



FCC RF Test Report

Product Name: cdma2000 Digital Mobile Phone

**Model Number: C8655,Orinoquia C8655,C8688V,Orinoquia
C8688V**

**Report No: SYBH(Z-RF)009052012-2001
FCC ID: QISC8688V**

Reliability Laboratory of Huawei Technologies Co., Ltd.

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Notice

1. The laboratory has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS), and accreditation number: L0310.
2. The laboratory has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements. The site recognition number is 97456.
3. The laboratory has been listed by industry Canada to perform electromagnetic emission measurement. The site recognition number is 6369A-2.
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Applicant:	Huawei Technologies Co., Ltd.
Address:	Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China
Date of Receipt Test Item:	May.04, 2012
Start Date of Test:	May.06, 2012
End Date of Test:	May.13, 2012
Test Result:	Pass

Approved By Senior Engineer May.29, 2012 Dai Linjun
 Date Name Signature

Reviewed By May.29, 2012 Cousy Xu
 Date Name Signature

Operated By May.29, 2012 Huang Qiuliang
 Date Name Signature

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1 General Information

1.1 Applied Standard	
Applied Rules:	47 CFR FCC Part 2:2010, Subpart J 47 CFR FCC Part 22:2010, Subpart H ANSI/TIA 603C:2004
1.2 Test Location	
Test Location 1:	Reliability Laboratory of Huawei Technologies Co., Ltd.
Address:	Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China
1.3 Test Environmental Condition	
Ambient Temperature:	20 – 25 °C
Ambient Relative Humidity:	45 – 55 %
Atmospheric Pressure:	101 kPa

2 Summary

Table 1 Summary of results

Test Case	FCC Part No.	Requirements	Result
Cellular Band			
Transmitter Output Power	2.1046 & 22.913	ERP not exceed 7 W	Pass
Modulation Characteristics	2.1047	Digital modulation	Pass
Occupied Bandwidth	2.1049	(Not specified)	Pass
Band Edges Compliance	2.1051 & 917	Below -13 dBm/1%*EBW, in 1 MHz range	Pass
Spurious Emission at Antenna Terminals	2.1051 & 2.917	Below -13 dBm/1 kHz, 9 kHz to 150 kHz Below -13 dBm/10 kHz, 150 kHz to 30 MHz Below -13 dBm/100 kHz, 30 MHz to 10 th harmonics	Pass
Field Strength of Spurious Radiation	2.1053 & 22.917	Below -13 dBm/100 kHz	Pass
Frequency Stability	2.1055 & 22.355	Maintained within the tolerances of ± 1.5 ppm	Pass

3 Product Description

3.1 Product Information

3.1.1 General Description

cdma2000 Digital Mobile Phone- C8655,Orinoquia C8655,C8688V,Orinoquia C8688V is subscriber equipment in the CDMA/EVDO system. The frequency band is US Cellular, the band test data included in this report. The Mobile Phone implements such functions as RF signal receiving/transmitting, CDMA2000 1x and 1XEV-DO protocol processing, voice, MMS service, GPS, AGPS and WIFI etc. Externally it provides micro SD card interface, earphone port (to provide voice service). It also provides Bluetooth module to synchronize data between a PC and the phone, or to use the built-in modem of the phone to access the Internet with a PC, or to exchange data with other Bluetooth devices.

3.1.2 Board Information

Table 2 Board Information

cdma2000 Digital Mobile Phone		
C8655,Orinoquia C8655,C8688V,Orinoquia C8688V		
Board and Module		
Equipment Designation / Description	Software Version	Hardware Version
Main board of Mobile Phone	C8688VV100R001C32B823	HC1C8655M

3.1.3 Adapter Technical Data

AC/DCAdapter Model	HW-050100U1W
Manufacturer	Huawei Technologies Co., Ltd.
Input Voltage	~100-240V 50/60Hz 0.2A
Output Voltage	5V  1A
Rated Power	5W



3.1.4 Battery Technical Data

Name	Manufacture	Description
Rechargeable Li-ion	Huawei Technologies Co., Ltd.	Battery Model: HB5K1H Rated capacity: 1400mAh Nominal Voltage: $\text{---} +3.7\text{V}$ Charging Voltage: $\text{---} +4.2\text{V}$

4 Test Description

4.1 Supported Frequency Range

Characteristics	Description
Downlink	869 to 894 MHz
Uplink	824 to 849 MHz

4.2 Transmitter / Receiver Characteristics

Characteristics	Description
System Type	CDMA
TX Output Power (per Antenna Port)	CDMA system: 24dBm
Channel Spacing(s) / Bandwidth(s)	CDMA system: 1.23 MHz (Cellular band) 1.25 MHz (Other than Cellular band)
Designation of Emissions	CDMA system: 1M29F9W (Cellular band) 1M29F9W (Other than Cellular band)

4.3 Antenna Gain

Antenna Gain(dBi)	-2.43
Antenna Gain(dBd):	-3.58

4.4 Power Supply

	Description
Power Supply Type	Directly Connected to DC /AC Power Supply
Input to EUT (DC power)	DC Voltage Nominal: \equiv +3.7V DC Voltage Range: \equiv +3.6 V to +4.2V
Input to EUT (AC power)	AC Voltage Nominal: ~ 220V (50/60 Hz) AC Voltage Range: ~ 100V-240V

5 General Test Conditions / Configurations

5.1 RF Channels under Test

Test Mode	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
TM1/TM3/ Subtype 0/ Subtype 2	TX	Channel 1013	Channel 384	Channel 777
		824.7MHz	836.52MHz	848.31MHz
	RX	Channel 1013	Channel 384	Channel 777
		869.7MHz	881.52MHz	893.31MHz

5.2 Test Modes

Test Mode	Test Modes Description
TM1	CDMA2000 1x mode QPSK modulation
TM3	CDMA2000 1x mode HPSK modulation
Subtype 0	CDMA2000 1x EV-DO mode HPSK modulation
Subtype 2	CDMA2000 1x EV-DO mode The R-Data packet size determines the modulation format, R-Data Packet Size:128, 256, 512, 768 or 1024 BPSK Modulation R-Data Packet Size:1536 , 2048,3072,4096,6144 or 8192 QPSK Modulation R-Data Packet Size:12288 8-PSK Modulation

5.3 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	Ambient	
Temperature	TN	Ambient
Voltage	VL	3.6V
	VN	3.7V
	VH	4.2V

NOTE: VL= lower extreme test voltage

VN= nominal voltage

VH= upper extreme test voltage

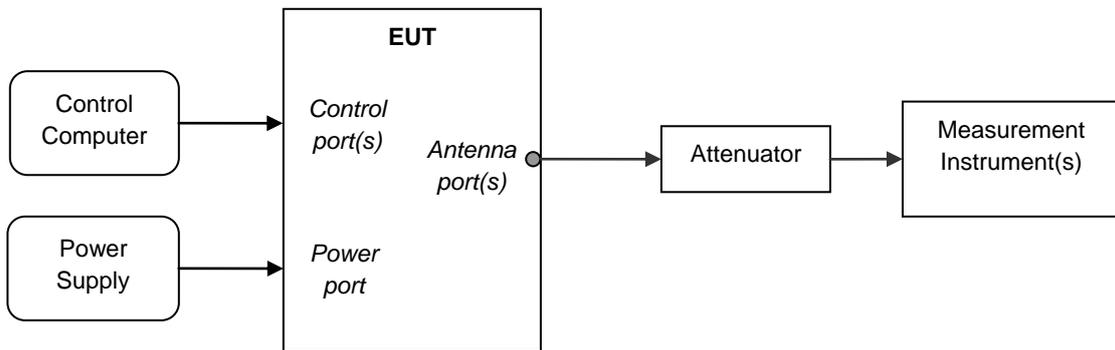
TN= normal temperature

5.4 Test Setup

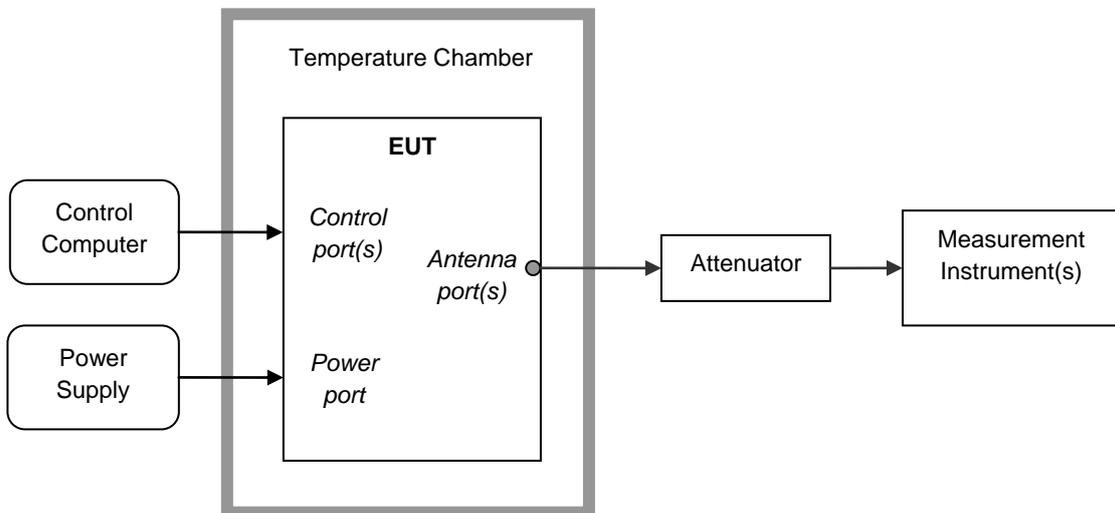
5.4.1 General Test Setup Configurations

Configuration	Description
Test Antenna Ports	Until otherwise declared, all TX tests are ONLY performed at the main Transmitter antenna port (e.g. TRXA, TXA and so on) of the EUT, and all RX tests are ONLY performed at the main Receiver antenna port (e.g. TRXA, RXA and so on) of the EUT.
Multiple RF Sources	Other than the tested RF source of the EUT, other RF source(s) are disabled or shutdown during measurements.

5.4.2 Test Setup 1



5.4.3 Test Setup 2



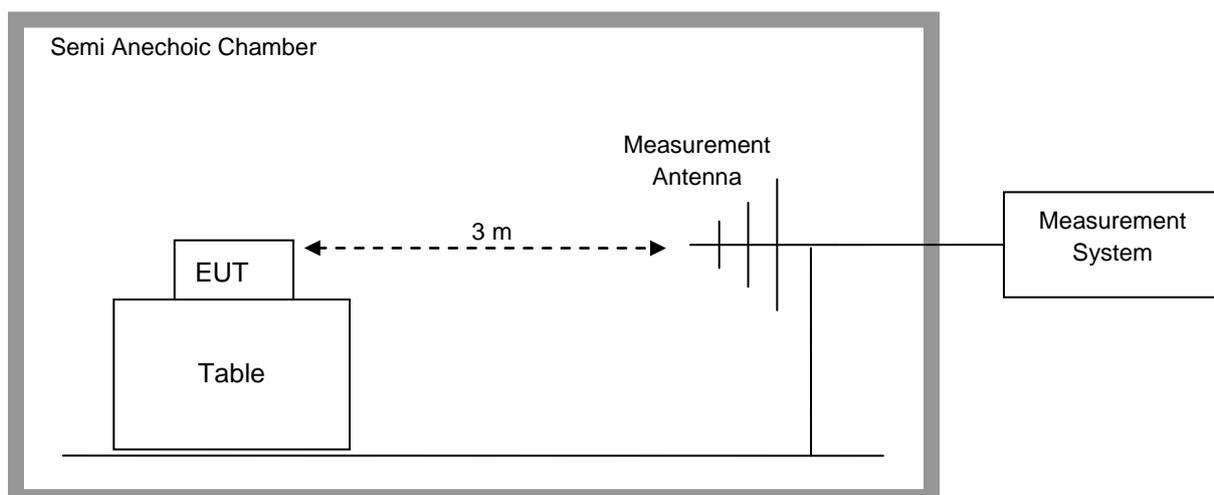
5.4.4 Test Setup 3

NOTE1: Effective radiated power (ERP) or Effective Isotropic radiated power (EIRP) refers to the EUT radiation power output, assuming all emissions are radiated from half-wave dipole antennas or horn antennas.

NOTE2: The EUT was set on insulator 80cm above the Ground Plane. The setup and test methods were according to ANSI-TIA-603C 2004. The measurements were carried through with a Rohde and Schwarz Test Receiver and control software.

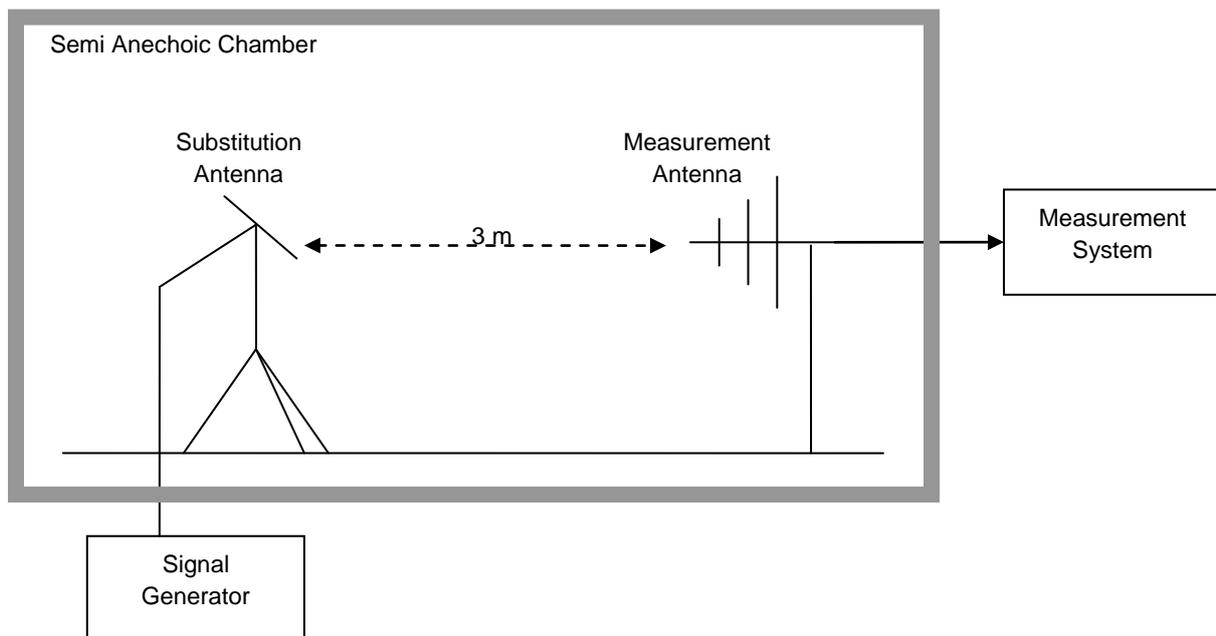
Step 1: Pre-test to find the Maximum ERP

1. Connect the test system according to the following figure. EUT is running for 30 minutes before test, and measurement instruments are warming-up for 30 minutes.
2. Set up communication link between Universal radio communication tester and EUT, set EUT working frequency, and control EUT to transmit at maximum power.
3. Set the center frequency of the signal analyzer or receiver to the EUT's operating frequency; the RBW is equal to the emission bandwidth of the signal. Set RMS detector for the test, and the span is equal to 2 times of emission bandwidth, the other settings should remain automatic. Normally, the height range of antenna was 1m to 4m, the azimuth range of turntable was 0° to 360°. The receiver antenna has two polarizations V and H. A portable or small unlicensed wireless device shall be placed on a non-metallic test fixture or other non-metallic support during testing. The supporting fixture shall permit orientation of the EUT in each of three orthogonal (x, y, z) axis positions such that emissions from the EUT are maximized. Measure the EUT maximum RF power and record the result.
4. Changing EUT working frequency and measuring the RF power at channel L, M, H respectively. Complete the test data.



Step 2: Substitution method to verify the maximum ERP

1. Measurement setup is according to the following figure. EUT was substituted by antenna, and the polarization is identical with the test antenna; the signal generator was connected to the substitution antenna.
2. The radiated output power, measured by signal analyzer set, is the same as recorded in above item 5). Then this power level is matched by a signal from a calibrated signal generator which is substituted for EUT. The power supplied by the generator is then equal to the ERP or EIRP after corrected by the antenna gain and cable loss.



5.5 Test Conditions

Test Case	Test Conditions	
Transmitter Output Power	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1 & Test Setup 3
	Detector	RMS
	RF Channels (TX)	L, M, H
	Test Mode	TM1/TM3/ Subtype 0/ Subtype 2
Modulation Characteristics	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	RF Channels (TX)	M
	Test Mode	TM1/TM3/ Subtype 0/ Subtype 2
Occupied Bandwidth	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	Detector	PK
	RF Channels (TX)	L, M, H
	Test Mode	TM1/TM3/ Subtype 0/ Subtype 2
Band Edges Compliance	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	Detector	RMS
	RF Channels (TX)	L, H
	Test Mode	TM1/TM3/ Subtype 0/ Subtype 2
Spurious Emission at Antenna Terminals	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	Detector	PK
	RF Channels (TX)	L, M,H
	Test Mode	TM1/TM3/ Subtype 0/ Subtype
Field Strength of Spurious Radiation	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 3
	Detector	PK
	RF Channels (TX)	M
	Test Mode	TM1/TM3/ Subtype 0/ Subtype 2
Frequency Stability	Test Configuration	(1) -30 °C to +50 °C with step 10 °C at Rated Voltage; (2) 85%, 100% and 115% of Rated Voltage at Ambient Temperature.
	Test Setup	Test Setup 2
	RF Channels (TX)	M



Test Case	Test Conditions	
	Test Mode	TM1/TM3/ Subtype 0/ Subtype 2

6 Main Test Instruments

Table 3 Main Test Equipments

Equipment Description	Manufacturer	Model	Serial Number	Calibrated until
Power supply	KEITHLEY	2303	1288003	Sept. 27, 2012
Universal Radio Communication Tester	R&S	CMU200	117341	Jan. 12, 2013
Universal Radio Communication Tester	Agilent	E5515C	MY50260239	Aug. 31, 2012
Spectrum Analyzer	Agilent	E4440A	MY48250119	Jul. 17, 2012
Signal Analyzer	R&S	FSQ31	200021	Sept. 27, 2012
Temperature Chamber	WEISS	WKL64	24600294	Feb.13, 2013
Signal generator	Agilent	E8257D	MY49281095	Jul. 09, 2012
Test receiver	R&S	ESU26	100150	May. 29, 2012
Tunable Dipole	Schwarzbeck	D69250- UHAP/D69250- VHAP	919/1009	Jan. 29, 2013
Tunable Dipole	Schwarzbeck	D69250- UHAP/D69250- VHAP	979/917	Jan. 29, 2013
Horn Antenna	R & S	HF906	100683	May. 15, 2012
Horn Antenna	R & S	HF906	100684	Jul. 01, 2012
Broadband Antenna	Schwarzbeck	VULB 9163	9163-357	May. 15, 2012
Broadband Antenna	Schwarzbeck	VULB 9163	9163-356	May.15, 2012

7 Test Results

No.	Test Item	Test Result
1	Transmitter Output Power	Appendix A
2	Modulation Characteristics	Appendix B
3	Occupied Bandwidth	Appendix C
4	Band Edges Compliance	Appendix D
5	Spurious Emission at Antenna Terminals	Appendix E
6	Field Strength of Spurious Radiation	Appendix F
7	Frequency Stability	Appendix G
8	Photos of Radiated Spurious Emissions	Appendix H

NOTE: There is no test data in Appendix H, only Photos of Test Setup for Field Strength of Spurious Radiation.

8 Measurement Uncertainty

For a 95% confidence level (k=2), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Test Item		Extended Uncertainty
Transmitter Output Power	Power (dBm)	U =0.39 dB
Occupied Bandwidth	Magnitude (%)	U=0.2%
Band Edge Compliance	Disturbance Power (dBm)	U=2.0 dB
Conducted Spurious Emissions	Disturbance Power (dBm)	U=2.0 dB
Field Strength of Spurious Radiation	ERP (dBm)	U=4.6 dB (30 MHz – 1GHz) U=3.0 dB (above 1 GHz)
Frequency Stability	Frequency Accuracy (ppm)	U=0.21 ppm

-----The END-----



Appendix A

Transmitter Output Power According to FCC Part 2.1046 & Part22.913



Conducted Power of Transmitter

TEST CONDITIONS (TN /VN)	RF Output Power					
	Channel 1013(B) 824.7MHz		Channel 384(M) 836.52MHz		Channel 777(T) 848.31MHz	
	dBm		dBm		dBm	
	Measured	Limit	Measured	Limit	Measured	Limit
TM1	23.93	38.5	23.97	38.5	23.92	38.5
TM3	23.99	38.5	23.94	38.5	24.01	38.5
Subtype 0	23.36	38.5	23.44	38.5	23.42	38.5
Subtype 2	23.45	38.5	23.54	38.5	23.52	38.5



Peak-to-Average Ratio

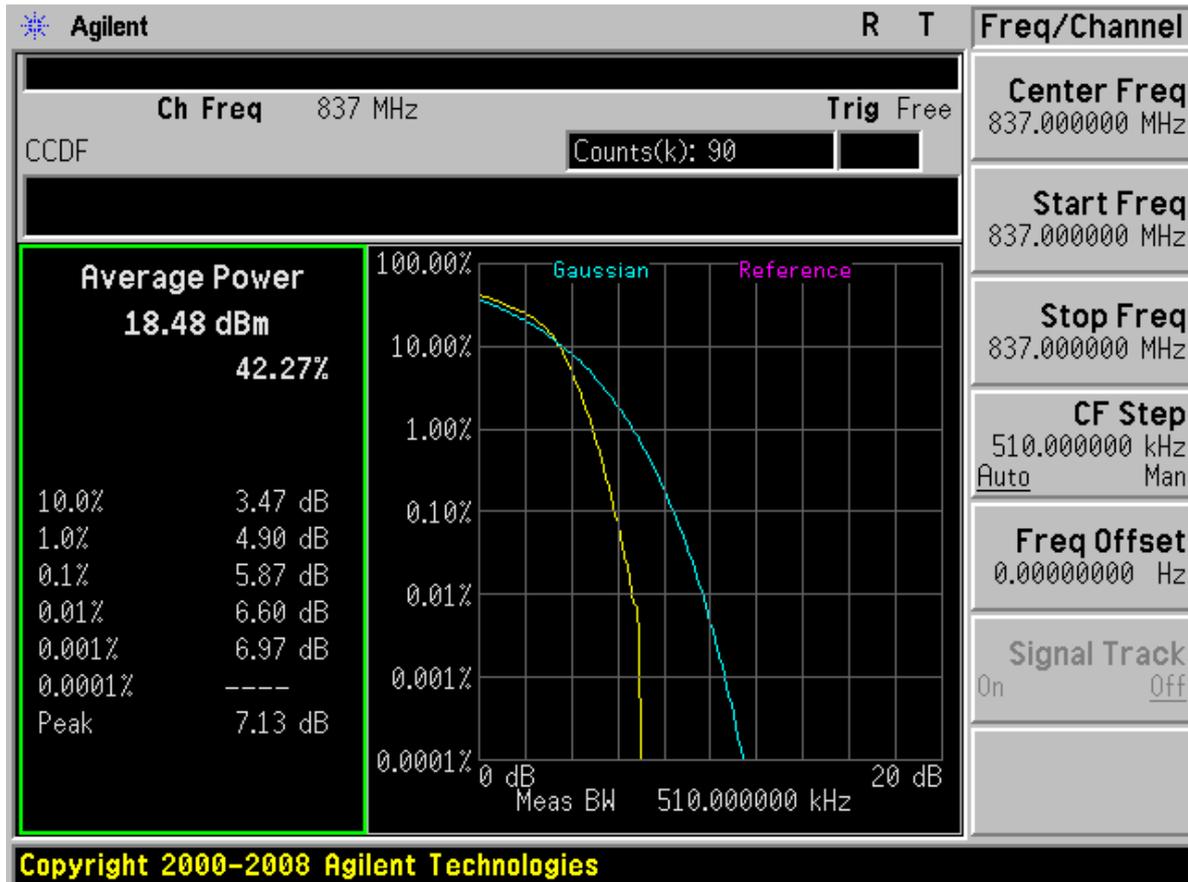
Table 1 Measurement Results

TEST CONDITIONS	Channel 1013(B) 824.7MHz		Channel 384(M) 836.52MHz		Channel 777(T) 848.31MHz	
	dBm		dBm		dBm	
T_{nom} / V_{nom}	Measured	Limit	Measured	Limit	Measured	Limit
TM1	3.5	13.0	5.1	13.0	5.8	13.0
TM3	6.1	13.0	6.6	13.0	5.5	13.0
Subtype 0	5.4	13.0	4.7	13.0	5.3	13.0
Subtype 2	5.5	13.0	4.6	13.0	4.5	13.0



Test Plot of Peak-to-Average Ratio

Note: All relevant operation modes have been tested, and the worst case Plot is included in this report.





Effective Radiated Power of Transmitter (ERP)

Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution Antenna Type	SGP [dBm]	Substitution Gain [dBd]	Cable Loss [dB]	Substitution Level (ERP) [dBm]	Limit [dBm]	Result
TM1	824.7	21.50	Dipole Ant.	25.07	-2.95	0.6	21.52	38.5	Pass
TM1	836.52	21.54	Dipole Ant.	25.18	-3.02	0.6	21.56	38.5	Pass
TM1	848.31	21.49	Dipole Ant.	25.18	-3.11	0.6	21.47	38.5	Pass
TM3	824.7	21.56	Dipole Ant.	25.10	-2.95	0.6	21.55	38.5	Pass
TM3	836.52	21.51	Dipole Ant.	25.12	-3.02	0.6	21.50	38.5	Pass
TM3	848.31	21.58	Dipole Ant.	25.23	-3.11	0.6	21.52	38.5	Pass
Subtype 0	824.7	20.93	Dipole Ant.	24.46	-2.95	0.6	20.91	38.5	Pass
Subtype 0	836.52	21.01	Dipole Ant.	24.64	-3.02	0.6	21.02	38.5	Pass
Subtype 0	848.31	20.99	Dipole Ant.	24.69	-3.11	0.6	20.98	38.5	Pass
Subtype 2	824.7	21.02	Dipole Ant.	24.62	-2.95	0.6	21.07	38.5	Pass
Subtype 2	836.52	21.11	Dipole Ant.	24.77	-3.02	0.6	21.15	38.5	Pass
Subtype 2	848.31	21.09	Dipole Ant.	24.81	-3.11	0.6	21.10	38.5	Pass

Note: a, For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should take to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

b, SGP=Signal Generator Level

-----The END-----



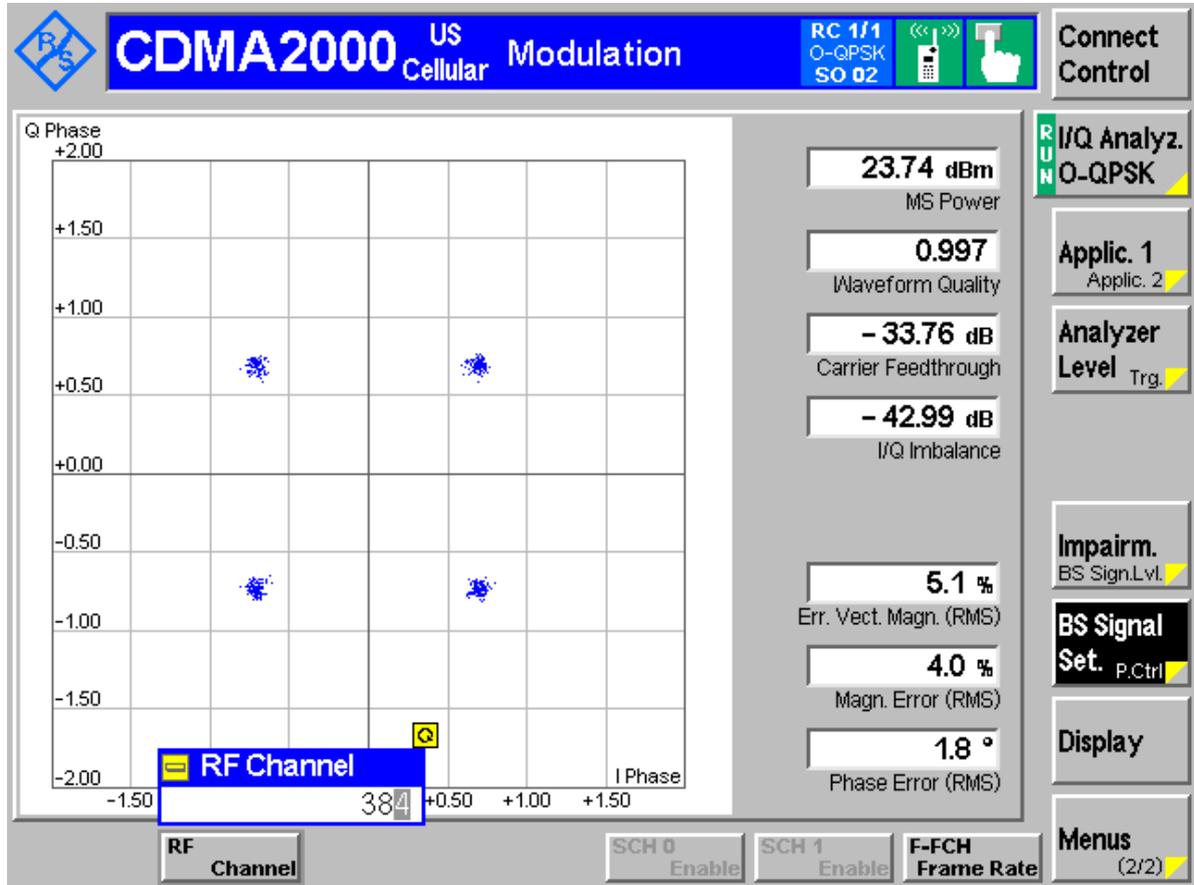
Appendix B

Modulation Characteristics

According to FCC Part 2.1047 & Part 22 Subpart H

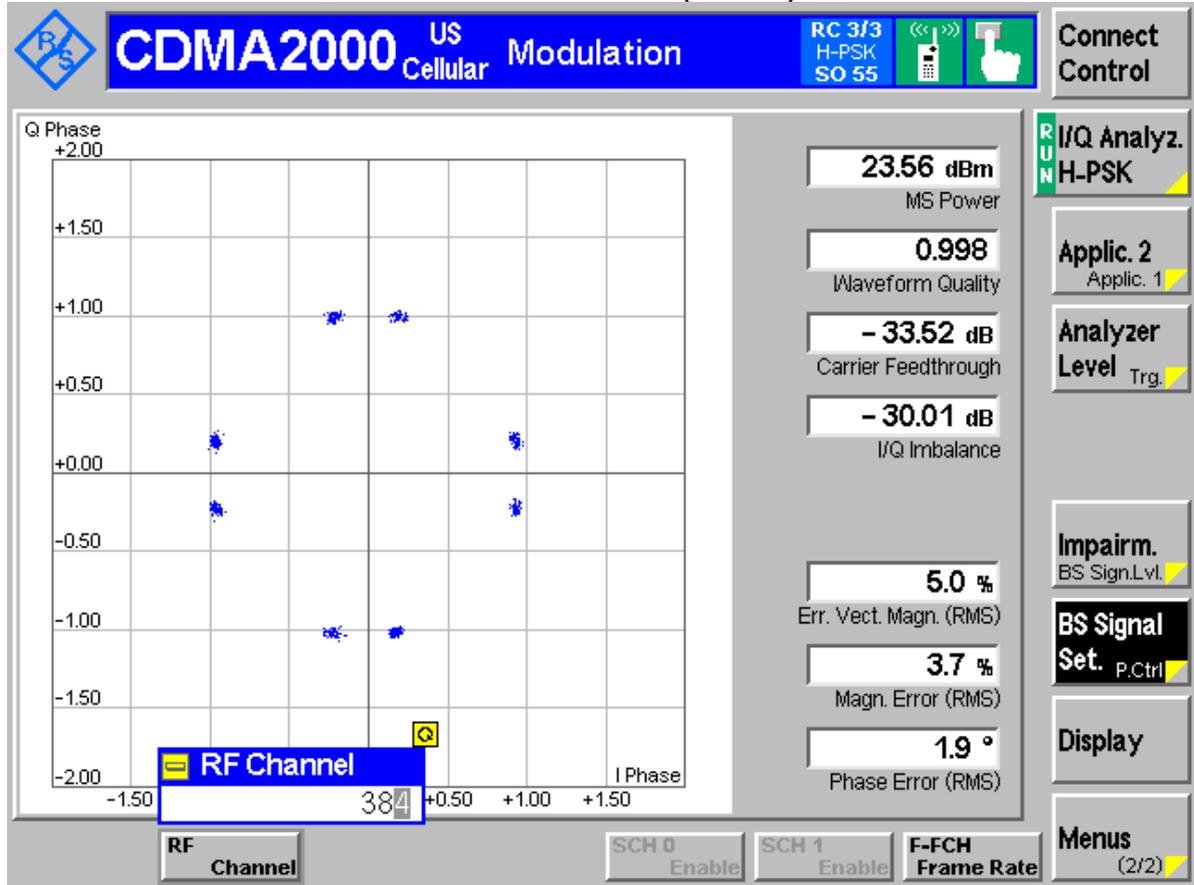


Channel 384(TM1)



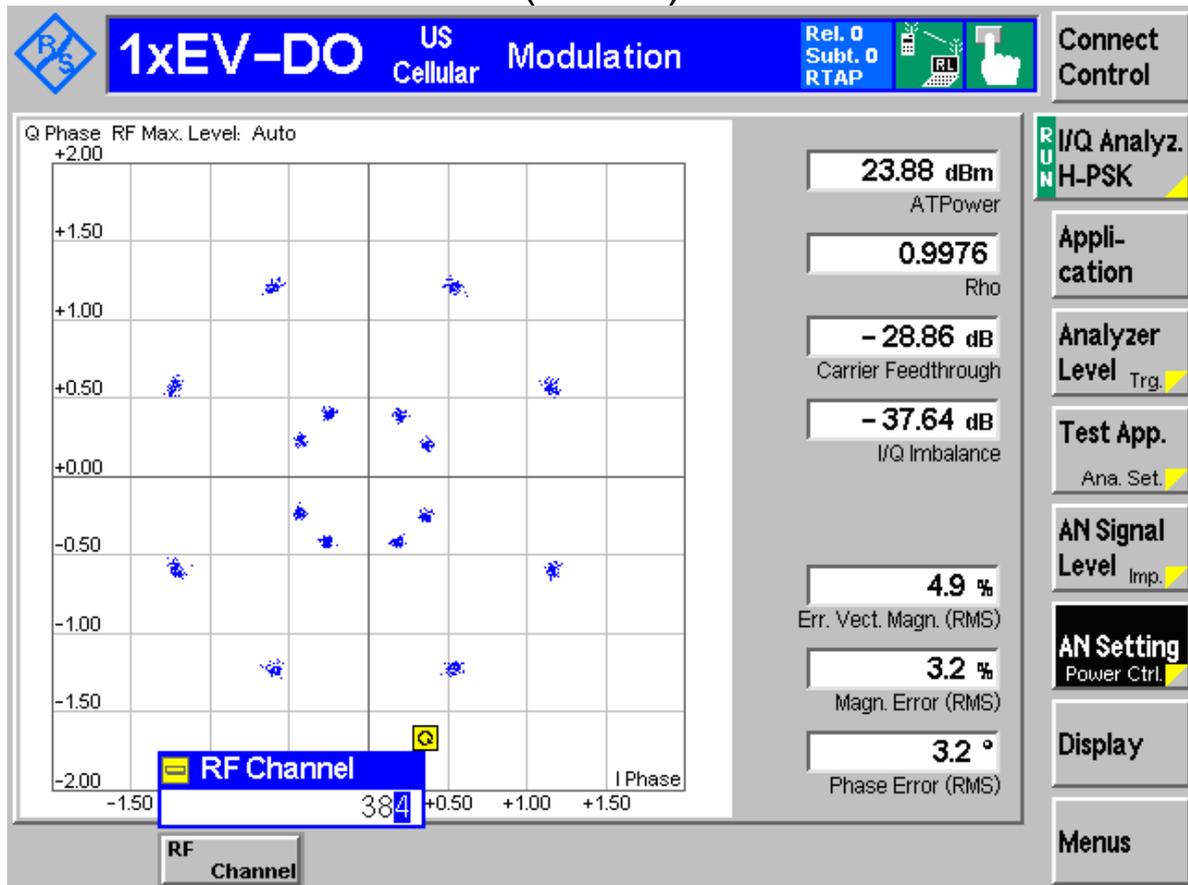


Channel 384(TM3)





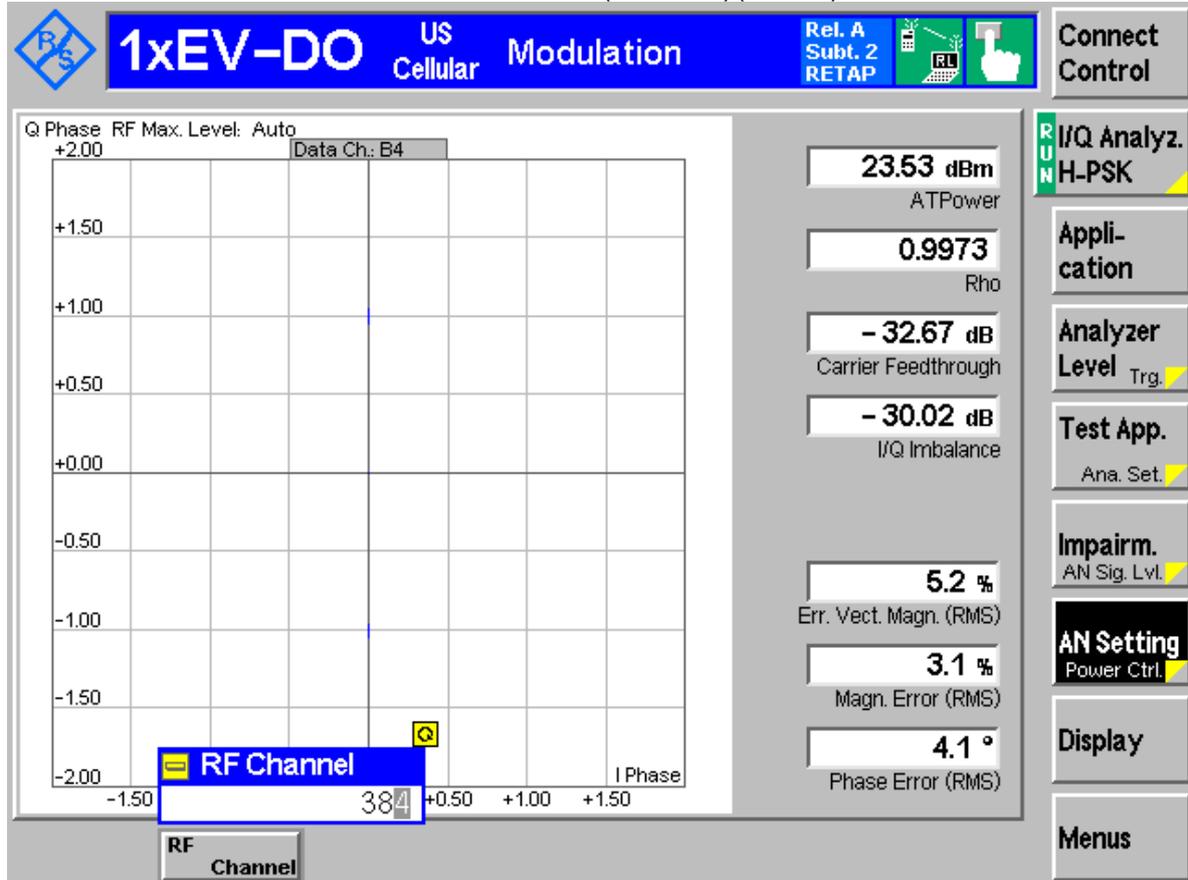
Channel 384(Subtype 0) (HPSK)





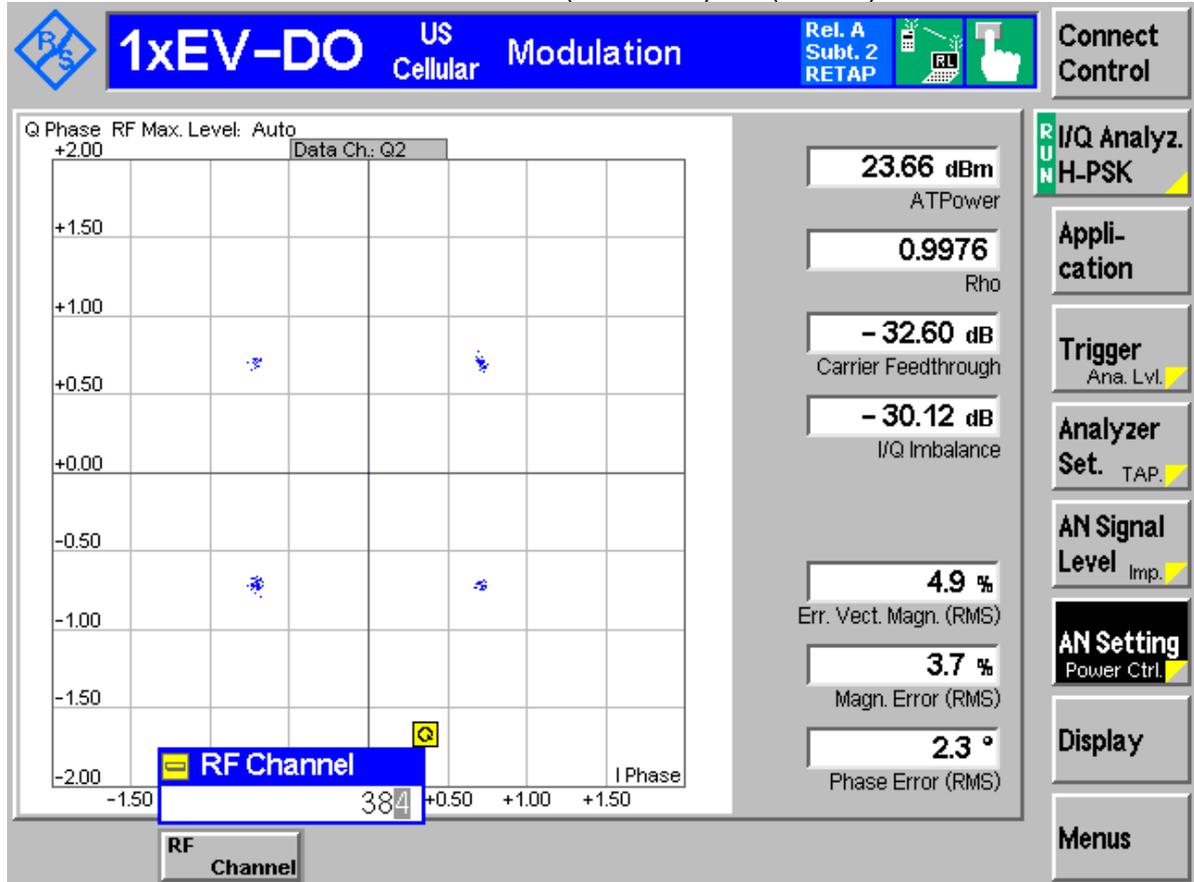
Channel 384(Subtype 2)

The R-Data packet size determines the modulation format:
 R-Data Pkt Size (256 bits)(BPSK)



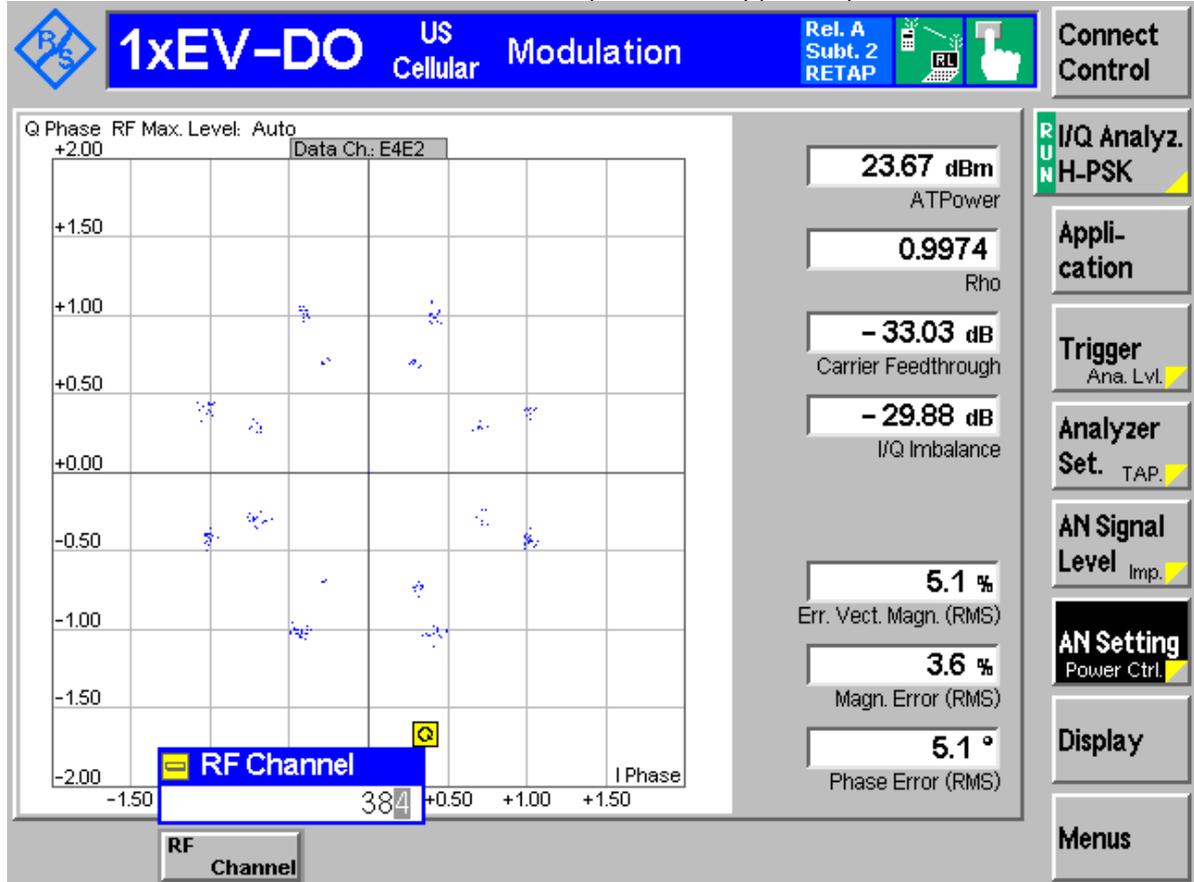


R-Data Pkt Size (4096 bits) (QPSK)





R-Data Pkt Size (12288 bits)(8PSK)



-----The END-----



Appendix C

Occupied Bandwidth

According to FCC Part 2.1049 & Part 22 Subpart H

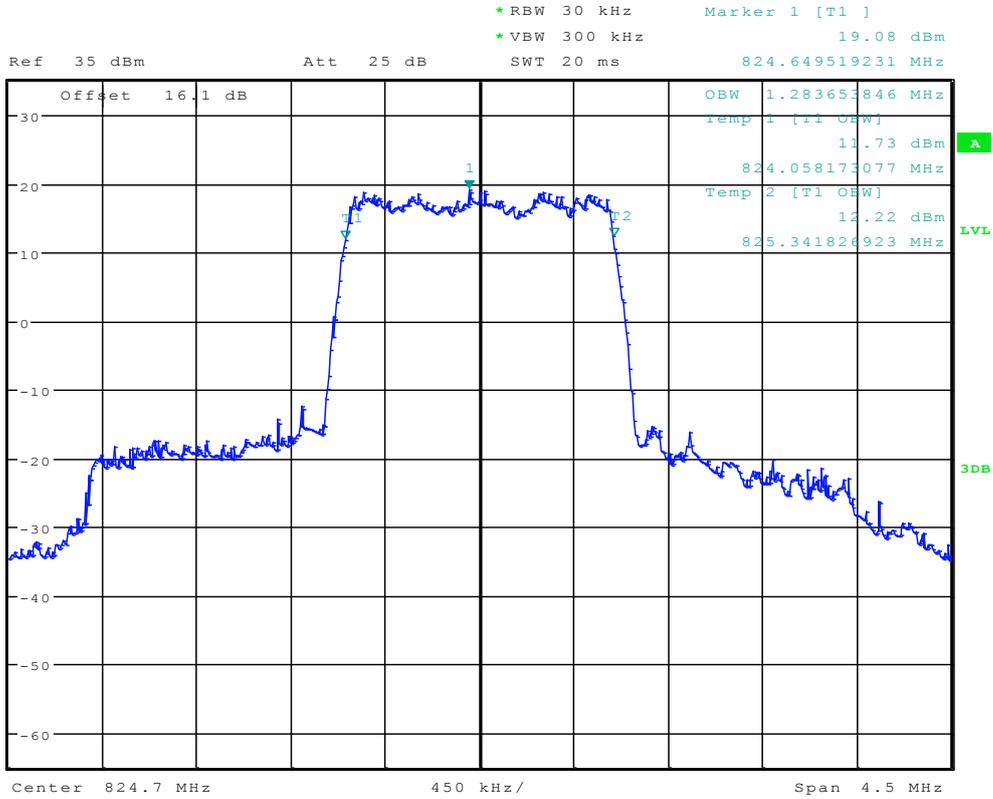


Result Table

Test Mode	RF Channel	Occupied Bandwidth [MHz]	Verdict
TM1	B	1.28	Pass
	M	1.29	Pass
	T	1.28	Pass
TM3	B	1.28	Pass
	M	1.28	Pass
	T	1.28	Pass
Subtype 0	B	1.29	Pass
	M	1.29	Pass
	T	1.28	Pass
Subtype 2	B	1.28	Pass
	M	1.28	Pass
	T	1.28	Pass

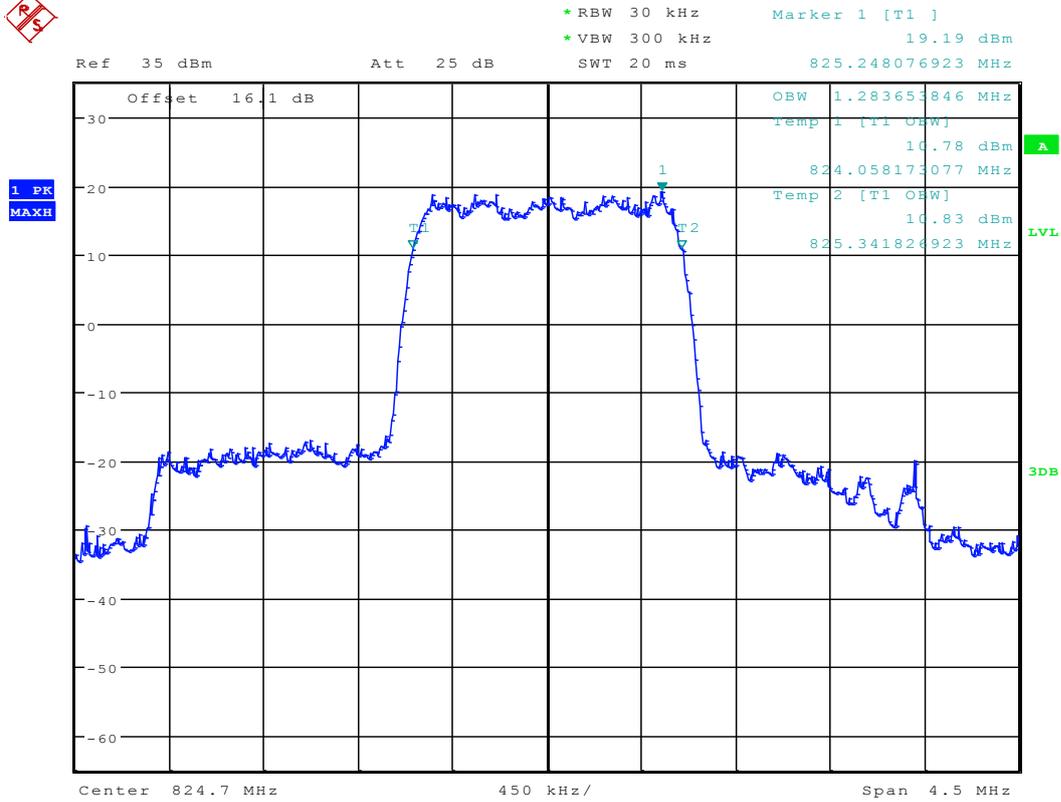


Channel 1013 (TM1)



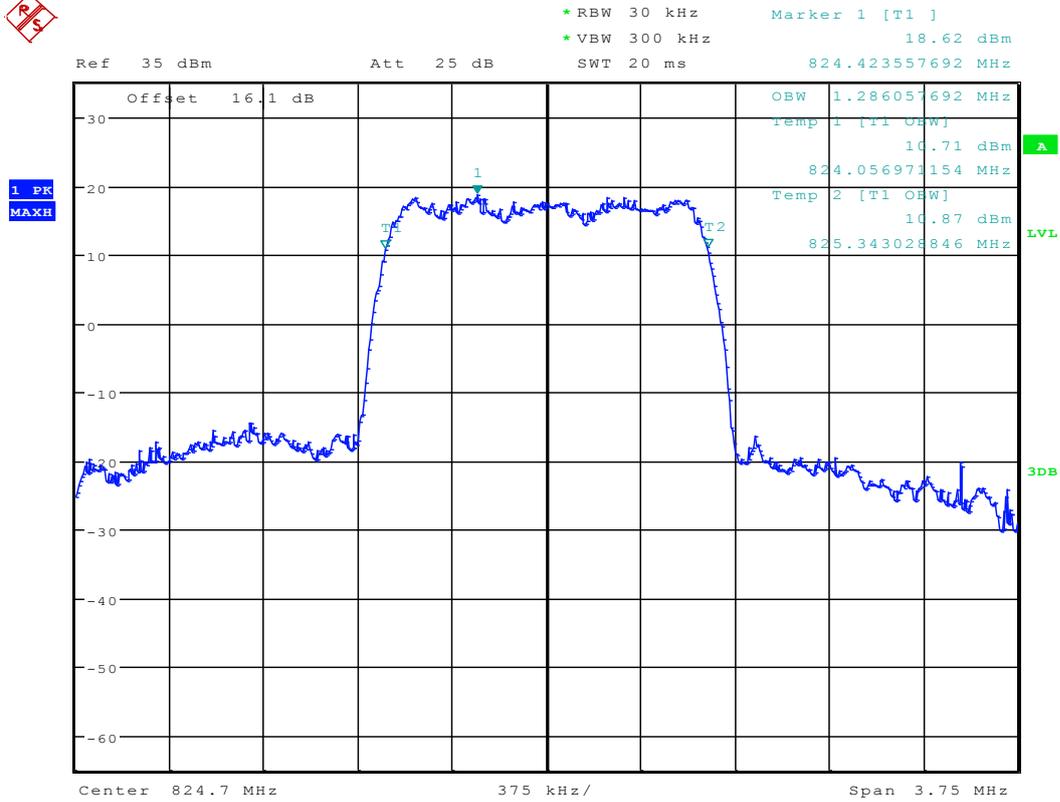


Channel 1013 (TM3)



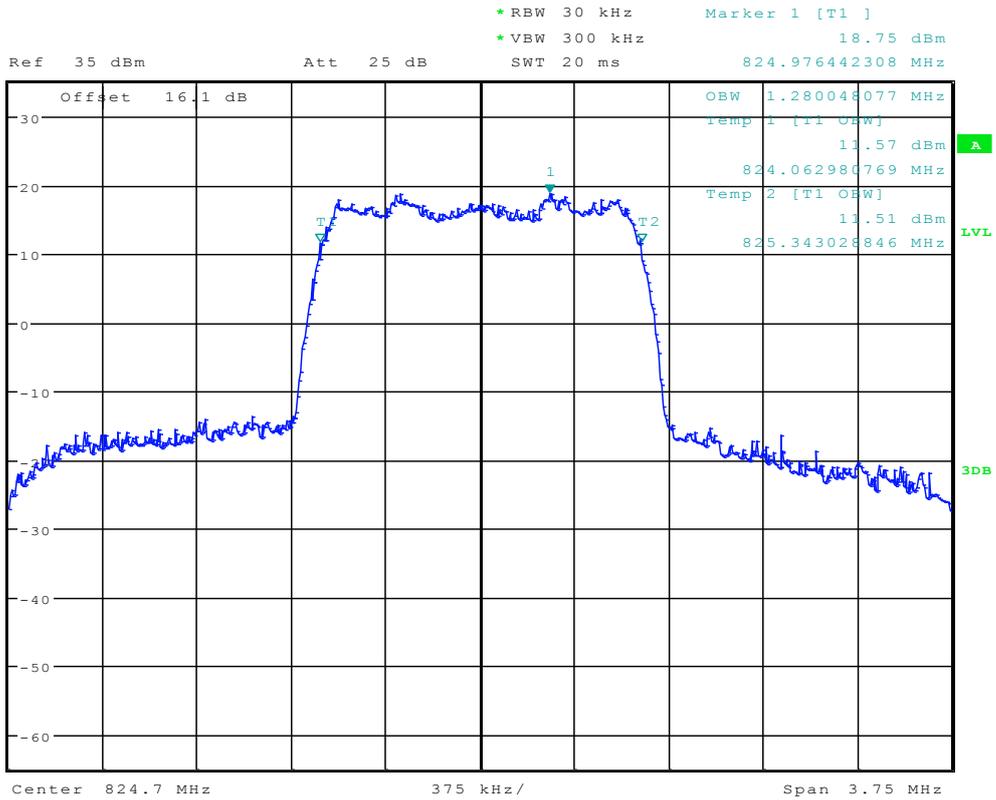


Channel 1013 (EVDO subtype 0)



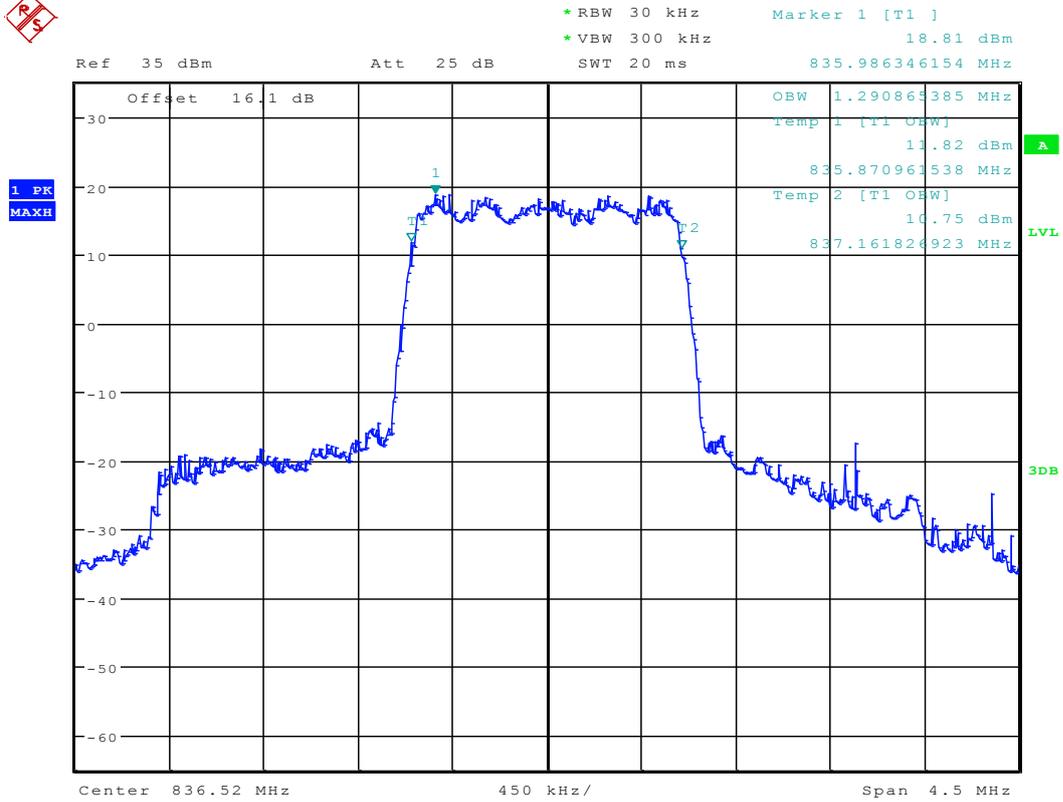


Channel 1013 (EVDO subtype 2)



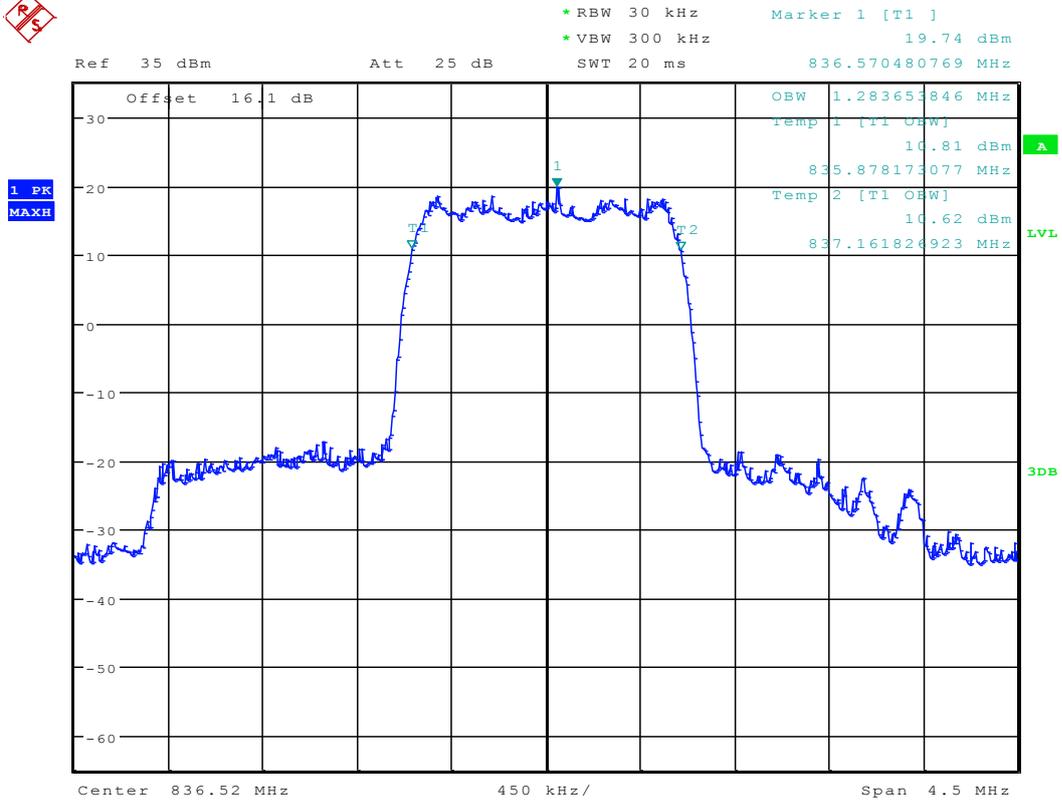


Channel 384 (TM1)



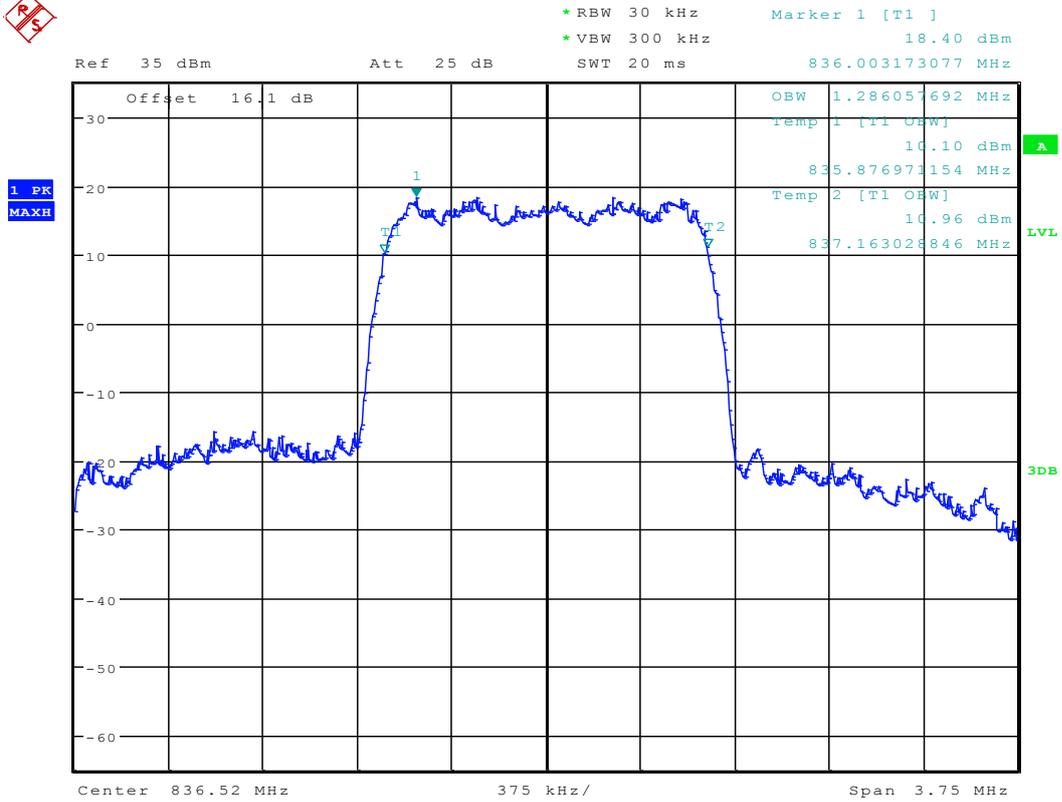


Channel 384 (TM3)



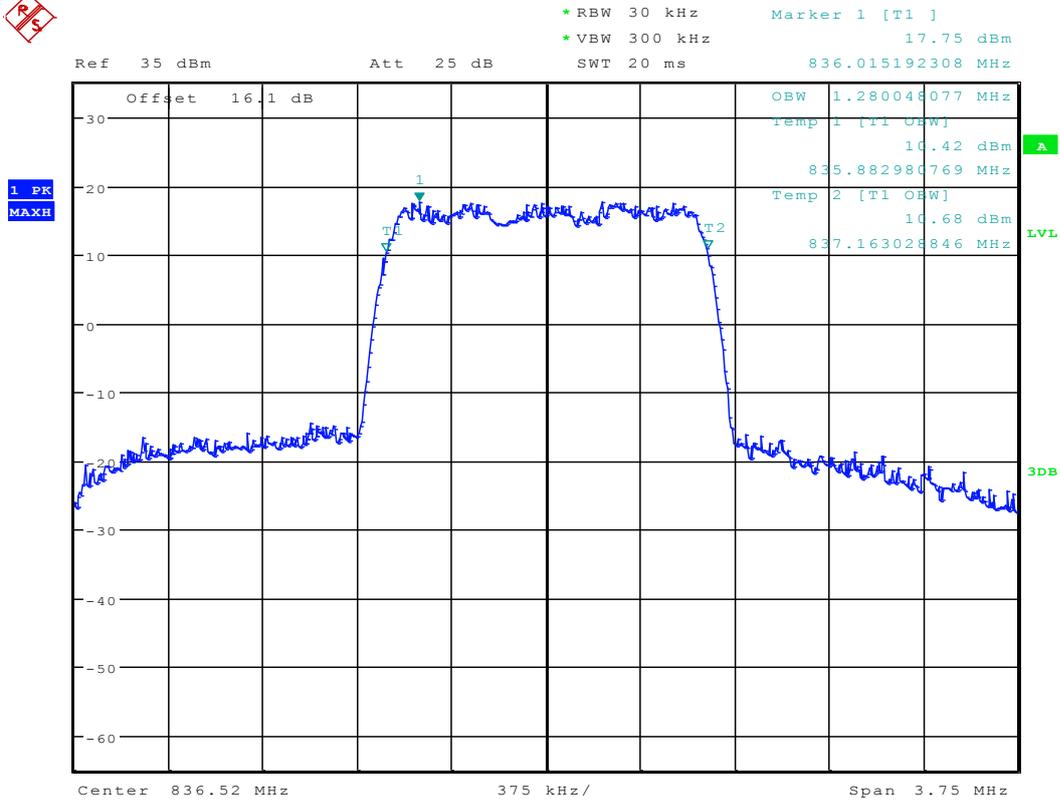


Channel 384 (EVDO subtype 0)



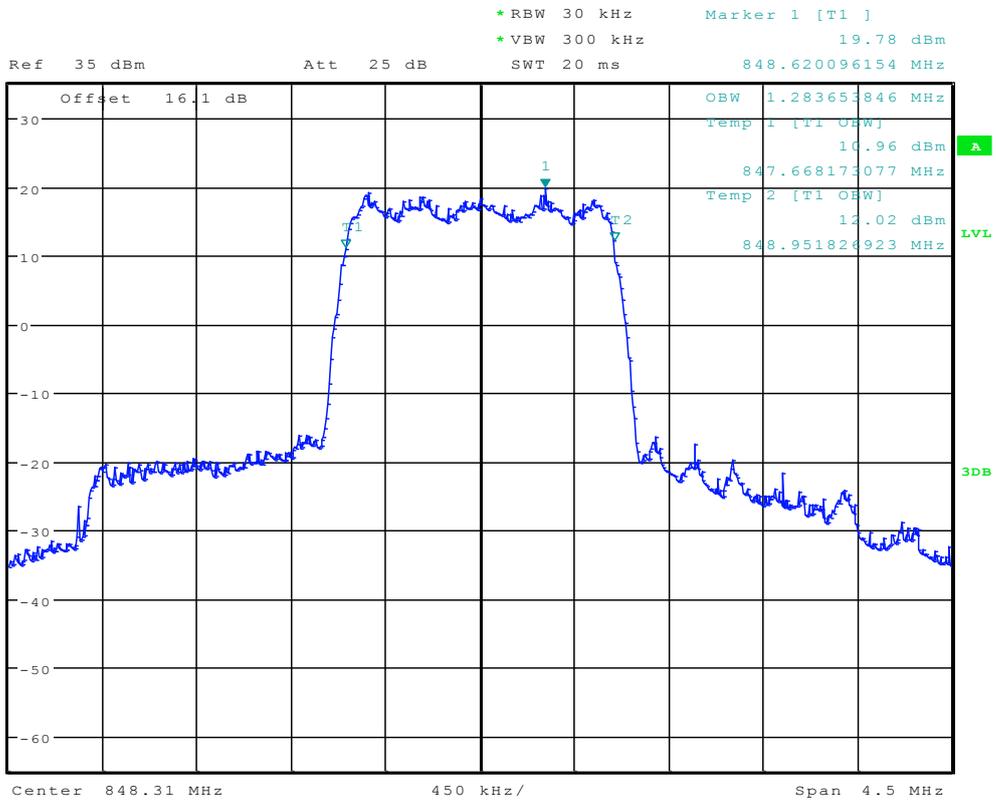


Channel 384 (EVDO Subtype 2)



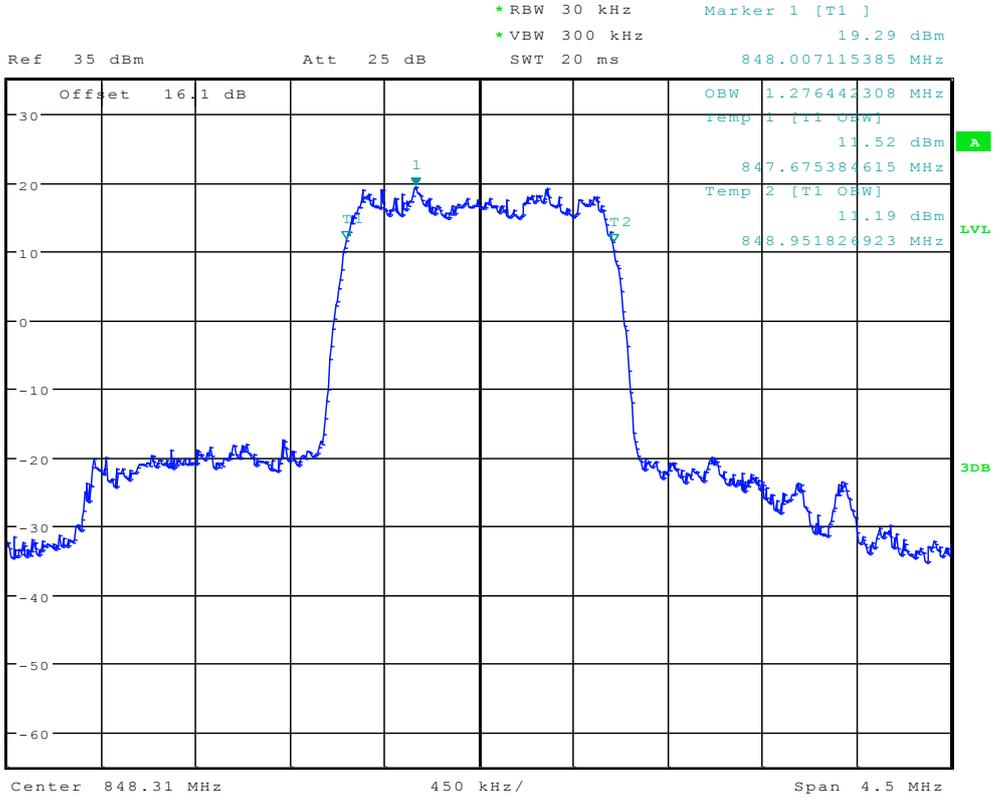


Channel 777 (TM1)



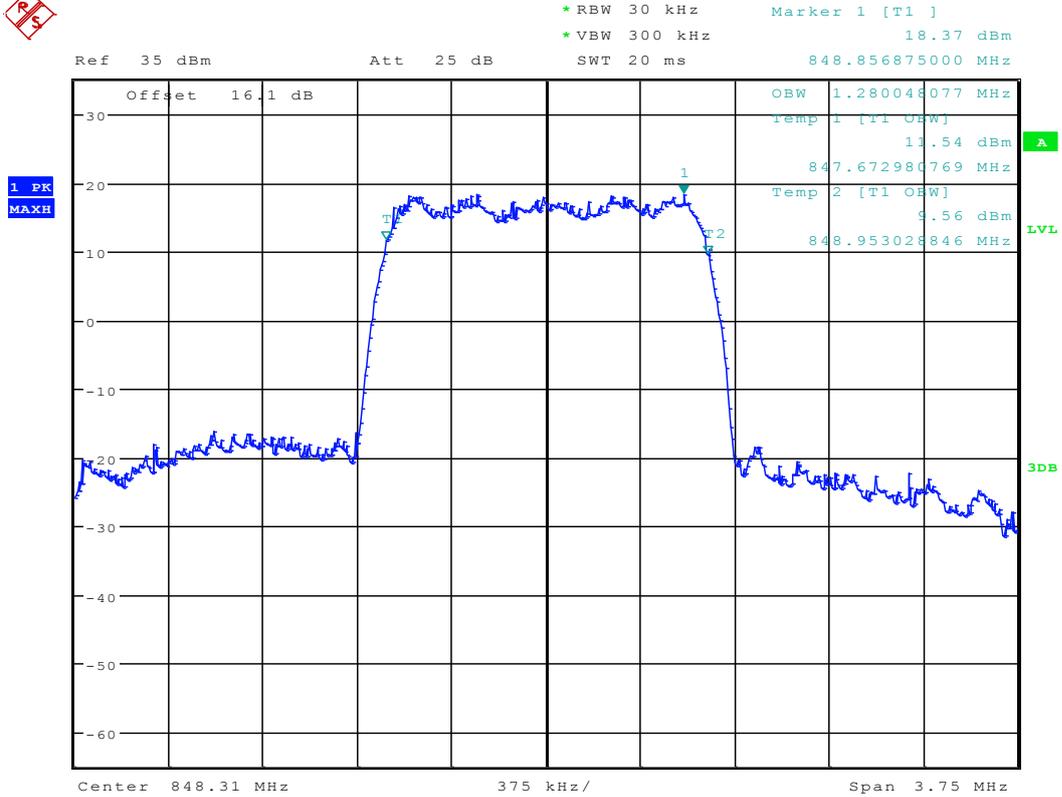


Channel 777 (TM3)



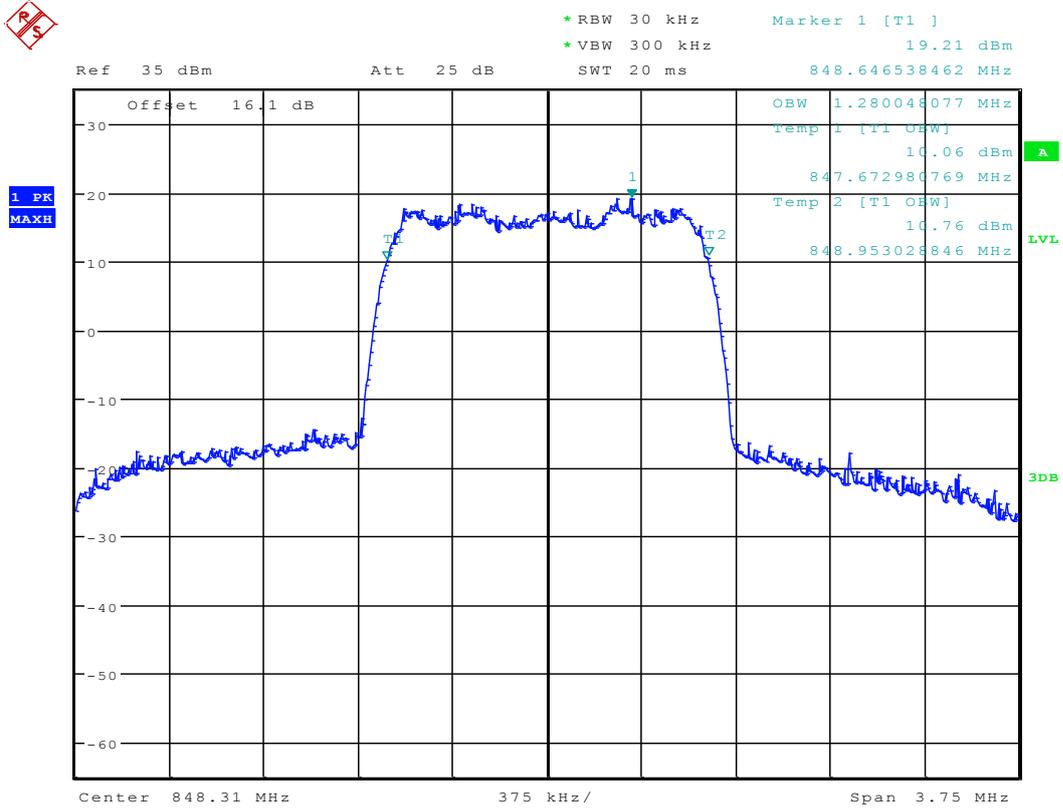


Channel 777 (EVDO subtype 0)





Channel 777 (EVDO Subtype 2)



The END



Appendix D

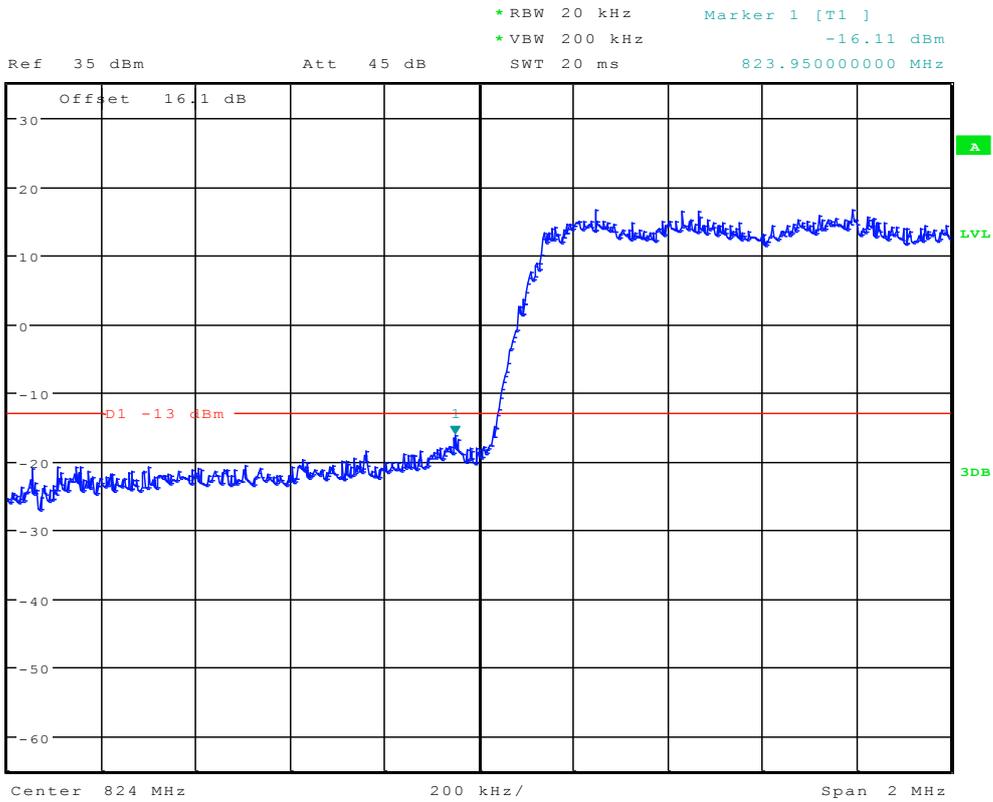
Band Edges Compliance

According to FCC Part 2.1051 & 22.917



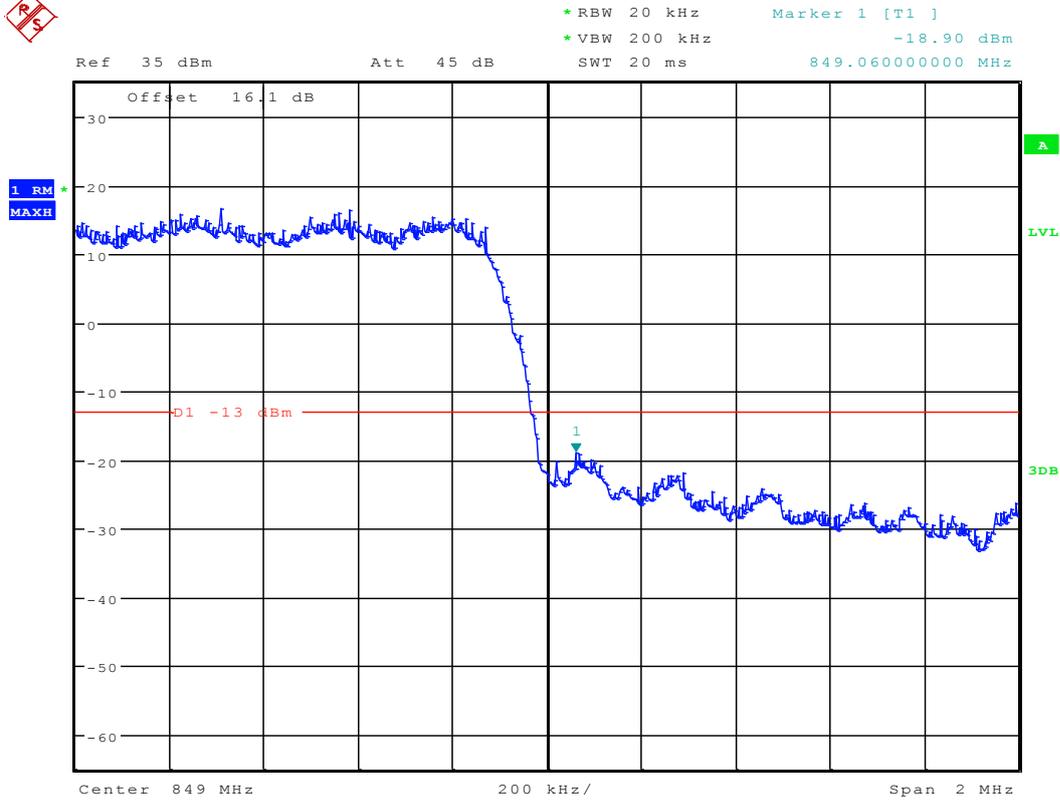
TM1

Left Edge (824 MHz) Channel 1013





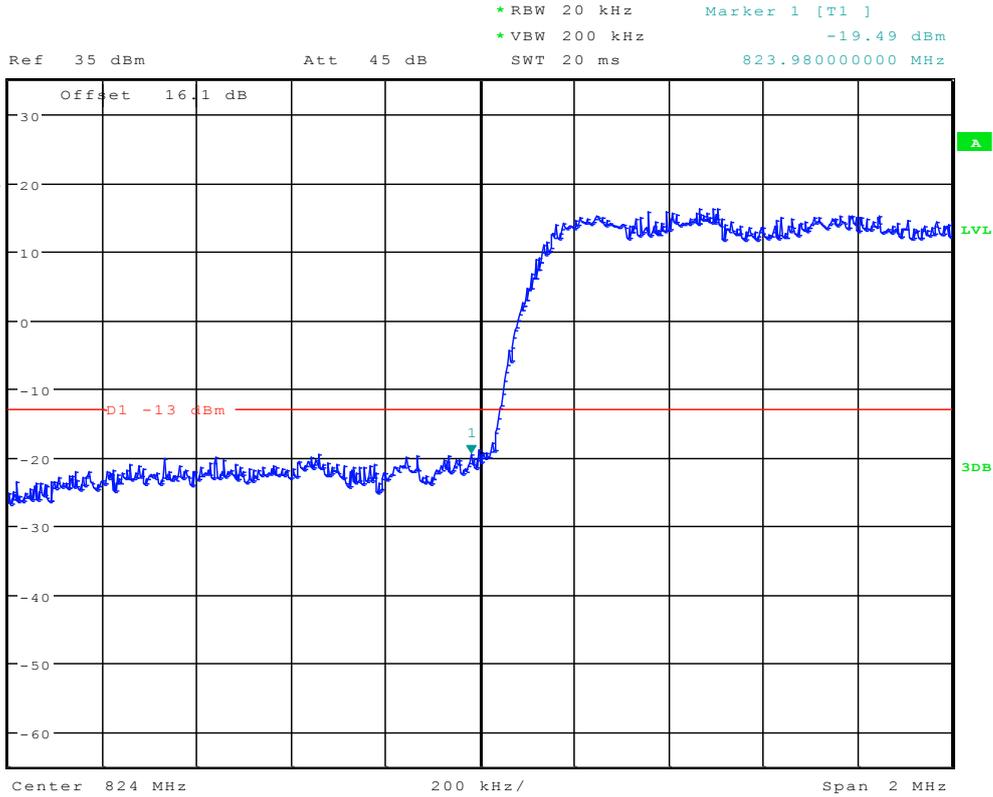
Right Edge (849MHz) Channel 777





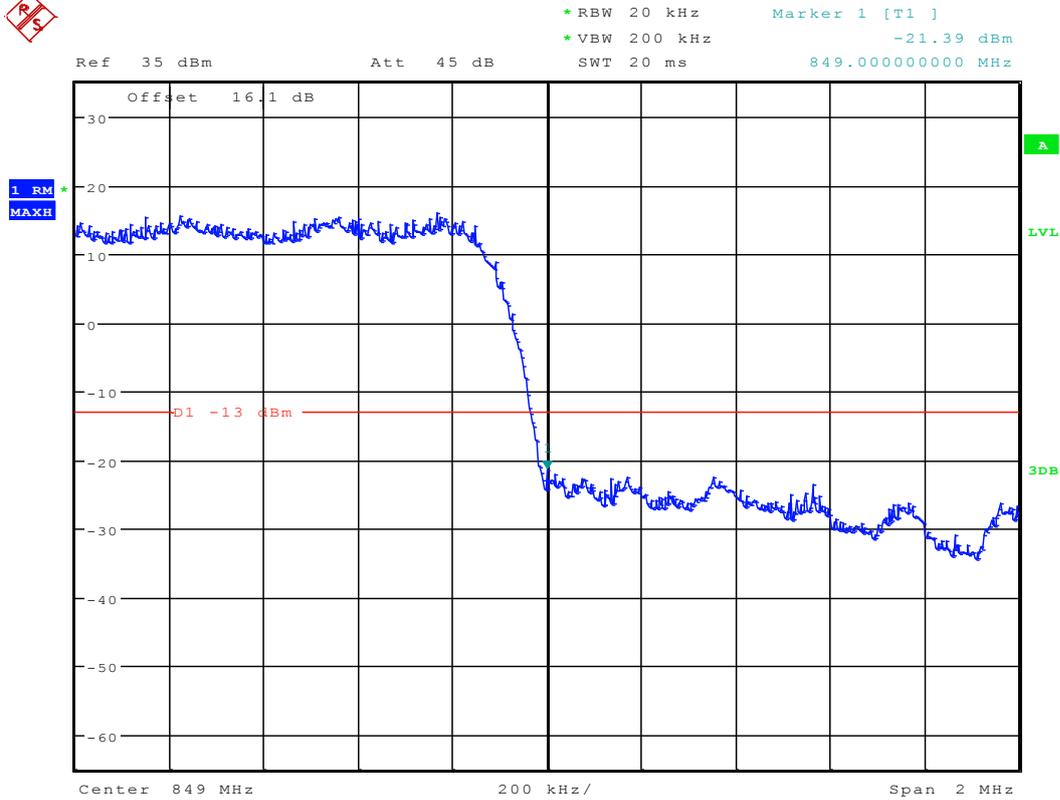
TM3

Left Edge (824 MHz) Channel 1013





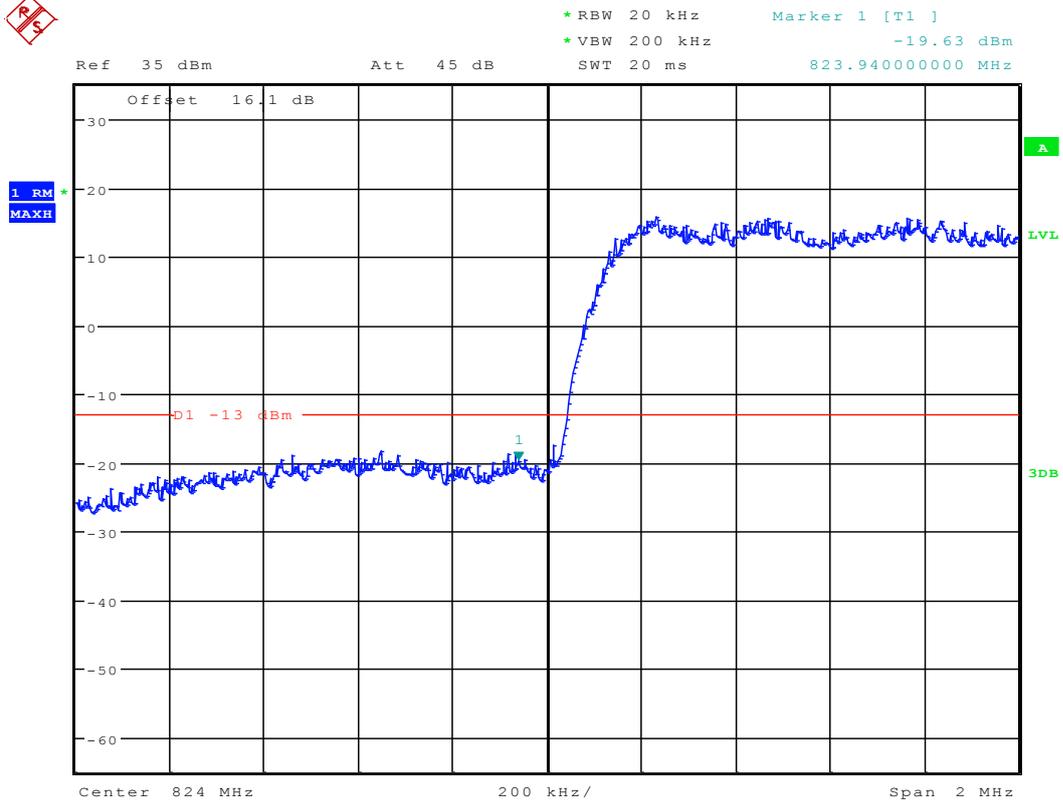
Right Edge (849MHz) Channel 777





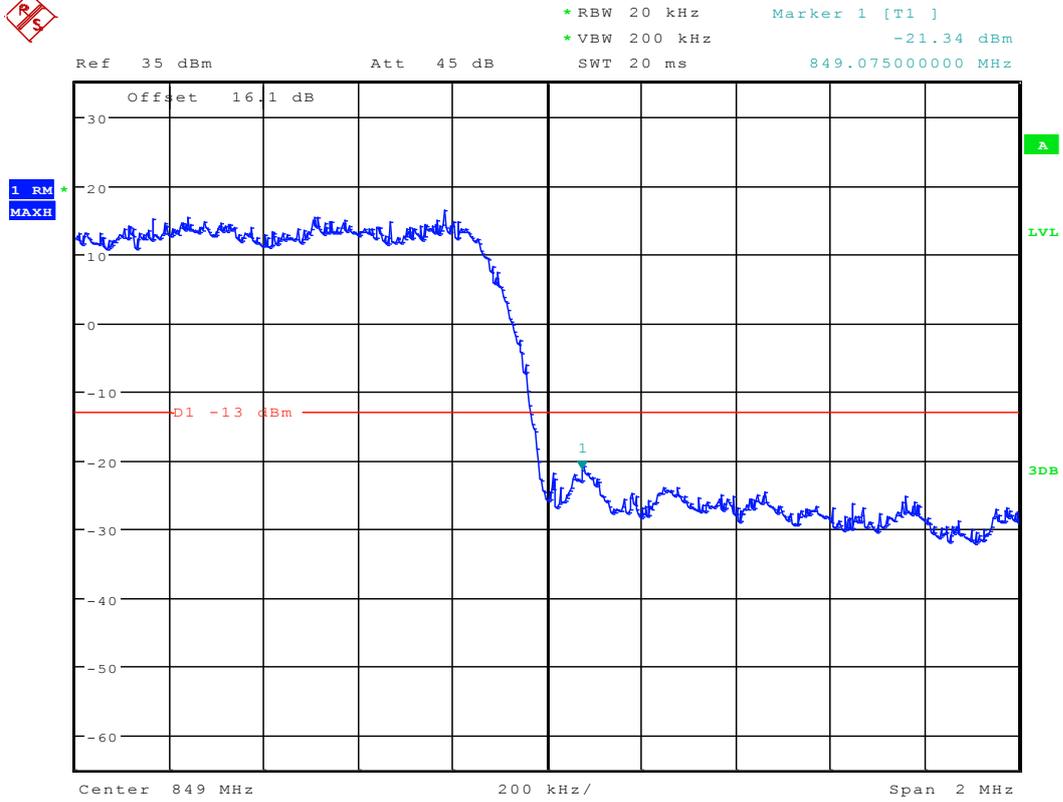
EVDO Subtype 0

Left Edge (824 MHz) Channel 1013





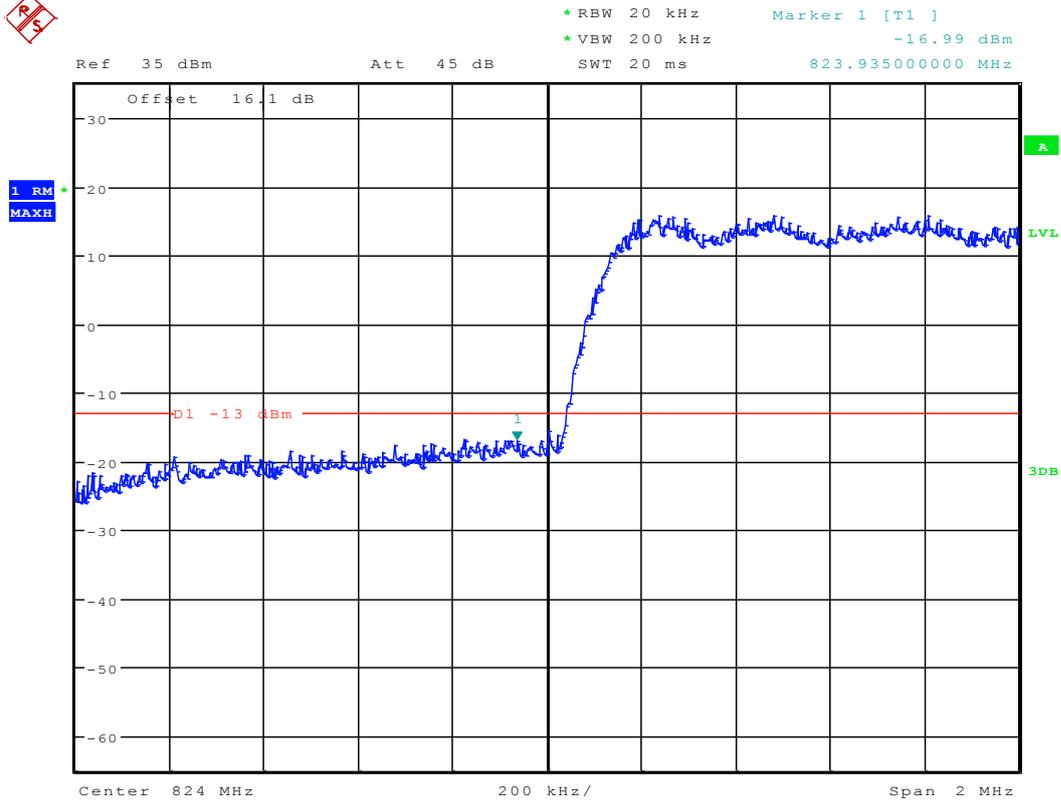
Right Edge (849MHz) Channel 777





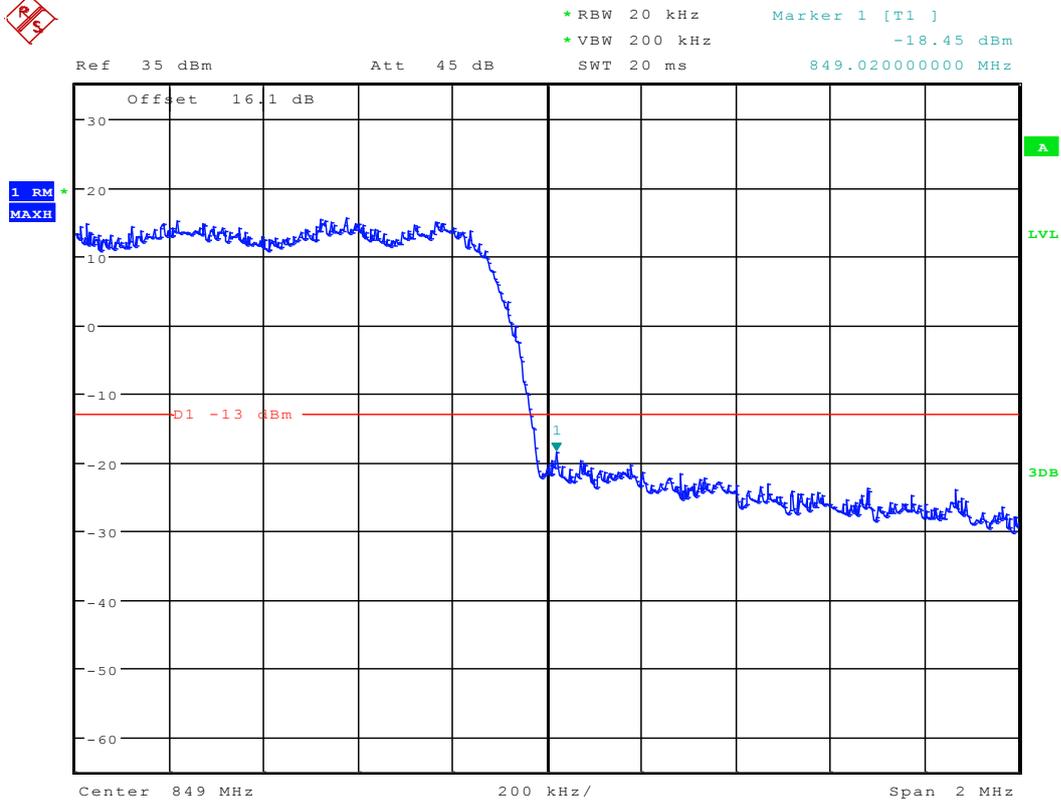
EVDO Subtype 2

Modulation: BPSK
Left Edge (824 MHz)
Channel 1013



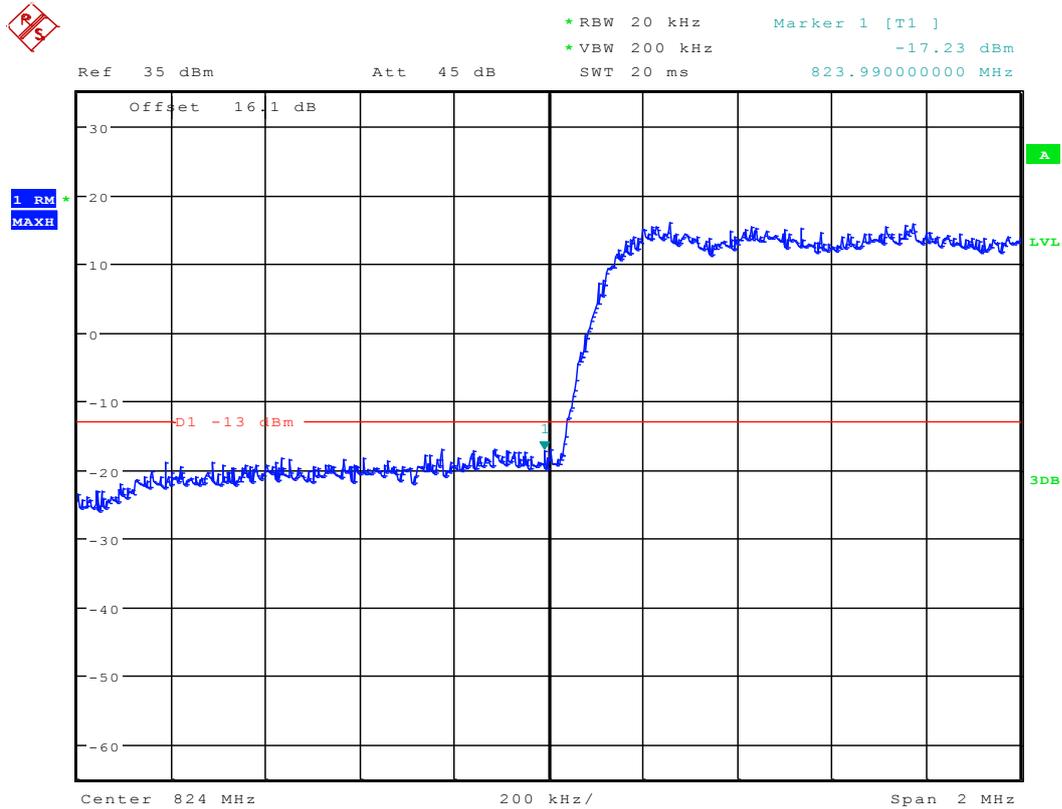


Right Edge (849MHz) Channel 777



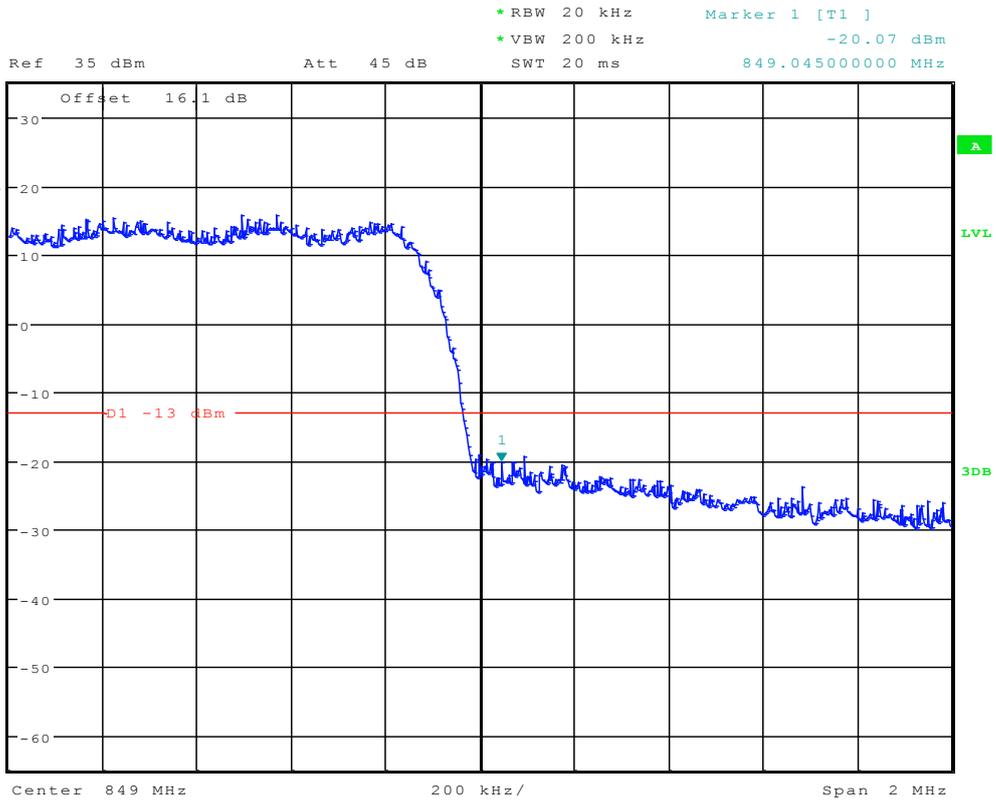


Modulation: QPSK Left Edge (824 MHz) Channel 1013



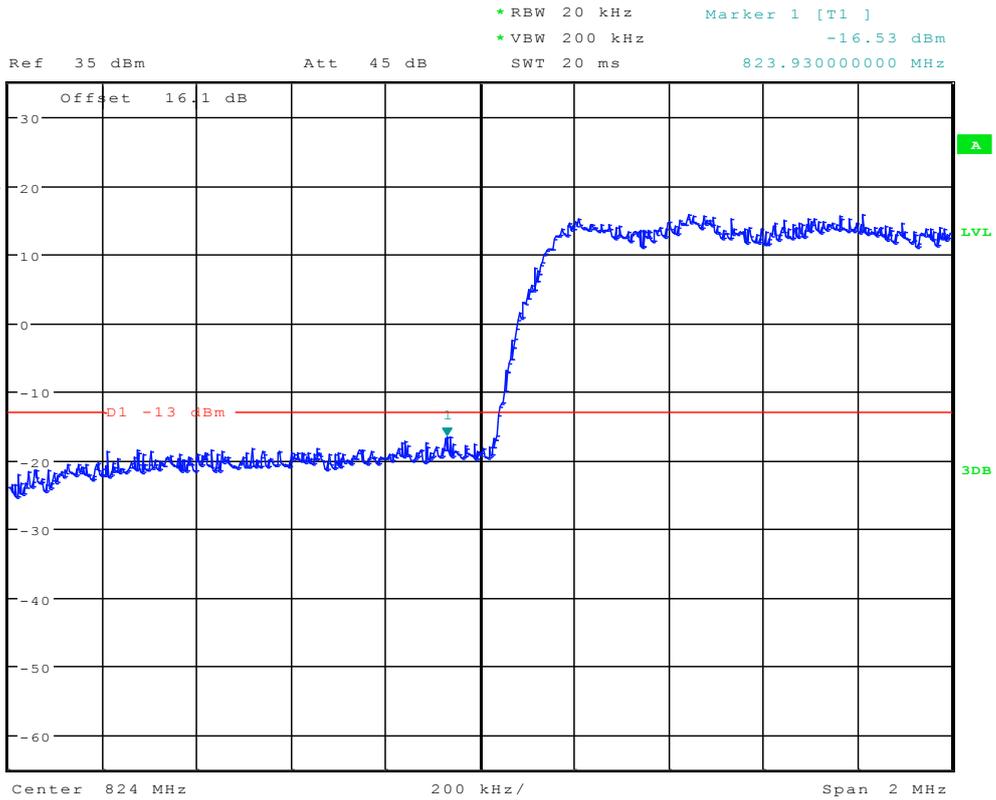


Right Edge (849MHz) Channel 777



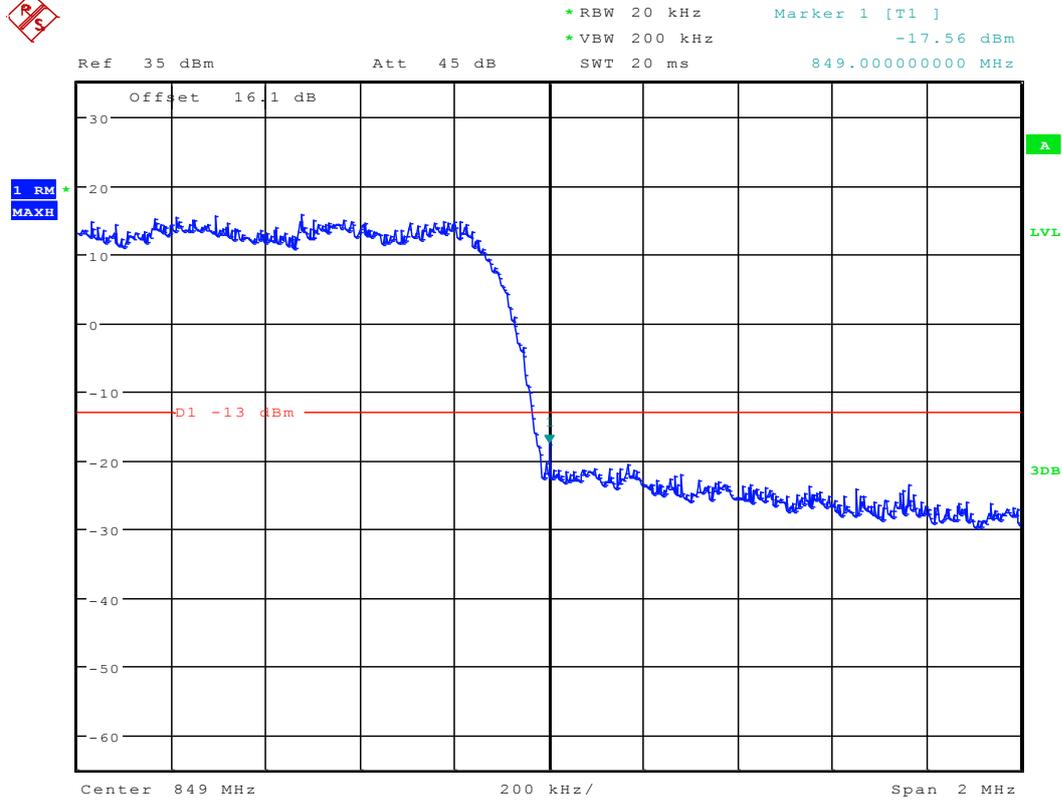


Modulation: 8PSK Left Edge (824 MHz) Channel 1013





Right Edge (849MHz) Channel 777



The END



Appendix E

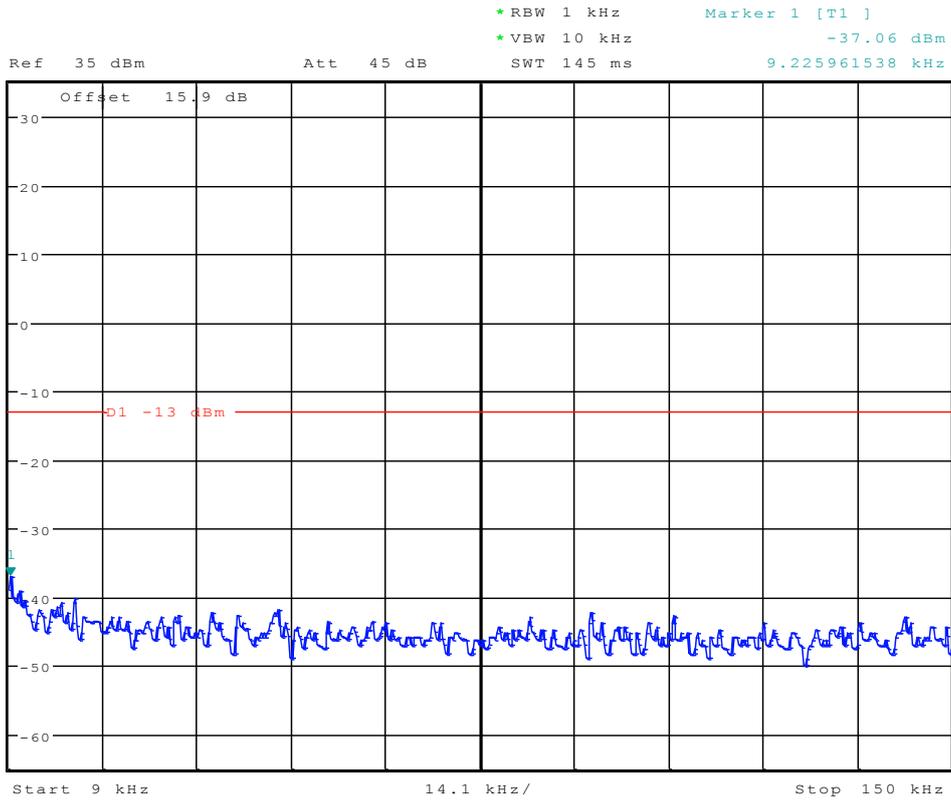
Spurious Emission at Antenna Terminal

According to FCC Part 2.1051 & 22.917



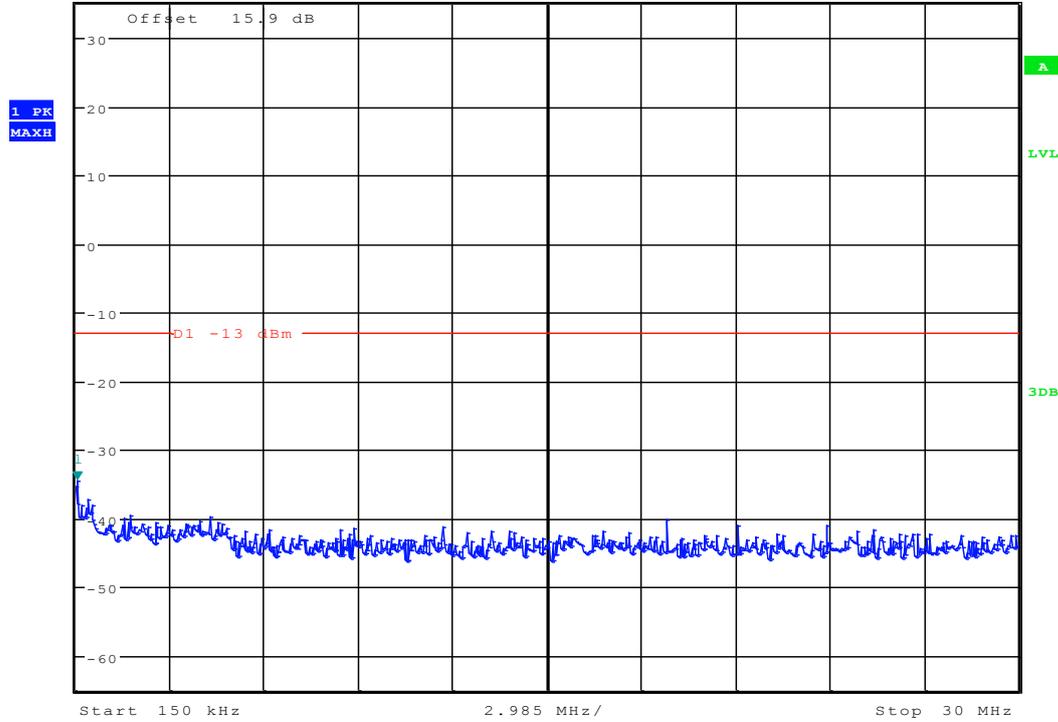
TM1

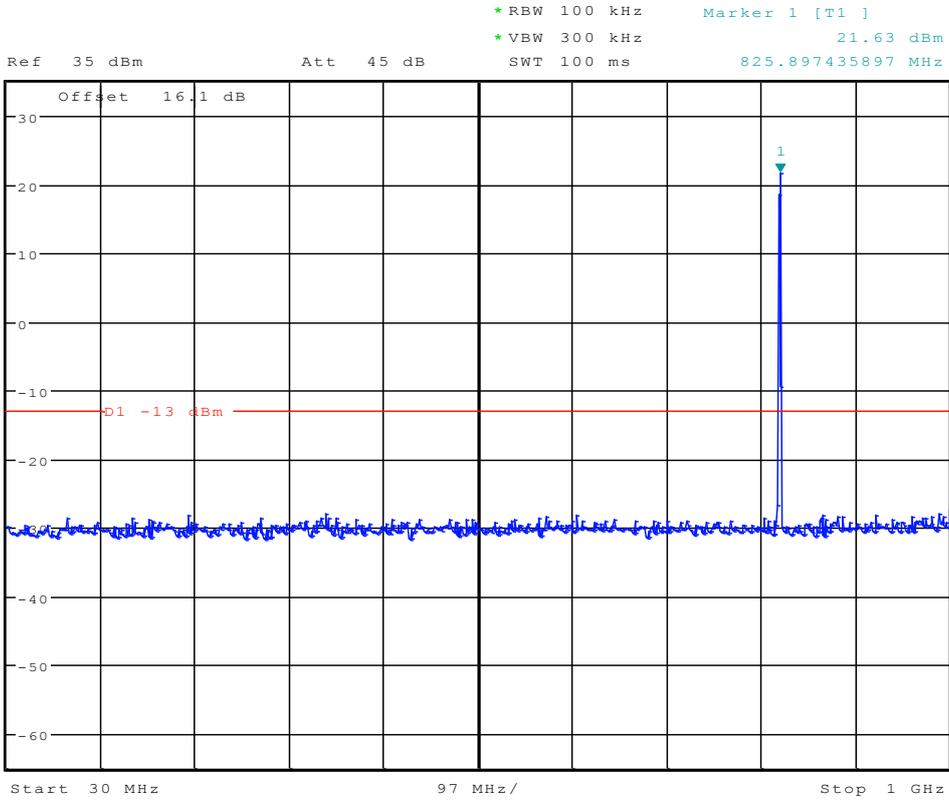
Channel 1013

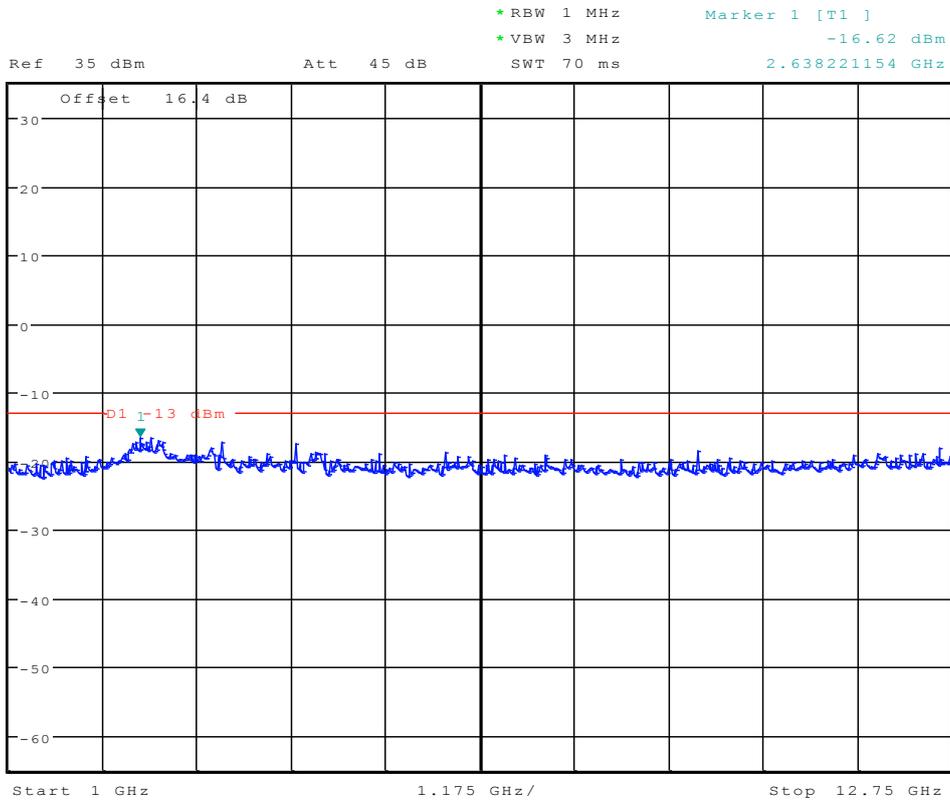




*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -34.34 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 197.836538462 kHz







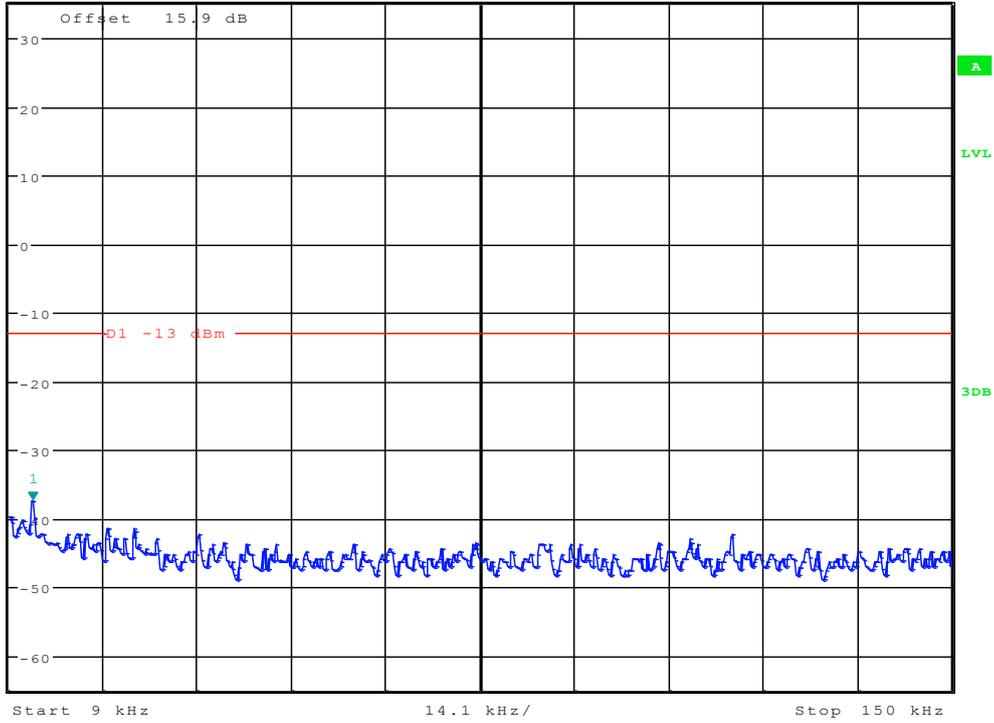


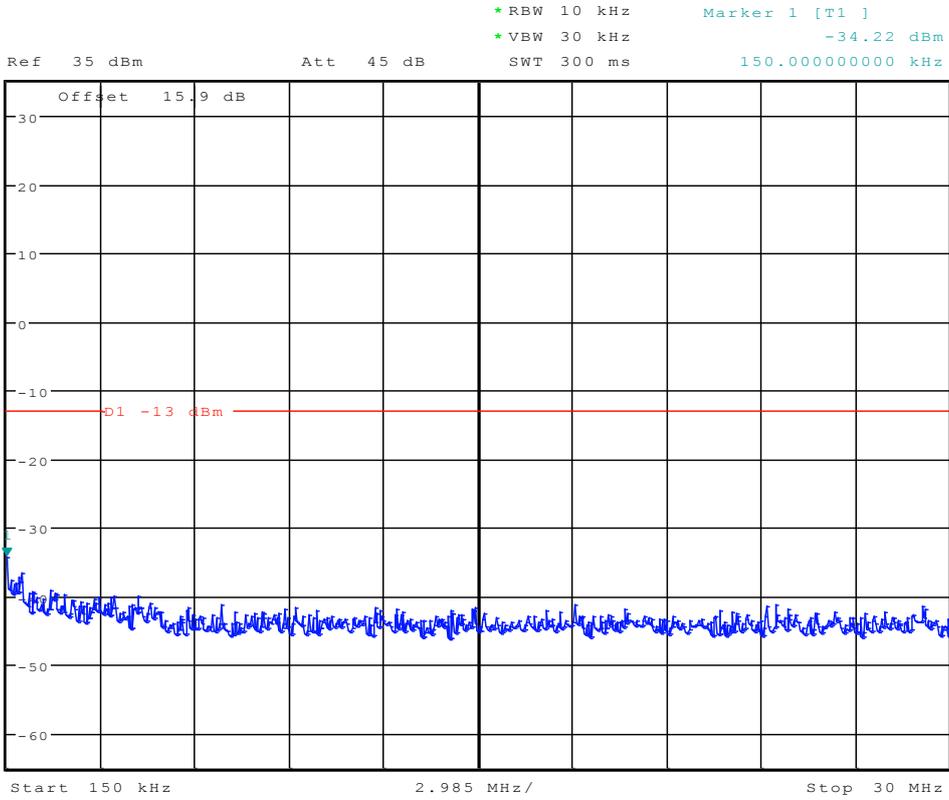
Channel 384

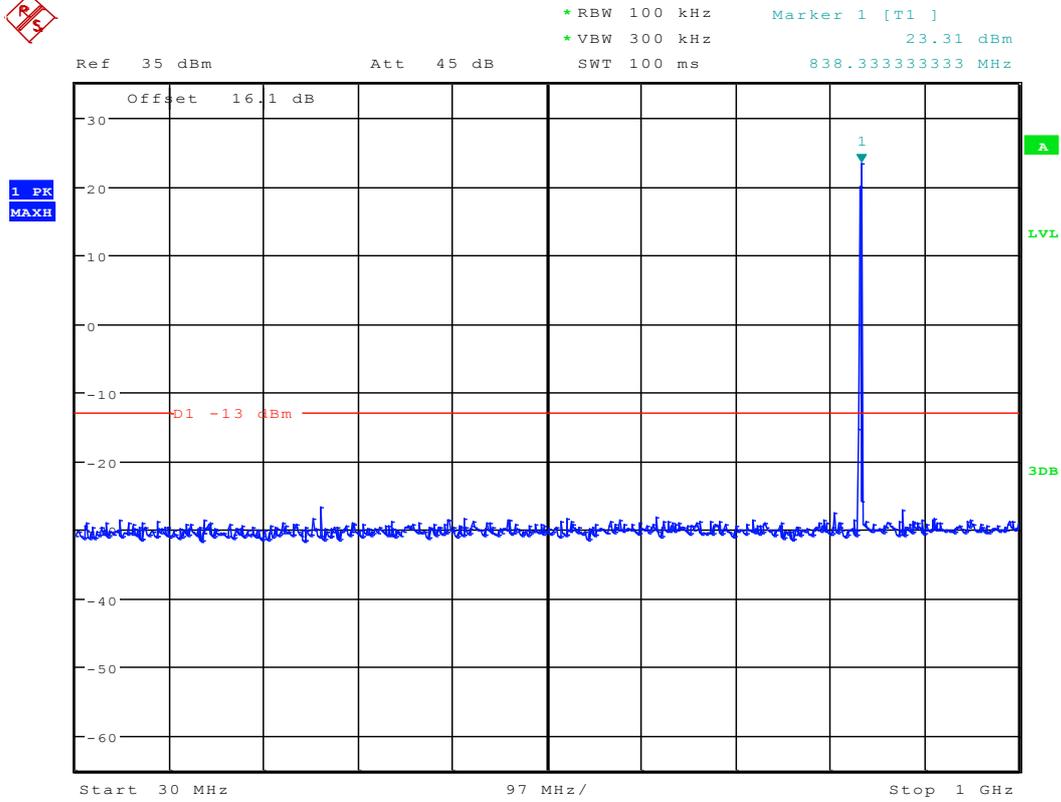


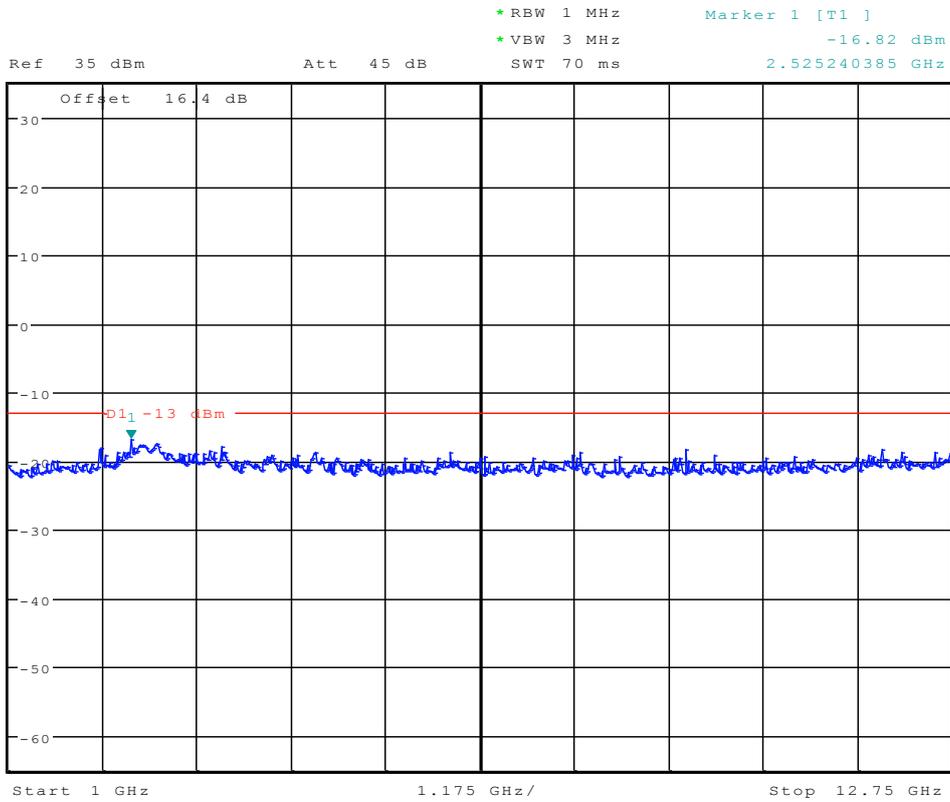
Ref 35 dBm Att 45 dB SWT 145 ms
 *RBW 1 kHz *VBW 10 kHz
 Marker 1 [T1] -37.31 dBm
 12.615384615 kHz

1 PK
 MAXH









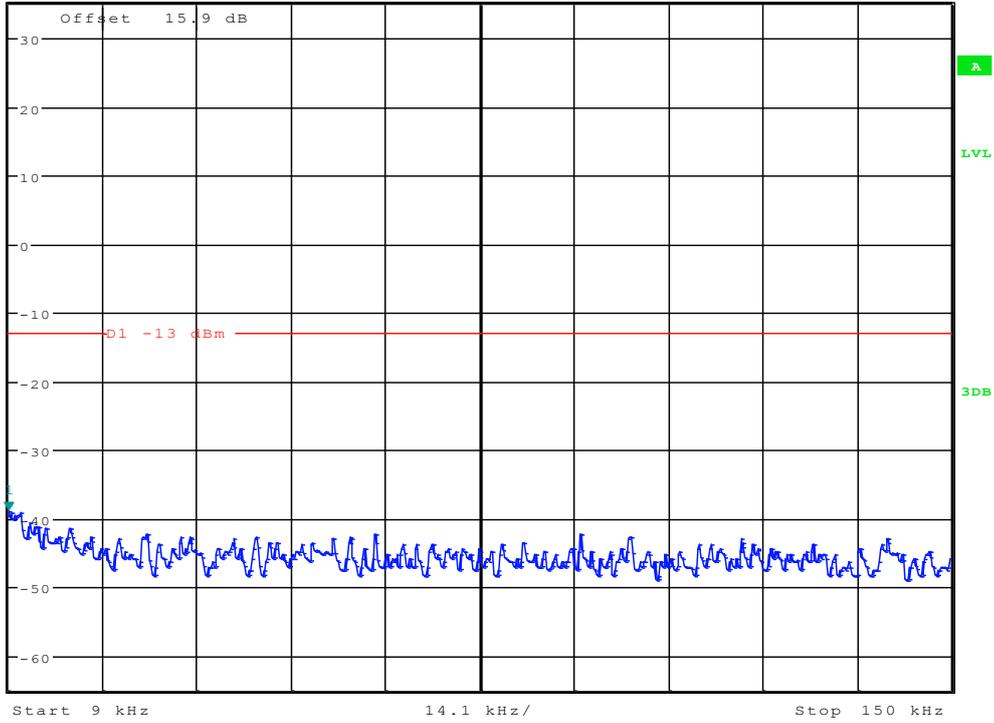


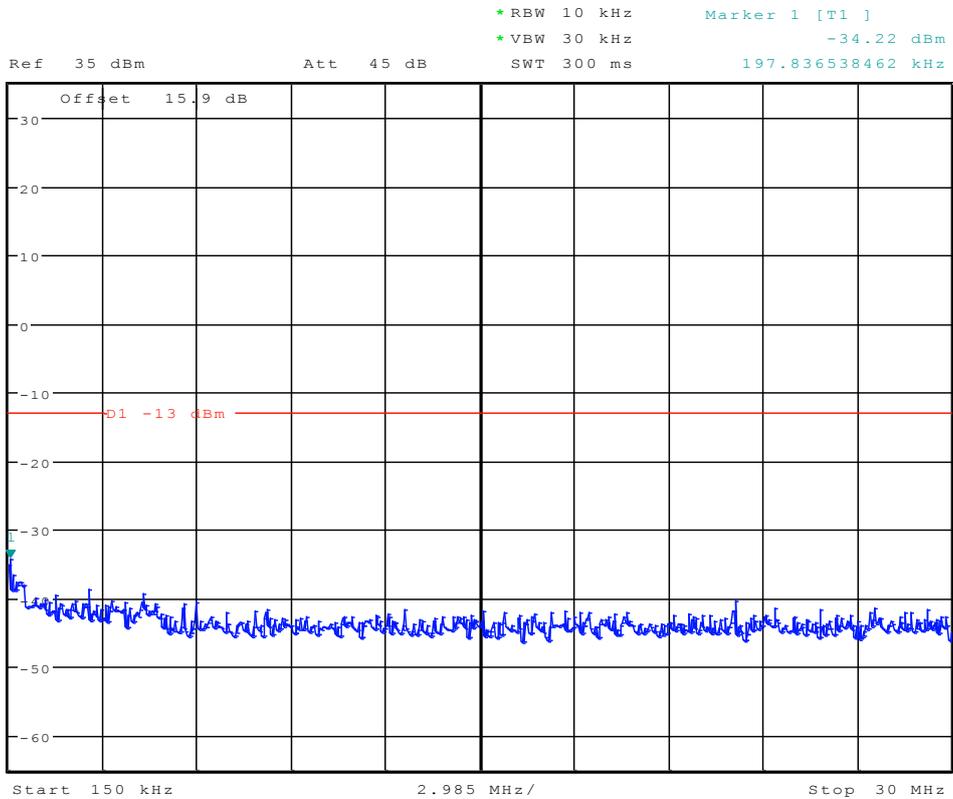
Channel 777

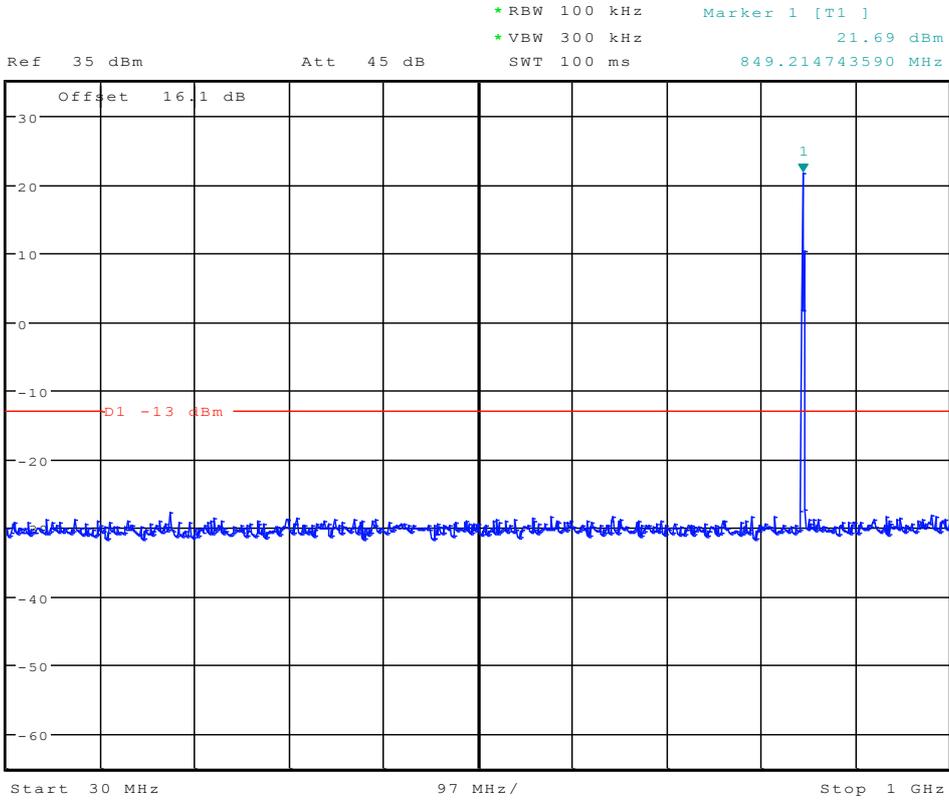


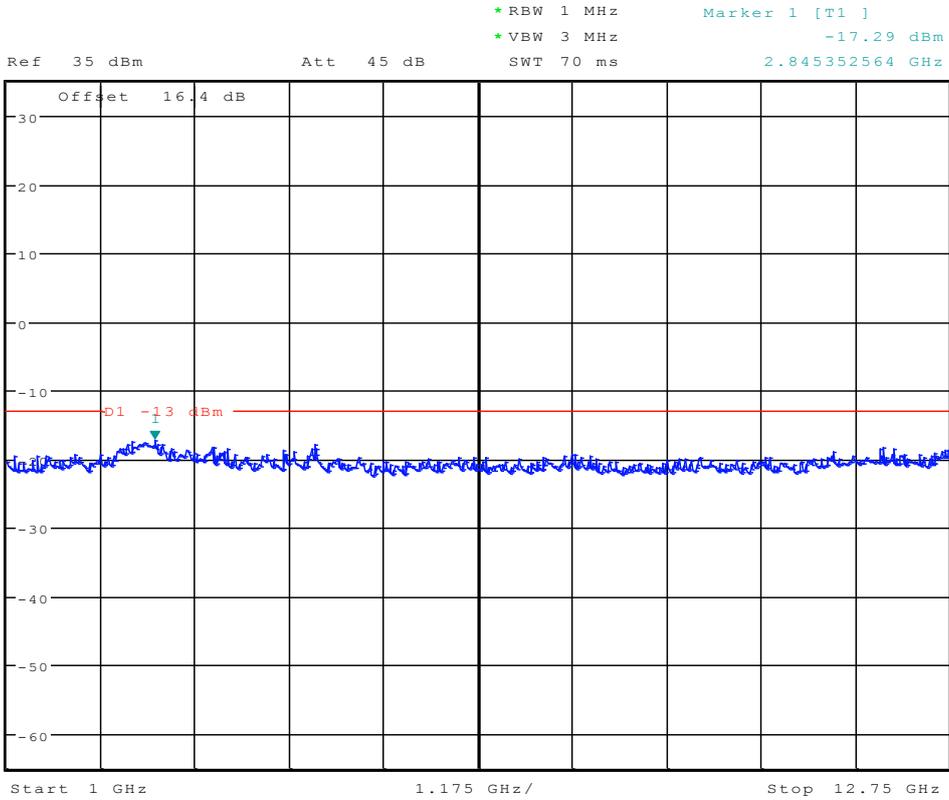
Ref 35 dBm Att 45 dB SWT 145 ms
 *RBW 1 kHz *VBW 10 kHz
 Marker 1 [T1] -38.87 dBm
 9.000000000 kHz

1 PK
 MAXH





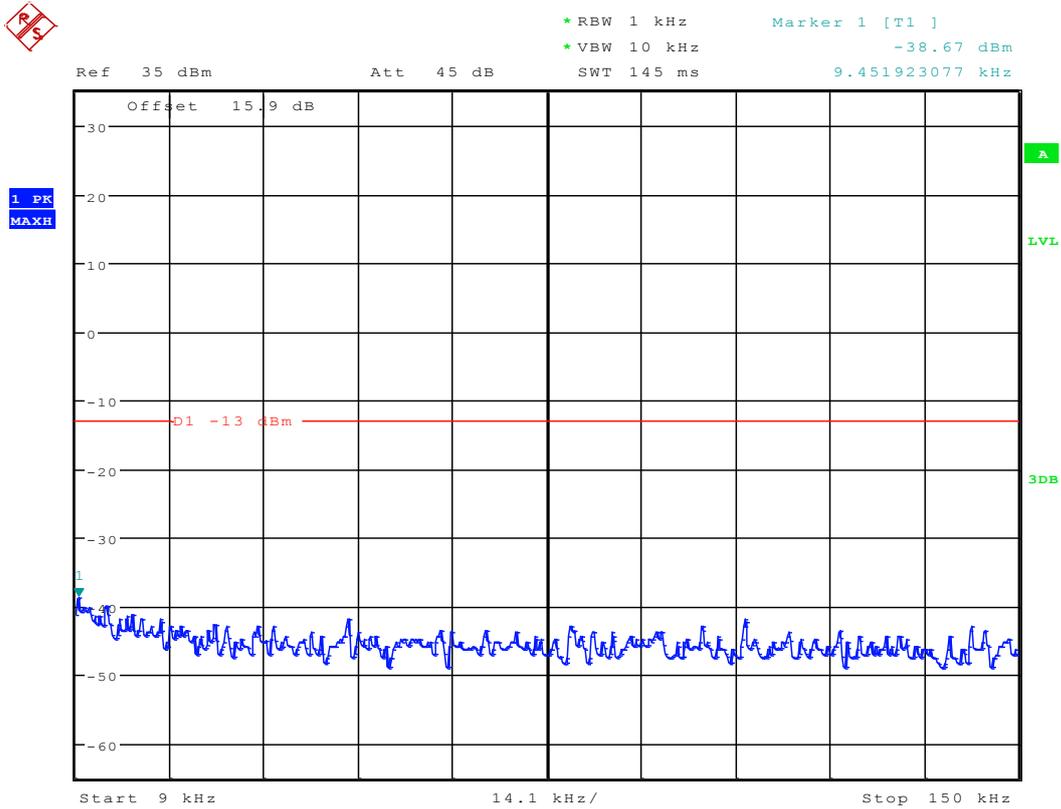






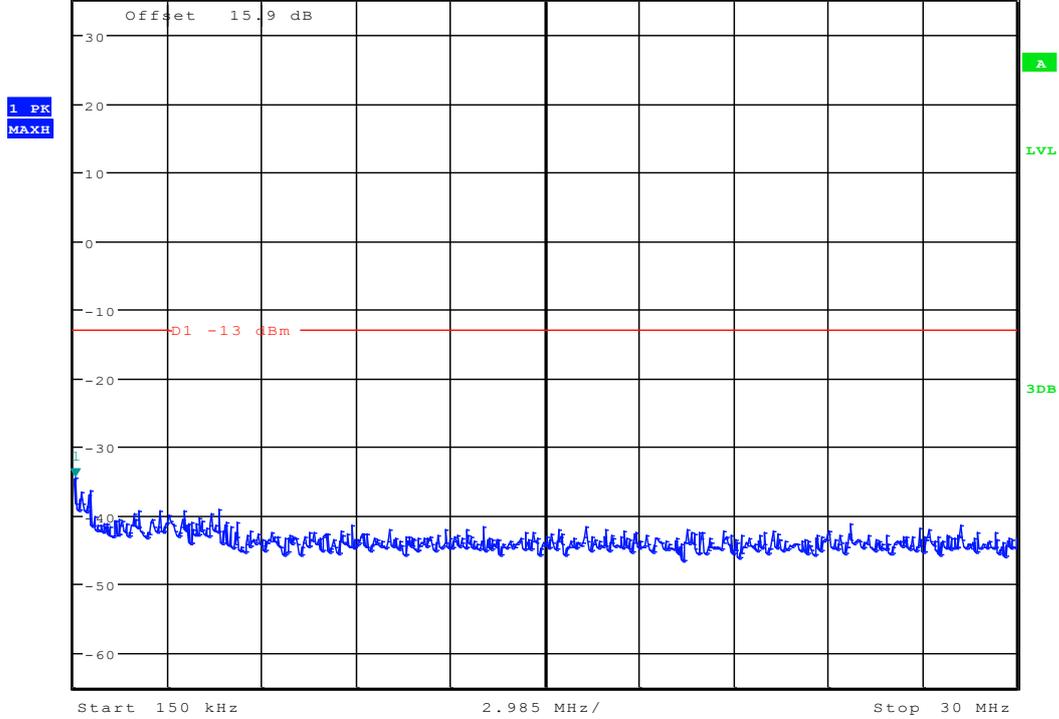
TM3

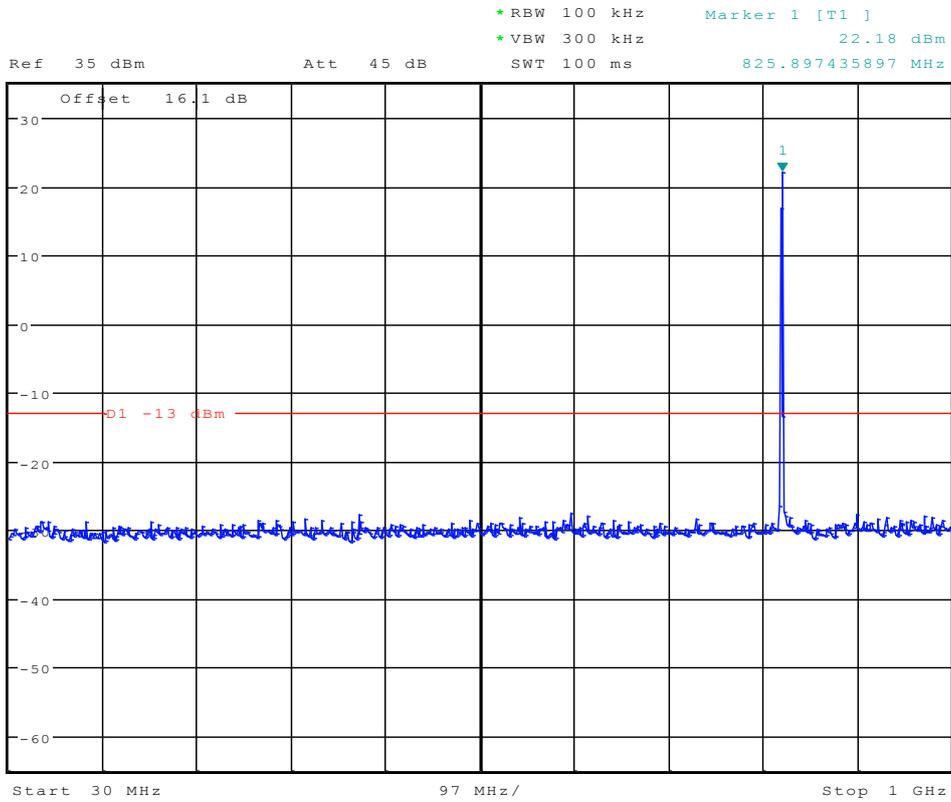
Channel 1013

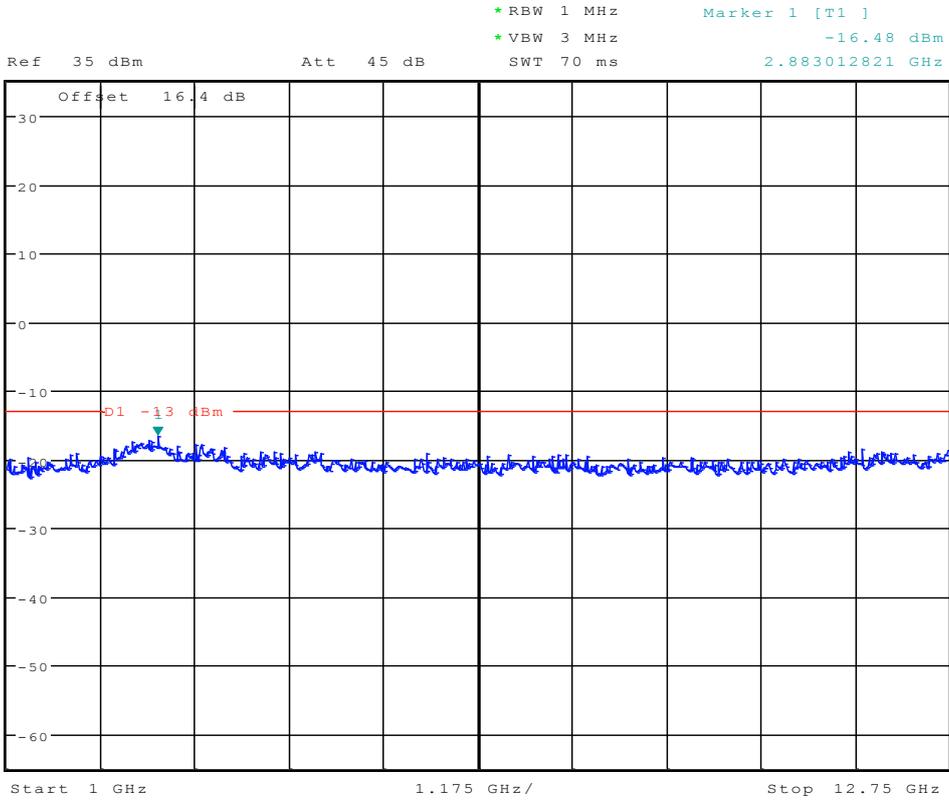




*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -34.52 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 197.836538462 kHz







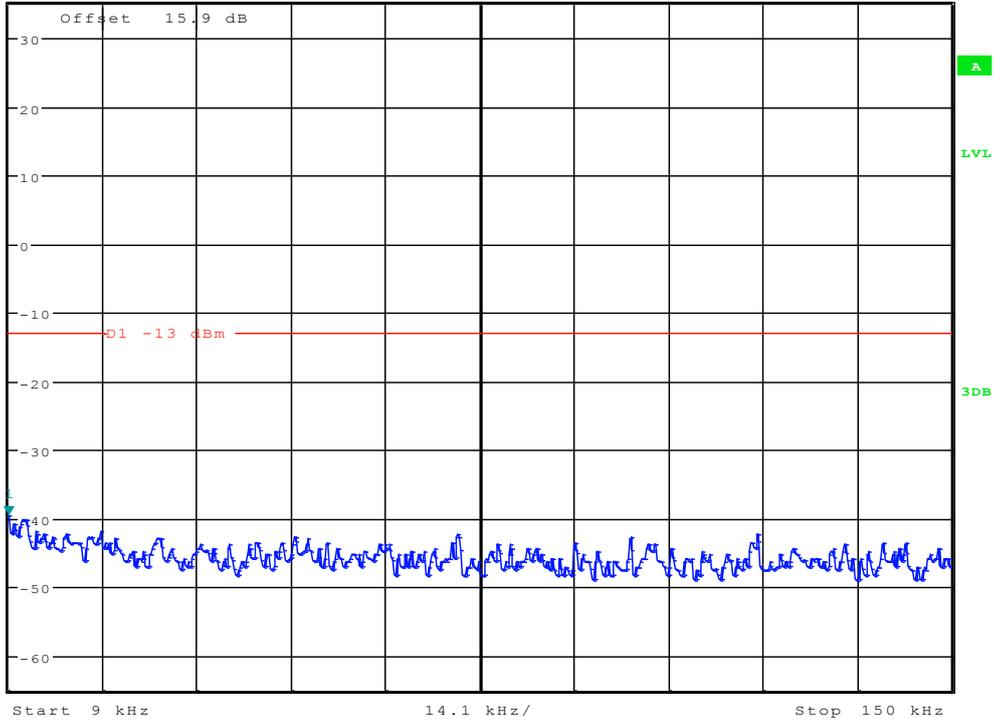


Channel 384



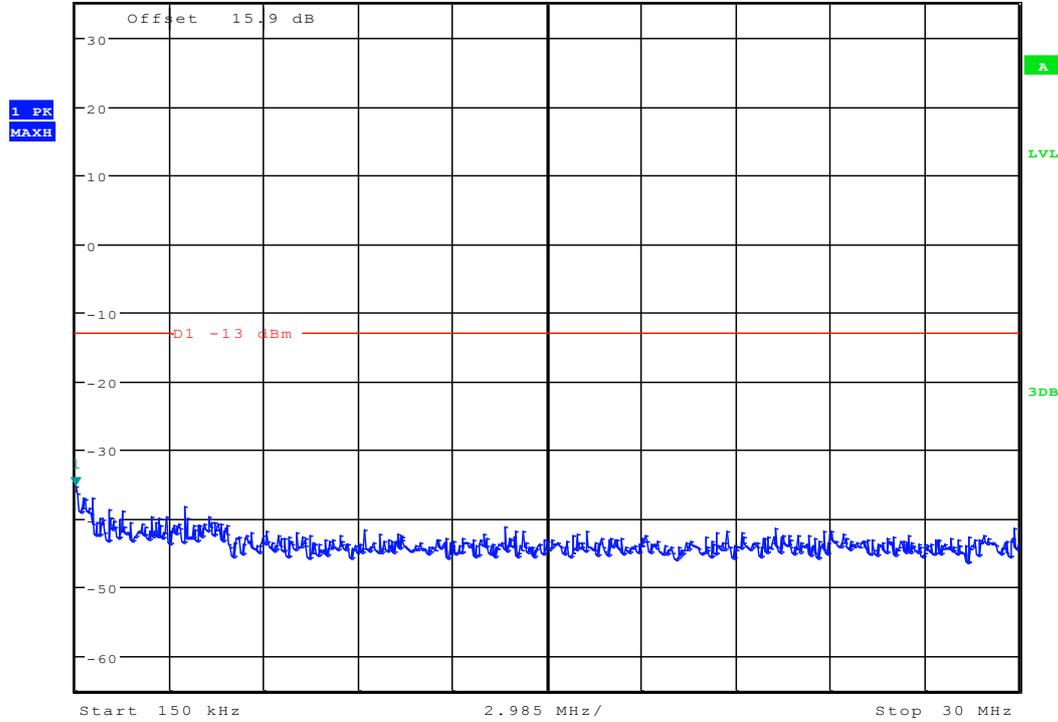
Ref 35 dBm Att 45 dB SWT 145 ms
 *RBW 1 kHz *VBW 10 kHz
 Marker 1 [T1] -39.39 dBm
 9.000000000 kHz

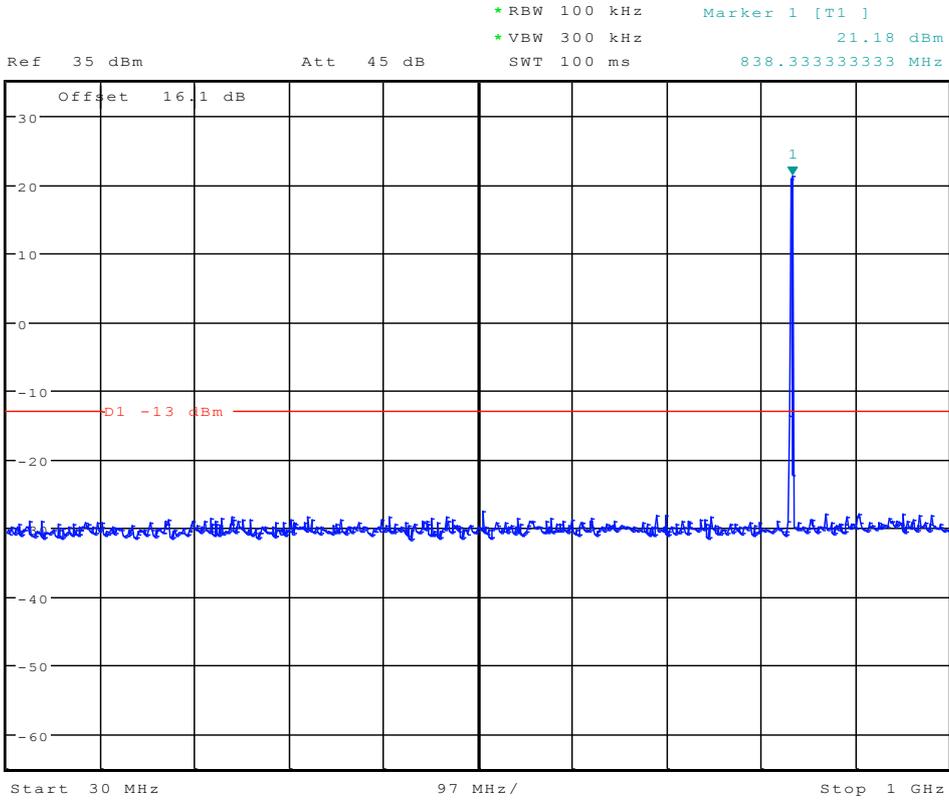
1 PK
 MAXH

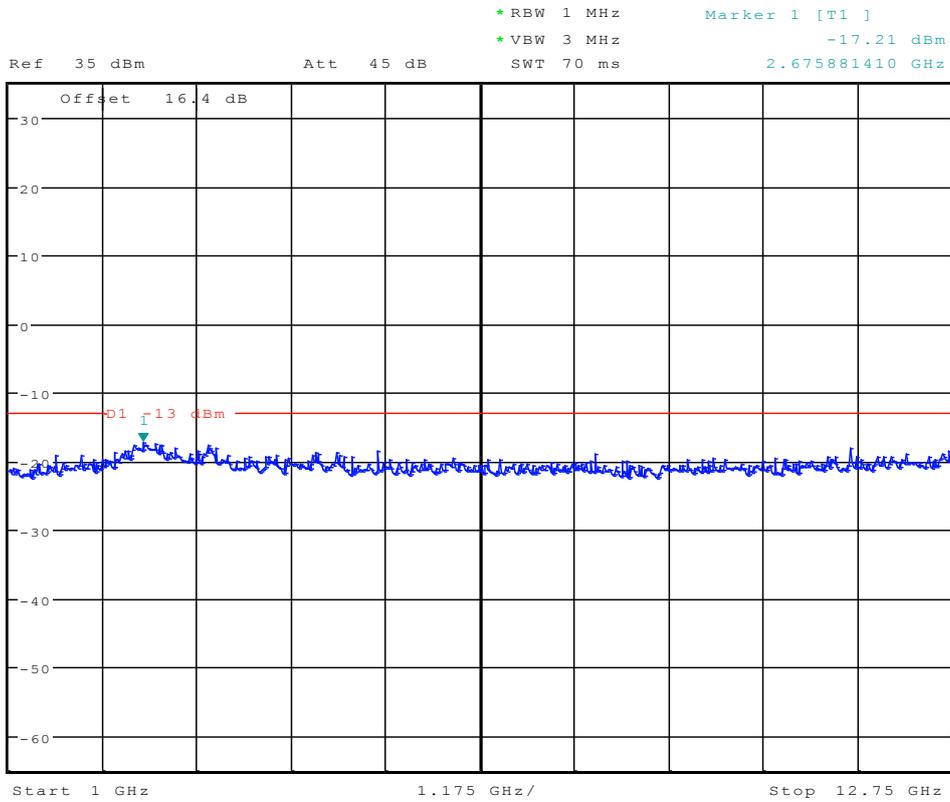




*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -35.22 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 150.000000000 kHz







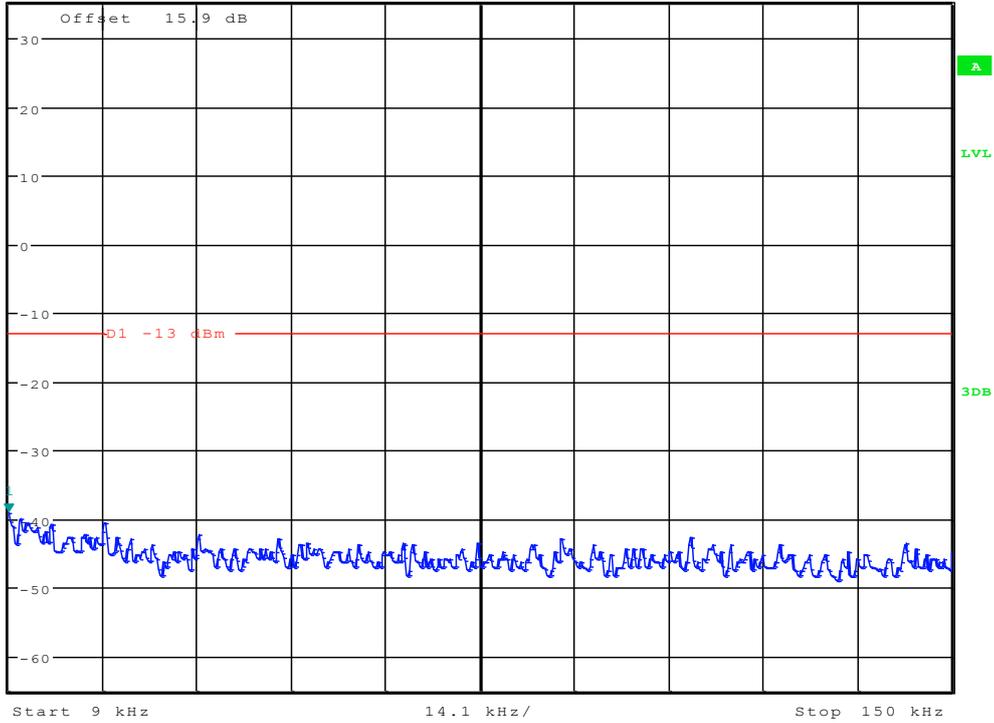


Channel 777



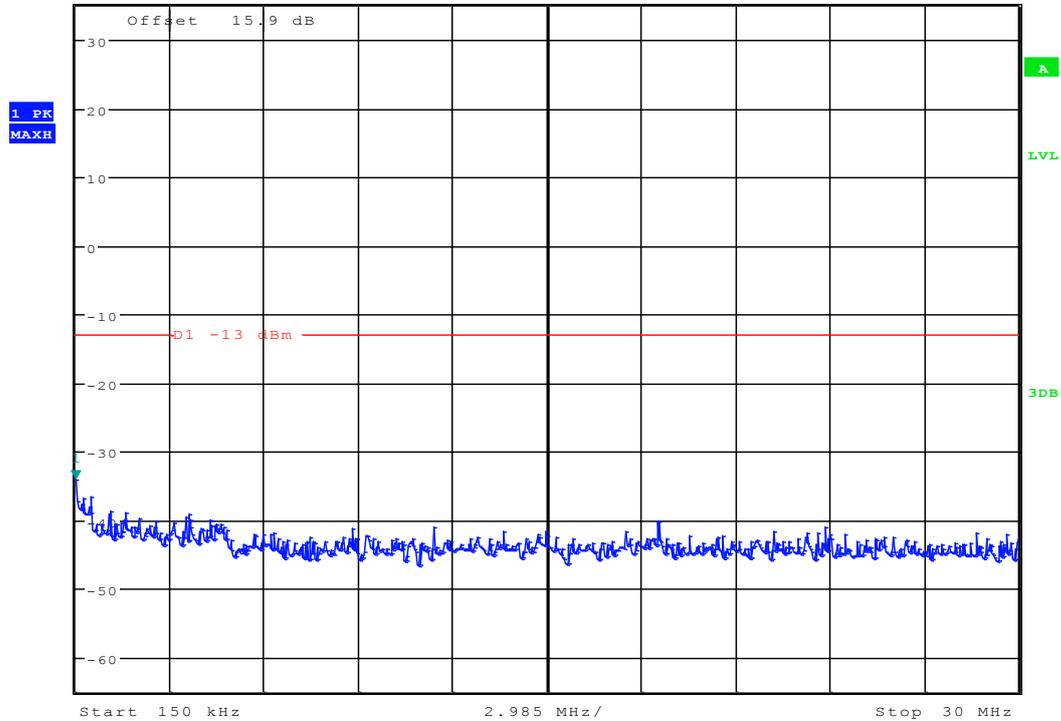
Ref 35 dBm Att 45 dB SWT 145 ms
 *RBW 1 kHz *VBW 10 kHz
 Marker 1 [T1] -39.08 dBm
 9.000000000 kHz

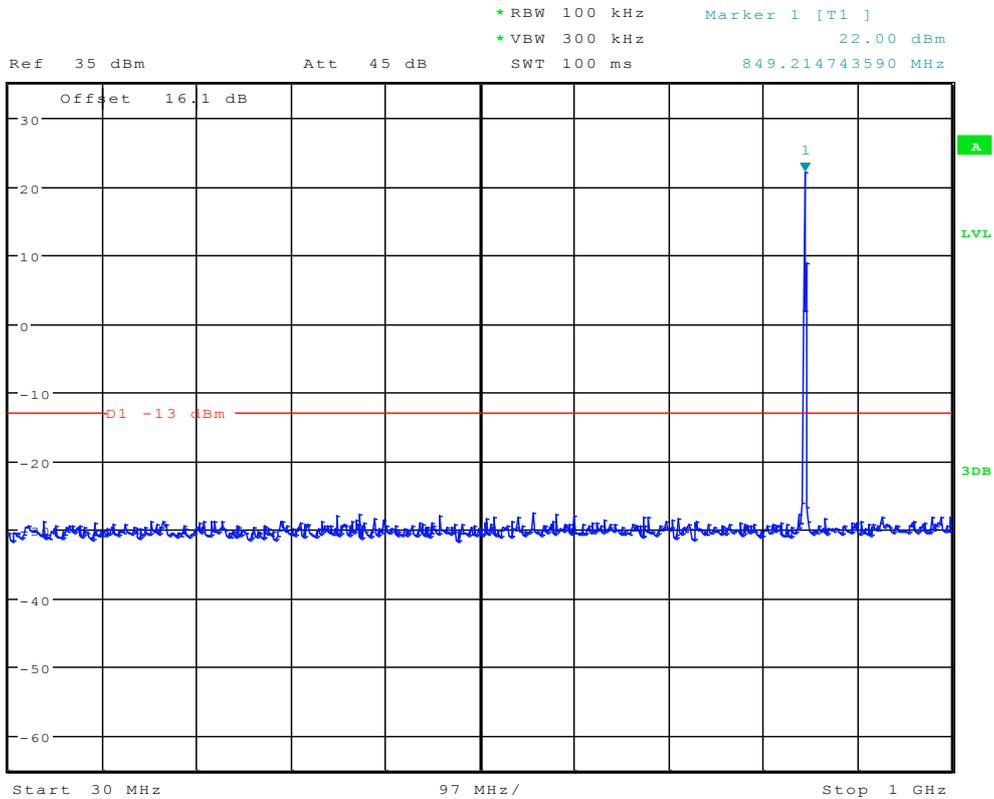
1 PK
 MAXH





Ref 35 dBm Att 45 dB SWT 300 ms
*RBW 10 kHz *VBW 30 kHz
Marker 1 [T1] -34.04 dBm
150.000000000 kHz

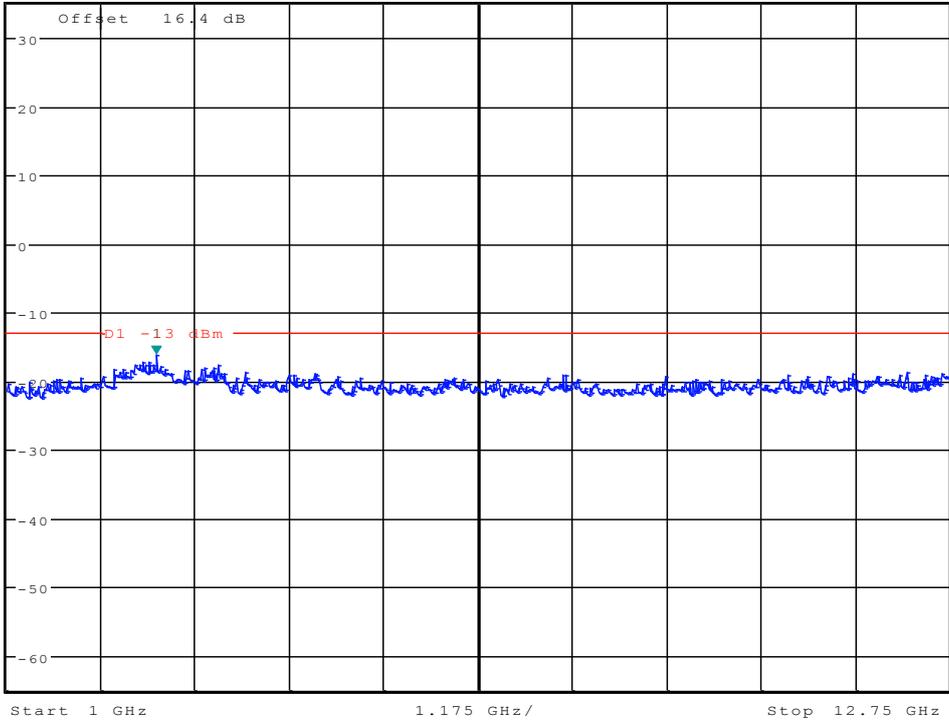






Ref 35 dBm Att 45 dB SWT 70 ms
 *RBW 1 MHz Marker 1 [T1] -16.23 dBm
 *VBW 3 MHz 2.864182692 GHz

1 PK
 MAXH



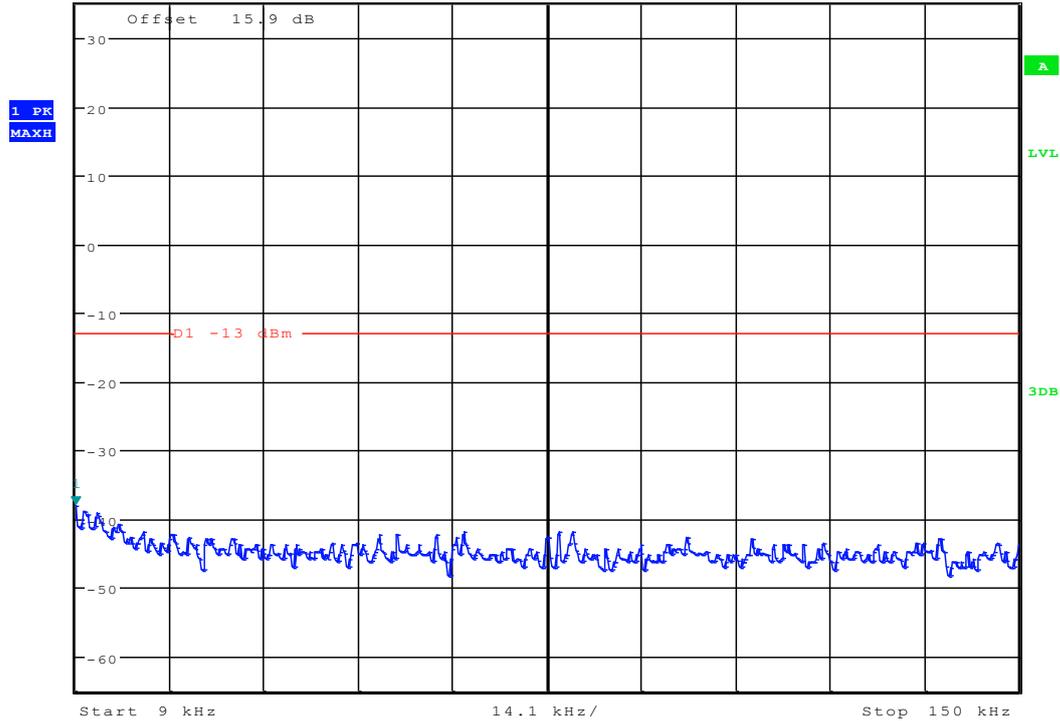


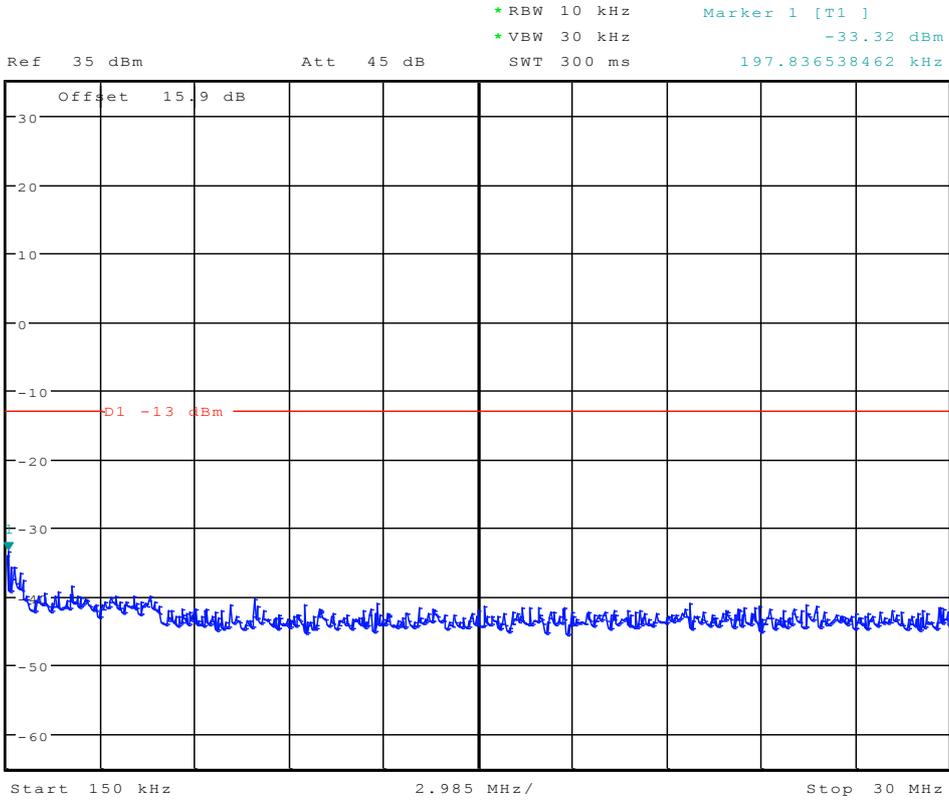
EVDO subtype 0

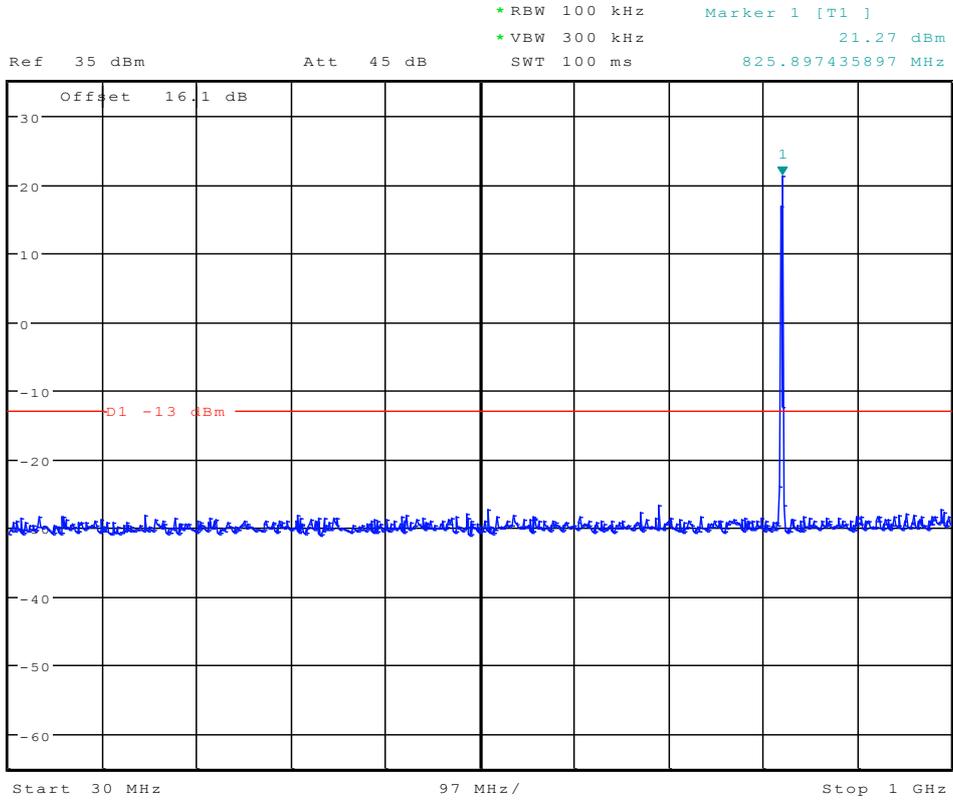
Channel 1013



Ref 35 dBm Att 45 dB SWT 145 ms
 *RBW 1 kHz *VBW 10 kHz
 Marker 1 [T1] -37.92 dBm
 9.000000000 kHz

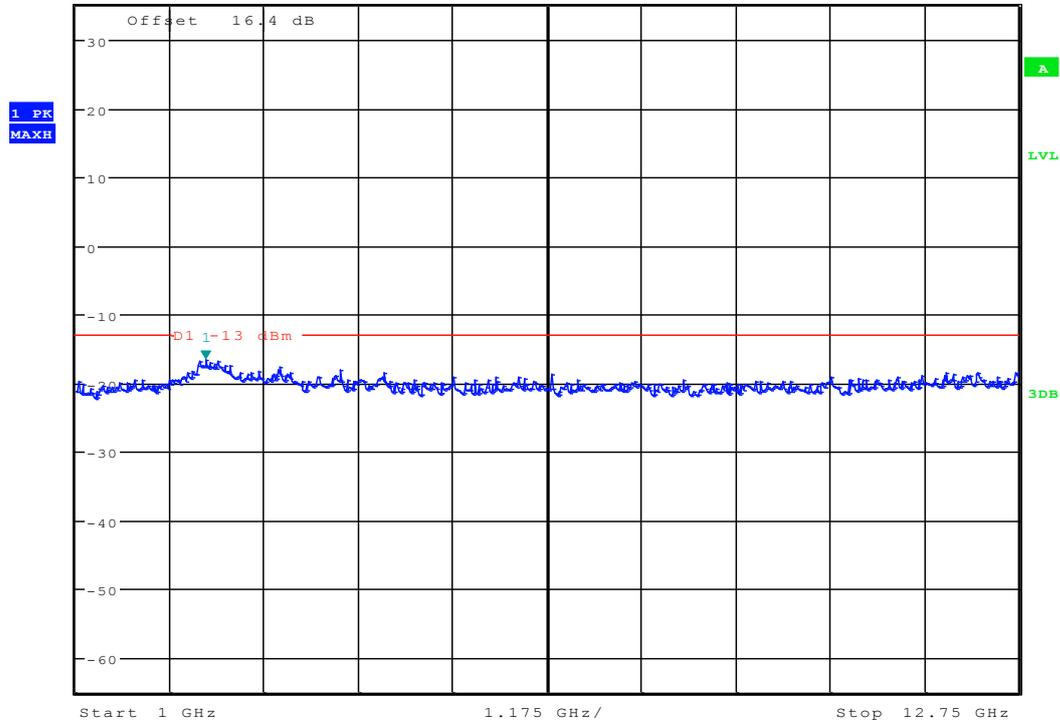








Ref 35 dBm Att 45 dB SWT 70 ms
 *RBW 1 MHz *VBW 3 MHz
 Marker 1 [T1] -16.66 dBm
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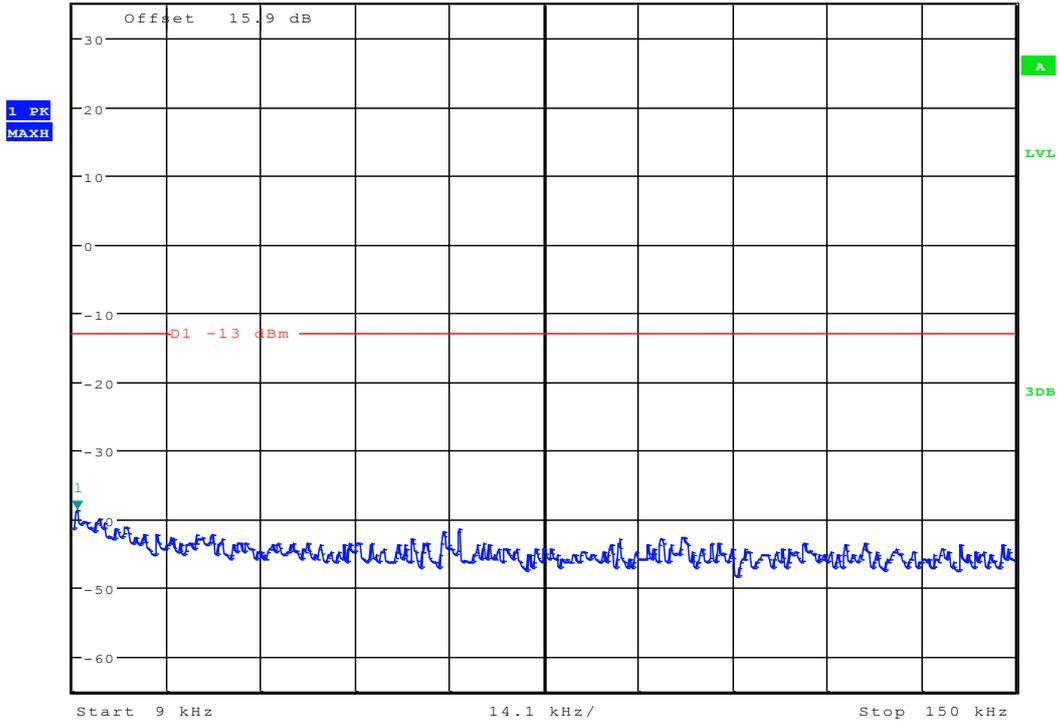


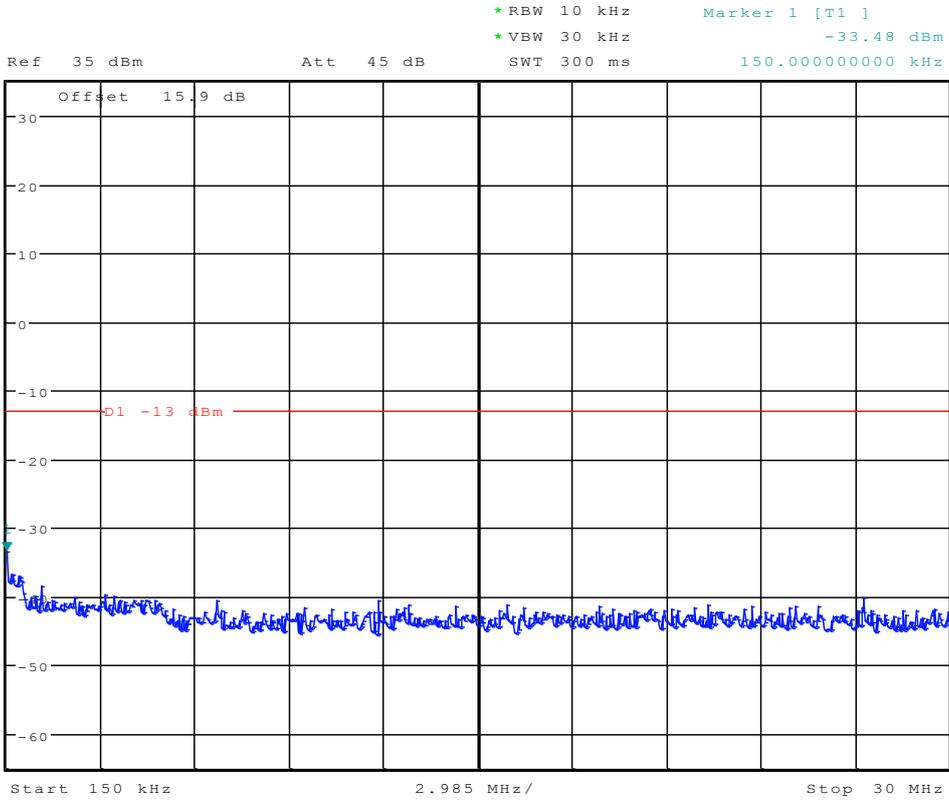


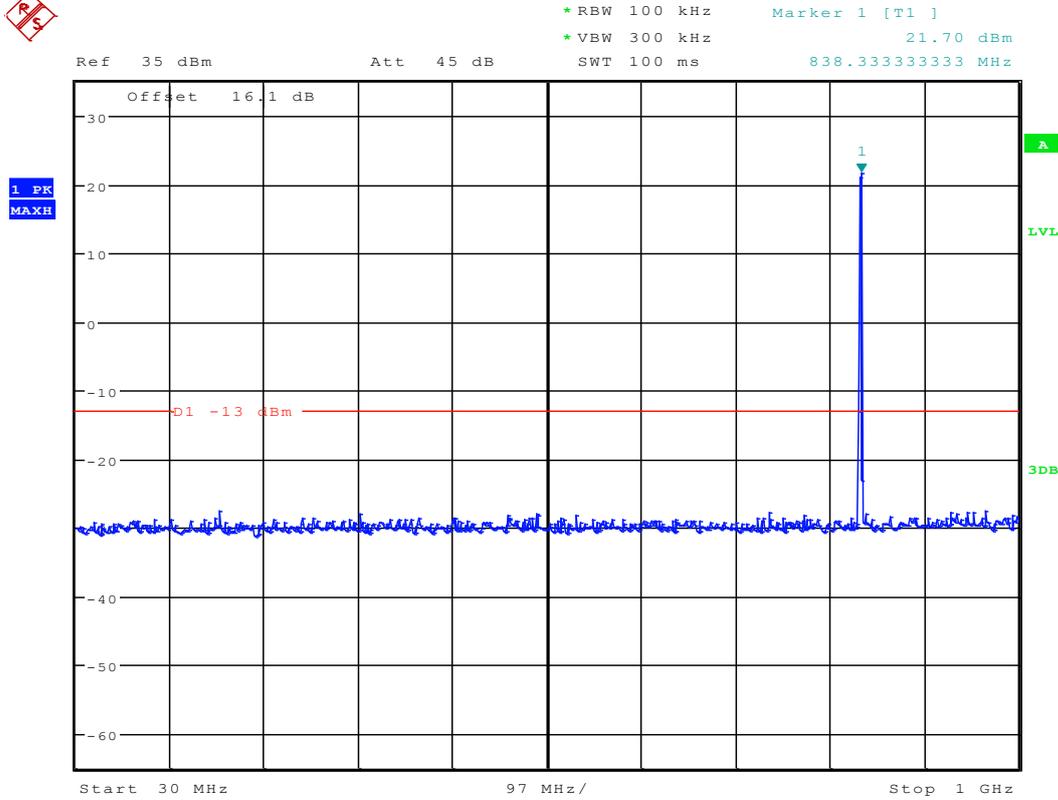
Channel 384

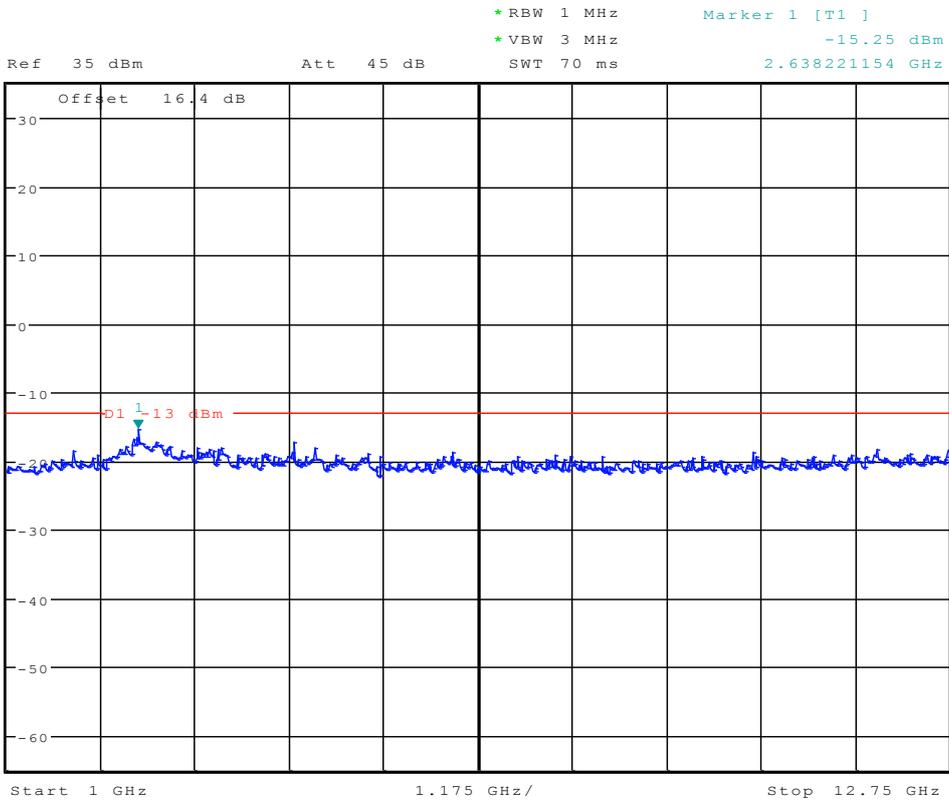


Ref 35 dBm Att 45 dB *RBW 1 kHz *VBW 10 kHz SWT 145 ms Marker 1 [T1] -38.67 dBm
 9.677884615 kHz









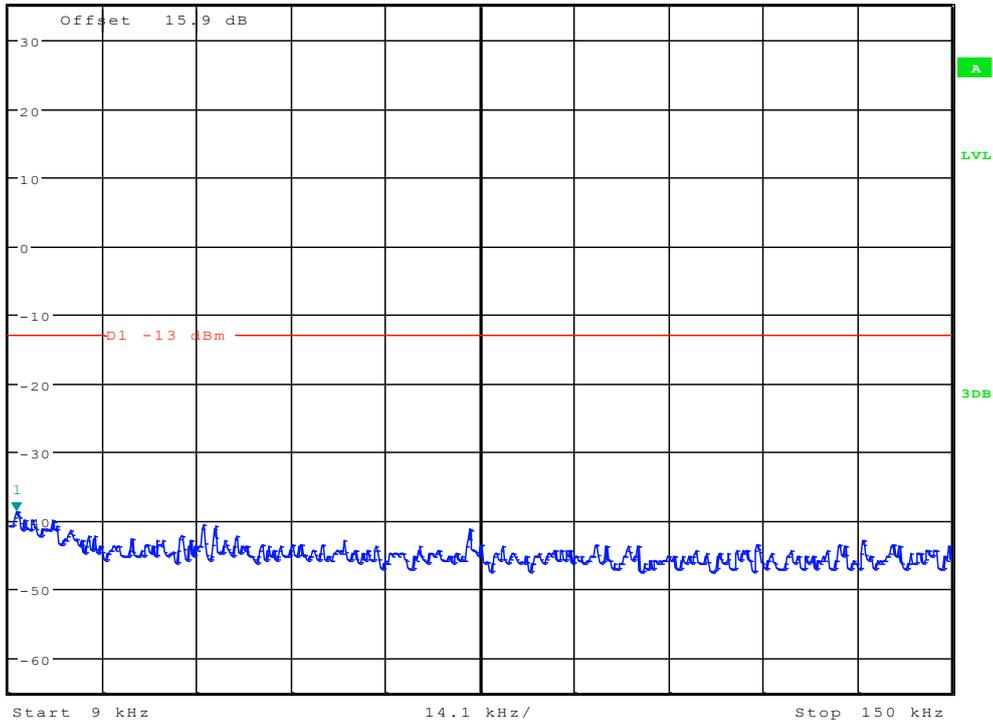


Channel 777



Ref 35 dBm Att 45 dB *RBW 1 kHz *VBW 10 kHz SWT 145 ms Marker 1 [T1] -38.67 dBm
 10.129807692 kHz

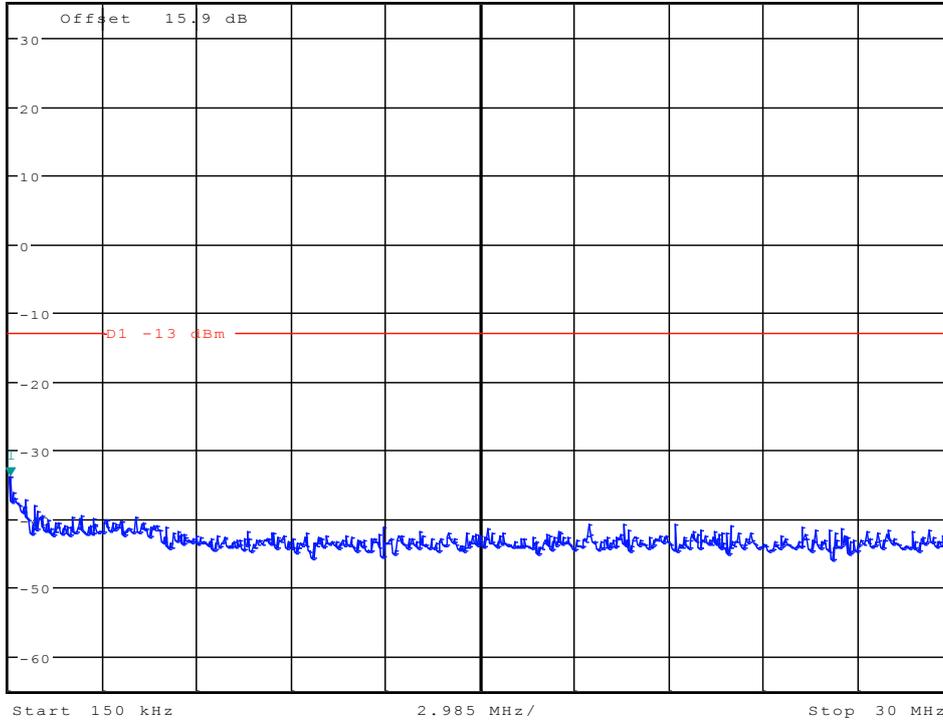
1 PK
 MAXH

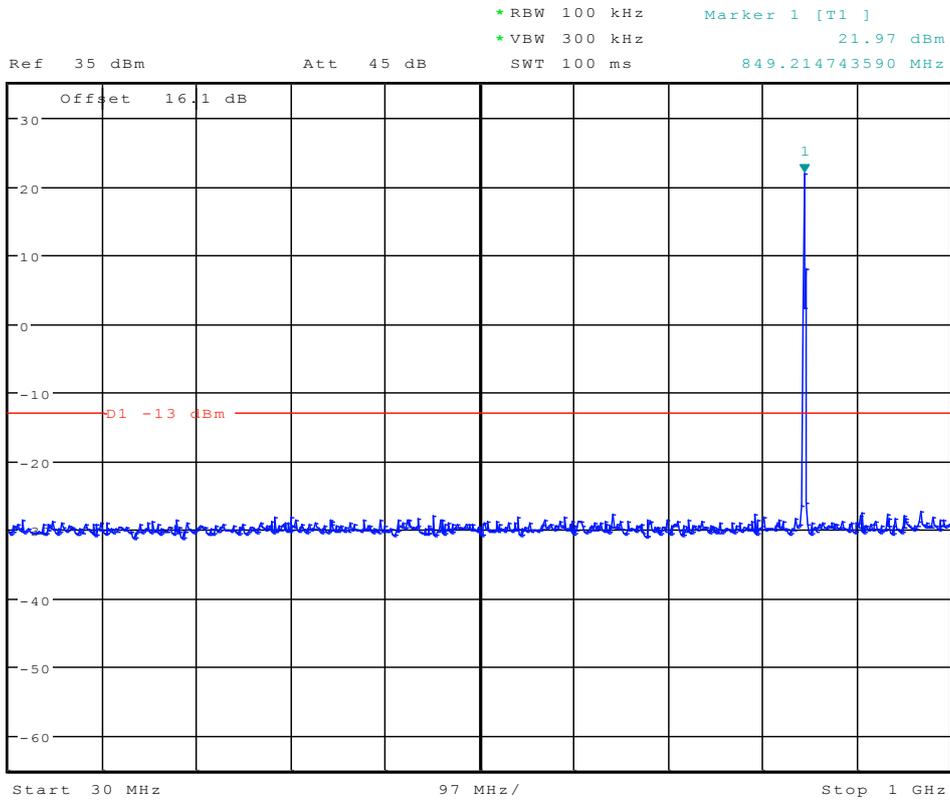


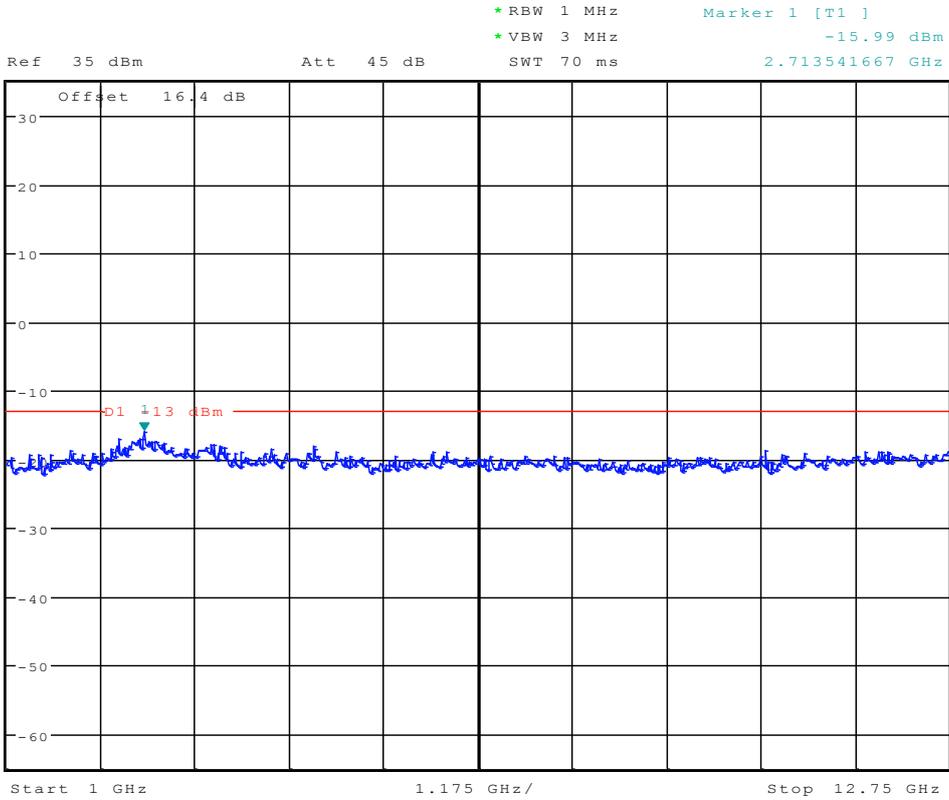


*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -33.76 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 197.836538462 kHz

1 PK
 MAXH





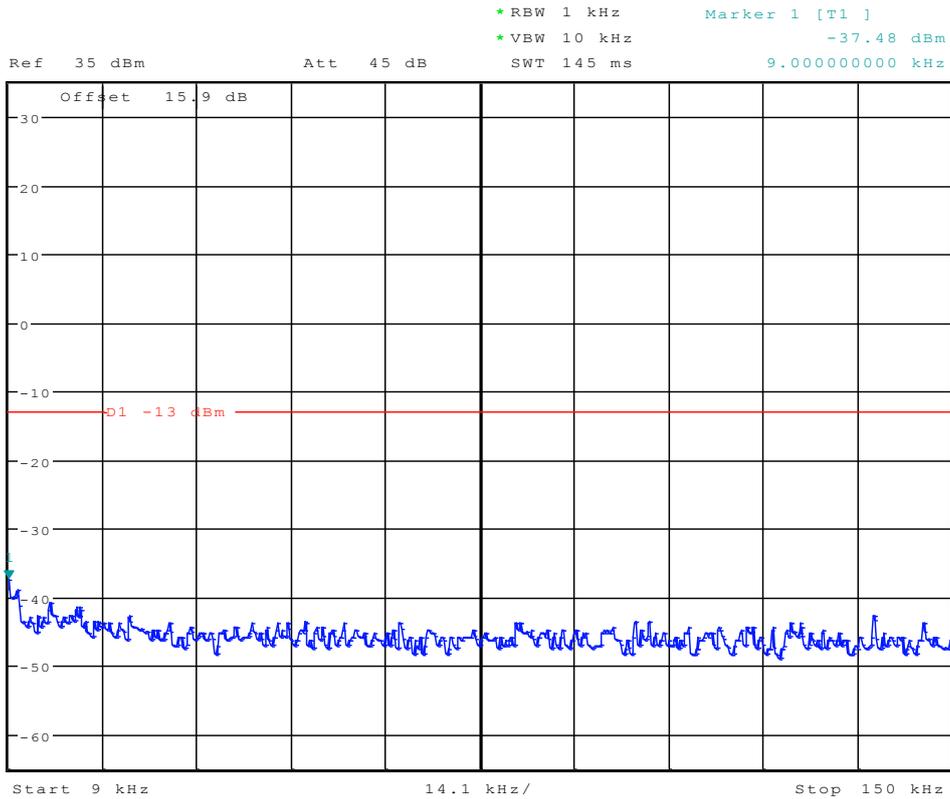




EVDO subtype 2

Modulation: BPSK

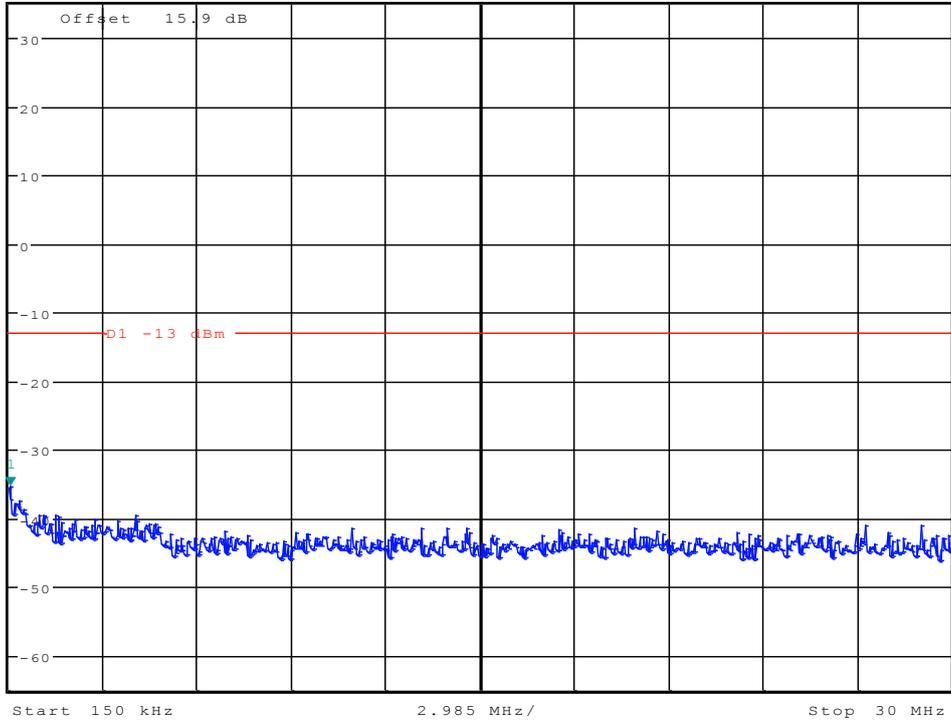
Channel 1013

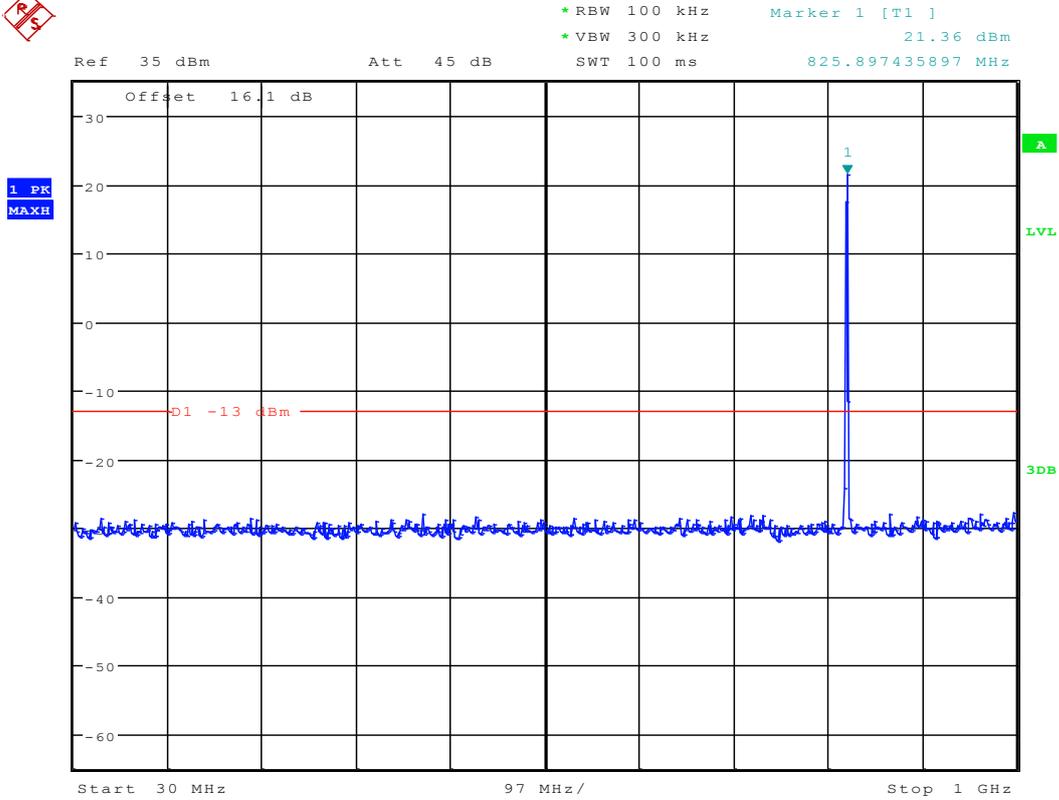




*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -35.35 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 197.836538462 kHz

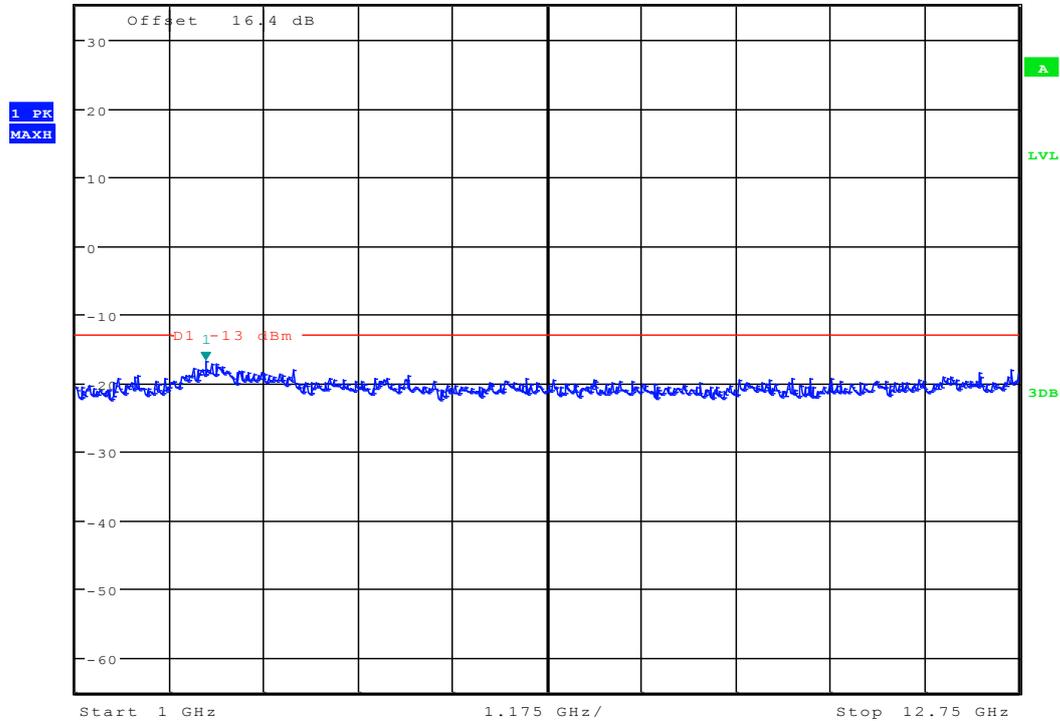
1 PK
 MAXH





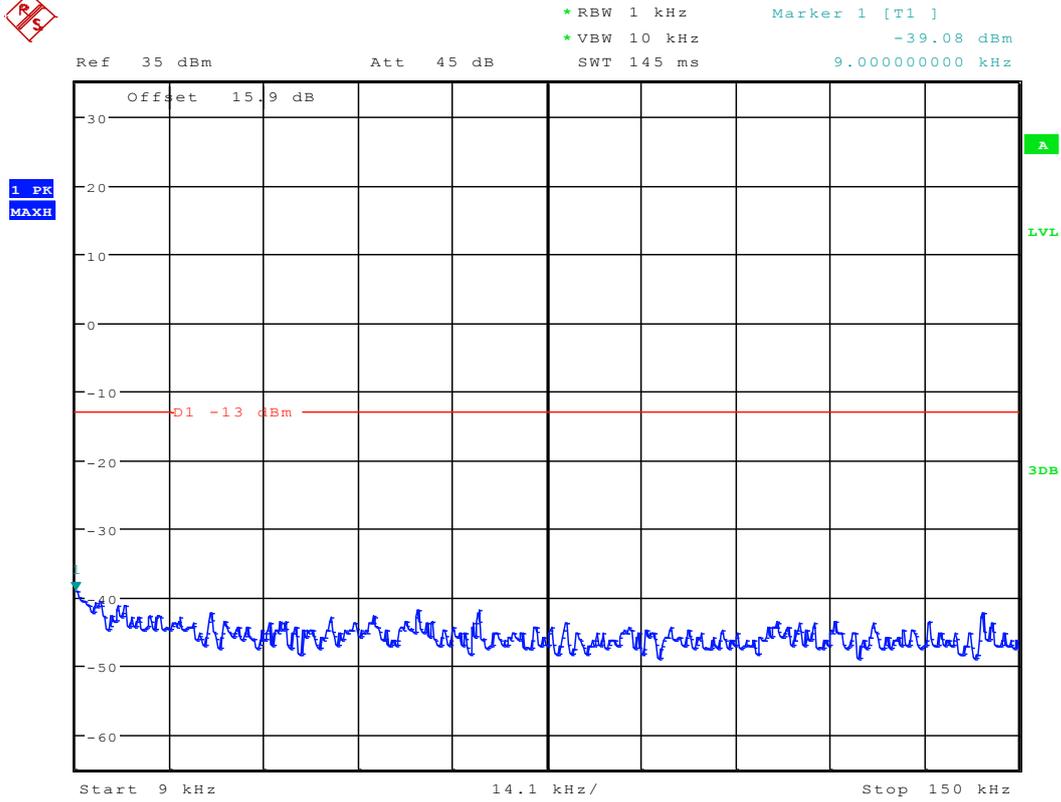


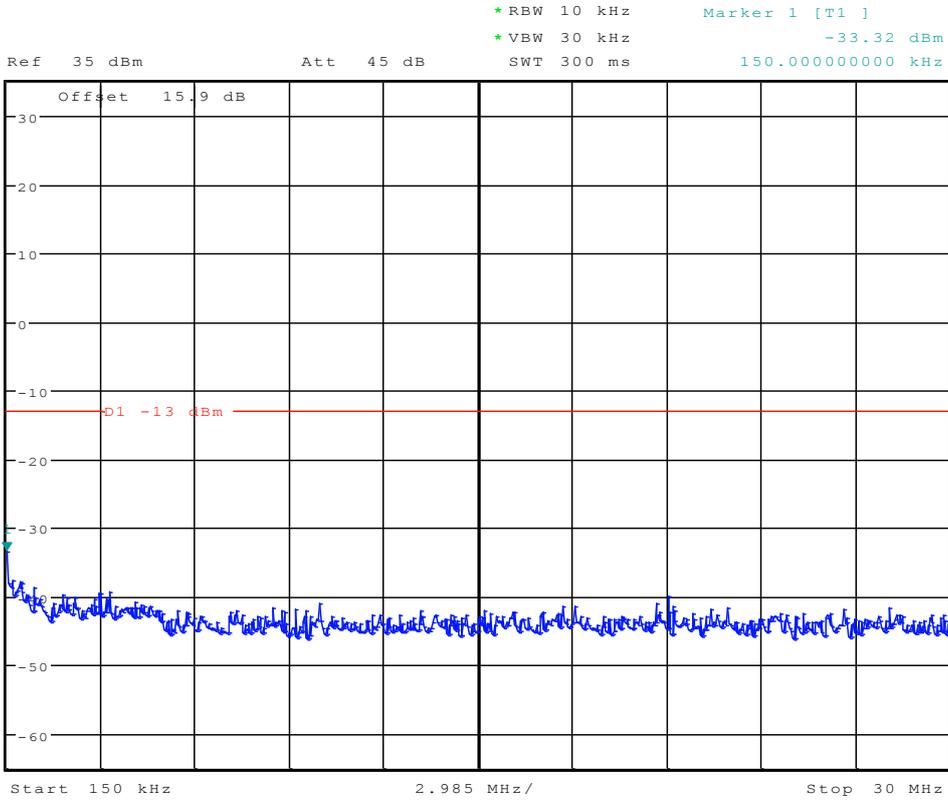
Ref 35 dBm Att 45 dB SWT 70 ms
 *RBW 1 MHz Marker 1 [T1] -16.88 dBm
 *VBW 3 MHz 2.619391026 GHz

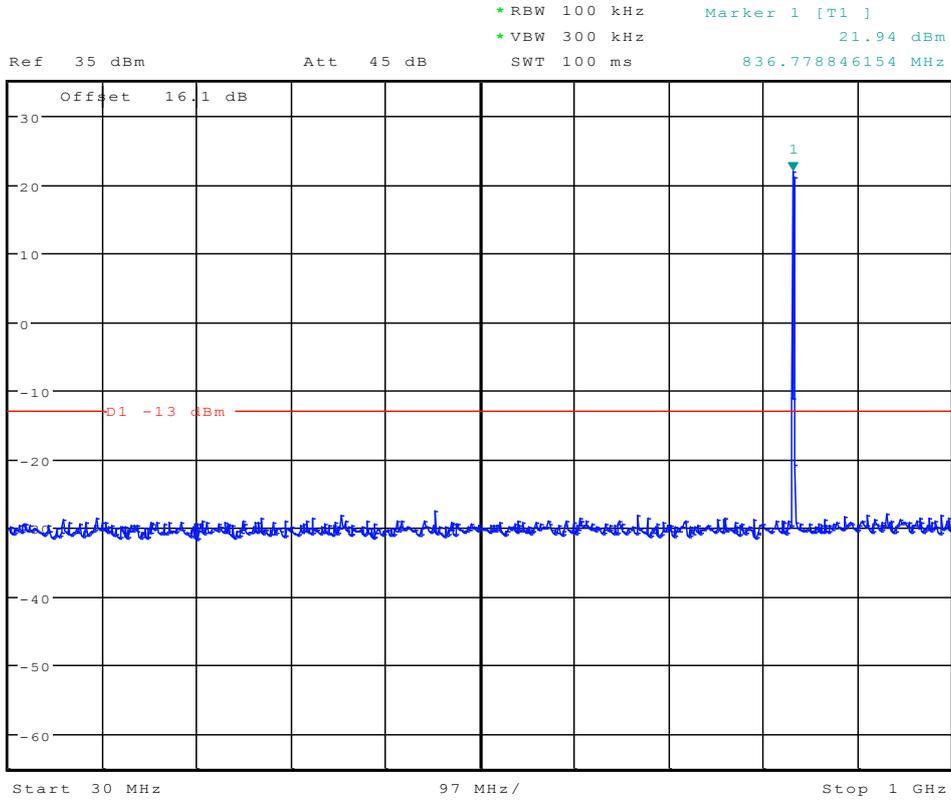


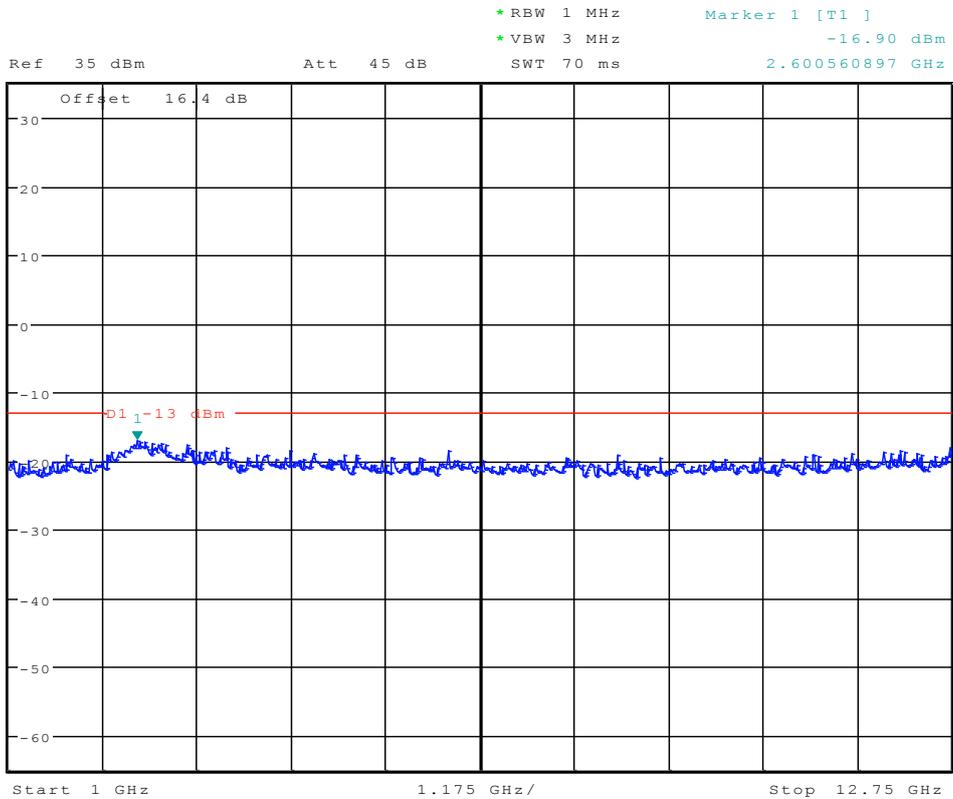


Channel 384









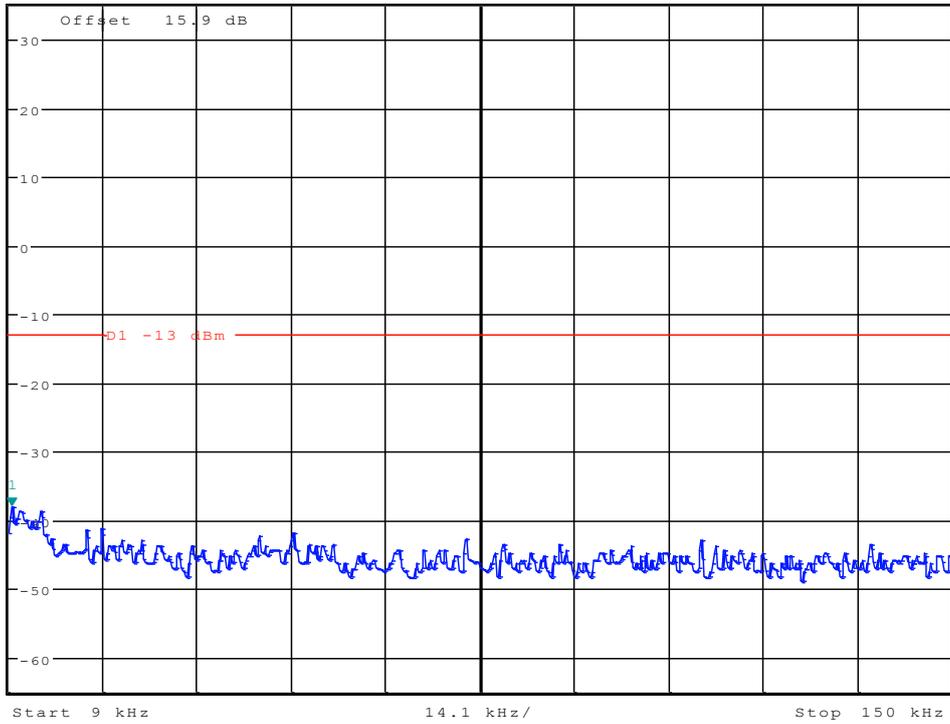


Channel 777



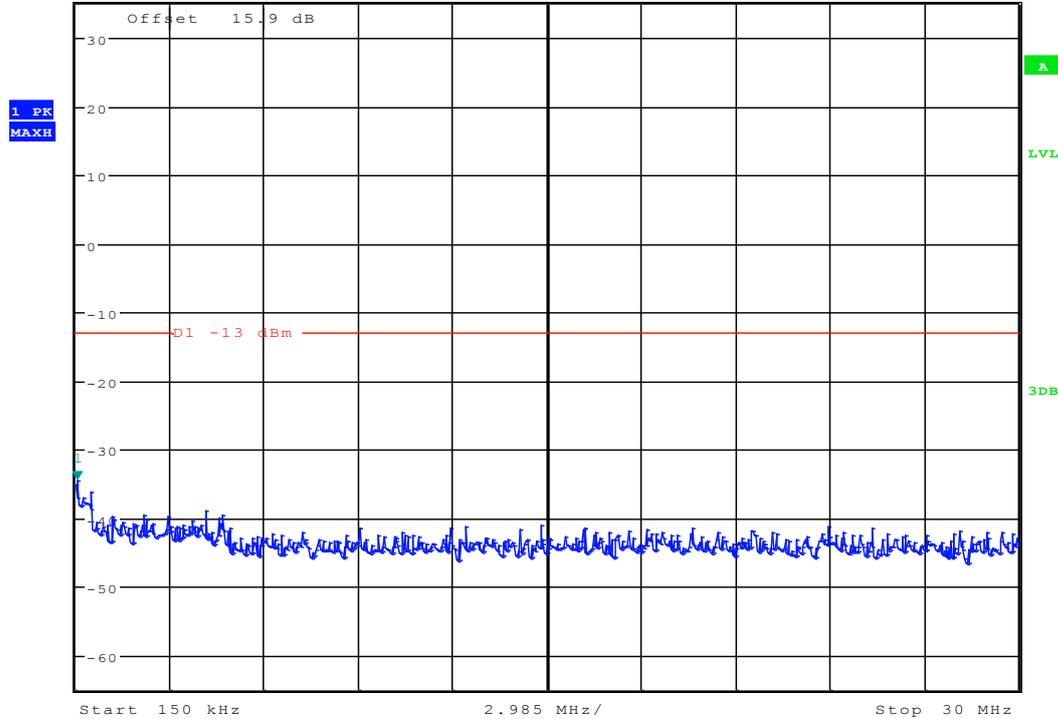
*RBW 1 kHz Marker 1 [T1]
 *VBW 10 kHz -37.92 dBm
 Ref 35 dBm Att 45 dB SWT 145 ms 9.451923077 kHz

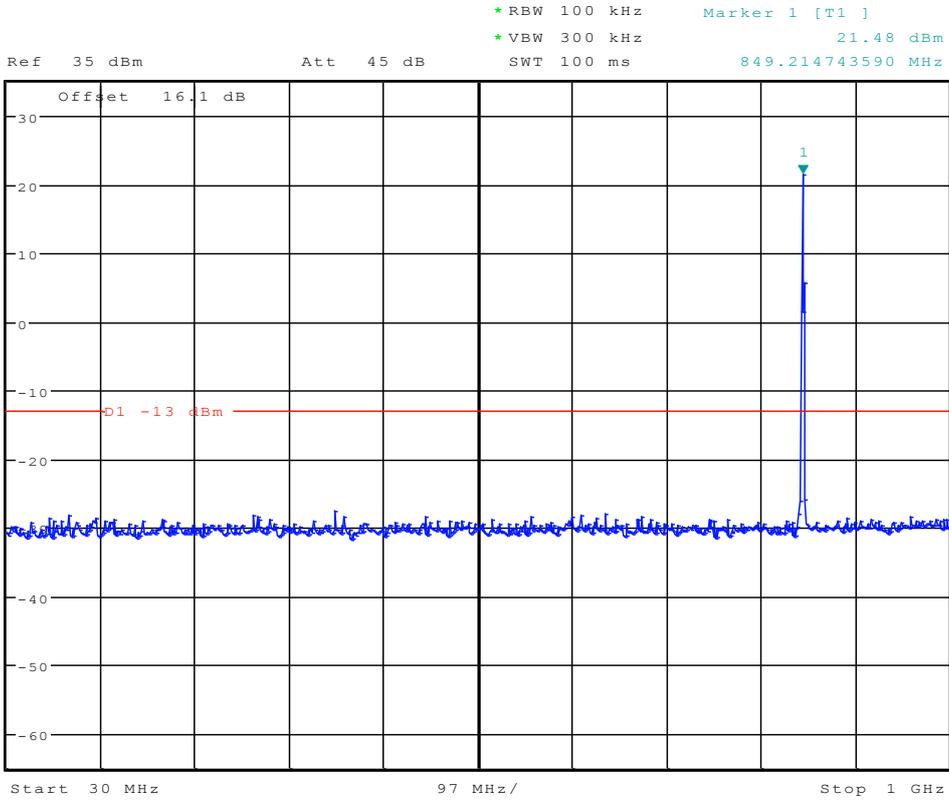
1 PK
MAXH

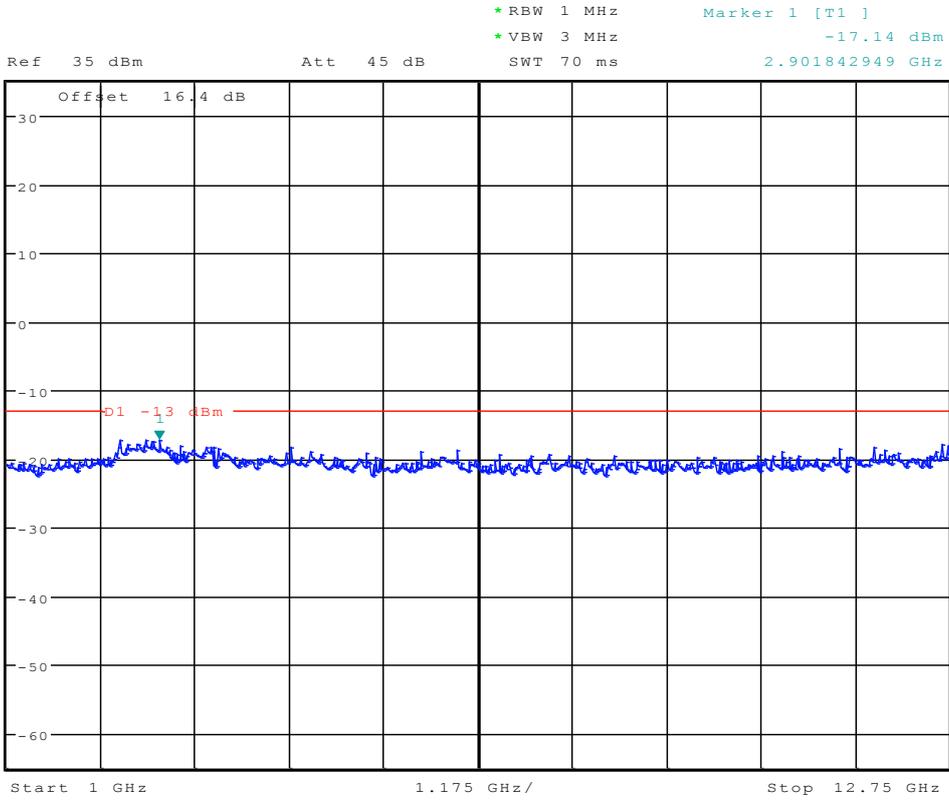




*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -34.52 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 197.836538462 kHz



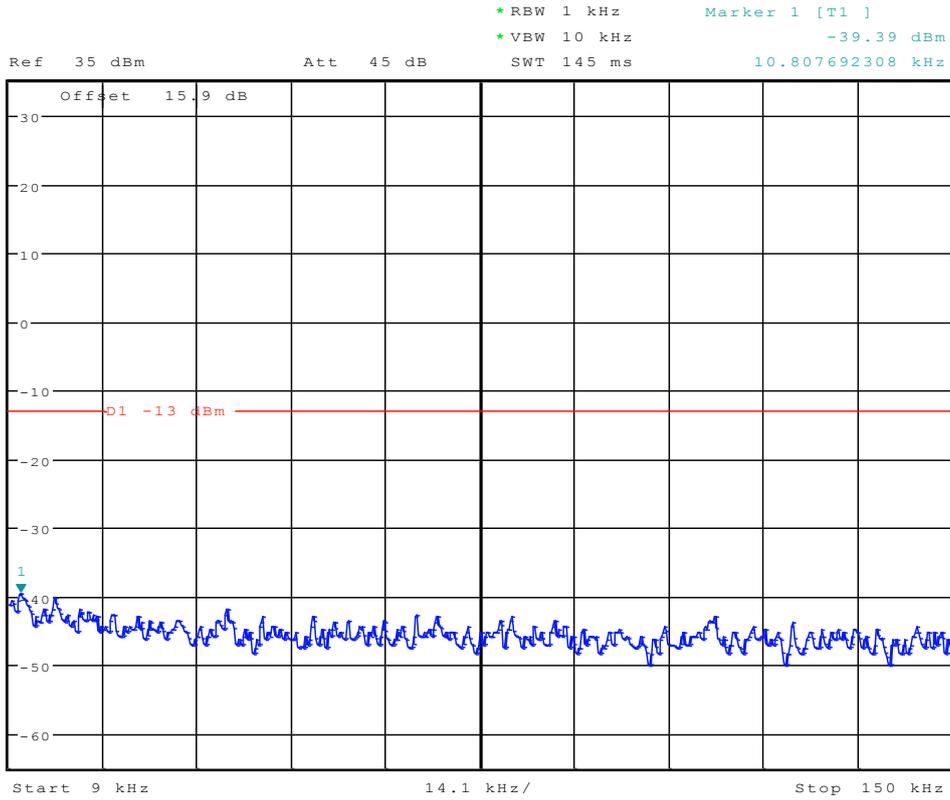






Modulation: QPSK

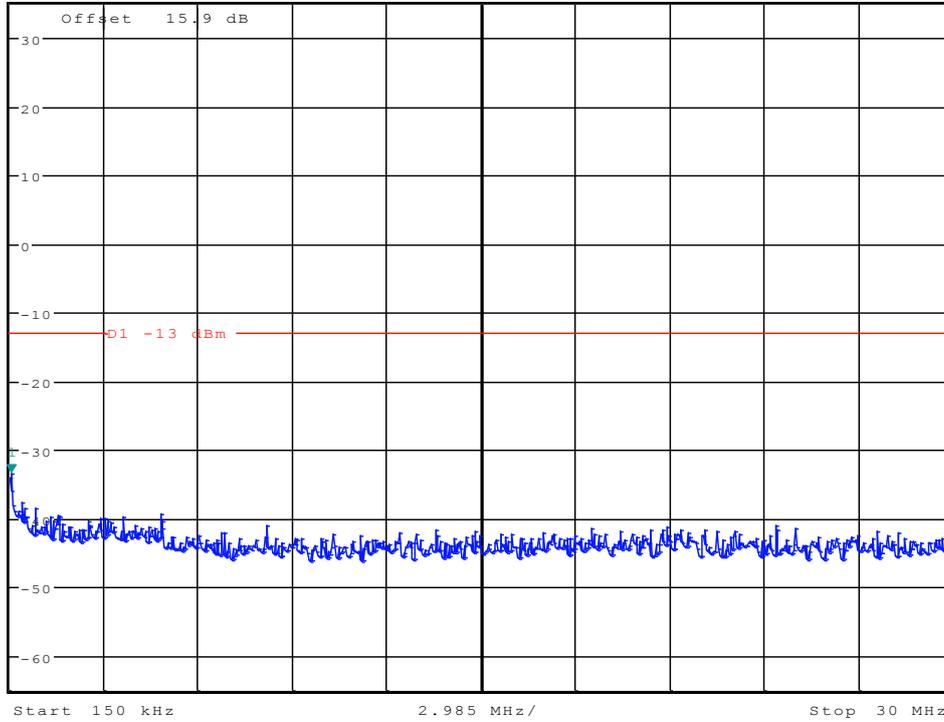
Channel 1013

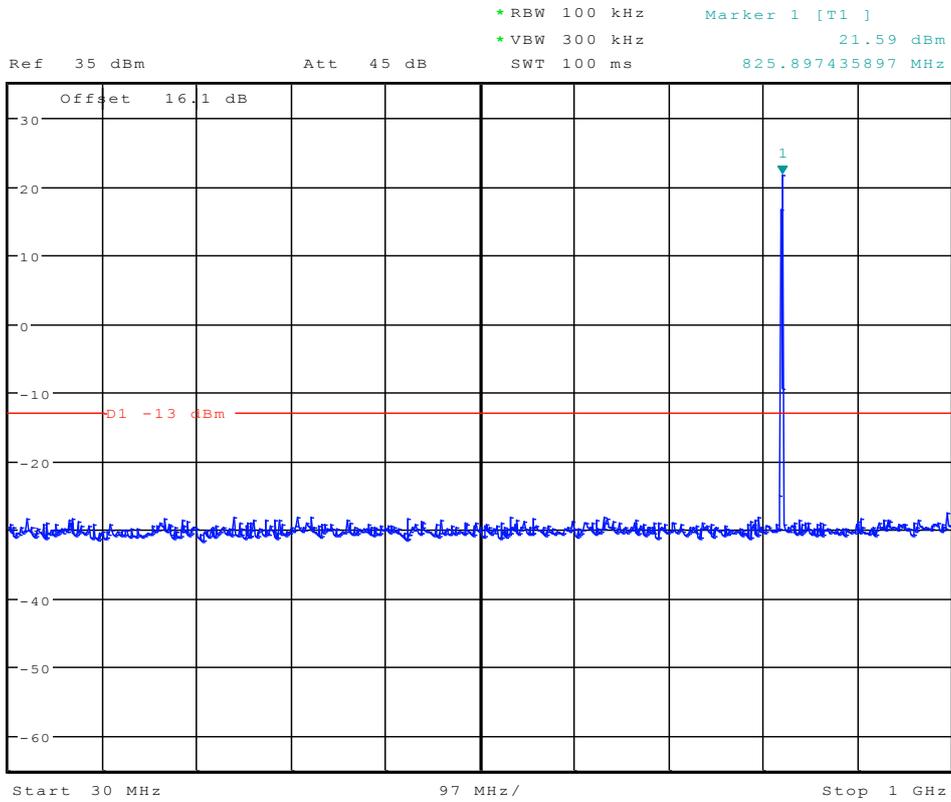




*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -33.32 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 197.836538462 kHz

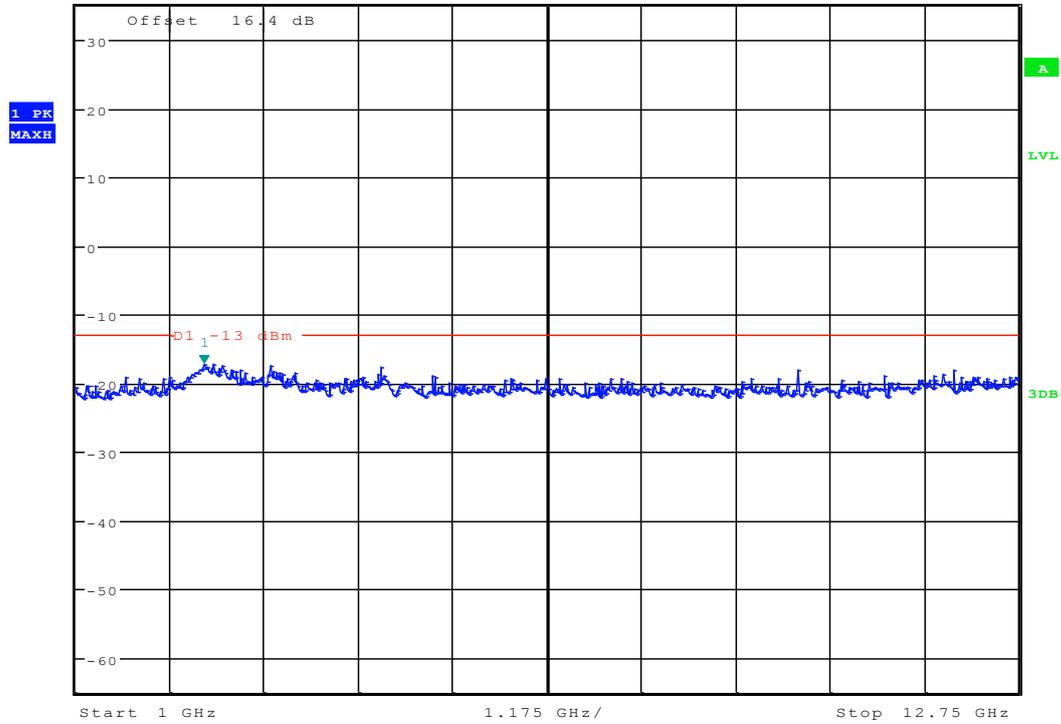
1 PK
 MAXH







Ref 35 dBm Att 45 dB SWT 70 ms
 *RBW 1 MHz *VBW 3 MHz
 Marker 1 [T1] -17.20 dBm
 2.600560897 GHz



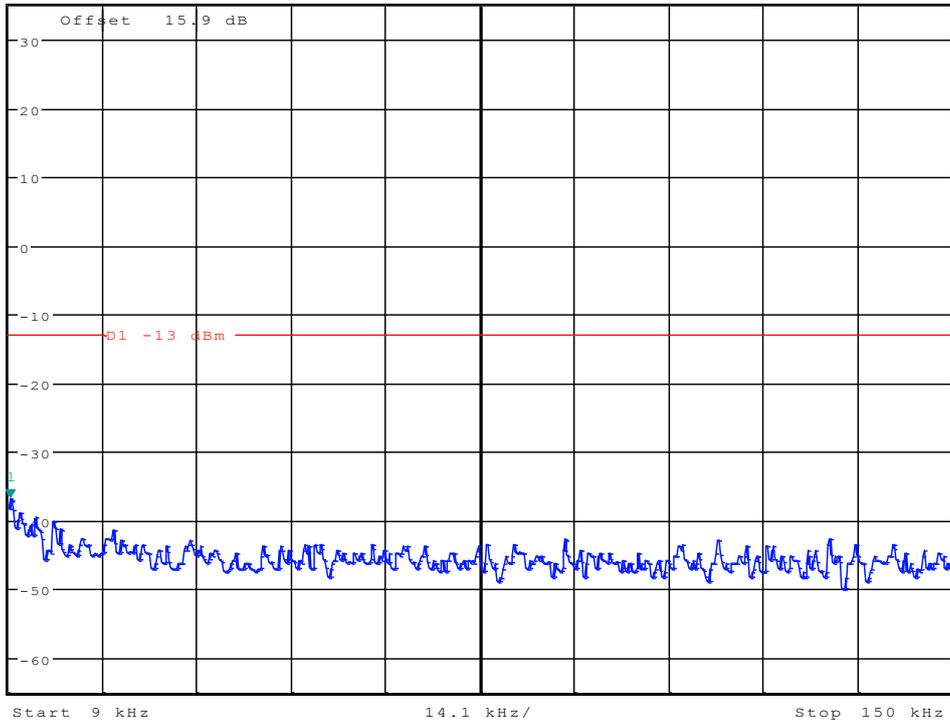


Channel 384



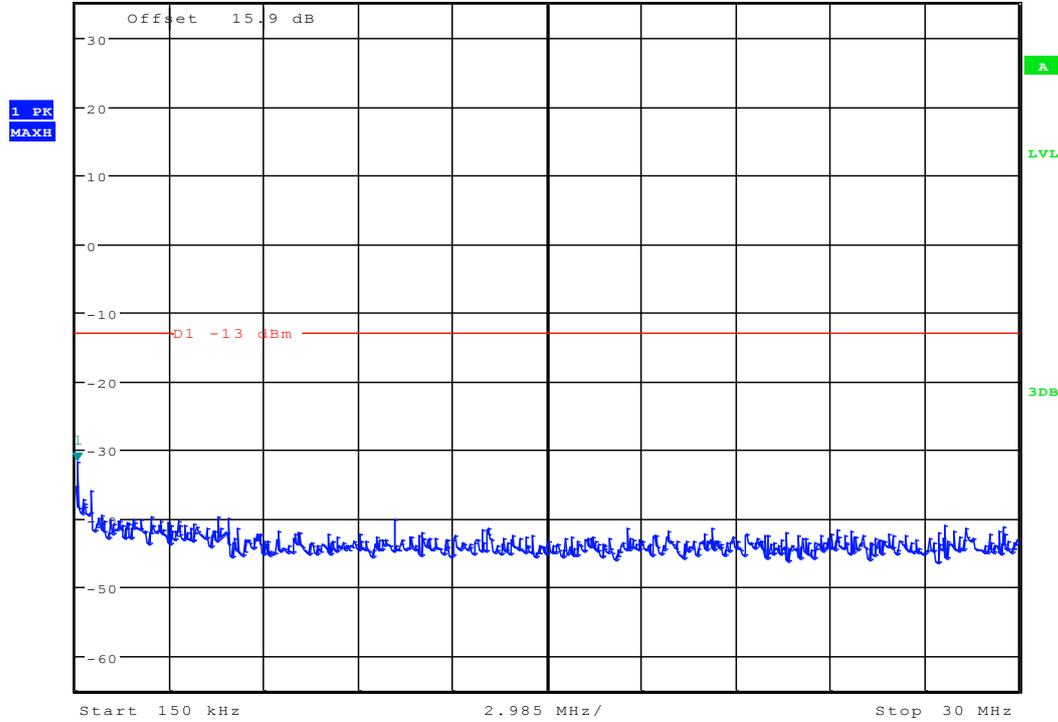
*RBW 1 kHz Marker 1 [T1]
 *VBW 10 kHz -36.66 dBm
 Ref 35 dBm Att 45 dB SWT 145 ms 9.225961538 kHz

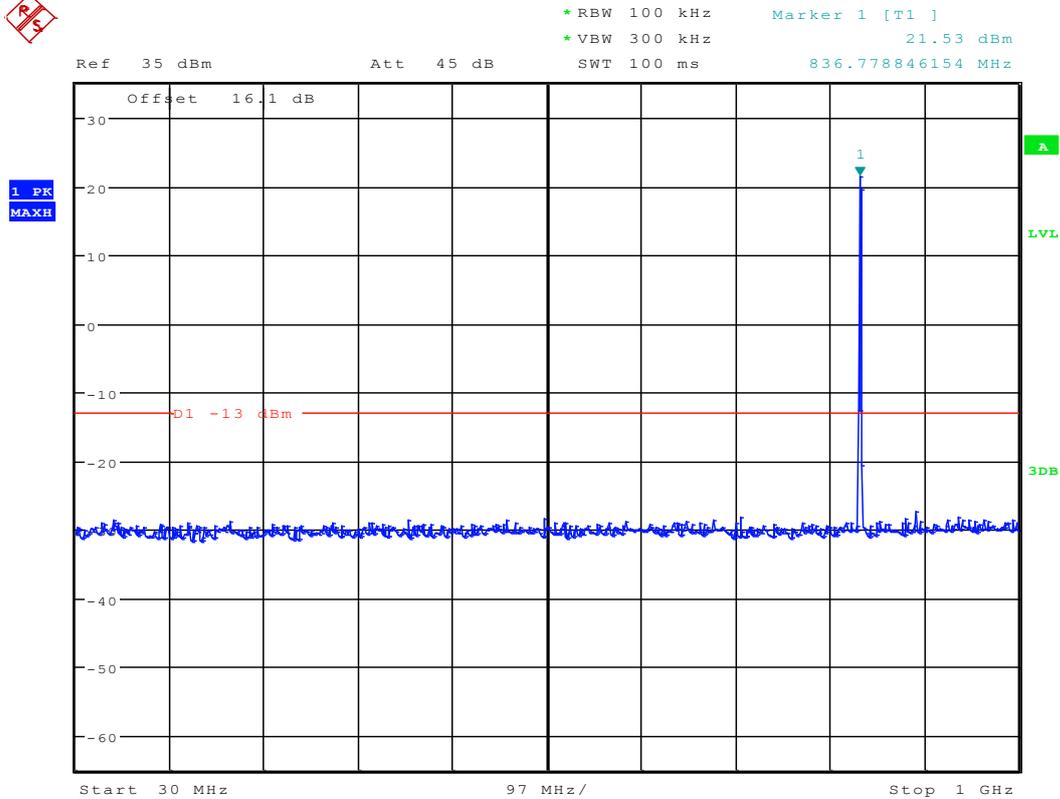
1 PK
MAXH





*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -31.76 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 197.836538462 kHz

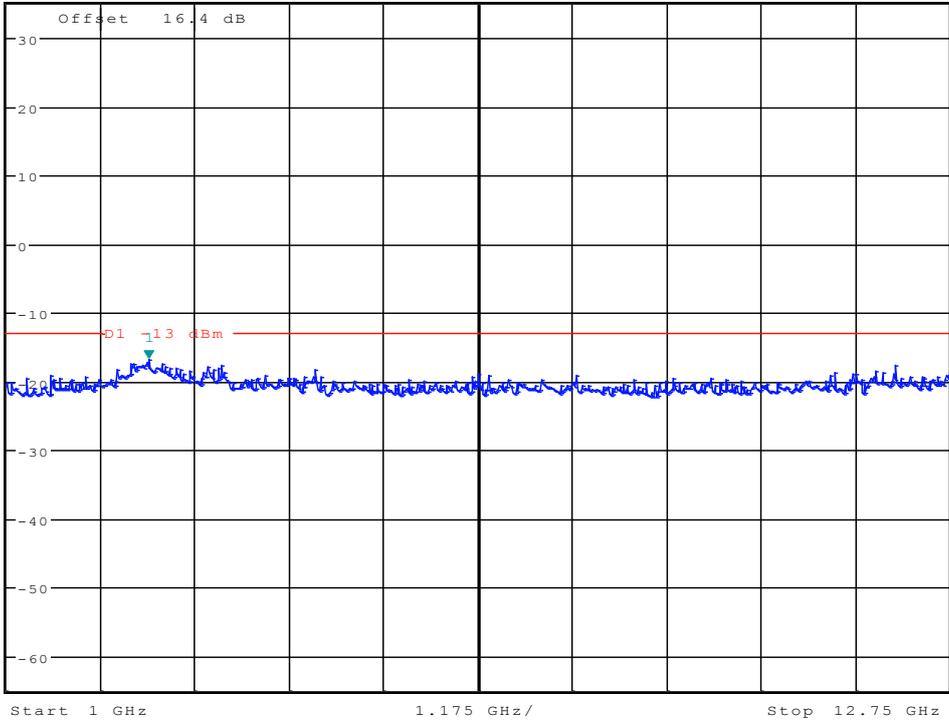






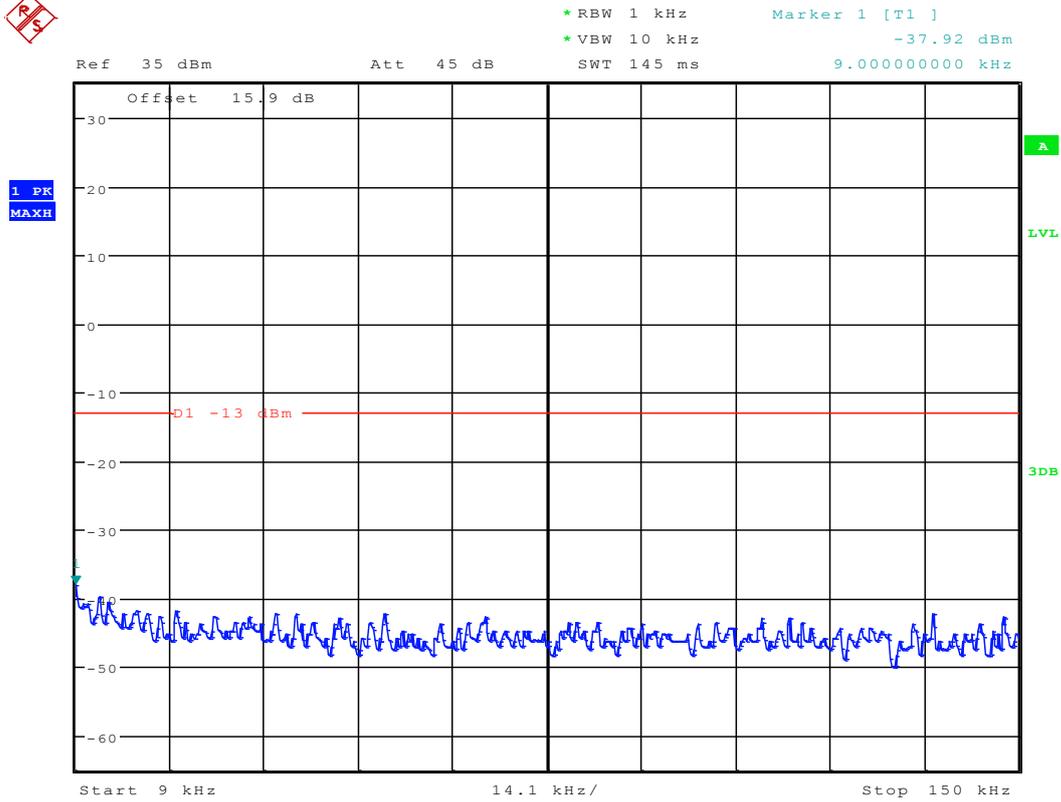
Ref 35 dBm Att 45 dB SWT 70 ms
 *RBW 1 MHz Marker 1 [T1] -16.84 dBm
 *VBW 3 MHz 2.770032051 GHz

1 PK
 MAXH



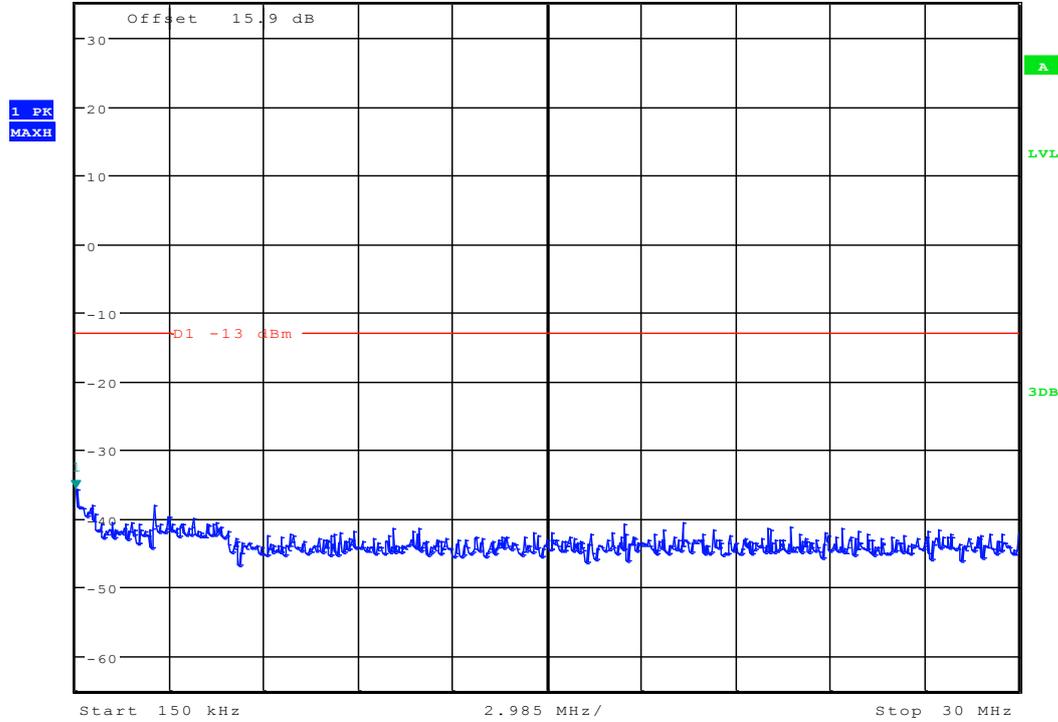


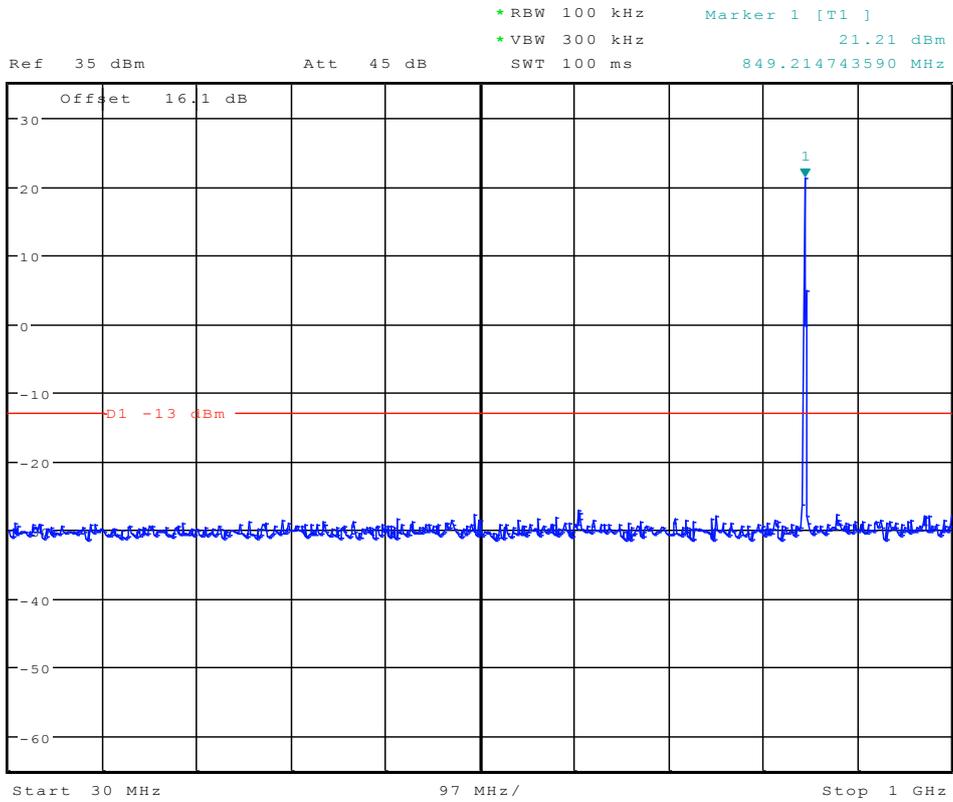
Channel 777





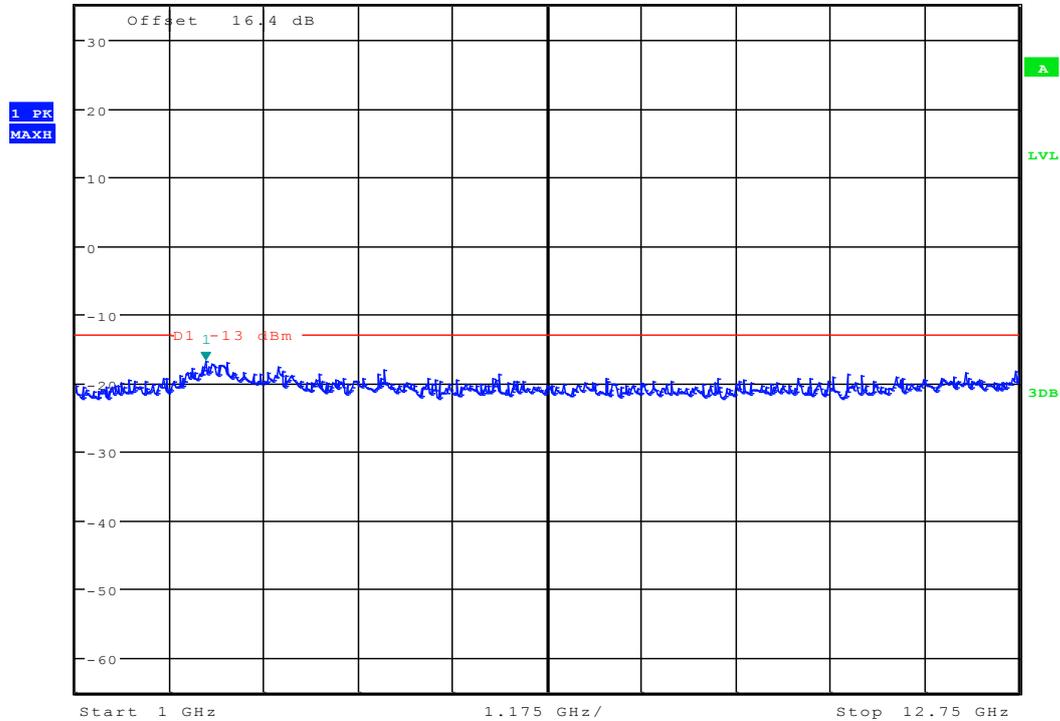
*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -35.62 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 150.000000000 kHz







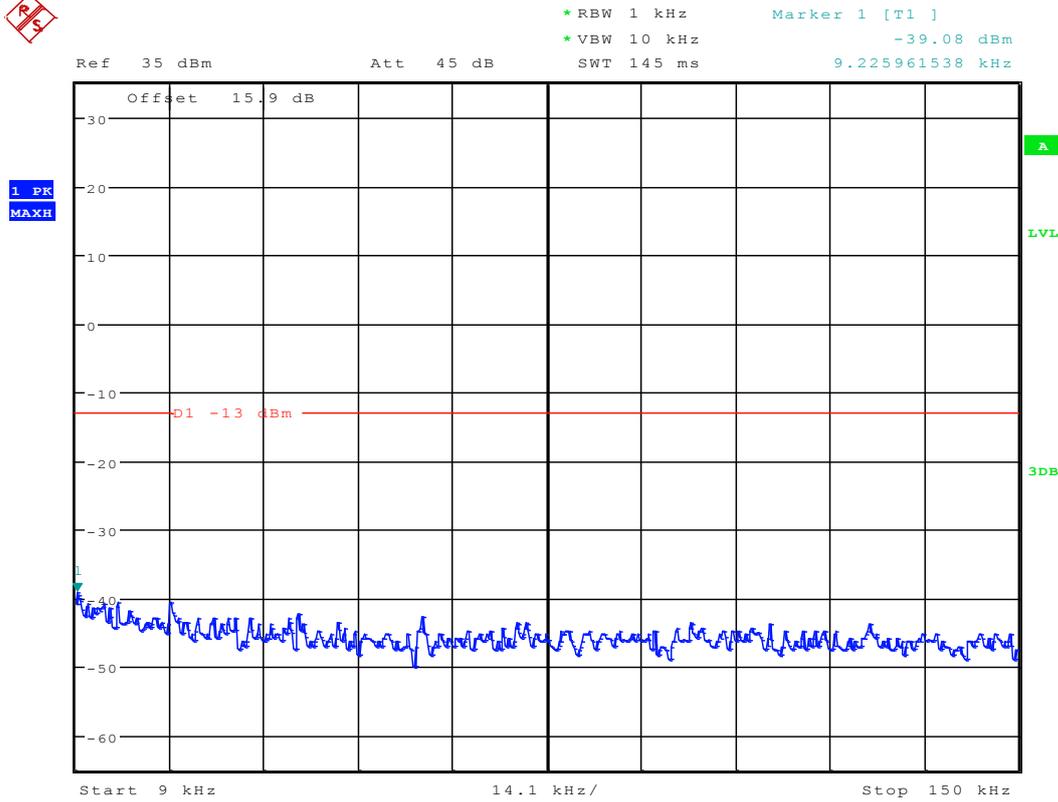
Ref 35 dBm Att 45 dB SWT 70 ms
 *RBW 1 MHz *VBW 3 MHz
 Marker 1 [T1] -16.74 dBm
 2.619391026 GHz

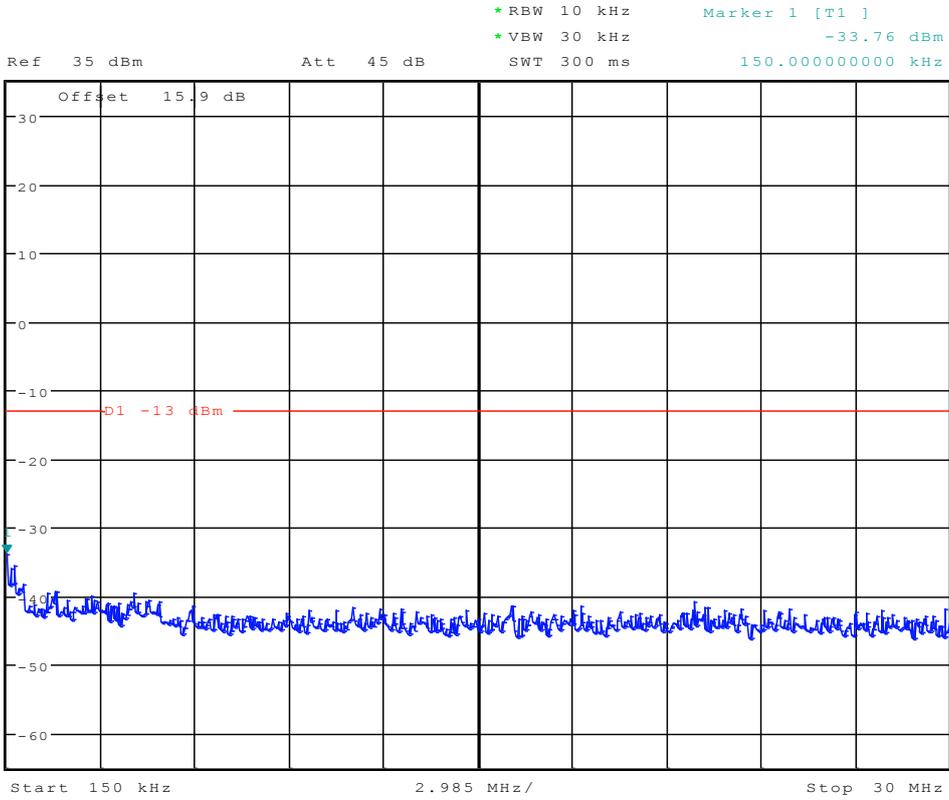


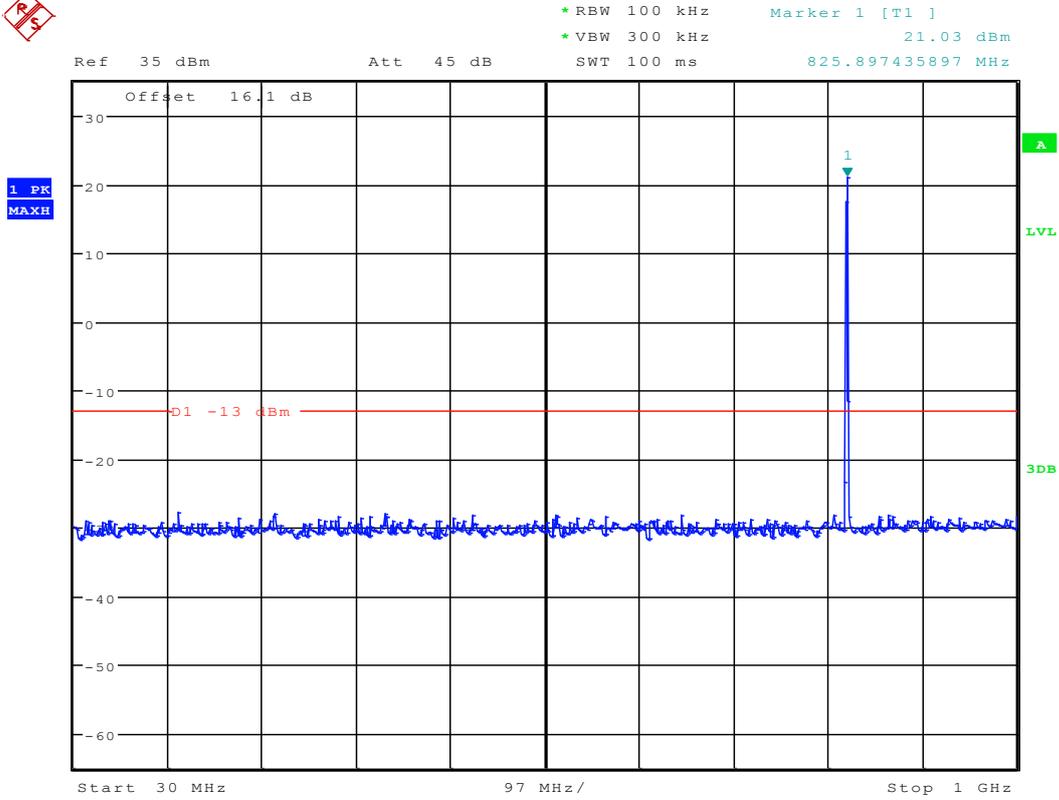


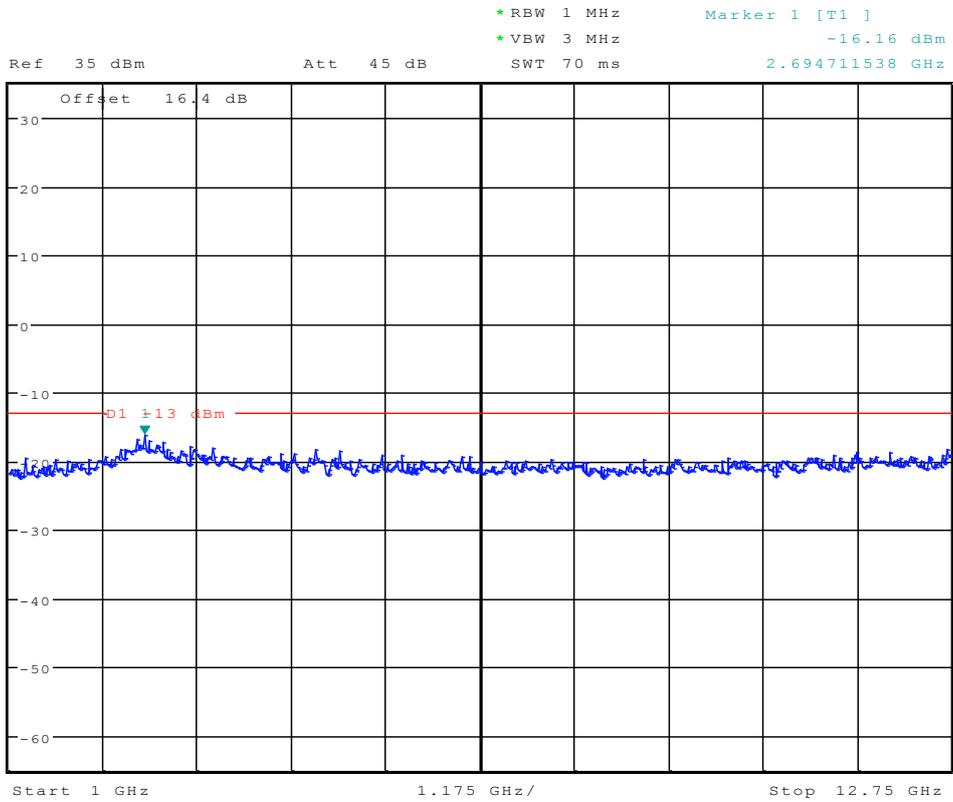
Modulation: 8PSK

Channel 1013







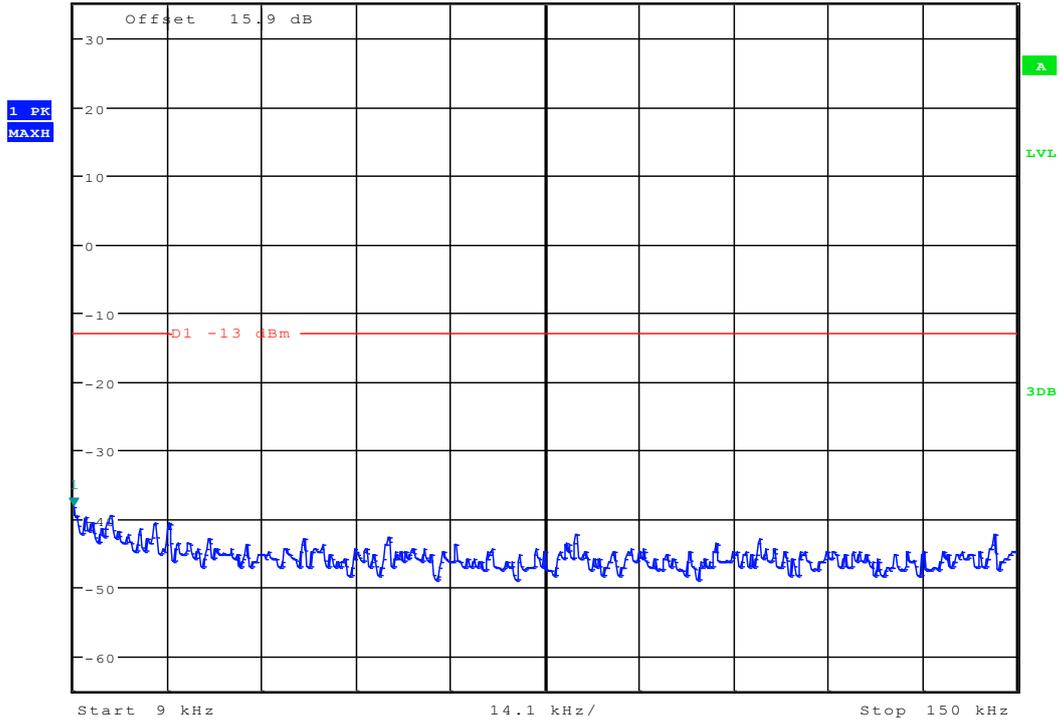


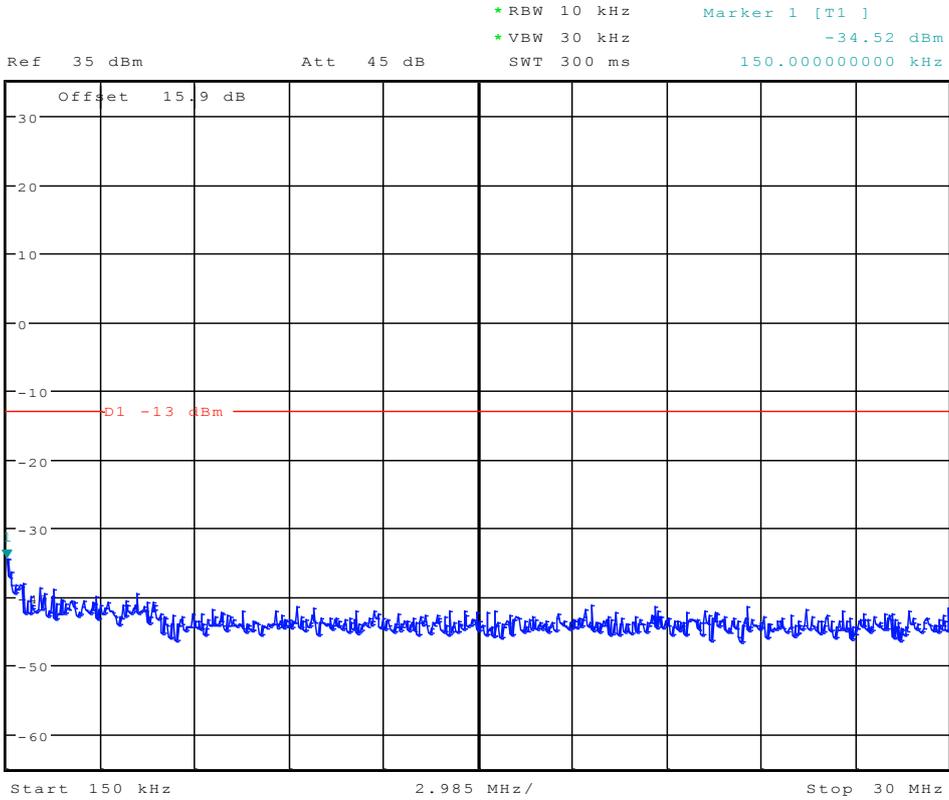


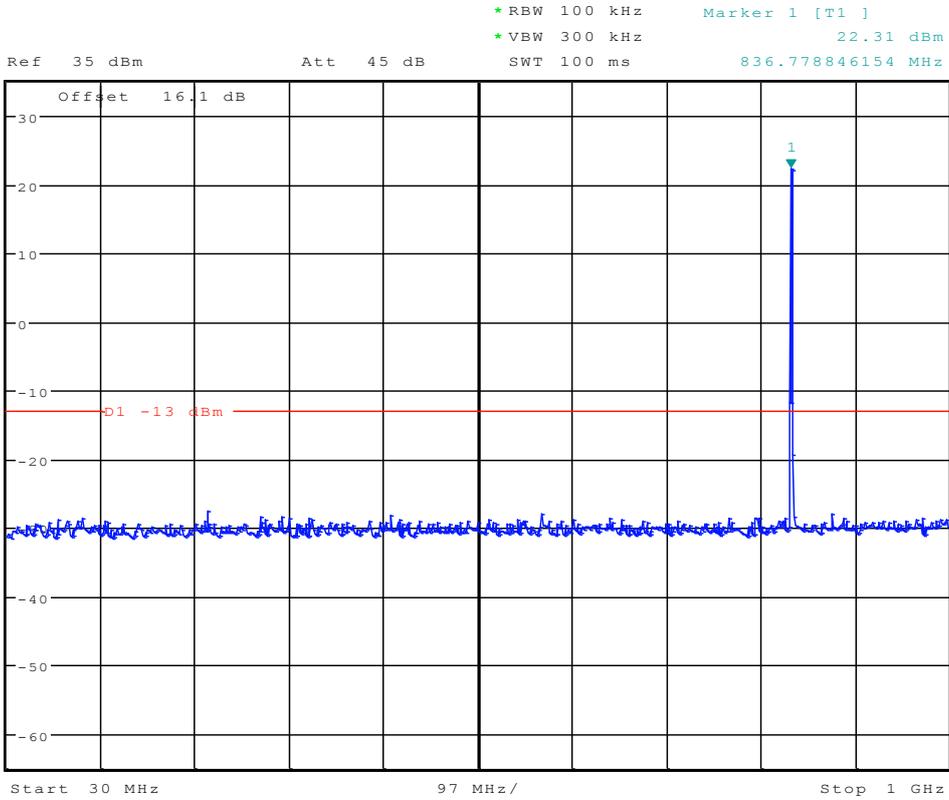
Channel 384



Ref 35 dBm Att 45 dB *RBW 1 kHz *VBW 10 kHz SWT 145 ms Marker 1 [T1] -38.19 dBm 9.000000000 kHz



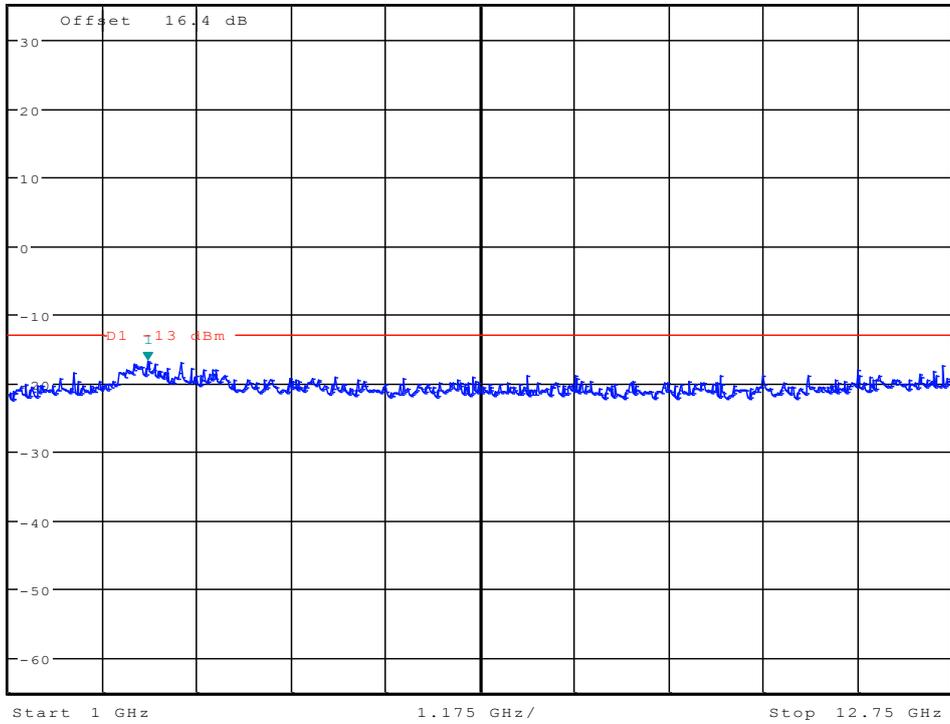






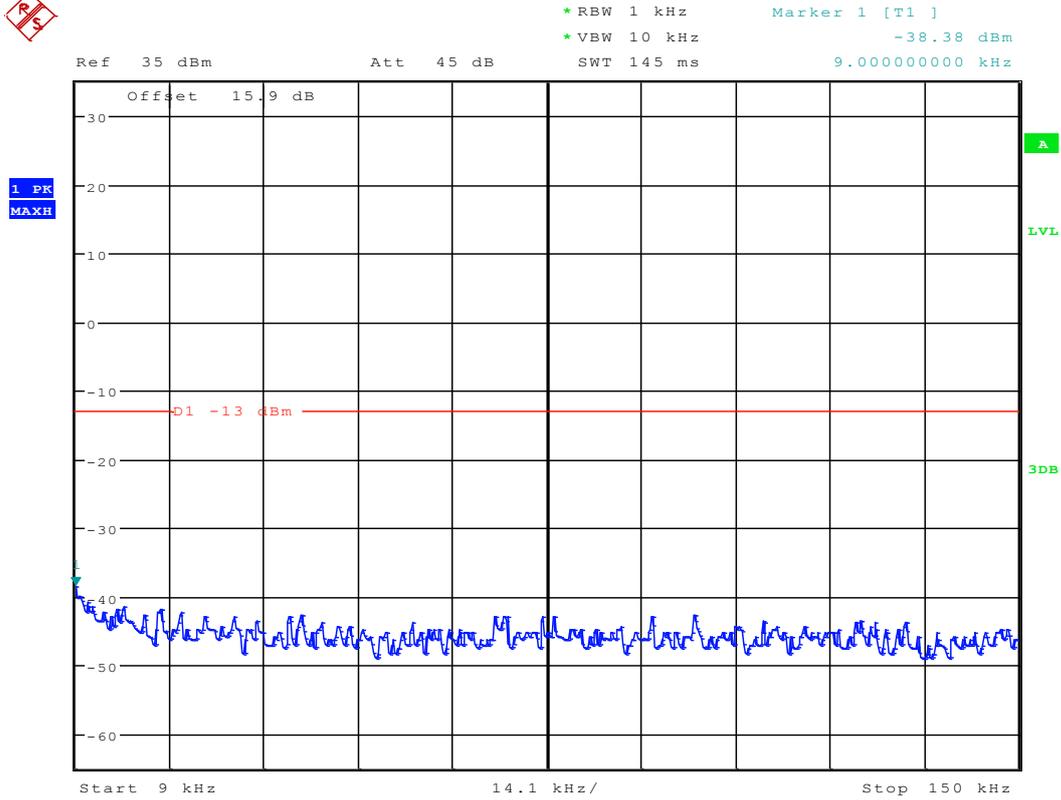
Ref 35 dBm Att 45 dB SWT 70 ms
*RBW 1 MHz *VBW 3 MHz
Marker 1 [T1] -16.83 dBm 2.732371795 GHz

1 PK
MAXH



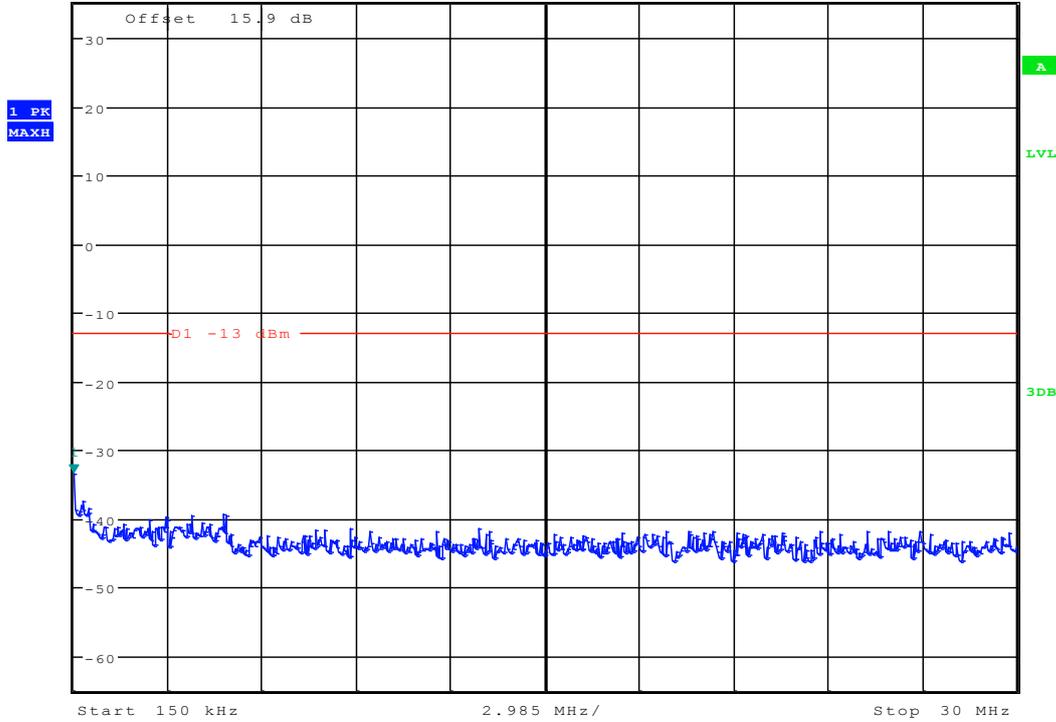


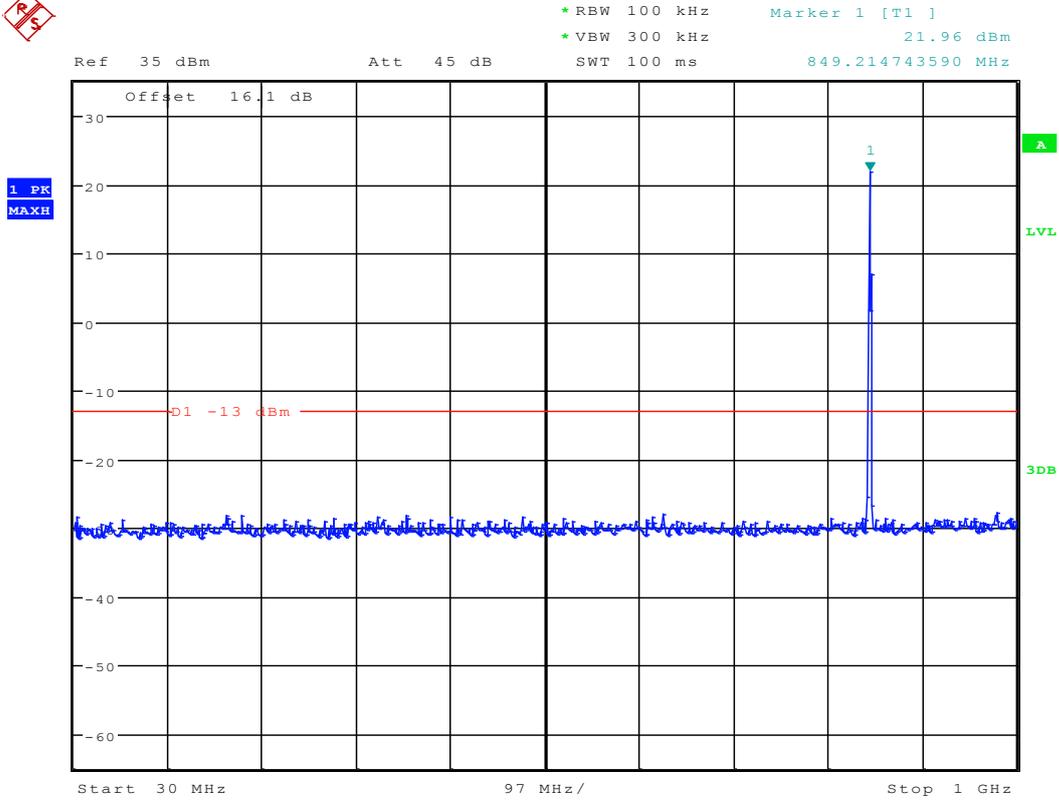
Channel 777





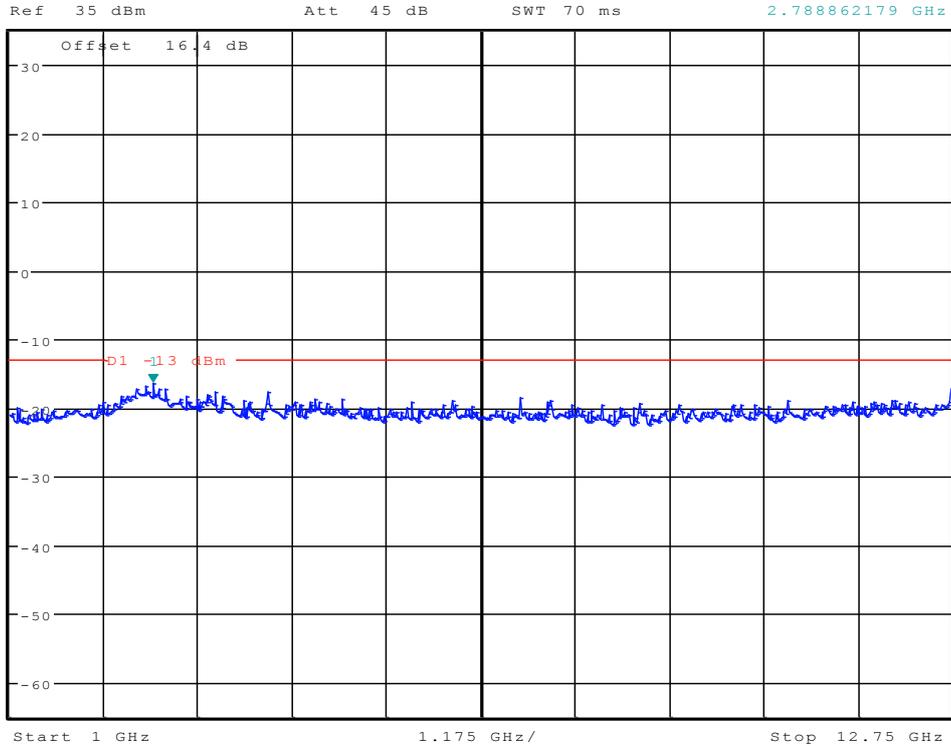
*RBW 10 kHz Marker 1 [T1]
 *VBW 30 kHz -33.32 dBm
 Ref 35 dBm Att 45 dB SWT 300 ms 150.000000000 kHz







*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -16.30 dBm
SWT 70 ms 2.788862179 GHz



The END



Appendix F

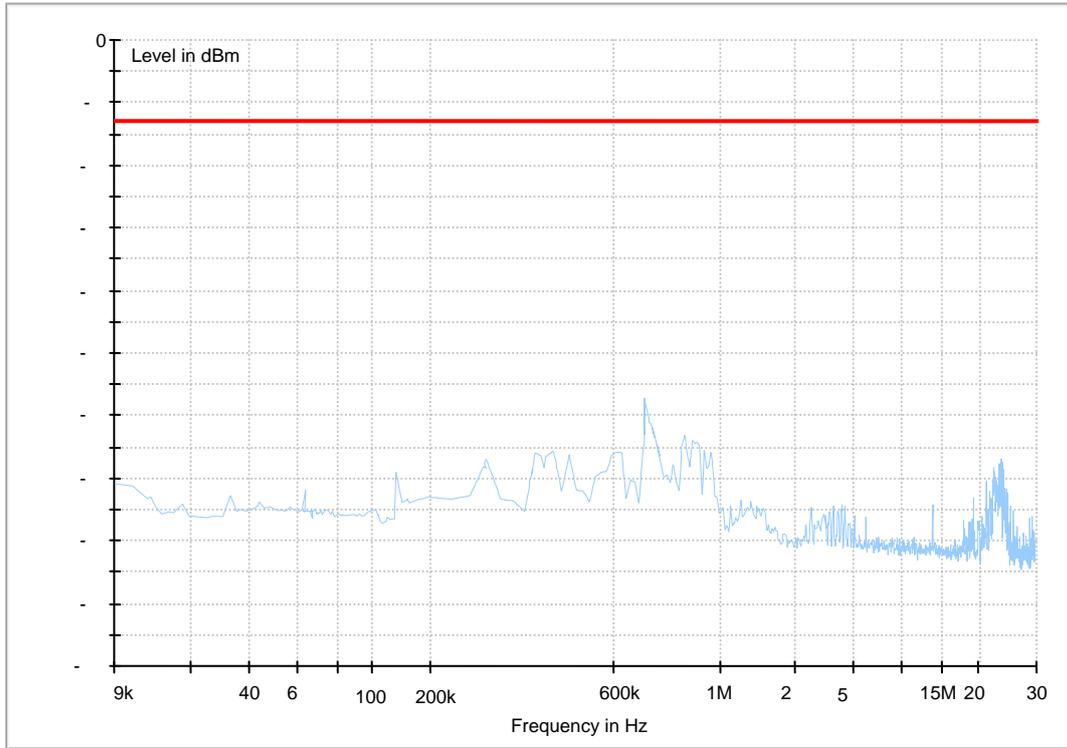
Field Strength of Spurious Radiation

According to FCC Part 2.1053& Part 22.917

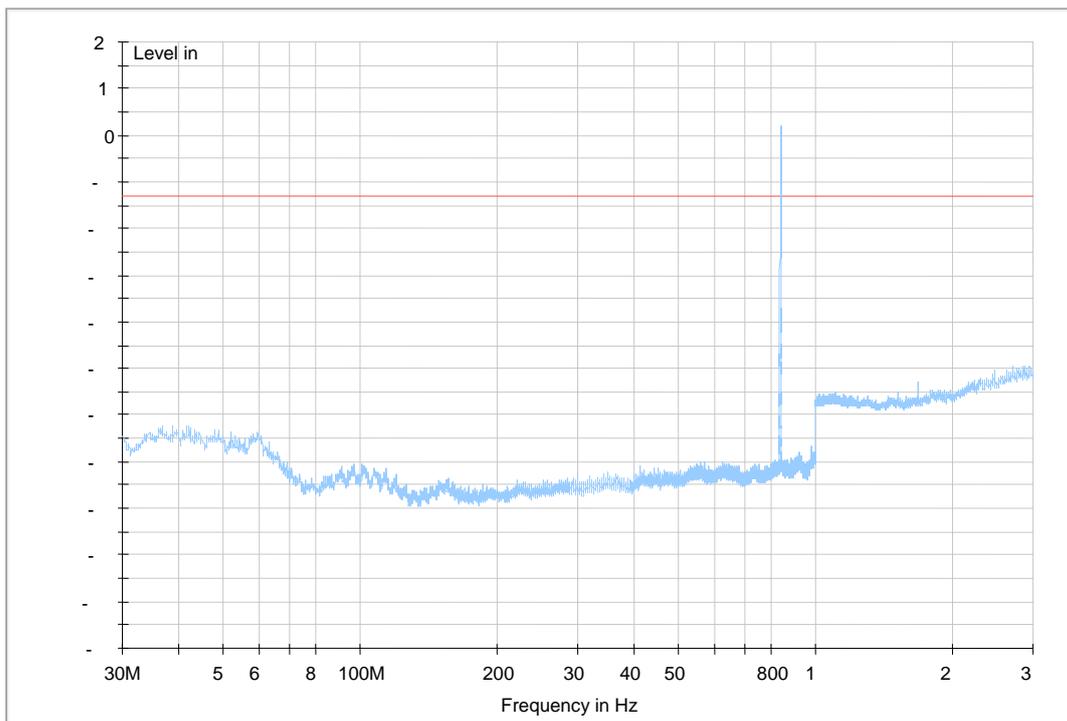


CDMA 800

Traffic Mode (9kHz-30MHz)

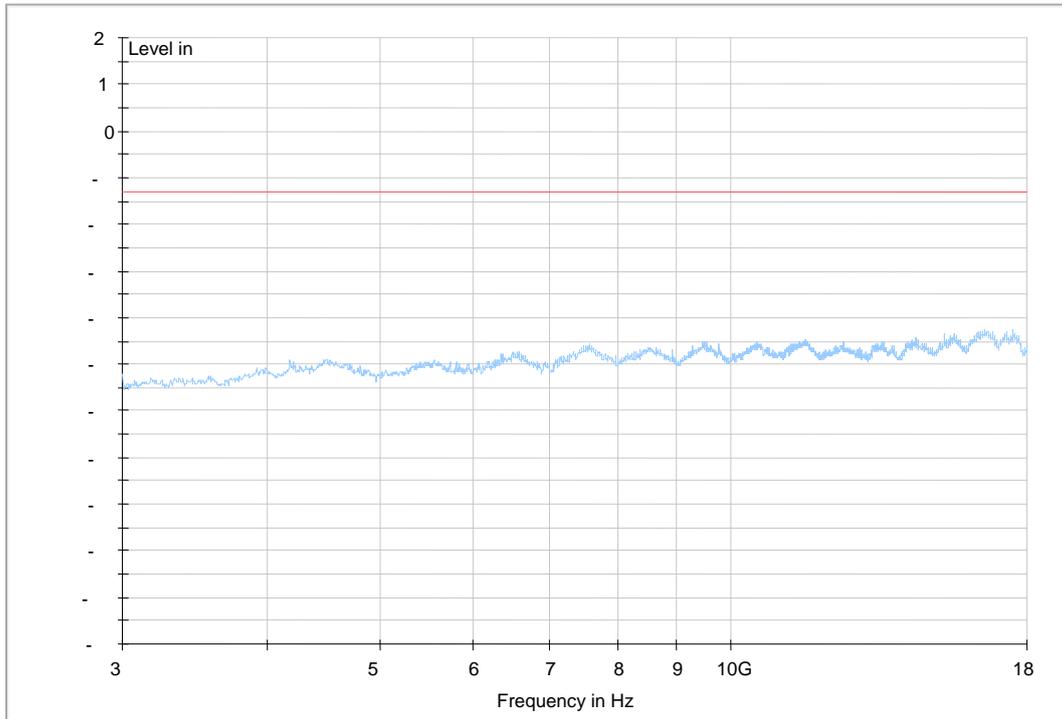


Traffic Mode (30MHz-3GHz)



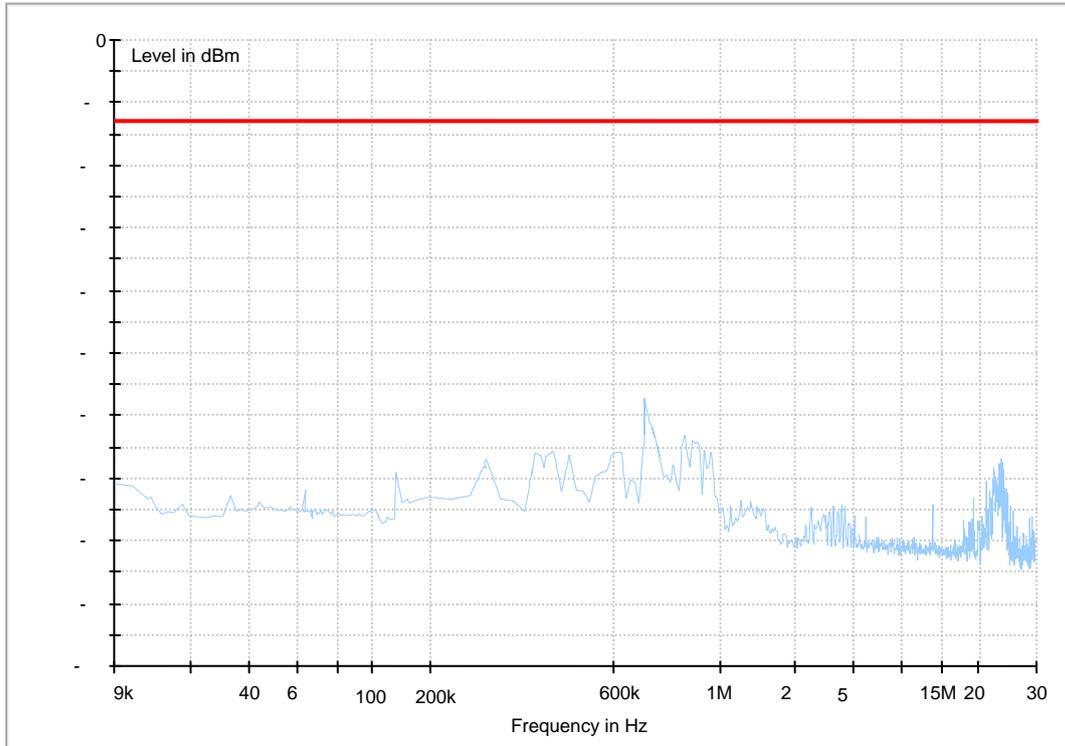


Traffic Mode (3GHz-18GHz)

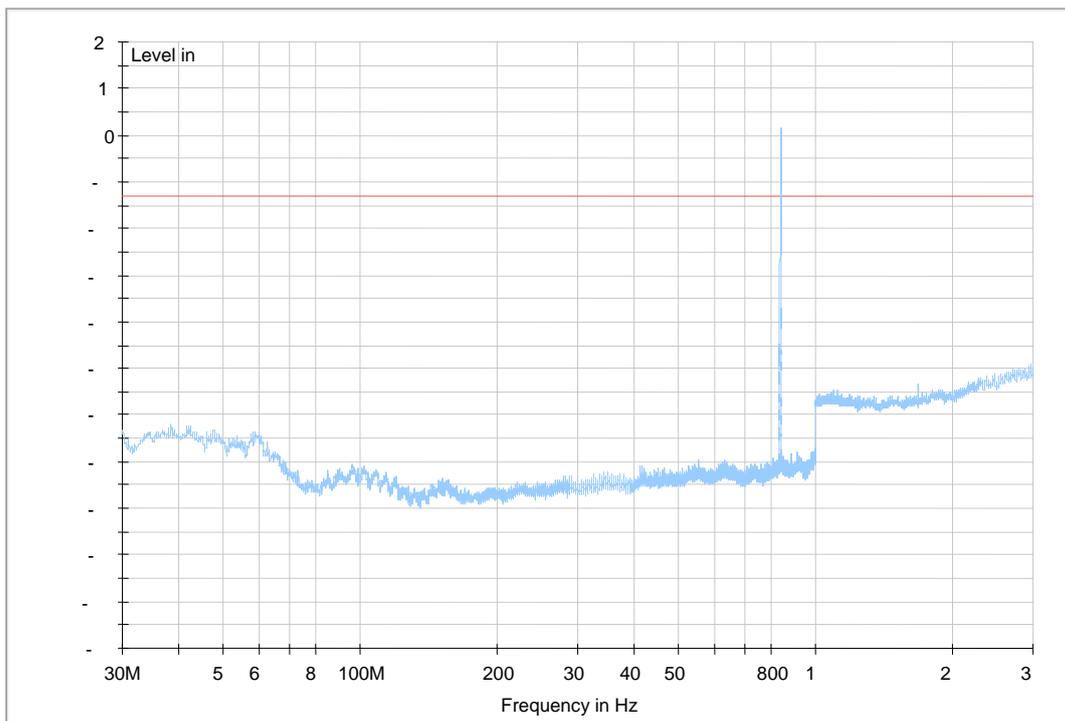


EVDO 800.0

Traffic Mode (9kHz-30MHz)

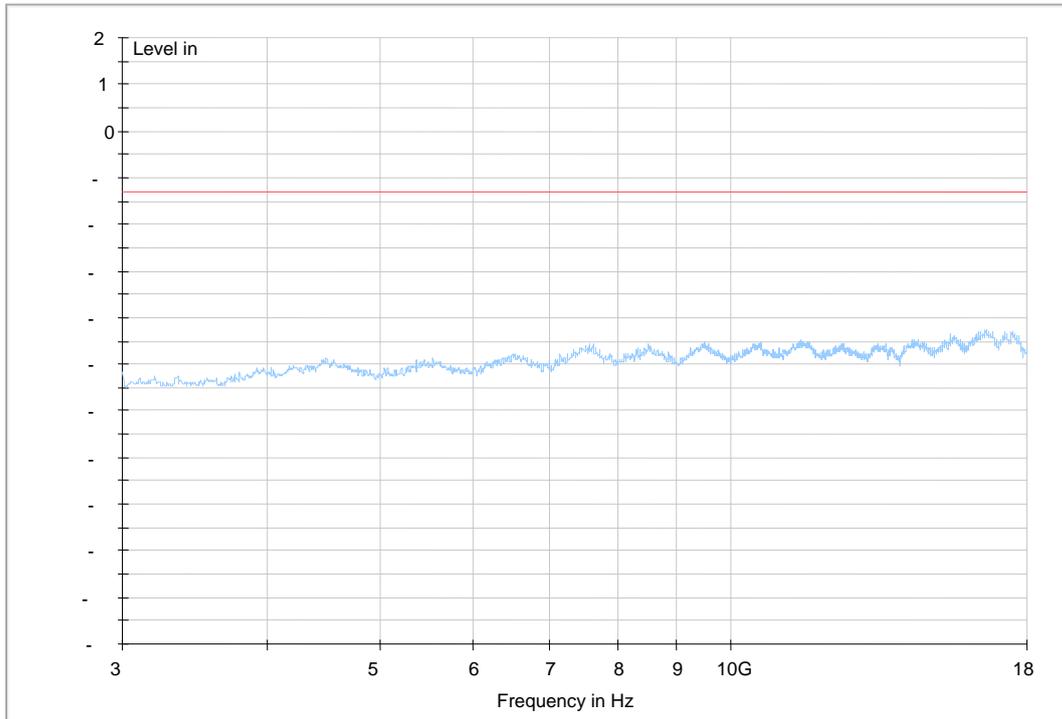


Traffic Mode (30MHz-3GHz)





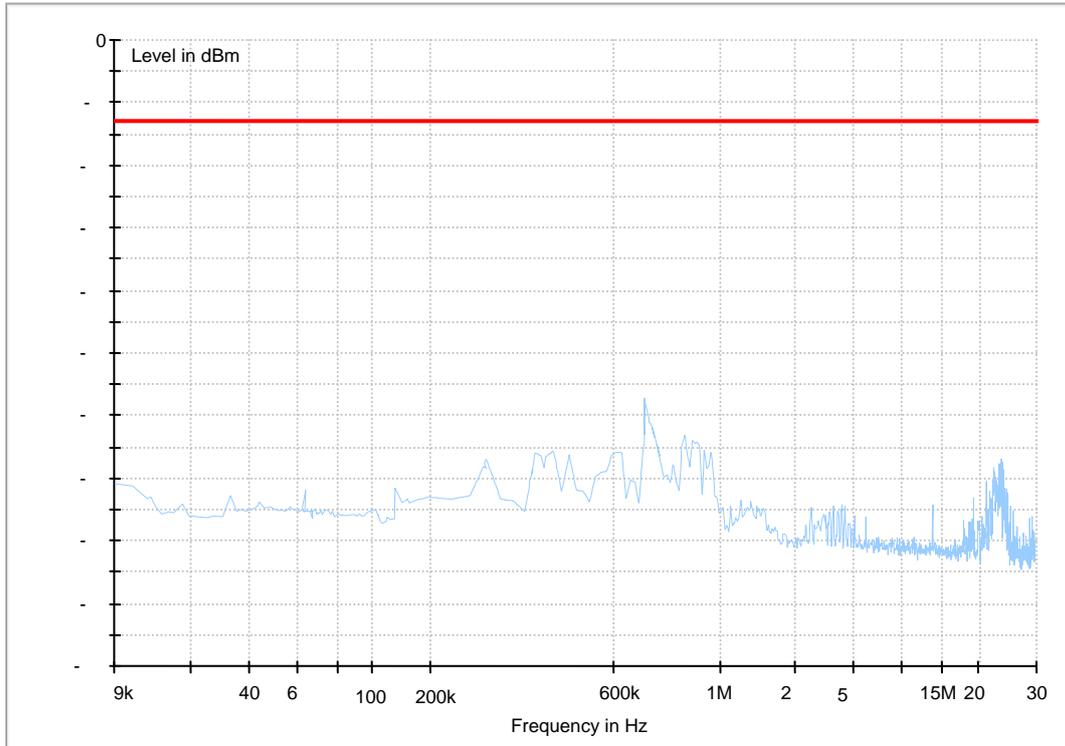
Traffic Mode (3GHz-18GHz)



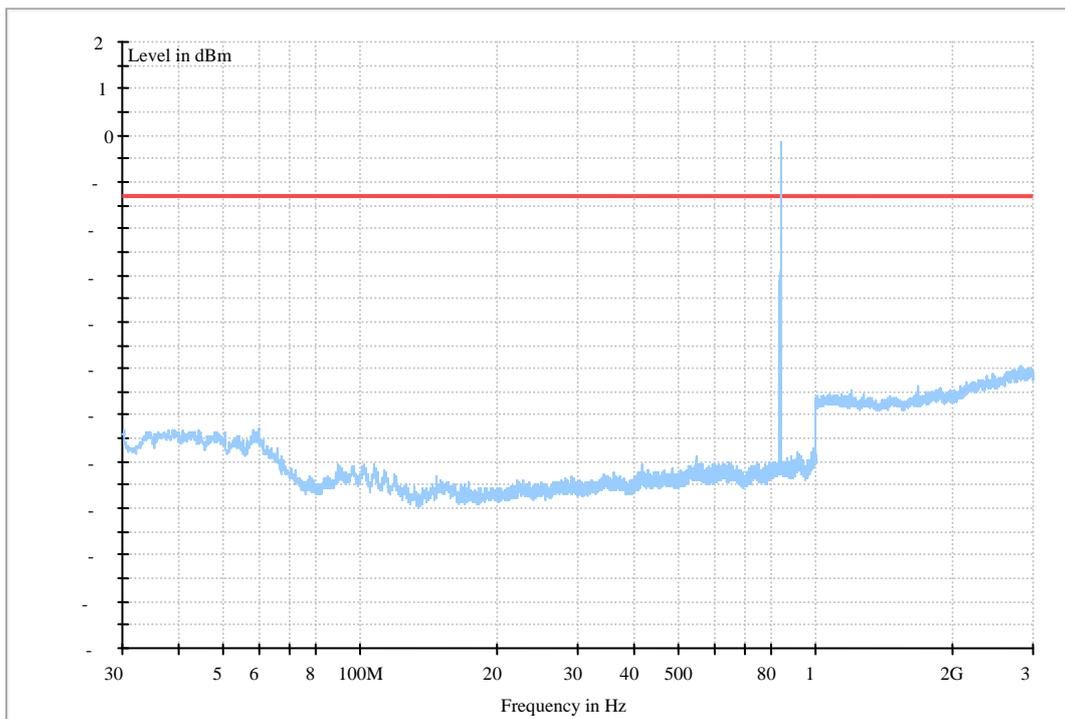


EVDO 800.A

Traffic Mode (9kHz-30MHz)

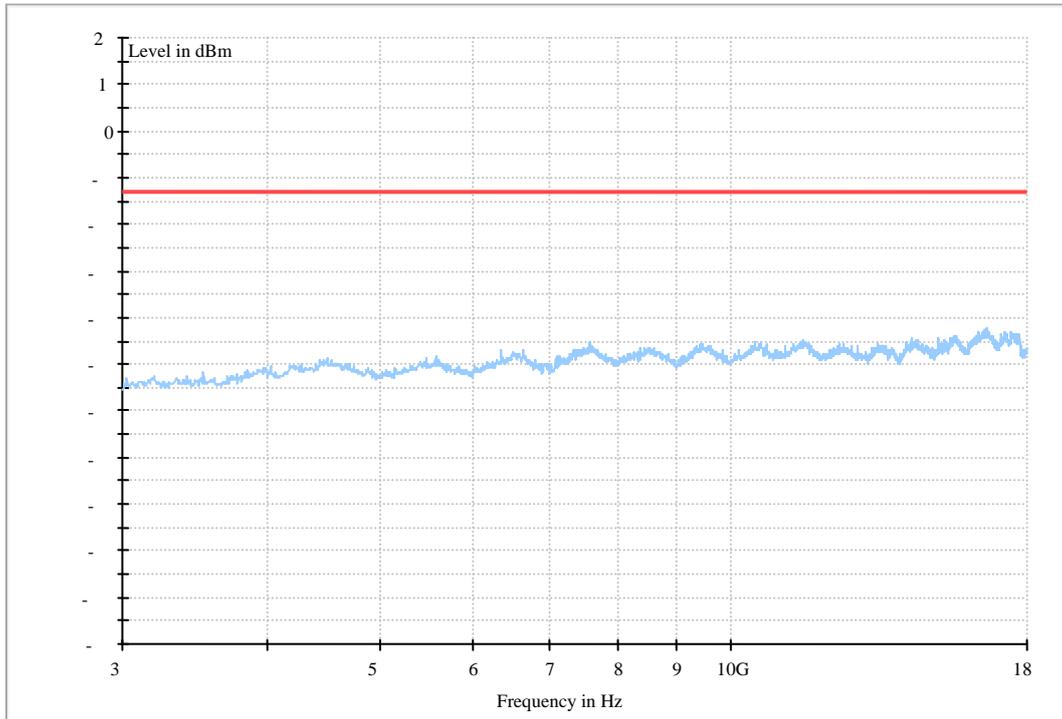


Traffic Mode (30MHz-3GHz)





Traffic Mode (3GHz-18GHz)



The END



Appendix G

Frequency Stability According to FCC Part 2.1055& Part 22.355



Frequency Error vs. Temperature:

Test Mode	RF Ch.	Volt.	Temp.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 1	M	VN	-30 °C	35	0.0430	---	±2.5	Pass
			-20 °C	56	0.0681	---	±2.5	Pass
			-10 °C	41	0.0502	---	±2.5	Pass
			0 °C	21	0.0263	---	±2.5	Pass
			10 °C	5	0.0072	---	±2.5	Pass
			20 °C	-54	-0.0634	---	±2.5	Pass
			30 °C	-56	-0.0657	---	±2.5	Pass
			40 °C	41	0.0502	---	±2.5	Pass
TM 3	M	VN	50 °C	31	0.0383	---	±2.5	Pass
			-30 °C	-32	-0.0371	---	±2.5	Pass
			-20 °C	54	0.0657	---	±2.5	Pass
			-10 °C	-12	-0.0131	---	±2.5	Pass
			0 °C	-36	-0.0418	---	±2.5	Pass
			10 °C	-32	-0.0371	---	±2.5	Pass
			20 °C	41	0.0502	---	±2.5	Pass
			30 °C	43	0.0526	---	±2.5	Pass
Subtype 0	M	VN	40 °C	33	0.0406	---	±2.5	Pass
			50 °C	65	0.0789	---	±2.5	Pass
			-30 °C	30	0.0371	---	±2.5	Pass
			-20 °C	23	0.0263	---	±2.5	Pass
			-10 °C	-19	-0.0239	---	±2.5	Pass
			0 °C	12	0.0131	---	±2.5	Pass
			10 °C	32	0.0371	---	±2.5	Pass
			20 °C	75	0.0885	---	±2.5	Pass
Subtype 2	M	VN	30 °C	46	0.0538	---	±2.5	Pass
			40 °C	11	0.0120	---	±2.5	Pass
			50 °C	24	0.0275	---	±2.5	Pass
			-30 °C	15	0.0167	---	±2.5	Pass
			-20 °C	-44	-0.0538	---	±2.5	Pass
			-10 °C	-46	-0.0562	---	±2.5	Pass
			0 °C	42	0.0490	---	±2.5	Pass
			10 °C	21	0.0239	---	±2.5	Pass
			20 °C	-35	-0.0430	---	±2.5	Pass
			30 °C	44	0.0514	---	±2.5	Pass
			40 °C	-32	-0.0394	---	±2.5	Pass
			50 °C	-26	-0.0323	---	±2.5	Pass



Frequency Error vs. Voltage:

Test Mode	RF Ch.	Temp .	Volt.	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Limit [ppm]	Verdict
TM 1	M	TN	VL	96	0.1148	---	±2.5	Pass
			VN	24	0.0287	---	±2.5	Pass
			VH	19	0.0227	---	±2.5	Pass
TM 3	M	TN	VL	22	0.0263	---	±2.5	Pass
			VN	73	0.0873	---	±2.5	Pass
			VH	-64	-0.0765	---	±2.5	Pass
Subtype 0	M	TN	VL	-36	-0.0430	---	±2.5	Pass
			VN	32	0.0383	---	±2.5	Pass
			VH	25	0.0299	---	±2.5	Pass
Subtype 2	M	TN	VL	-32	-0.0383	---	±2.5	Pass
			VN	24	0.0287	---	±2.5	Pass
			VH	-33	-0.0394	---	±2.5	Pass

-----The END-----