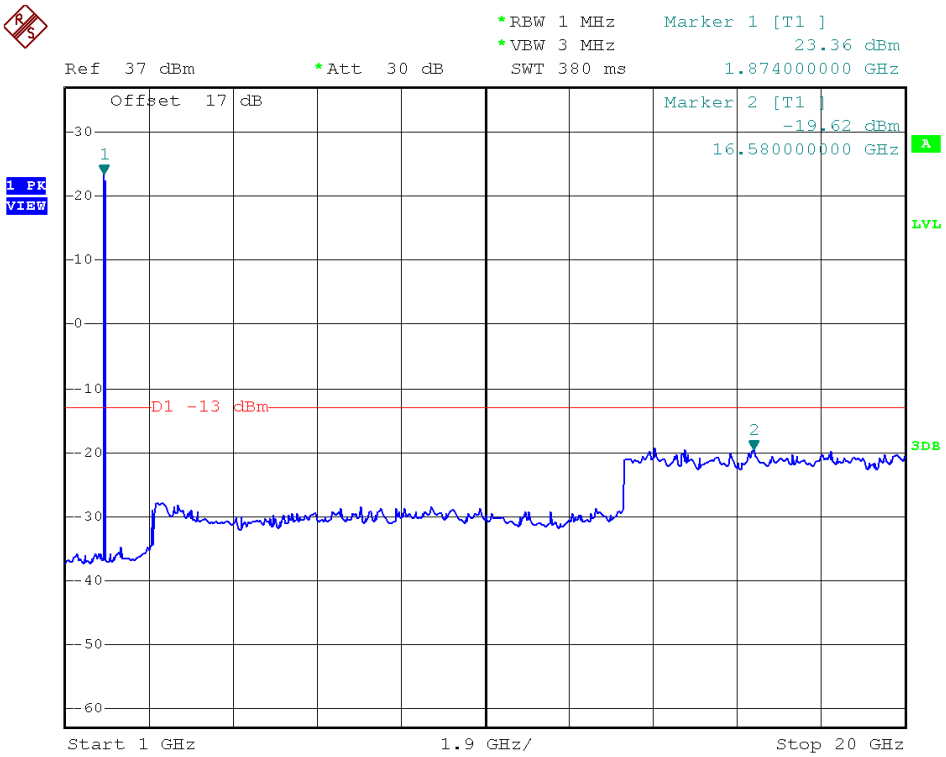
Band	LTE Band 2	Channel	Ch 18900(Middle)
Bandwidth	3MHz	Modulation	QPSK



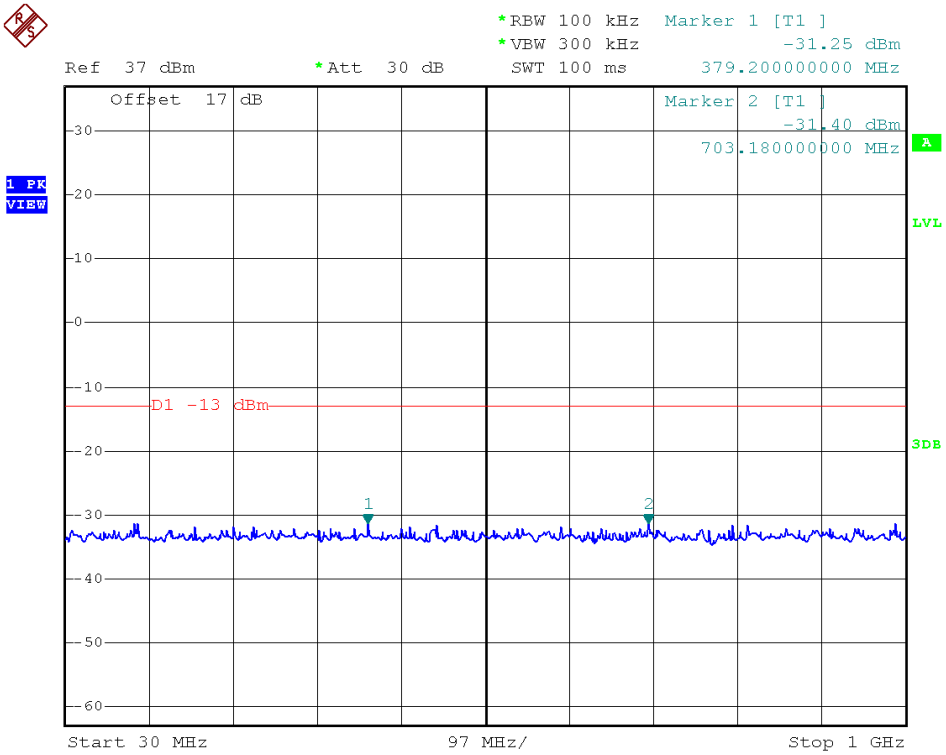


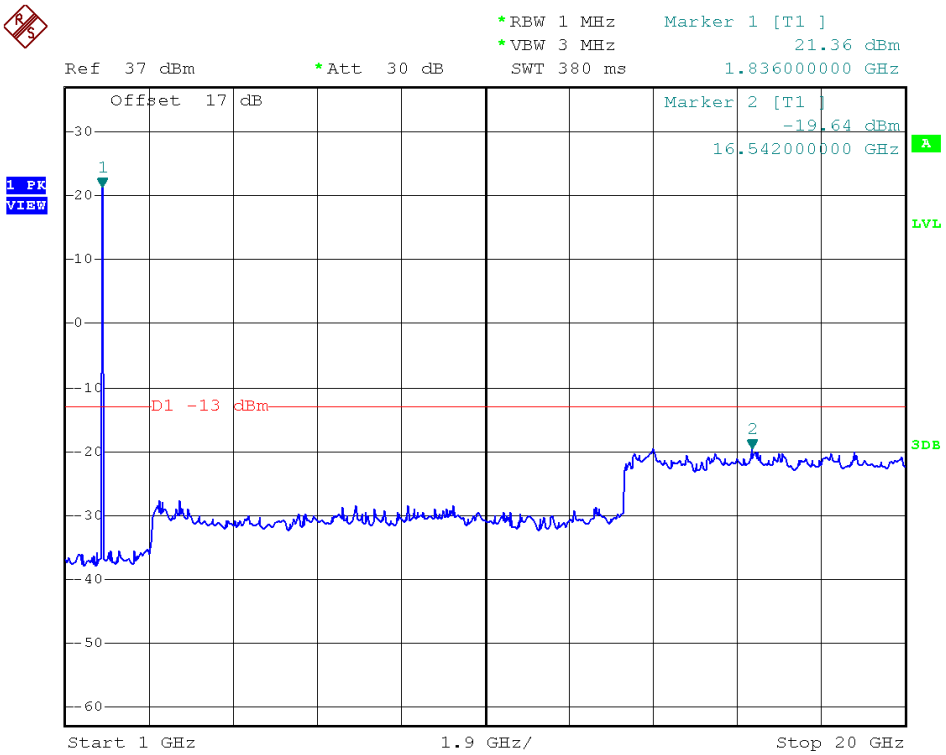
Band	LTE Band 2	Channel	Ch 19185(High)
Bandwidth	3MHz	Modulation	QPSK



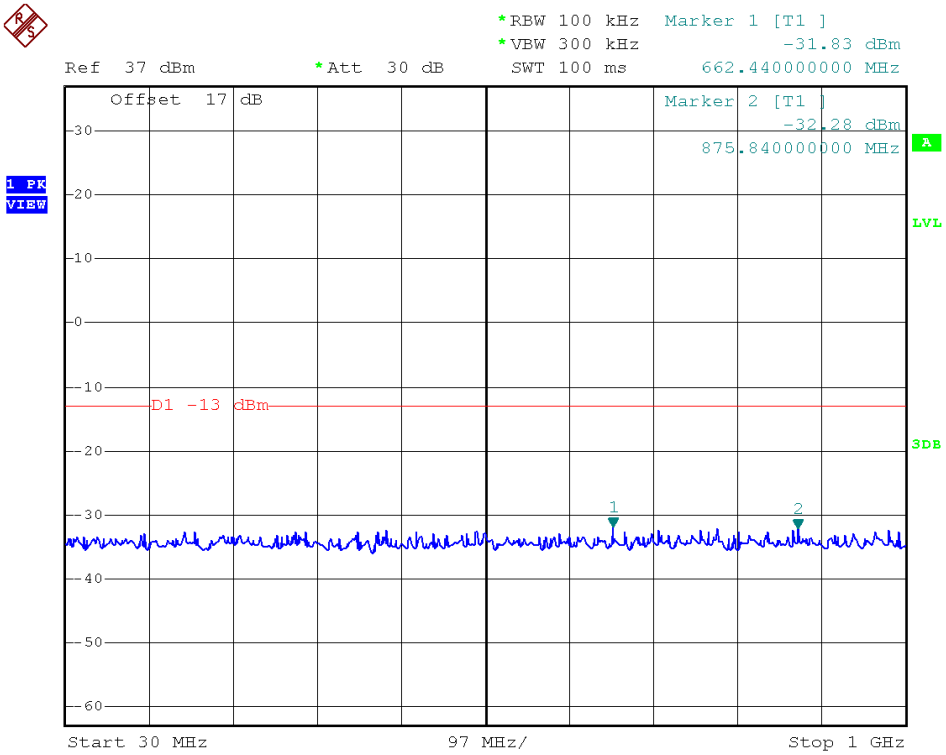


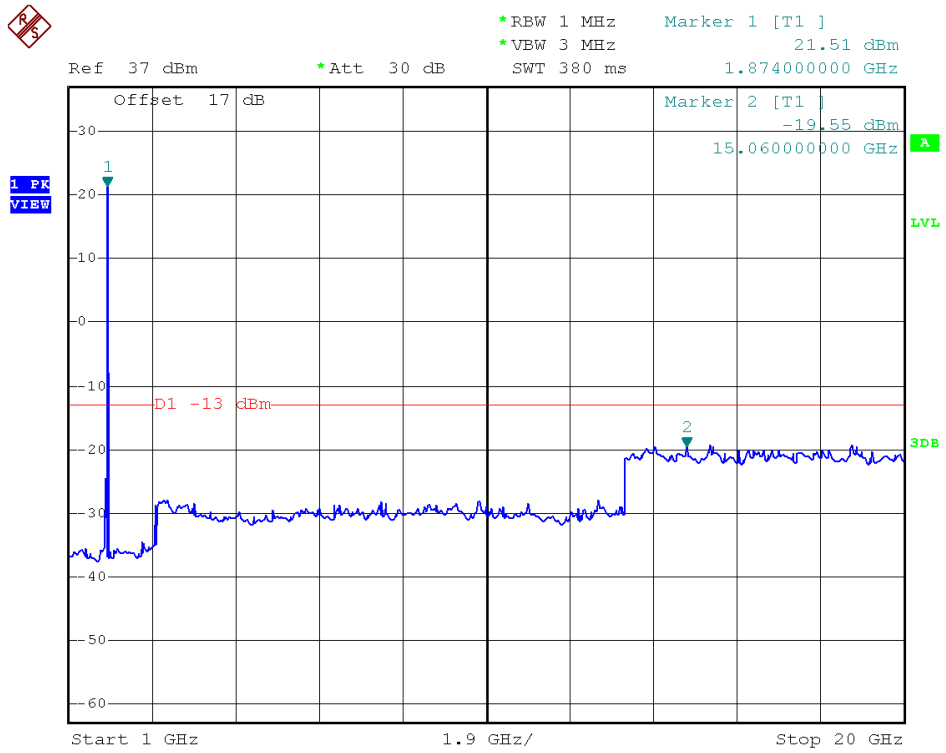
Band	LTE Band 2	Channel	Ch 18625(Low)
Bandwidth	5MHz	Modulation	QPSK



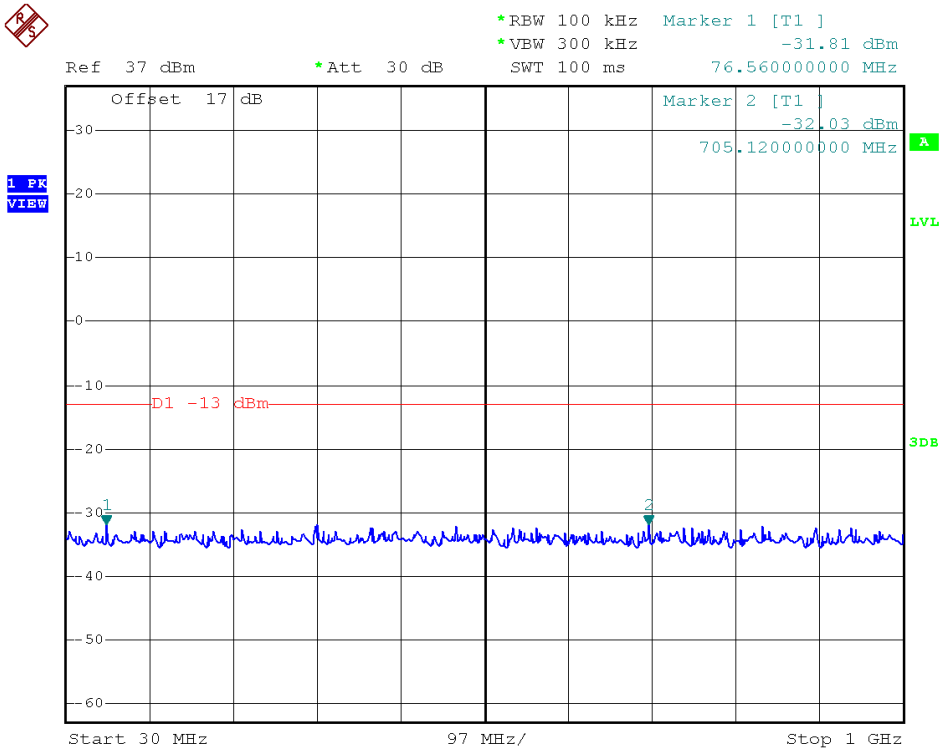


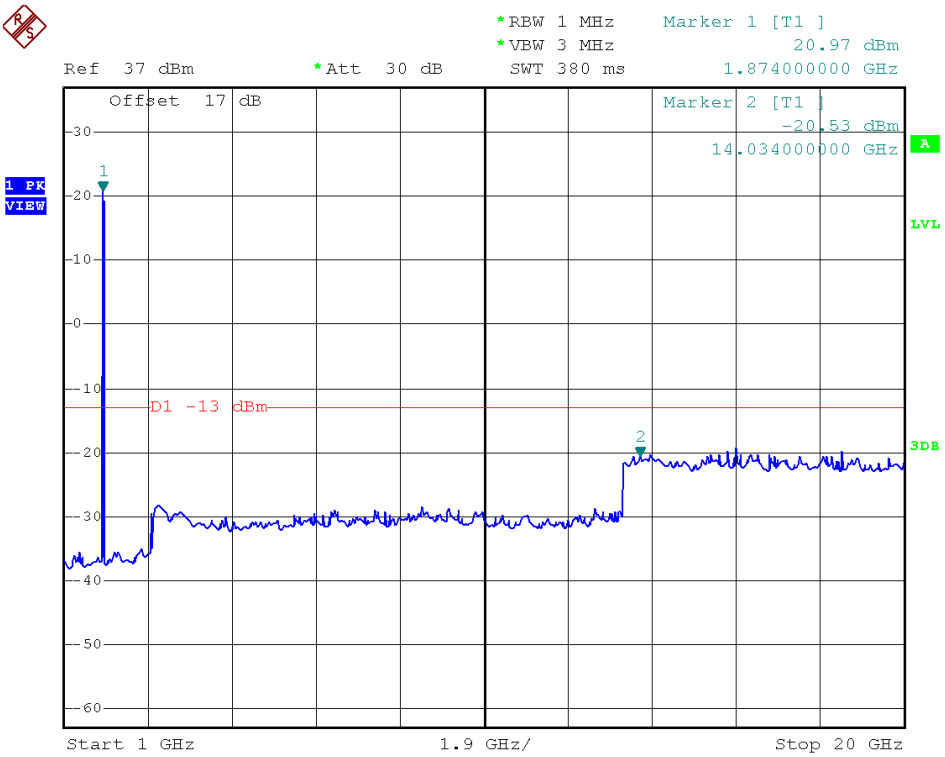
Band	LTE Band 2	Channel	Ch 18900(Middle)
Bandwidth	5MHz	Modulation	QPSK



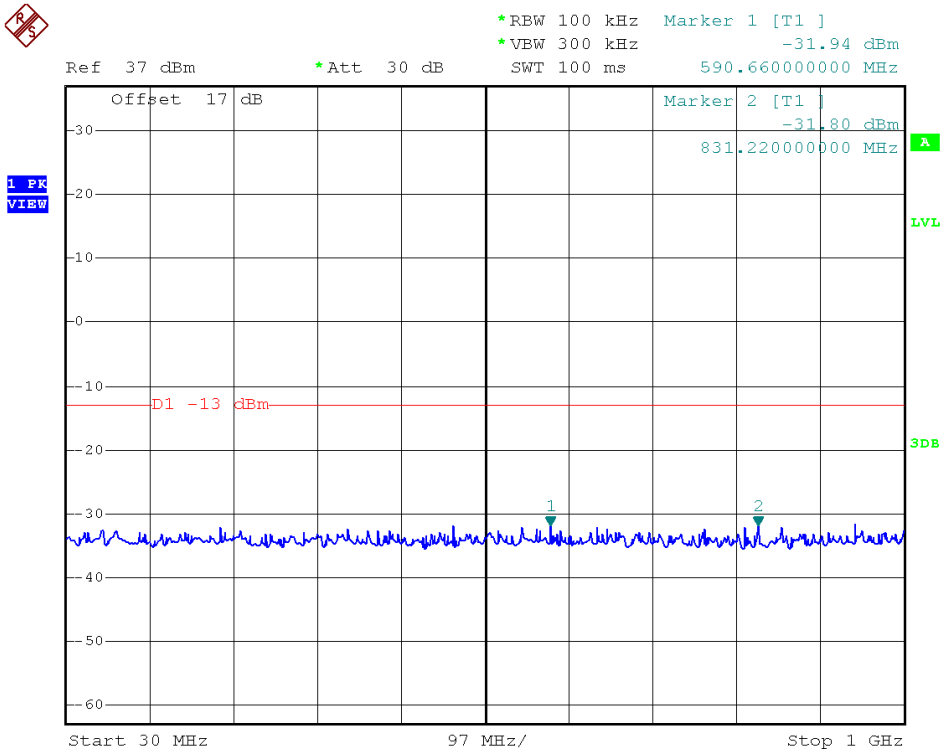


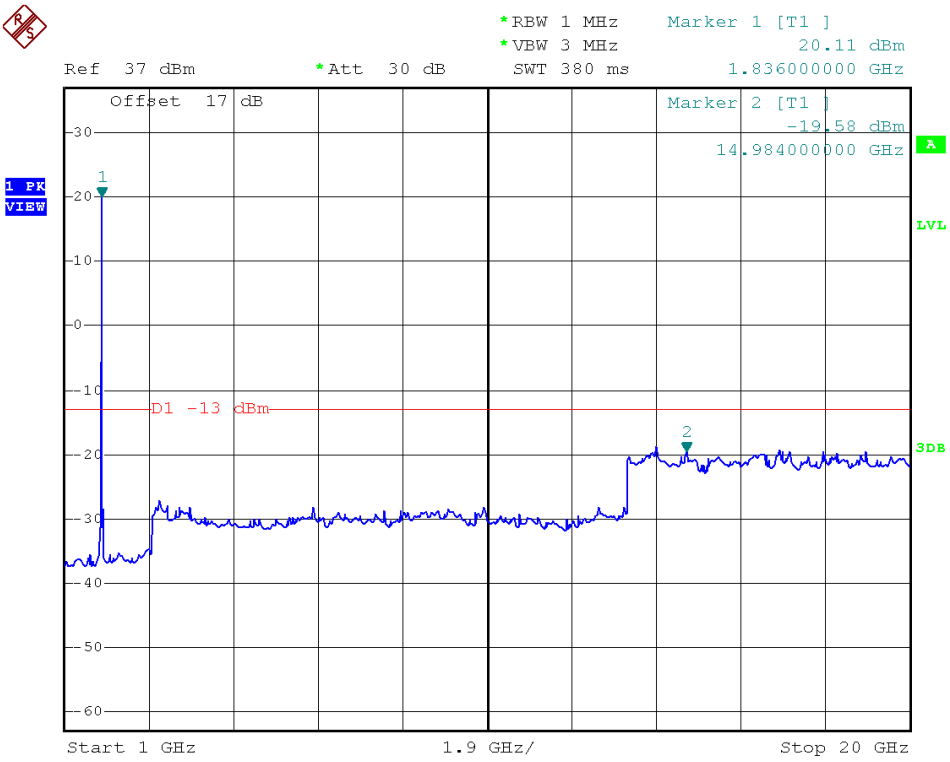
Band	LTE Band 2	Channel	Ch 19175(High)
Bandwidth	5MHz	Modulation	QPSK



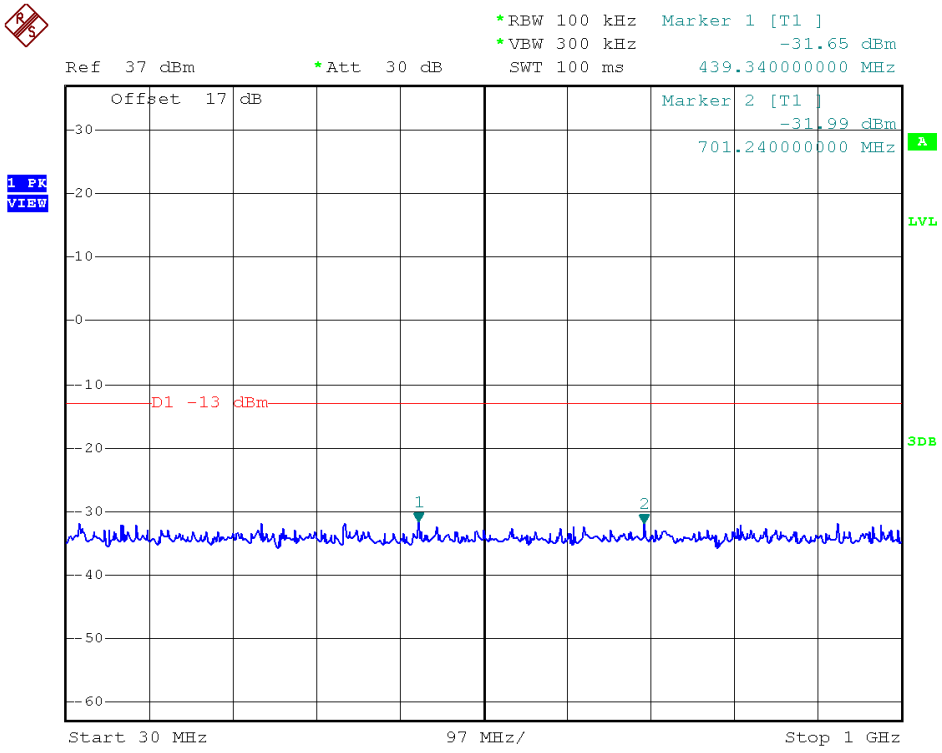


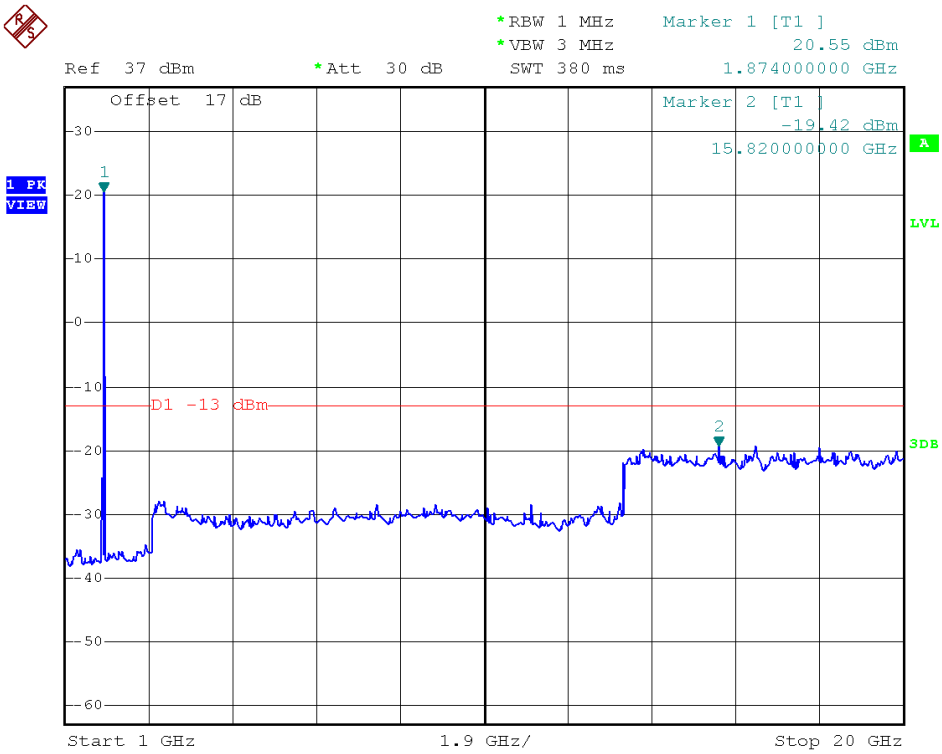
Band	LTE Band 2	Channel	Ch 18650(Low)
Bandwidth	10MHz	Modulation	QPSK



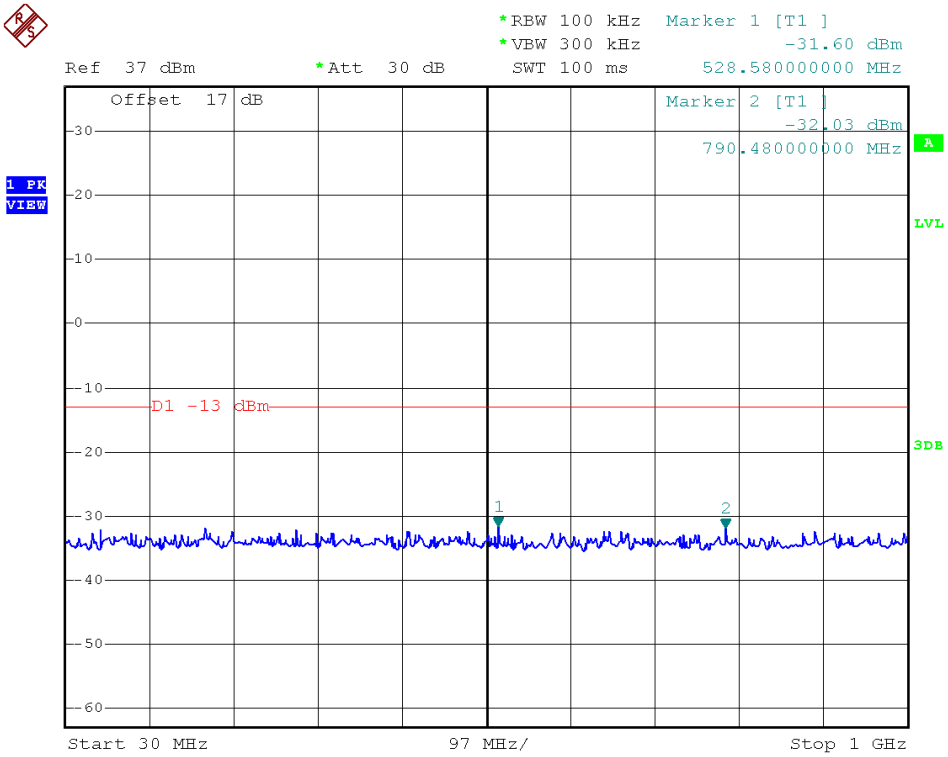


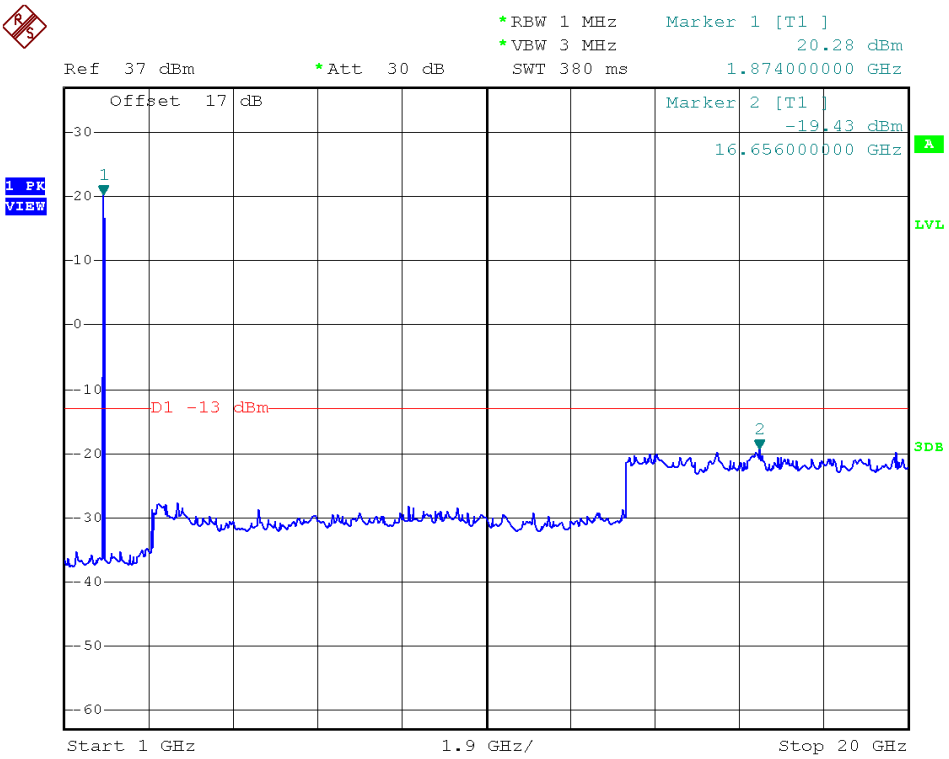
Band	LTE Band 2	Channel	Ch 18900(Middle)
Bandwidth	10MHz	Modulation	QPSK



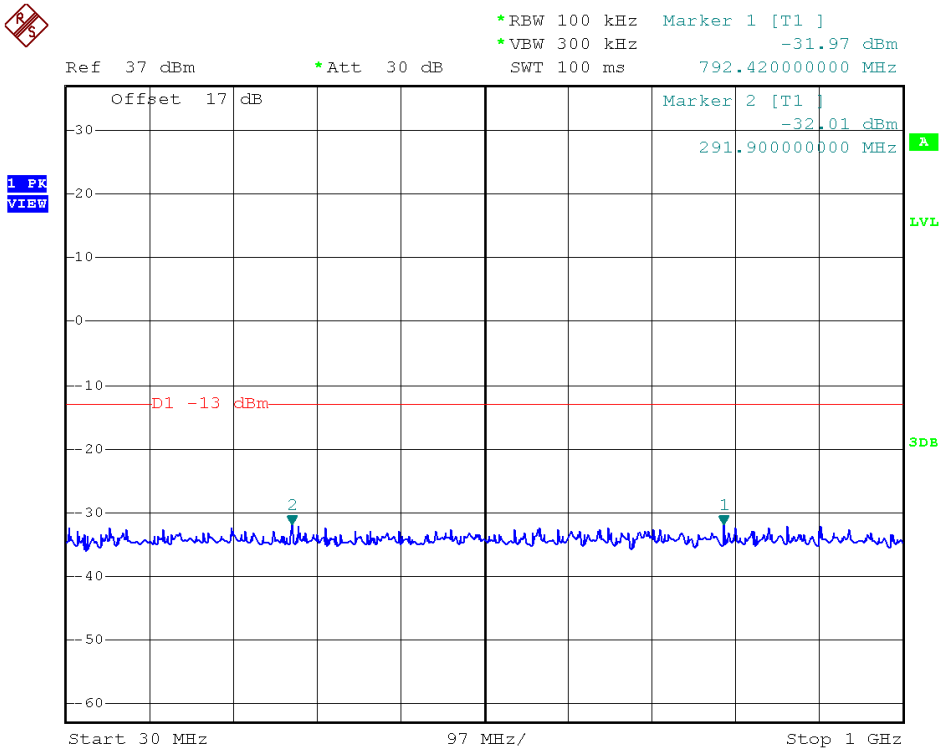


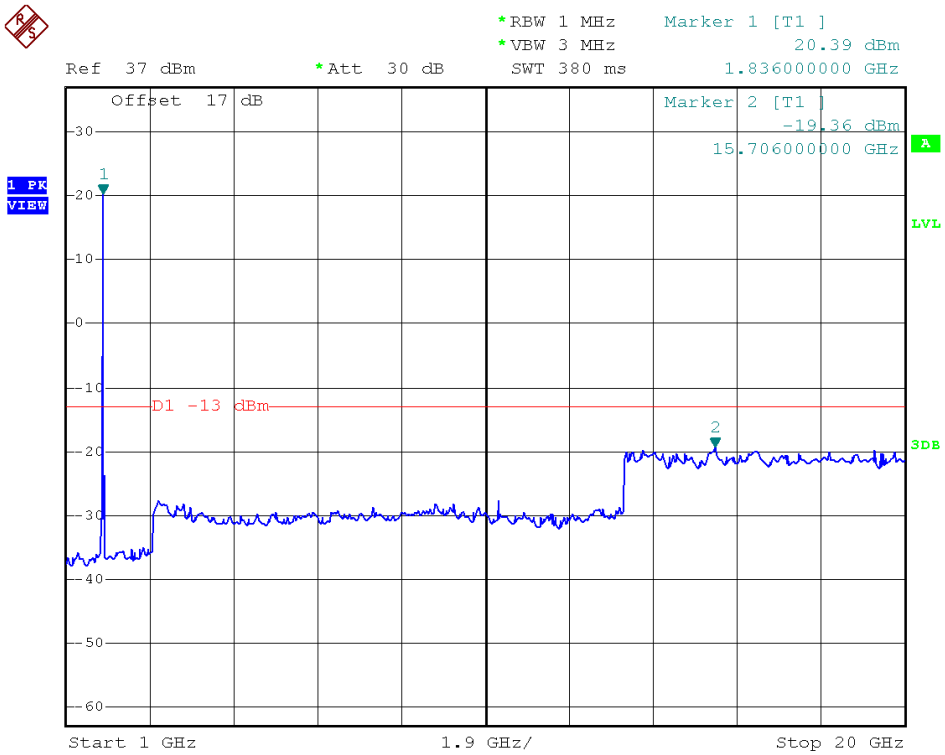
Band	LTE Band 2	Channel	Ch 19150(High)
Bandwidth	10MHz	Modulation	QPSK



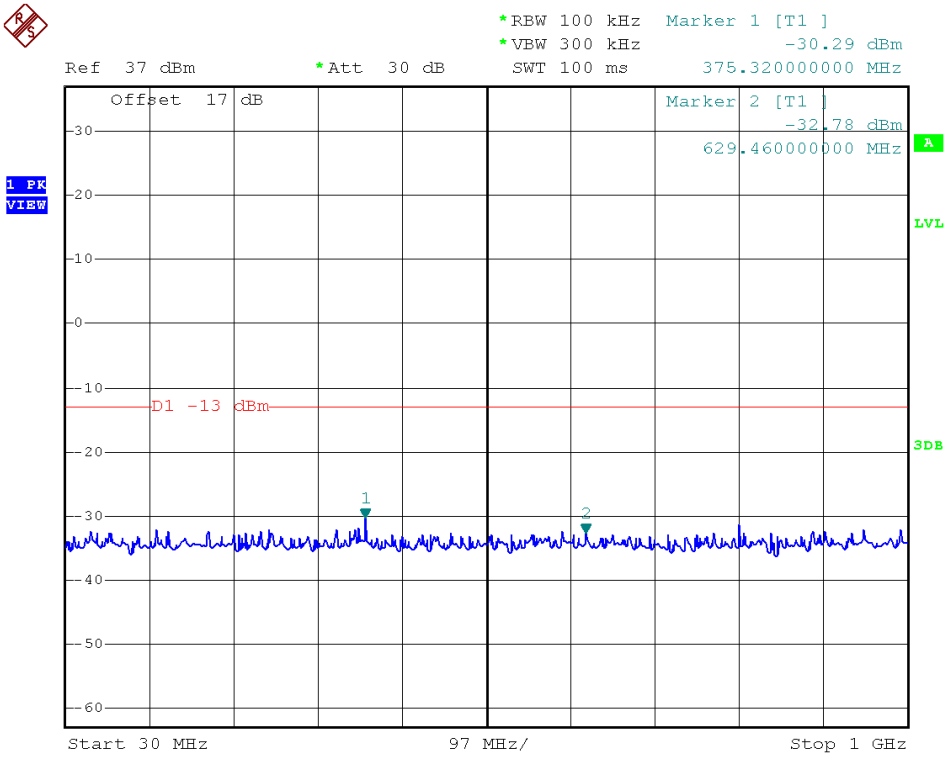


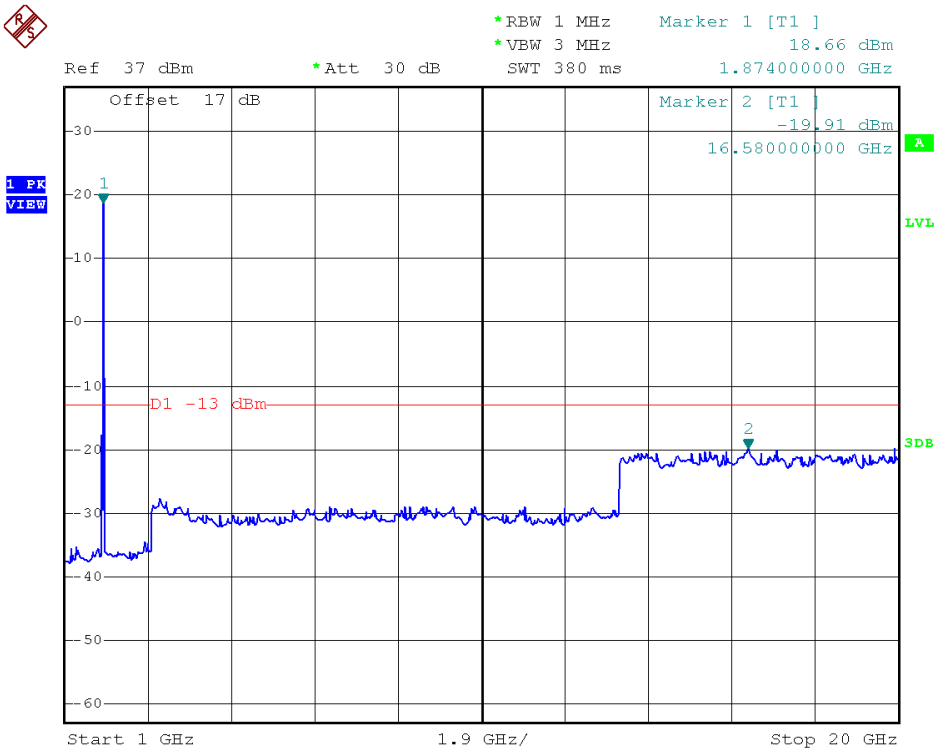
Band	LTE Band 2	Channel	Ch 18675(Low)
Bandwidth	15MHz	Modulation	QPSK



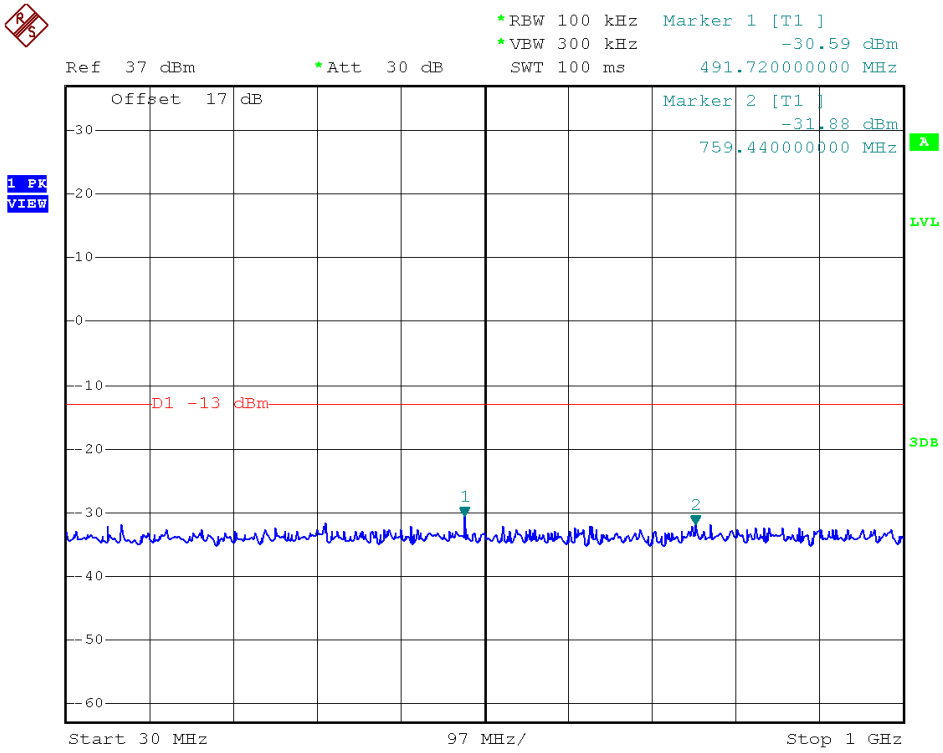


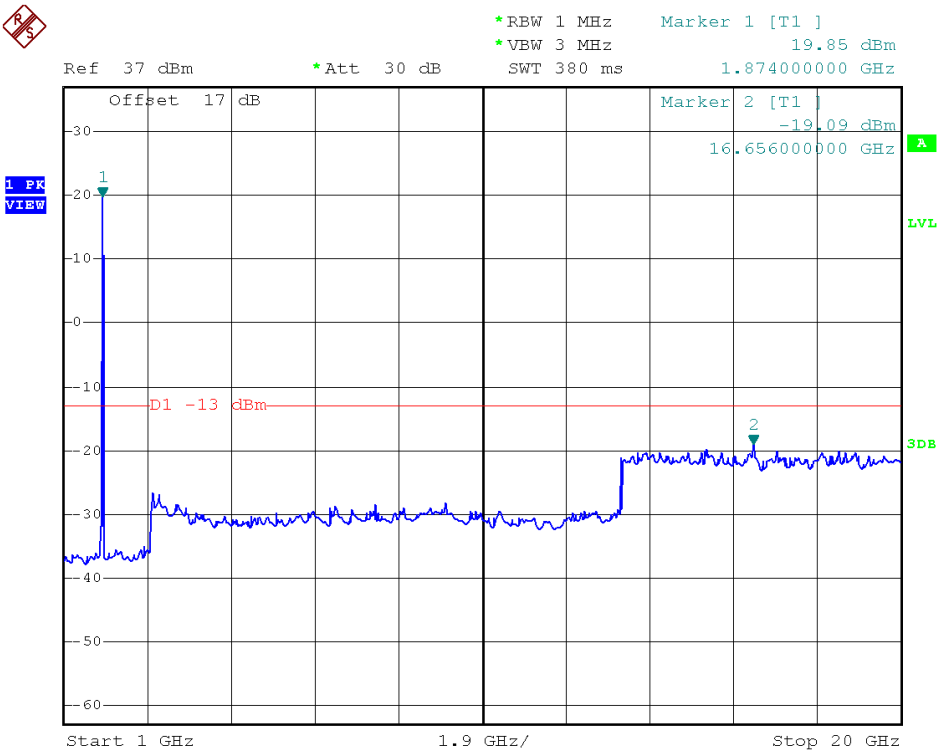
Band	LTE Band 2	Channel	Ch 18900(Middle)
Bandwidth	15MHz	Modulation	QPSK



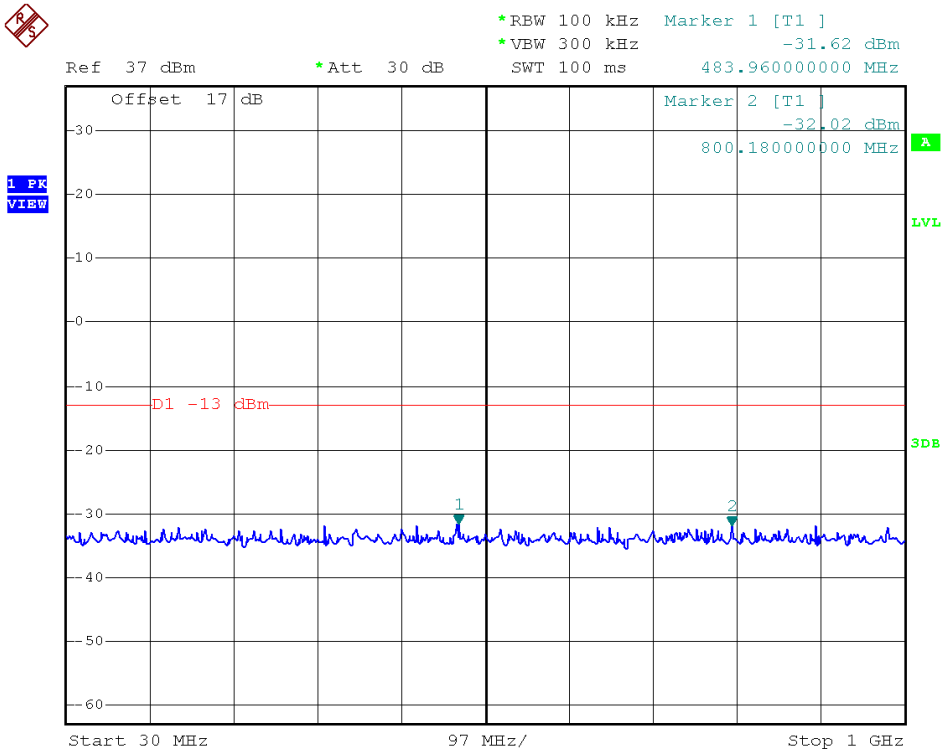


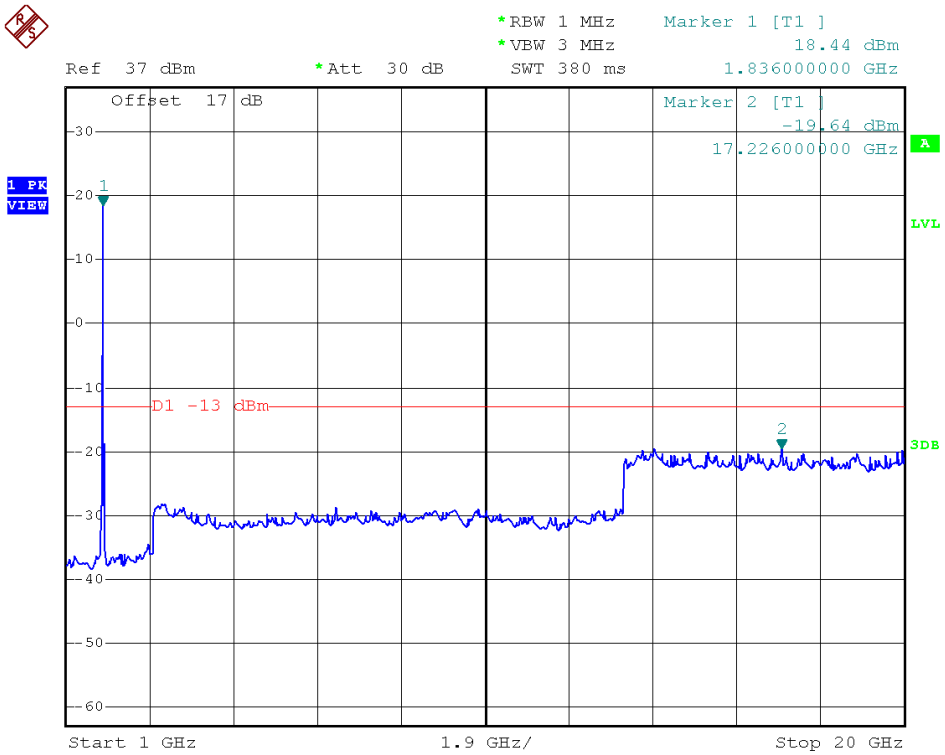
Band	LTE Band 2	Channel	Ch 19125(High)
Bandwidth	15MHz	Modulation	QPSK



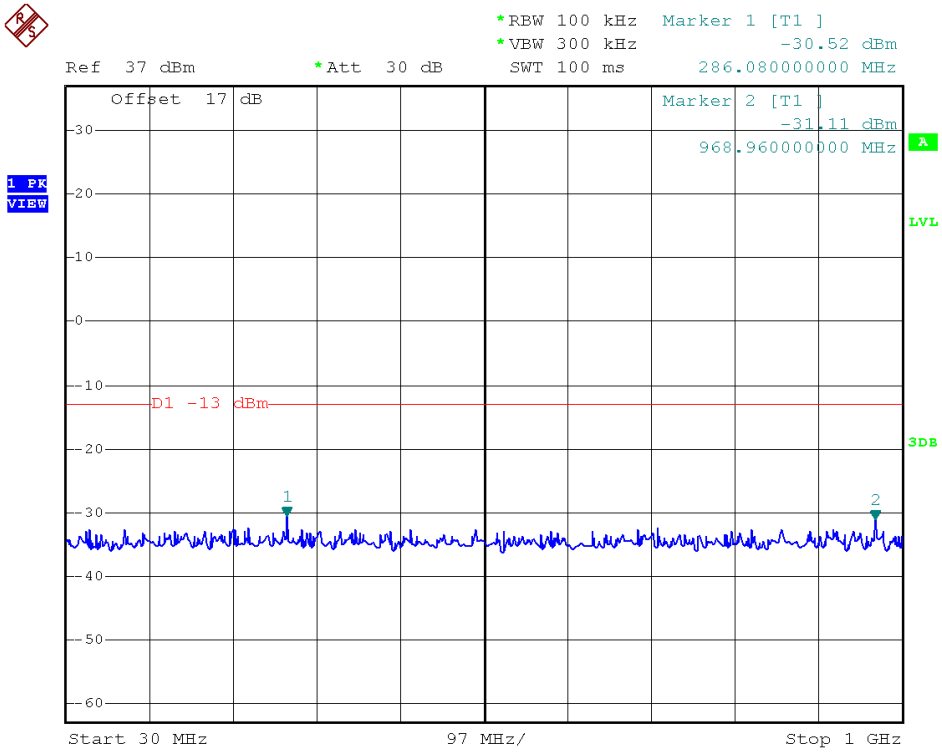


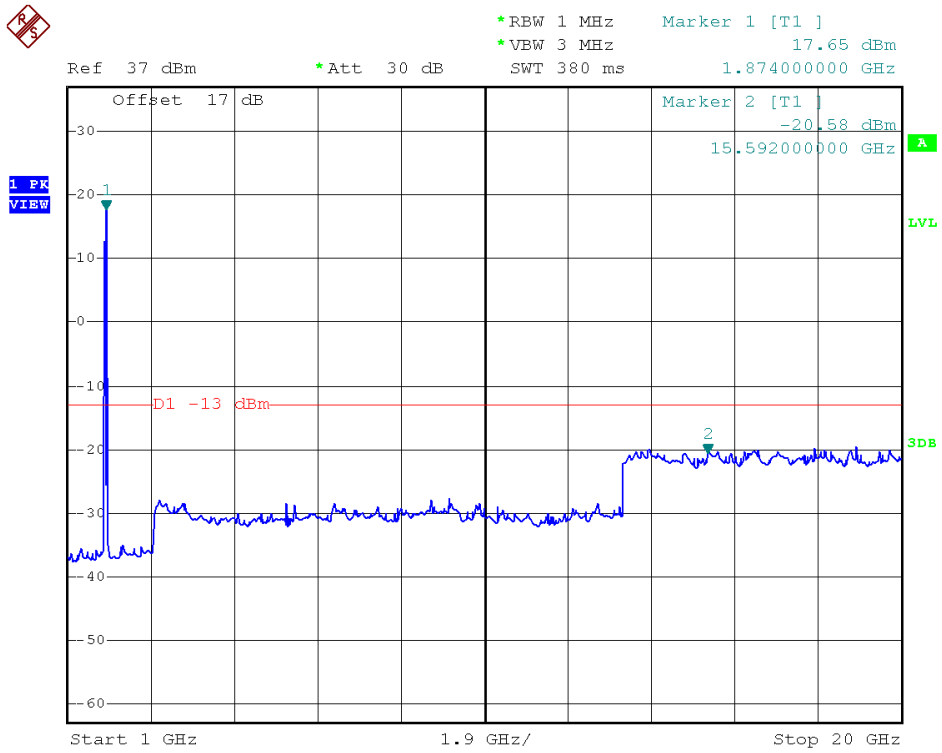
Band	LTE Band 2	Channel	Ch 18700(Low)
Bandwidth	20MHz	Modulation	QPSK



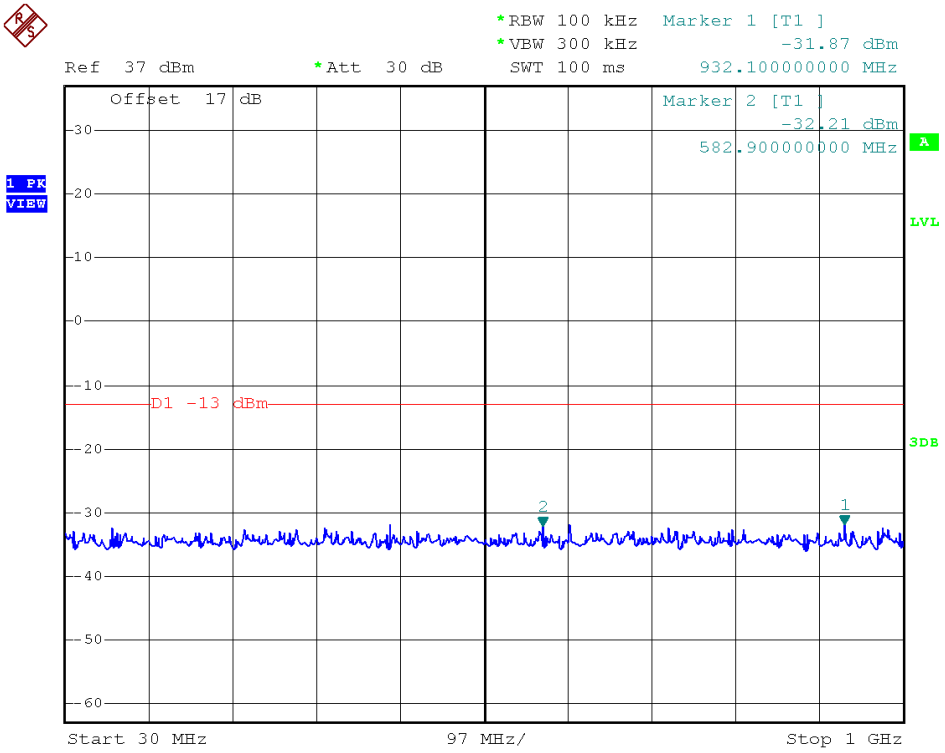


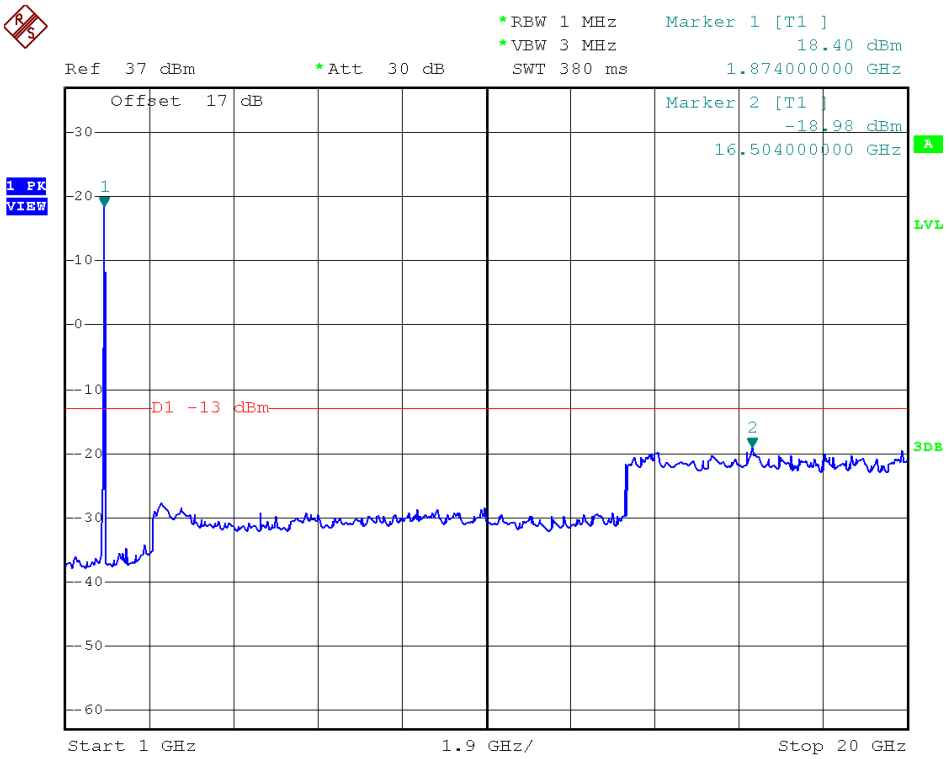
Band	LTE Band 2	Channel	Ch 18900(Middle)
Bandwidth	20MHz	Modulation	QPSK



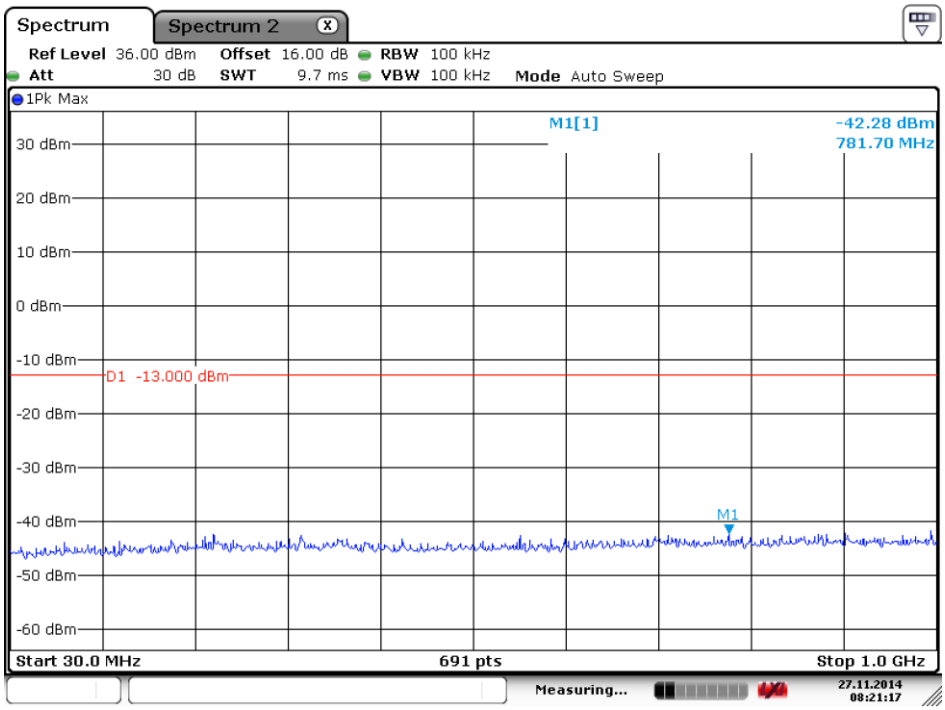


Band	LTE Band 2	Channel	Ch 19100(High)
Bandwidth	20MHz	Modulation	QPSK





Band	LTE Band 4	Channel	Ch 19957(Low)
Bandwidth	1.4MHz	Modulation	QPSK



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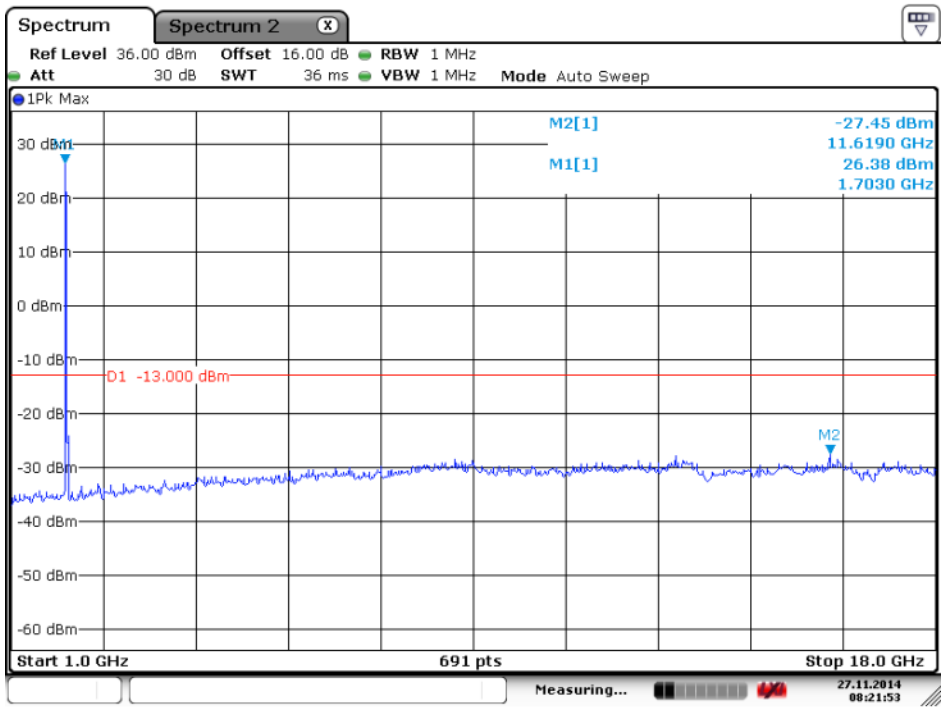
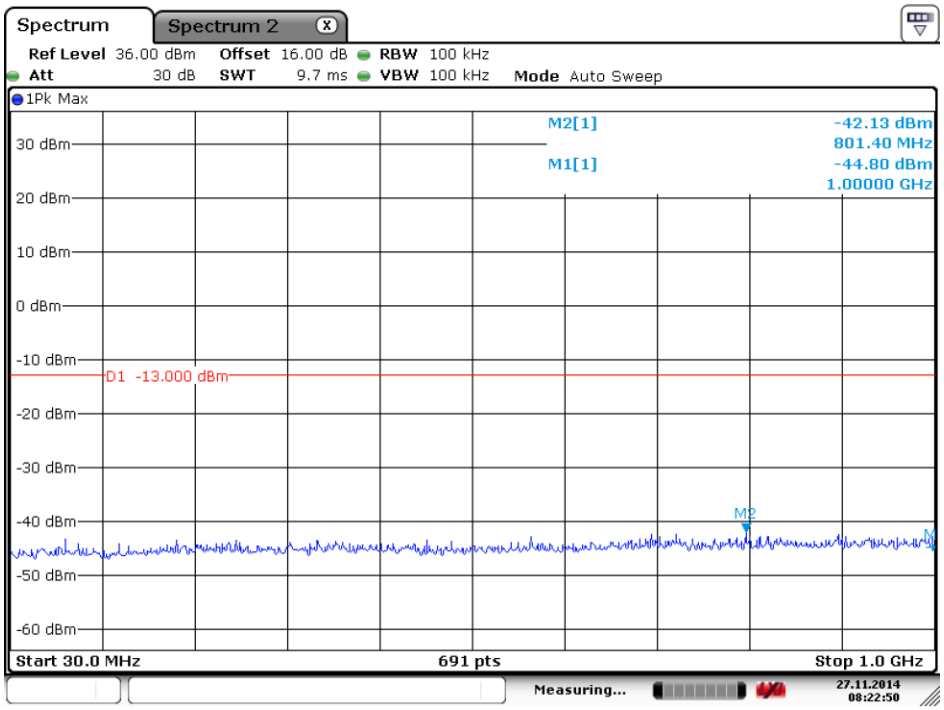
QPSK, (RB Size 1, RB Offset 0 30MHz to 1GHz)



Date: 27.NOV.2014 08:21:53

QPSK, (RB Size 1, RB Offset 0 1GHz to 18GHz)

Band	LTE Band 4	Channel	Ch 20175(Middle)
Bandwidth	1.4MHz	Modulation	QPSK



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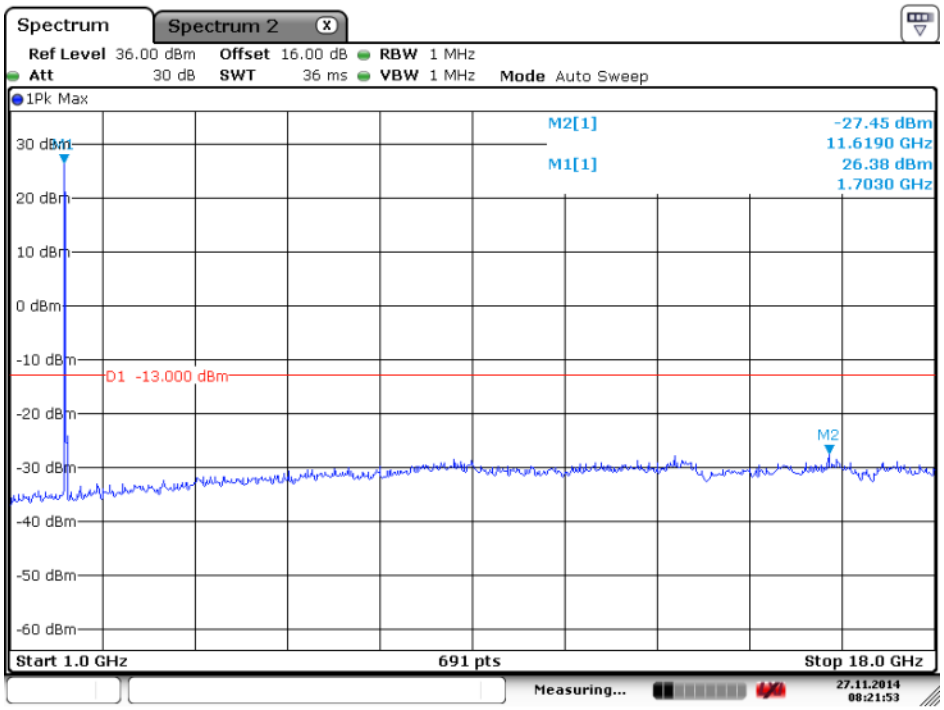
QPSK, (RB Size 1, RB Offset 0 30MHz to 1GHz)



Date: 27.NOV.2014 08:21:53

QPSK, (RB Size 1, RB Offset 0 1GHz to 18GHz)