



FCC RF Test Report

Product Name: Vodafone Mobile Wi-Fi

Model Number: R205

Report No: SYBH(Z-RF)003122011-2001

FCC ID: QISR205

Reliability Laboratory of Huawei Technologies Co., Ltd.

Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China

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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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8. Normally, the test report is only responsible for the samples that have undergone the test.
9. Context of the test report cannot be used partially or in full for publicity and/or promotional purposes without previous written approval of the laboratory.



Applicant: Huawei Technologies Co., Ltd.
Address: Huawei Base, Bantian, Longgang District, Shenzhen
 518129, P.R. China
Date of Receipt Test Item: Dec.01, 2011
Start Date of Test: Dec.02, 2011
End Date of Test: Dec.07, 2011

Test Result: Pass

Approved By Dec.08. 2011 Dai Linjun *Dai Linjun*
 Date Name Signature

Reviewed By Dec.08. 2011 Cousy Xu *Cousy XU*
 Date Name Signature

Operator Dec.08. 2011 Huang Qiuliang *Huang Qiuliang*
 Date Name Signature

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1 General Information

1.1 Applied Standard

Applied Rules: 47 CFR FCC Part 2, Subpart J
47 CFR FCC Part 22, Subpart H

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 Environment Condition

Ambient Temperature: 20 – 25 °C
Ambient Relative Humidity: 45 – 55 %
Atmospheric Pressure: 101 kPa

2 Summary

Table 1 Summary of results

Cellular Band			
Test Case	FCC Part No.	Requirements	Result
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 & 22.917	Below -13 dBm/1%*EBW, in 1 MHz range	Pass
Spurious Emission at Antenna Terminals	2.1051 & 22.917	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 ± 2.5 ppm	Pass

3 Product Description

3.1 Production Information

3.1.1 General Description

R205 HSPA+/2100M/900M/850M/EDGE Quad Band is subscriber equipment in the UMTS/GSM system. R205 implement such functions as RF signal receiving/ transmitting, HSPA/WCDMA protocol processing, data service etc, and it can act as a Wi-Fi hot-point for user accessing to internet. Externally it provides USB interface (to connect to the notebook etc.), USIM card interface and Micro SD card interface. R205 has 3 internal antennas as default Wi-Fi ,diversity, and main antenna.

3.1.2 Board

Table 1 Board Information

Vodafone Mobile Wi-Fi		
R205		
Board and Module		
Hardware Version	Software Version	Serial Number
CH1E586M	21.341.00.04.11	A7B01A11B0500443

3.1.3 Sub-Assembly

Sub-Assembly Name	Manufacturer	Description
Adapter	HUAWEI	AC/DC adapter,0degC-45degC,100V-240V,5.0V/1.0A,CE 2PIN/DC USB2.0,CE,HUAWEI LOGO,ERP V

3.1.4 Battery Technical Data

Name	Manufacture	Description
Li-ion Battery	FMT	Rated capacity: 1500mAh Nominal Voltage: === +3.7V Charging Voltage: === +4.2V

3.2 Test Description

3.2.1 Supported Frequency Range

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

3.2.2 Transmitter / Receiver Characteristics

Characteristics	Description
System Type	GSM UMTS
TX Output Power (per Antenna Port)	GSM:33dBm UMTS:24dBm
Channel Spacing(s) / Bandwidth(s)	GSM system: 200 kHz UMTS system: 5 MHz
Designation of Emissions	GSM system: 245KGXW (GMSK modulation), 255KG7W (8PSK modulation)) UMTS system: 4M18F9W

3.2.3 Antenna Gain

Antenna Gain(dBi):	0.5
Antenna Gain(dBd):	-1.65

3.2.4 Power Supply

	Description
Power Supply Type	Directly Connected to DC /AC Power Supply
Input to EUT (DC power)	DC Voltage Nominal: \equiv +5V DC Voltage Range: \equiv +4.75 V to +5.25V
Input to EUT (AC power)	AC Voltage Nominal: ~ 220V (50/60 Hz) AC Voltage Range: ~ 100V-240V

4 General Test Conditions / Configurations

4.1 RF Channels under Test

Test Mode	TX / RX	RF Channel		
		Bottom (B)	Middle (M)	Top (T)
TM1/TM2	TX	Channel 128	Channel 192	Channel 251
		824.2MHz	837.0MHz	848.8MHz
	RX	Channel 128	Channel 192	Channel 251
		869.2MHz	882.0MHz	893.8MHz
TM3/TM4/TM5	TX	Channel 4132	Channel 4182	Channel 4233
		826.4MHz	836.4MHz	846.6MHz
	RX	Channel 4357	Channel 4407	Channel 4458
		871.4MHz	881.4MHz	891.6MHz

4.2 Test Modes

Test Mode	Test Modes Description
TM1	GSM/GPRS, GMSK modulation
TM2	EDGE, 8PSK modulation
TM3	WCDMA QPSK modulation
TM4	HSDPA 16QAM modulation
TM5	HSUPA 16QAM modulation

4.3 Test Environments

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

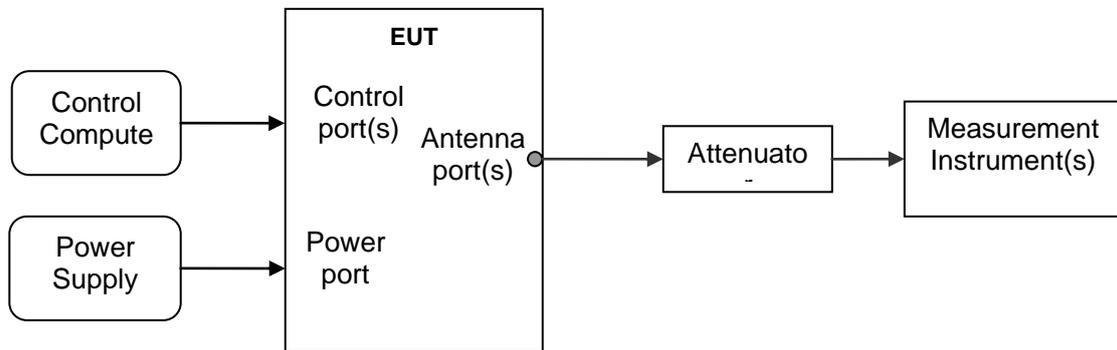
NOTE: VL= lower extreme test voltages
 VN= nominal voltage
 VH= upper extreme test voltage
 TN= nominal temperature

4.4 Test Setups

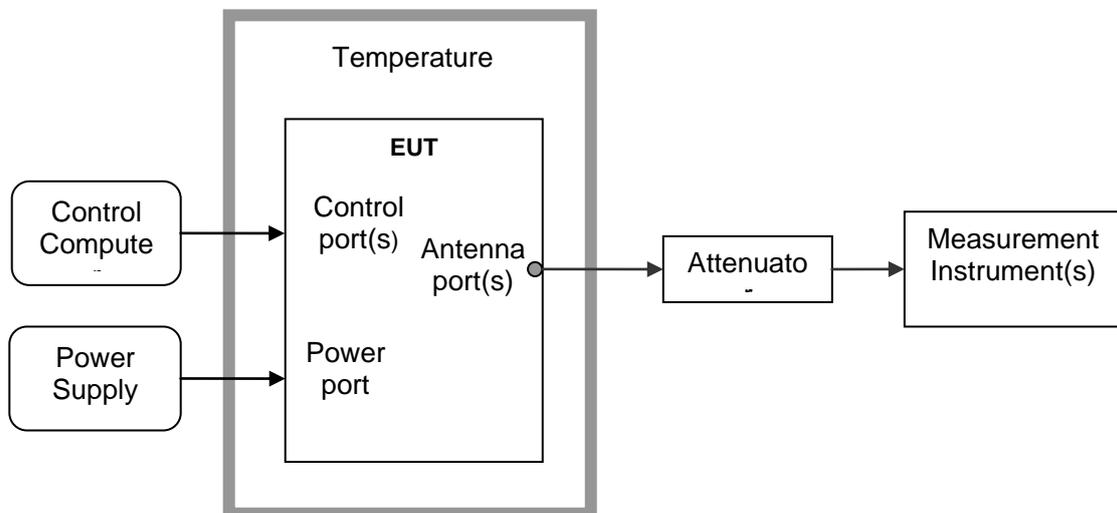
4.4.1 General Test Setup Configurations

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.

4.4.2 Test Setup 1



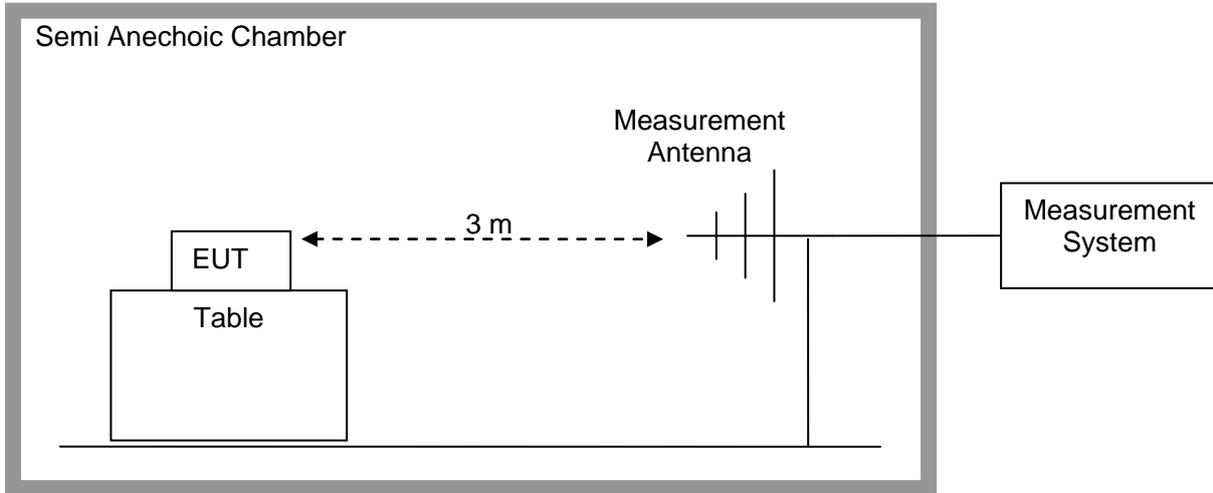
4.4.3 Test Setup 2



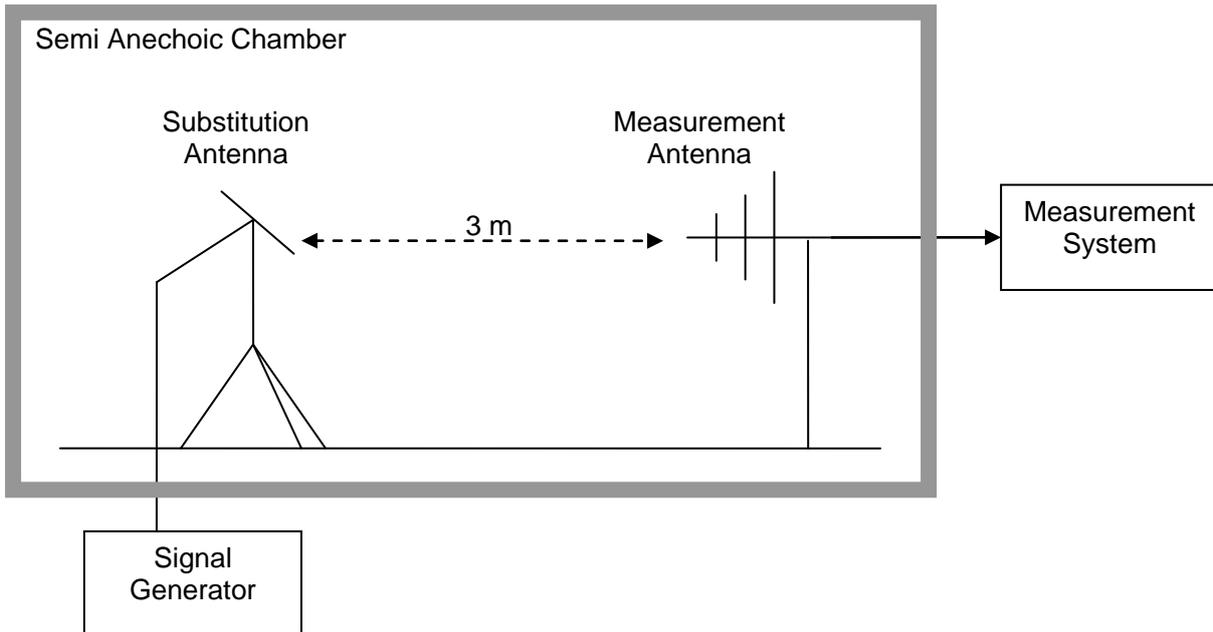
4.4.4 Test Setup 3

NOTE: Effective radiated power (ERP) refers to the radiation power output of the EUT, assuming all emissions are radiated from half-wave dipole antennas.

Step 1: Pre-test



Step 2: Substitution method to verify the maximum ERP



4.5 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)	B, M, T
	Test Mode	TM1/TM2/TM3/TM4/TM5
Modulation Characteristics	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	RF Channels (TX)	M
	Test Mode	TM1/TM2/TM3
Occupied Bandwidth	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	Detector	PK
	RF Channels (TX)	B, M, T
	Test Mode	TM1/TM2/TM3
Band Edges Compliance	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	Detector	RMS
	RF Channels (TX)	B, T
	Test Mode	TM1/TM2/TM3
Spurious Emission at Antenna Terminals	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	Detector	PK
	RF Channels (TX)	B, M, T
	Test Mode	TM1/TM2/TM3
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/TM2/TM3/TM4/TM5
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



Test Case	Test Conditions	
	RF Channels (TX)	M
	Test Mode	TM1/TM2/TM3

5 Main Test Instruments

Table 2 Main Test Equipments

Equipment Description	Manufacturer	Model	Serial Number	Calibrated until
Power supply	KEITHLEY	2303	1288003	Sep.27,2012
Universal Radio Communication Tester	R&S	CMU200	117341	Jan.13.2012
Universal Radio Communication Tester	Agilent	E5515C	MY50260239	Aug.31,2012
Spectrum Analyzer	Agilent	E4440A	MY49420179	Apr.20,2012
Signal Analyzer	R&S	FSQ31	200021	Sep.27,2012
Temperature Chamber	WEISS	WKL64	24600294	Jan.03,2012
Signal generator	Agilent	E8257D	MY49281095	Jul.9.2012
Test receiver	R&S	ESU26	100150	May.29.2012
Tunable Dipole	Schwarzbeck	D69250-UHAP/D69250-VHAP	919/1009	Jan.29.2012
Tunable Dipole	Schwarzbeck	D69250-UHAP/D69250-VHAP	979/917	Jan.29.2012
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

6 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: The Appendix H only photos of Radiated Spurious Emissions, no test data.

7 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



Appendix A

Transmitter Output Power According to FCC Part 2.1046 & Part 22.913



Conducted Power of Transmitter

		RF Output Power (Conducted)					
TEST CONDITIONS		Channel128(B)		Channel192(M)		Channel251(T)	
		824.2MHz		837.0MHz		848.8MHz	
		dBm		dBm		dBm	
T_{nom} / V_{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM1		32.32	40.15	32.29	40.15	32.38	40.15
TM2		25.12	40.15	25.22	40.15	25.31	40.15
TEST CONDITIONS		Channel 4132(B)		Channel 4182(M)		Channel 4233(T)	
		826.4MHz		836.4MHz		846.6MHz	
		dBm		dBm		dBm	
T_{nom} / V_{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM3		22.14	40.15	22.21	40.15	22.13	40.15
TM4	Case1	21.28	40.15	21.31	40.15	21.27	40.15
	Case2	21.32	40.15	21.35	40.15	21.36	40.15
	Case3	20.52	40.15	20.54	40.15	20.57	40.15
	Case4	20.55	40.15	20.59	40.15	20.63	40.15
TM5	Case1	20.84	40.15	20.85	40.15	20.91	40.15
	Case2	18.45	40.15	18.33	40.15	18.44	40.15
	Case3	19.03	40.15	19.09	40.15	19.17	40.15
	Case4	18.21	40.15	18.35	40.15	18.30	40.15
	Case5	20.82	40.15	20.88	40.15	20.94	40.15



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]	FCC limit [dBm]	Result
TM1	824.2	30.67	Dipole Ant.	33.98	-2.75	0.6	30.63	38.5	Pass
TM1	837.0	30.64	Dipole Ant.	34.08	-2.87	0.6	30.61	38.5	Pass
TM1	848.8	30.73	Dipole Ant.	34.20	-2.85	0.6	30.75	38.5	Pass
TM2	824.2	23.47	Dipole Ant.	26.77	-2.75	0.6	23.42	38.5	Pass
TM2	837.0	23.57	Dipole Ant.	27.01	-2.87	0.6	23.54	38.5	Pass
TM2	848.8	23.66	Dipole Ant.	27.09	-2.85	0.6	23.64	38.5	Pass
TM3	826.4	20.49	Dipole Ant.	23.82	-2.75	0.6	20.47	38.5	Pass
TM3	836.4	20.56	Dipole Ant.	23.99	-2.87	0.6	20.52	38.5	Pass
TM3	846.6	20.48	Dipole Ant.	23.94	-2.85	0.6	20.49	38.5	Pass

Note: a, For getting the ERP (Efficient Radiated Power) in substitution method, the following formula should take to calculate it,
 $ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]$

b, SGP=Signal Generator Level



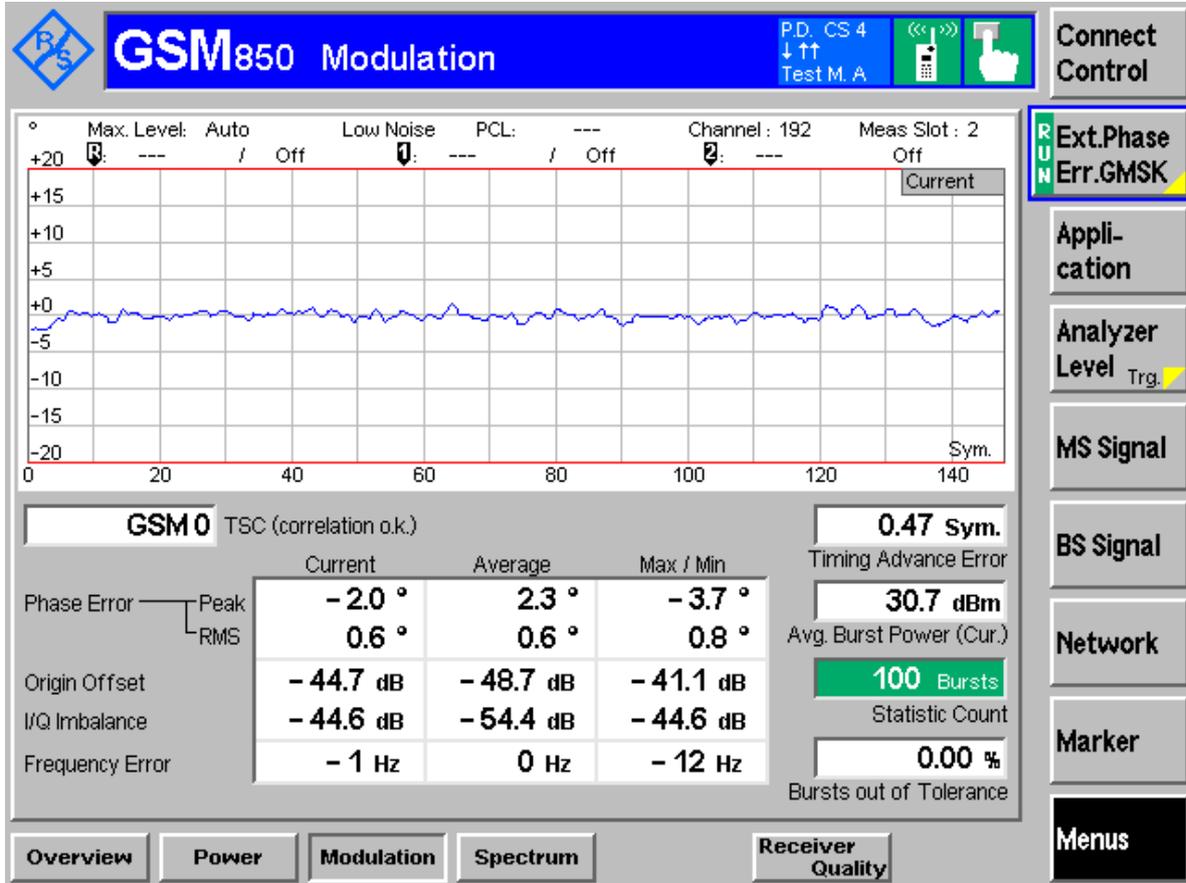
Appendix B

Modulation Characteristics

According to FCC Part 2.1047 & Part22 Subpart H

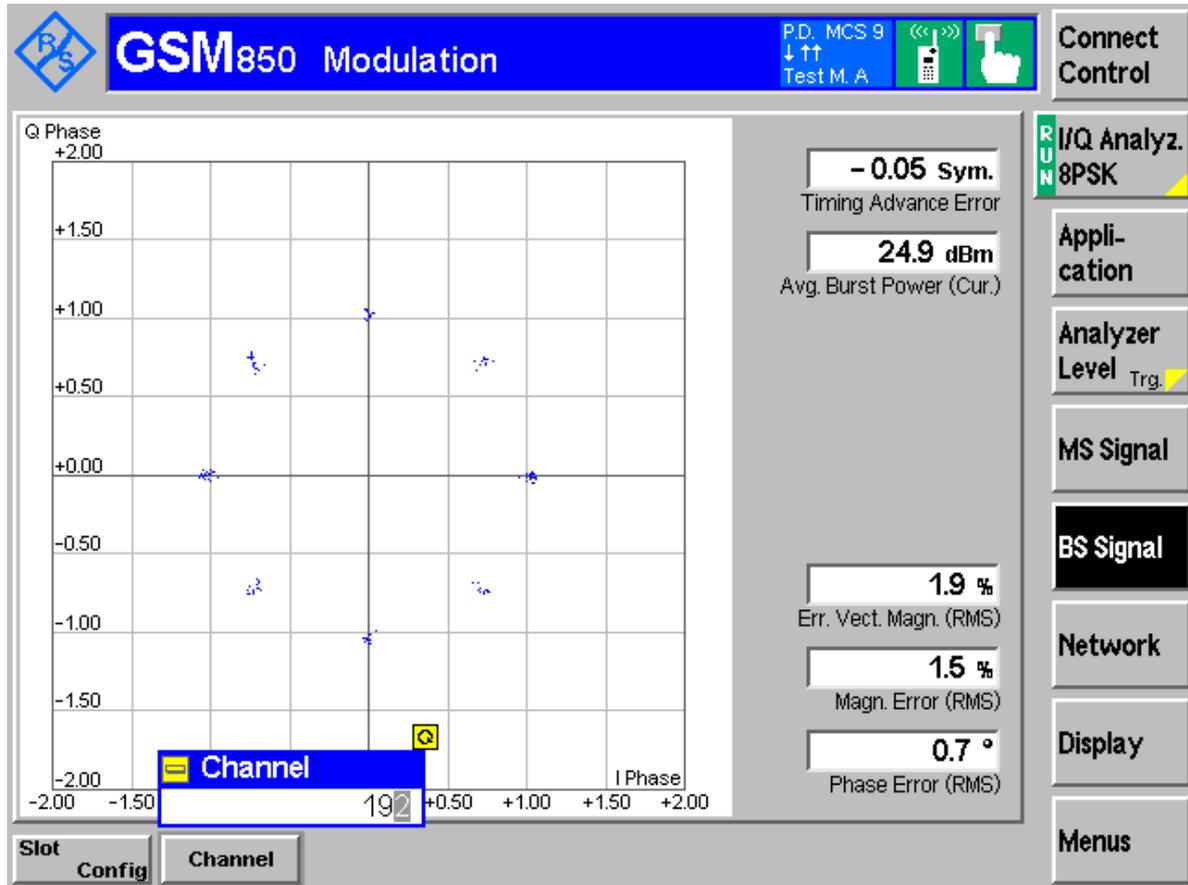


Channel 192 (TM1:GPRS/GSM)



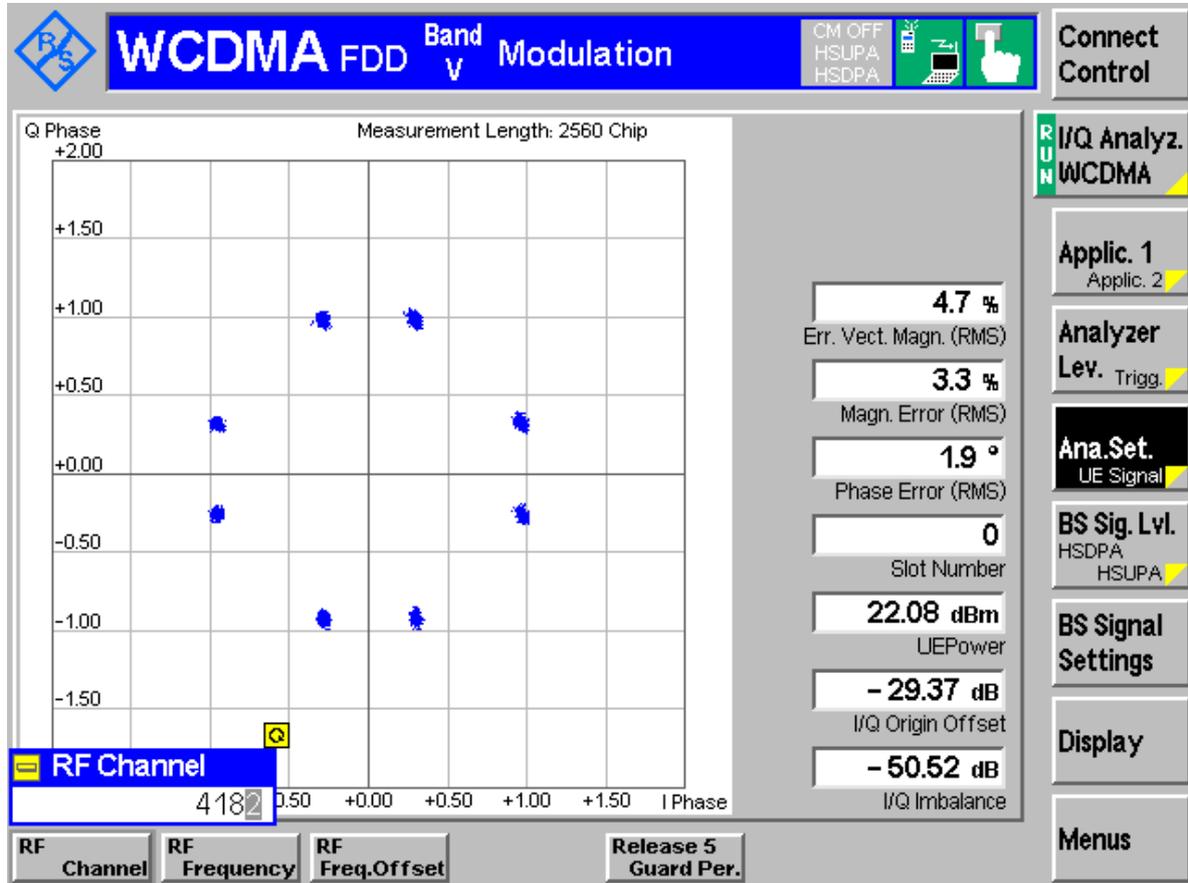


Channel 192 (TM2:EDGE)





Channel 4182 (TM3:WCDMA)





Appendix C

Occupied Bandwidth

According to FCC Part 2.1049 & Part 22 Subpart H

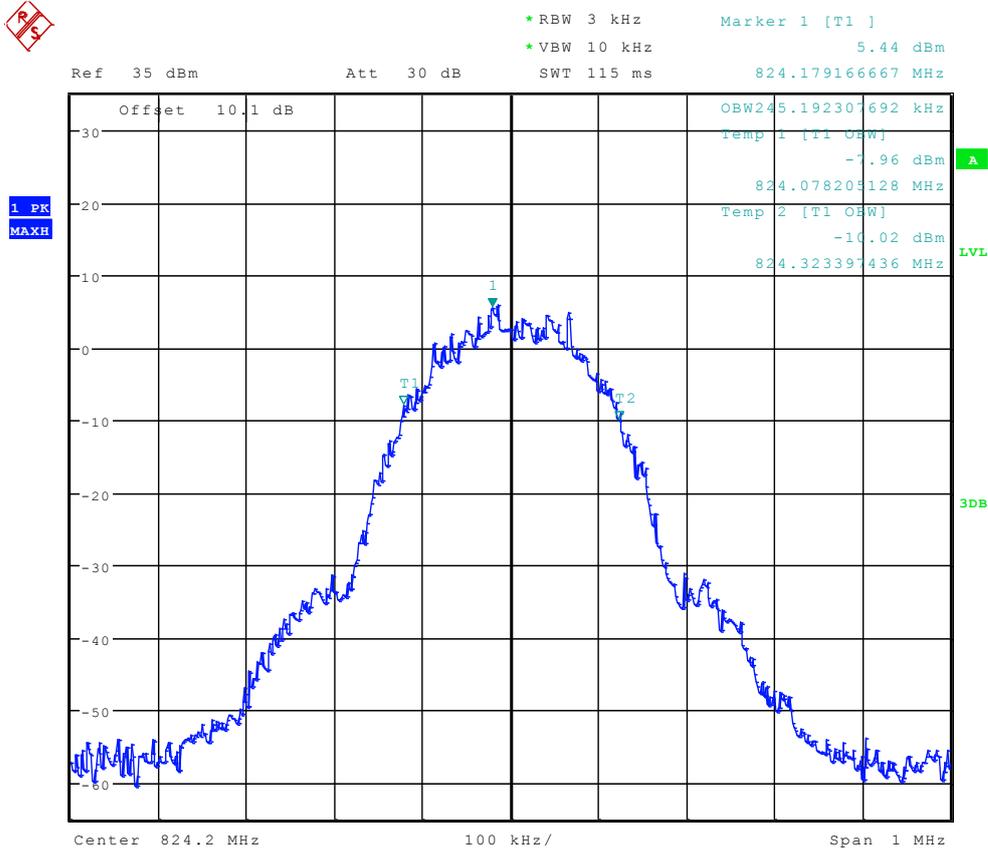


Result Table

Test Mode	RF Ch.	Occupied Bandwidth [MHz]	Verdict
TM 1	B	0.245	Pass
	M	0.244	Pass
	T	0.244	Pass
TM 2	B	0.250	Pass
	M	0.252	Pass
	T	0.255	Pass
TM 3	B	4.17	Pass
	M	4.18	Pass
	T	4.17	Pass



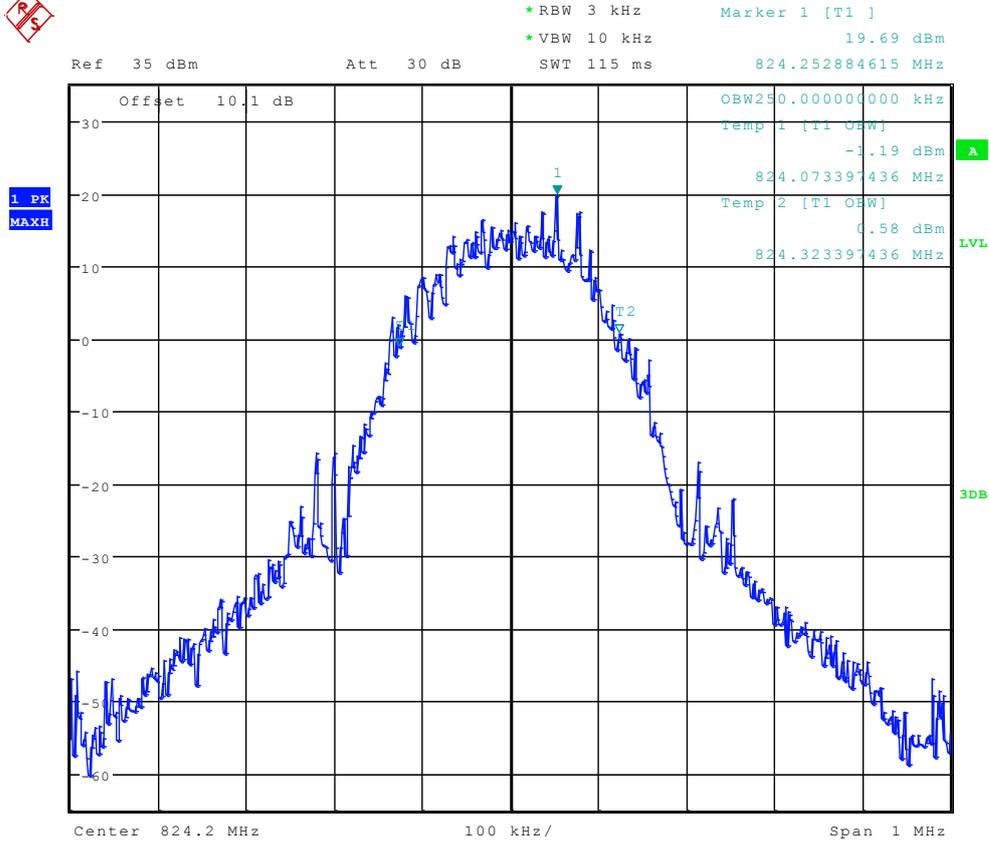
Channel 128 (TM1:GPRS/GSM)



Date: 2.DEC.2011 02:37:54



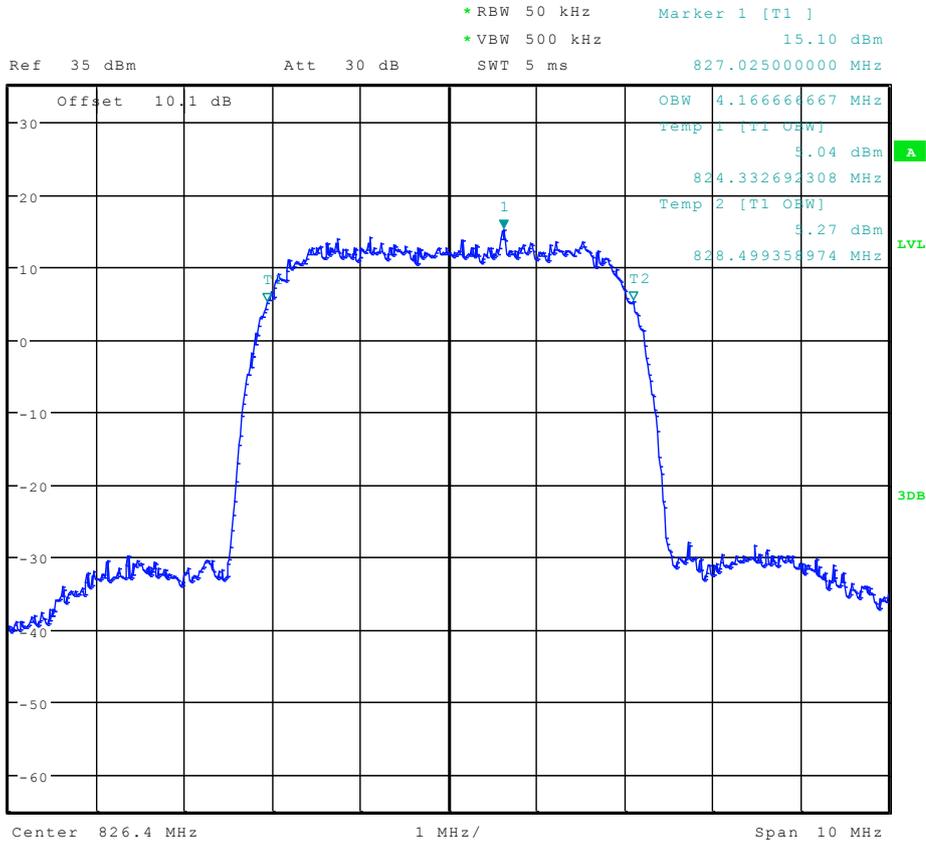
Channel 128 (TM2:EDGE)



Date: 2.DEC.2011 02:47:12



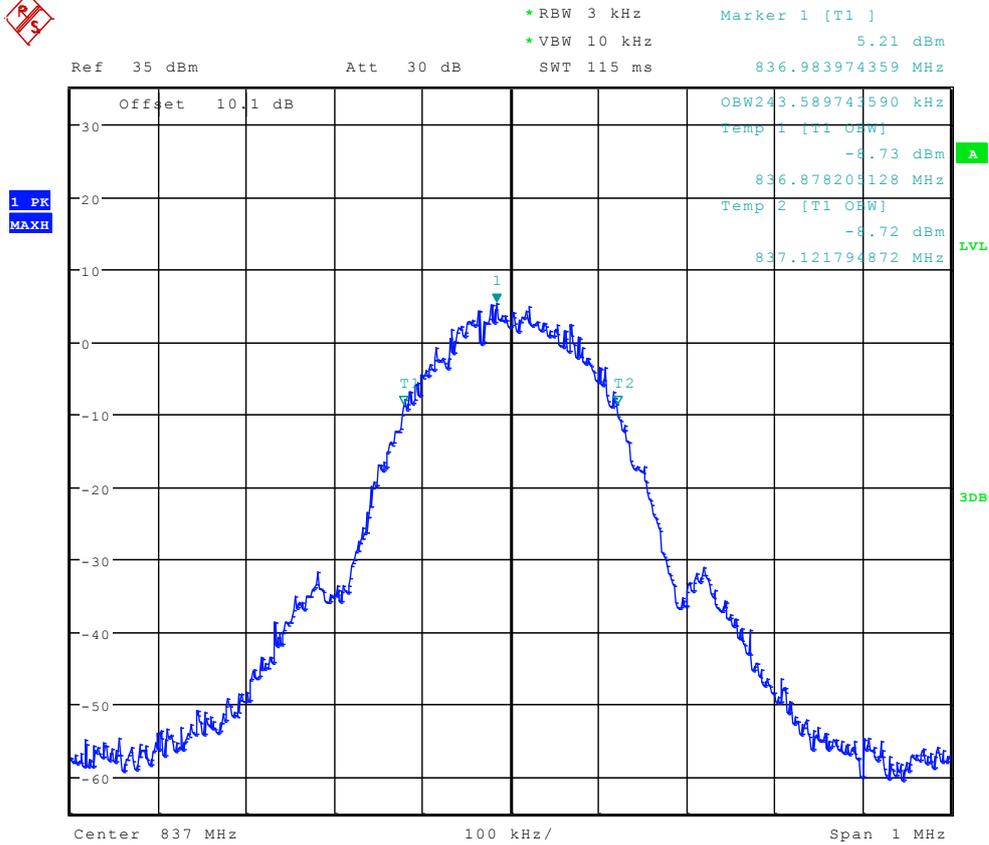
Channel 4132 (TM3: WCDMA)



Date: 2.DEC.2011 02:53:57



Channel 192 (TM1:GPRS/GSM)



Date: 2.DEC.2011 02:38:08



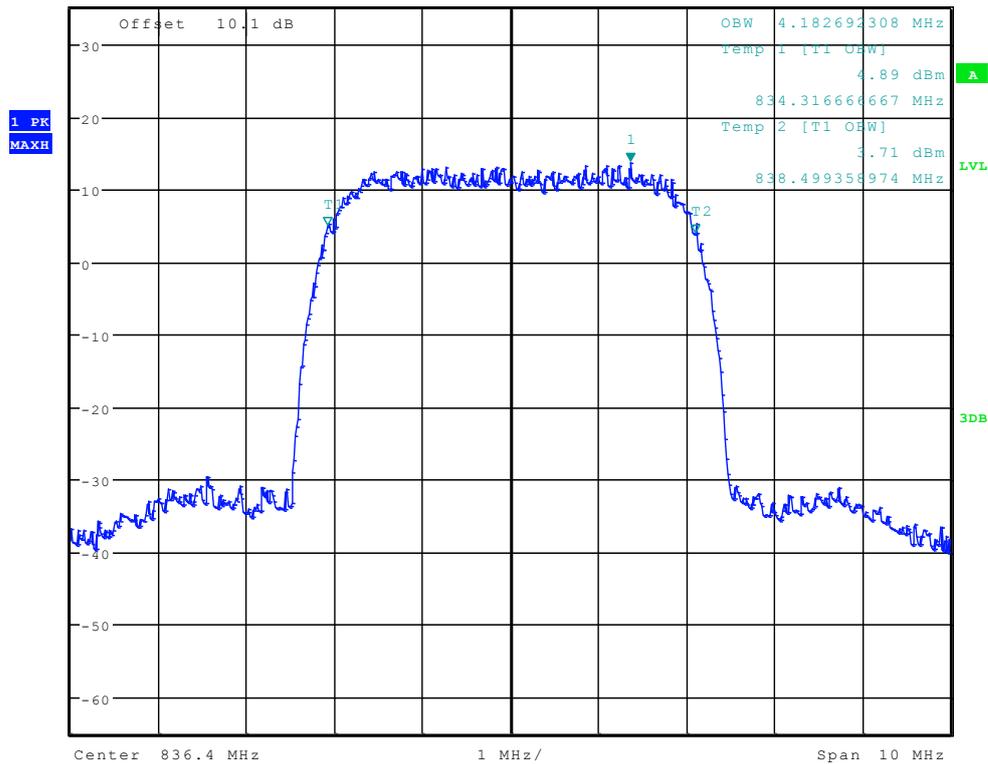
Channel 4182 (TM3: WCDMA)



Ref 35 dBm Att 30 dB SWT 5 ms

*RBW 50 kHz *VBW 500 kHz

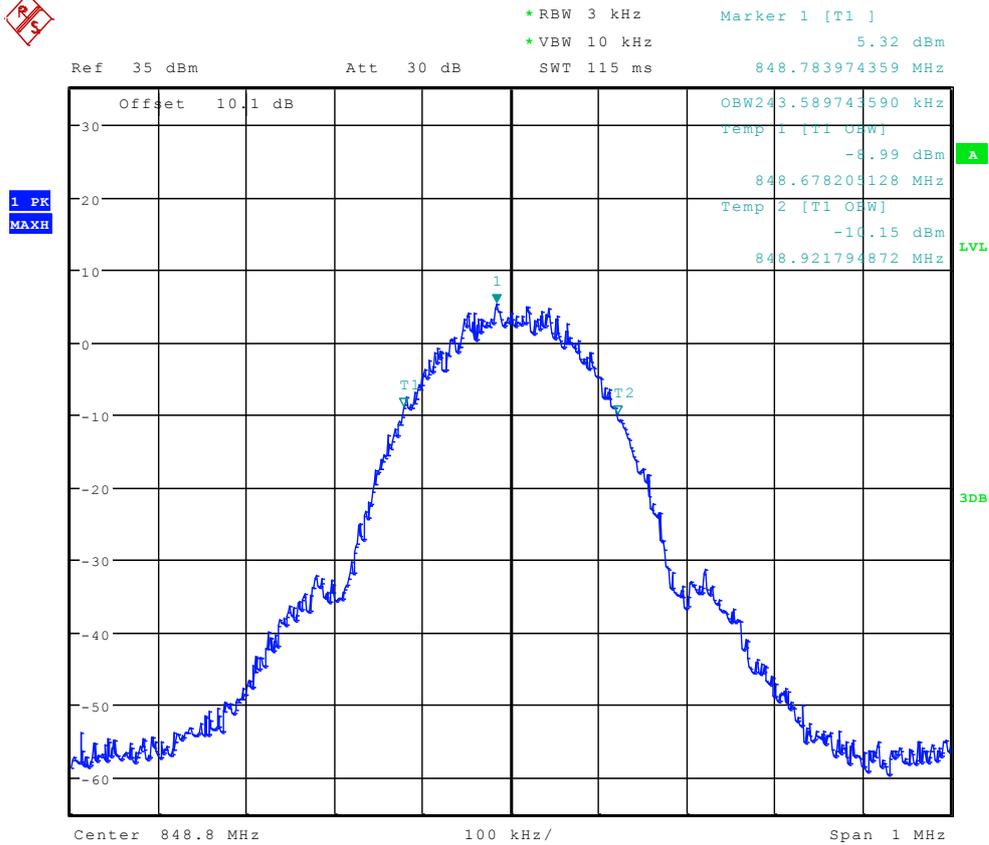
Marker 1 [T1] 13.57 dBm
837.762179487 MHz



Date: 2.DEC.2011 02:54:10



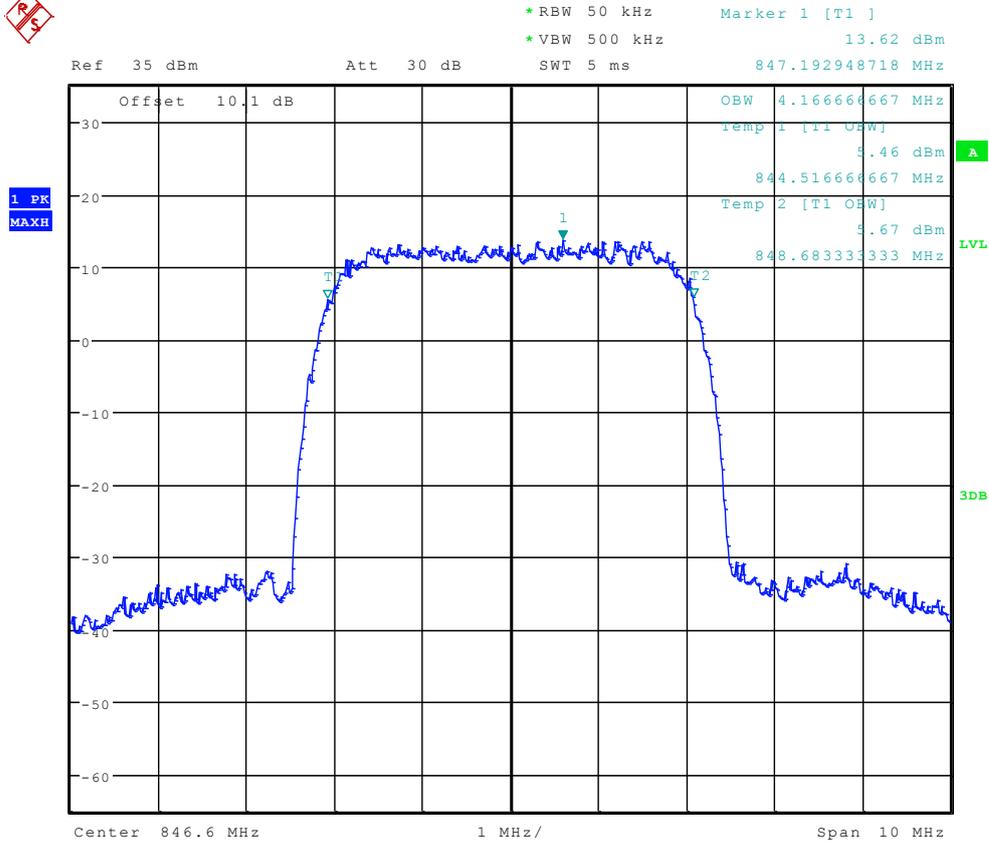
Channel 251 (TM1:GPRS/GSM)



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Channel 4233 (TM3: WCDMA)



Date: 2.DEC.2011 02:54:24



Appendix D

Band Edges Compliance

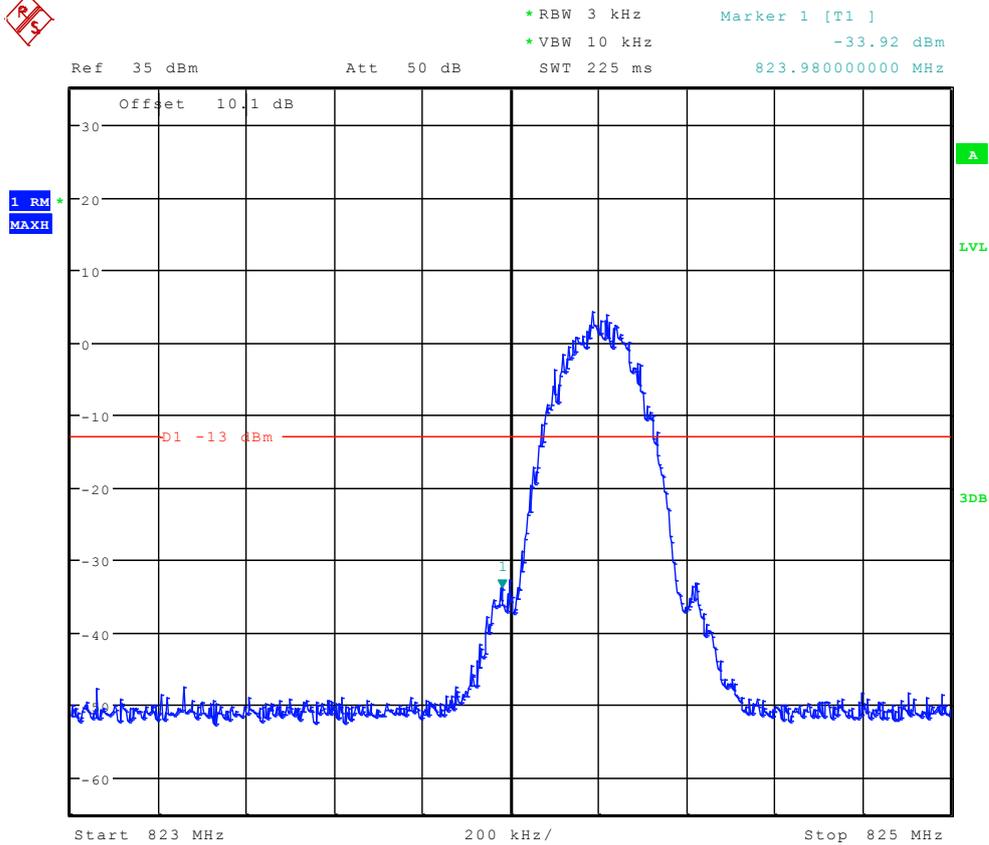
According to FCC Part 2.1051 & Part 22 Subpart H



TM1:GPRS/GSM

Left Edge

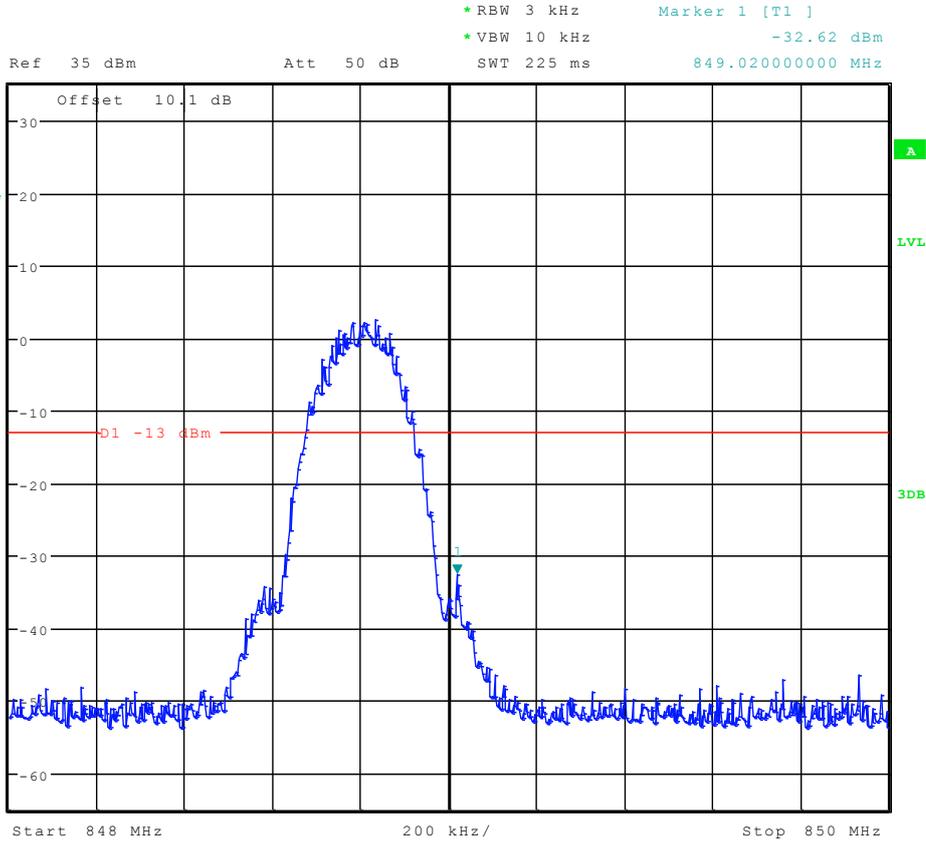
Channel 128



Date: 2.DEC.2011 02:41:54



Right Edge Channel 251



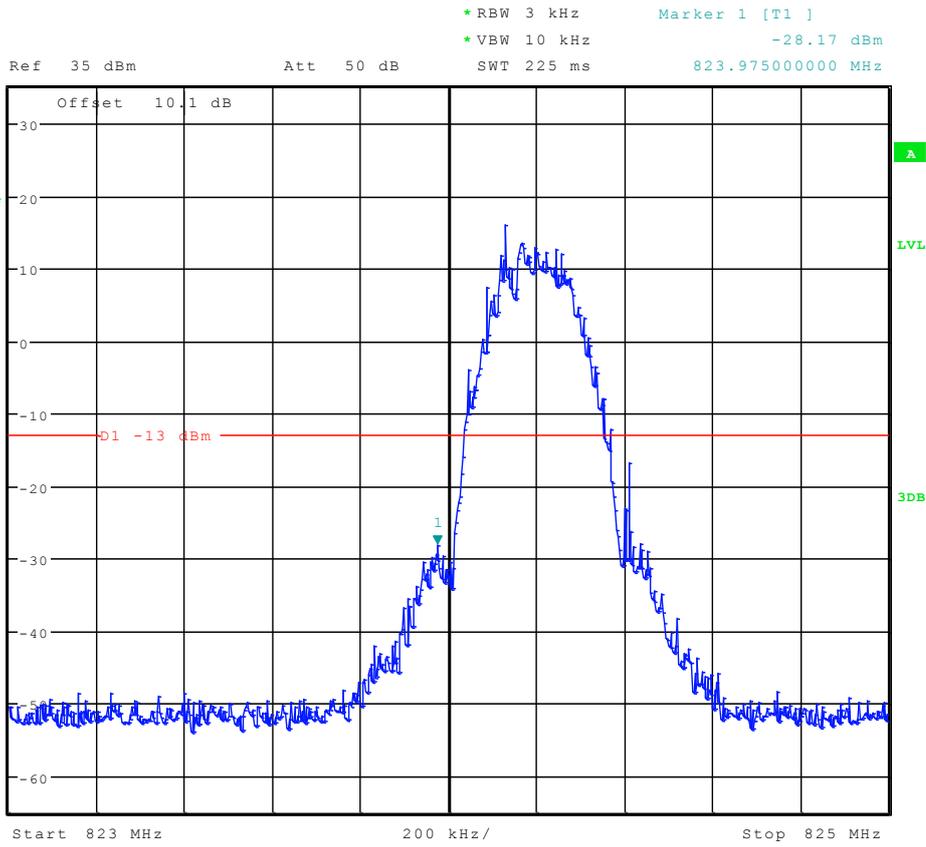
Date: 2.DEC.2011 02:42:08



TM2:EDGE

Left Edge

Channel 128



Date: 2.DEC.2011 03:15:57



TM3: WCDMA

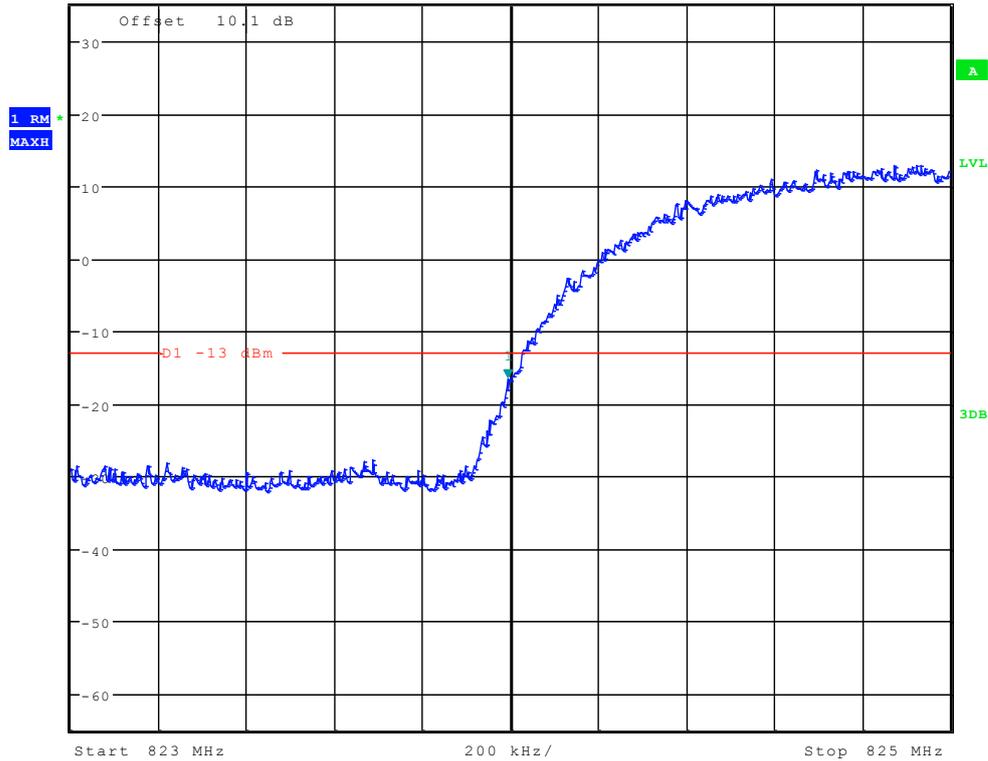
Left Edge

Channel 4132



Ref 35 dBm Att 50 dB SWT 2.5 ms Marker 1 [T1] -16.57 dBm

*RBW 50 kHz *VBW 200 kHz 823.995000000 MHz



Date: 2.DEC.2011 02:54:38

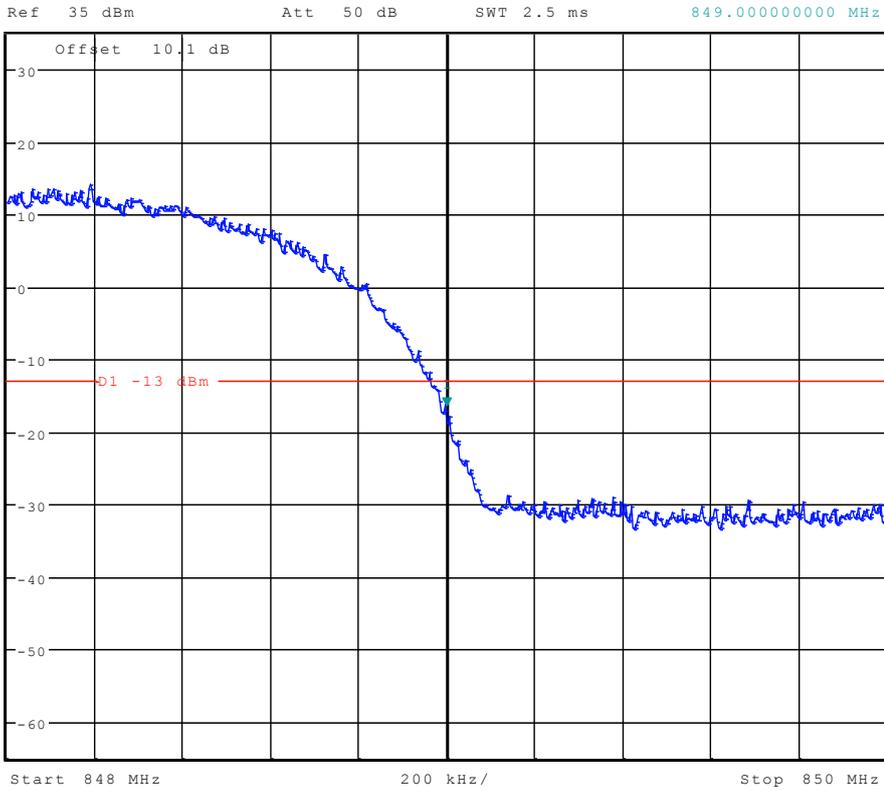
Right Edge



Channel 4233



*RBW 50 kHz Marker 1 [T1]
*VBW 200 kHz -16.51 dBm
SWT 2.5 ms 849.000000000 MHz



Date: 2.DEC.2011 02:54:52



Appendix E

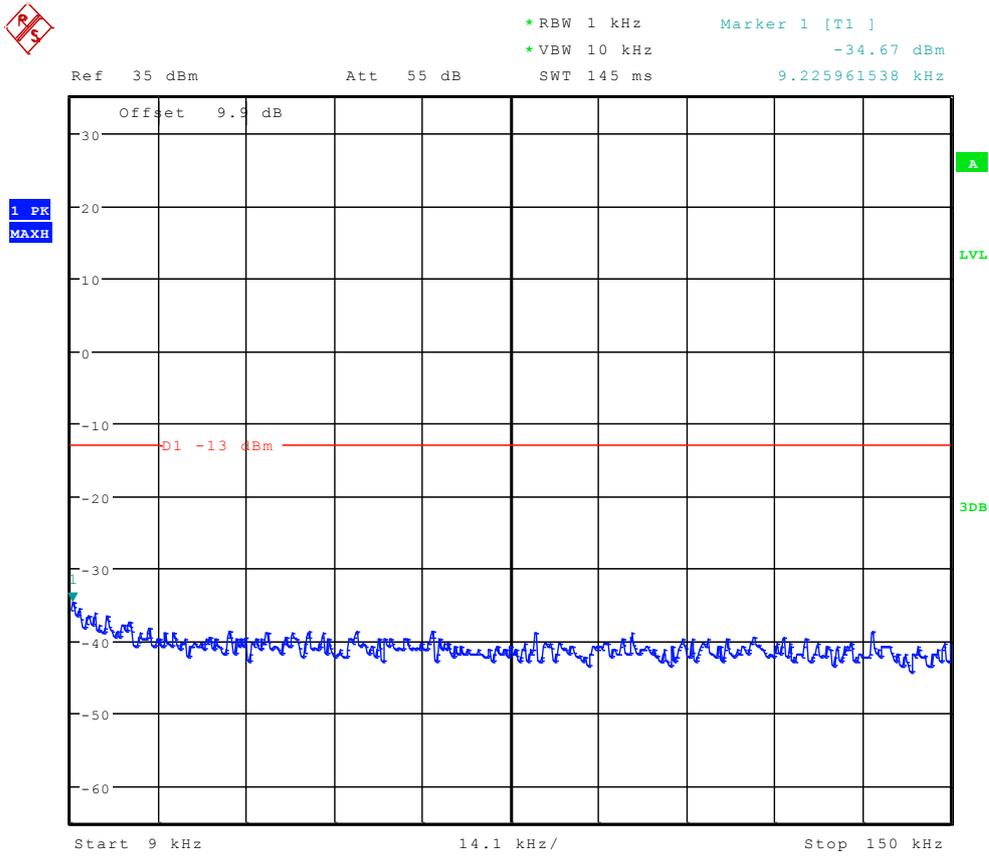
Spurious Emission at Antenna Terminal

According to FCC Part 2.1051 & Part 22 Subpart H



TM1: GPRS/GSM

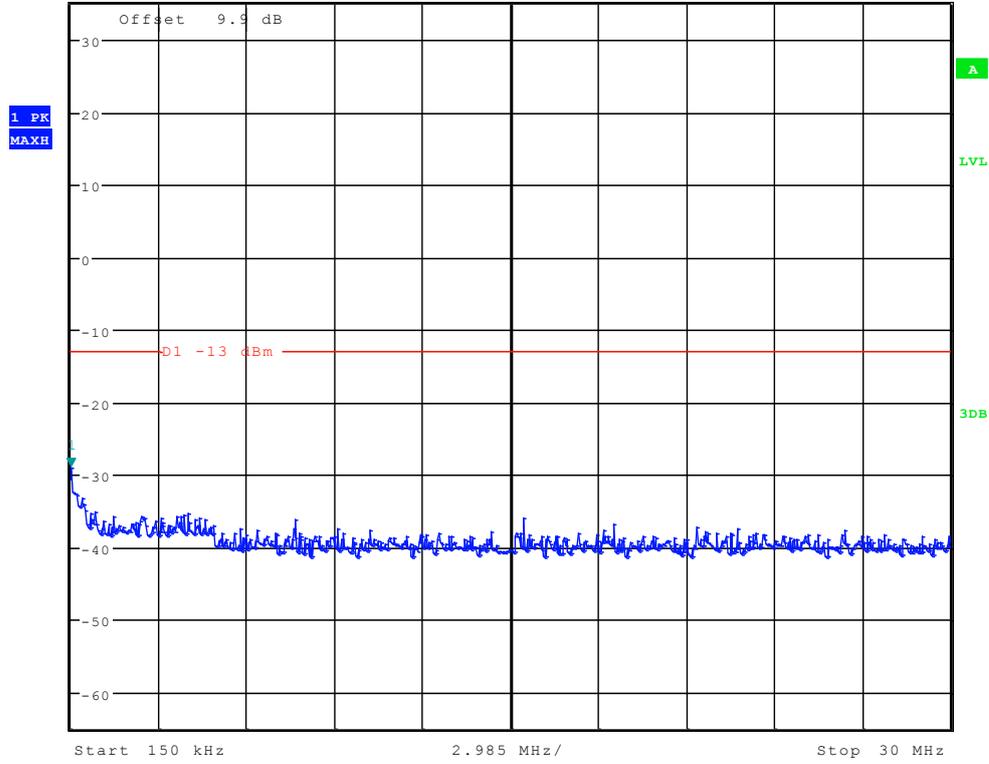
Channel 128



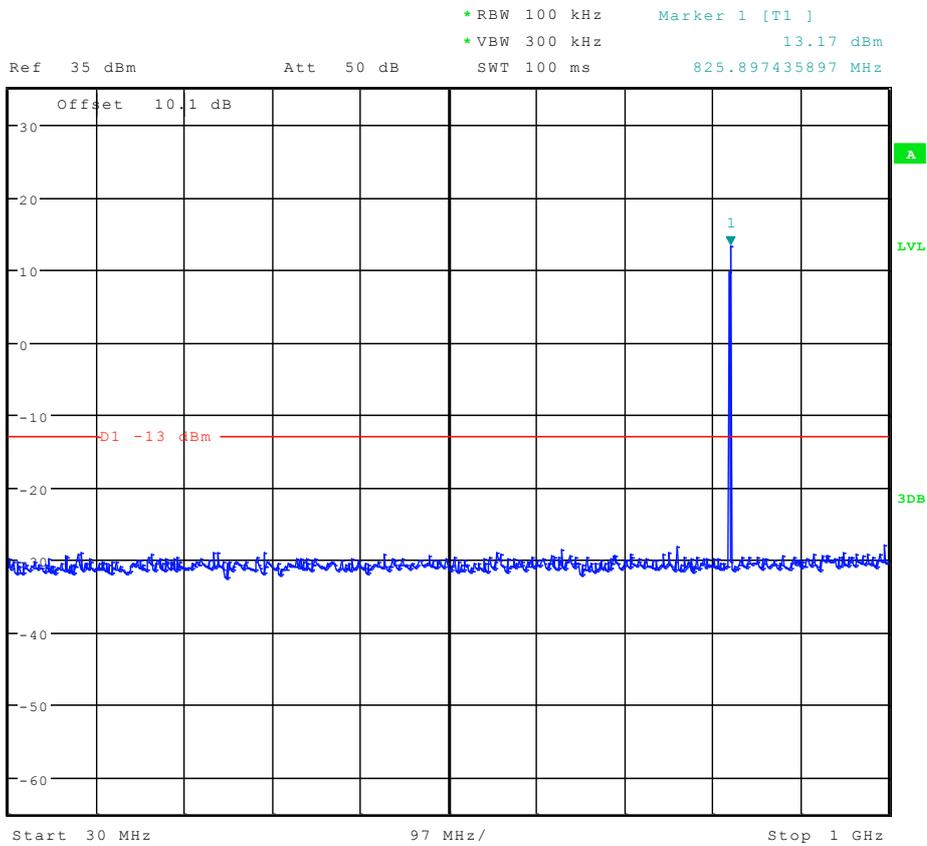
Date: 2.DEC.2011 02:38:36



Ref 35 dBm Att 55 dB SWT 300 ms 150.00000000 kHz
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -28.95 dBm



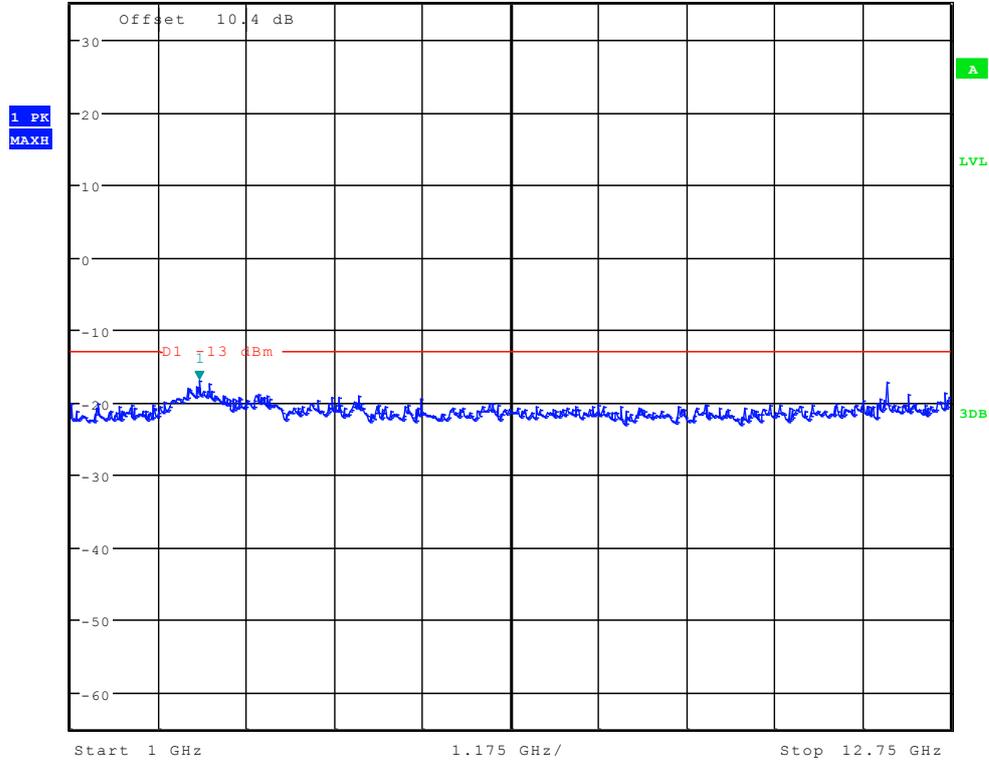
Date: 2.DEC.2011 02:39:20



Date: 2.DEC.2011 02:40:04



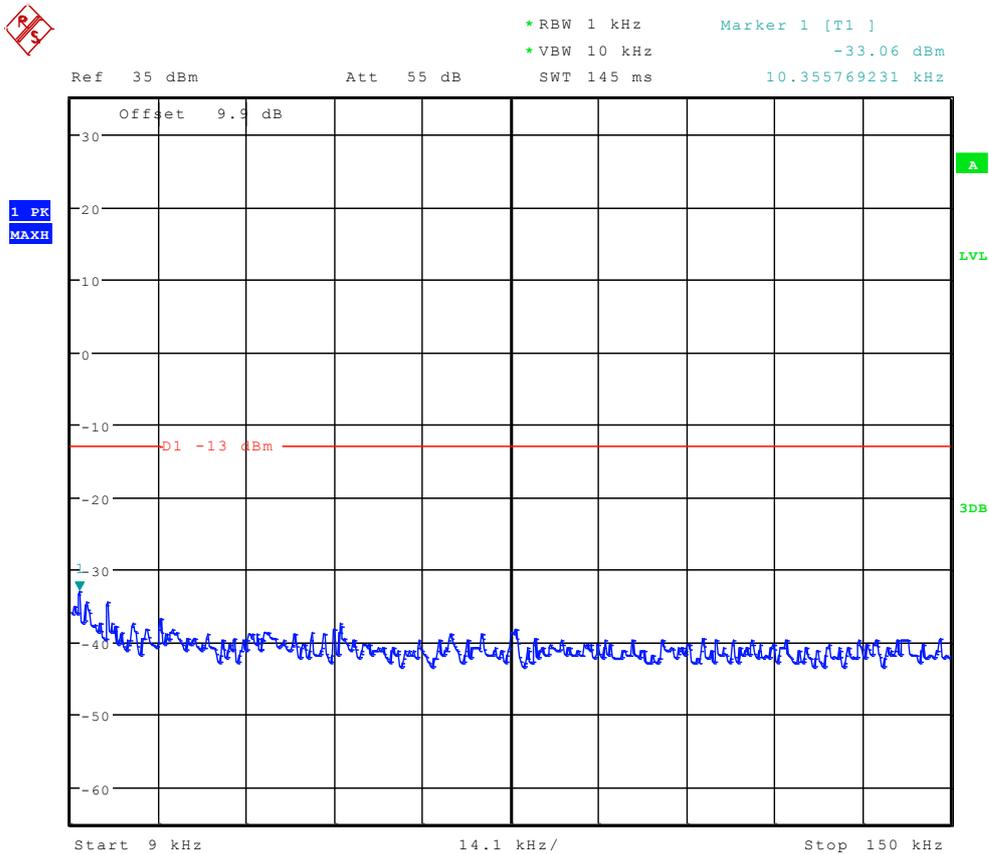
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -17.05 dBm
Ref 35 dBm Att 50 dB SWT 70 ms 2.713541667 GHz



Date: 2.DEC.2011 02:40:48



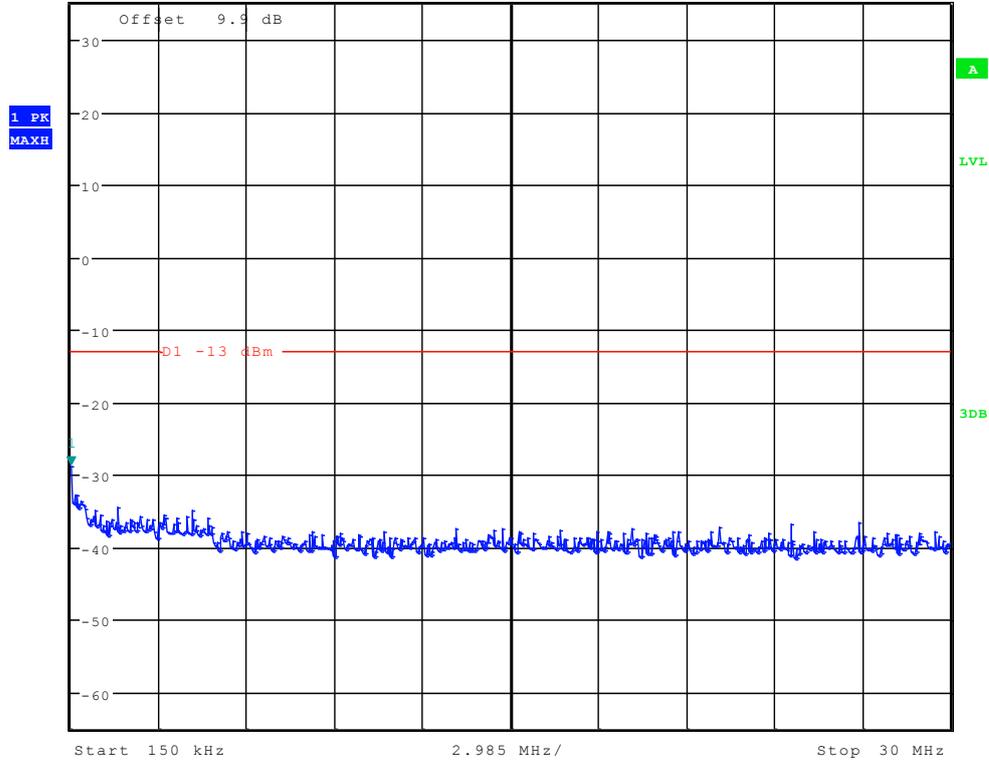
Channel 192



Date: 2.DEC.2011 02:38:51



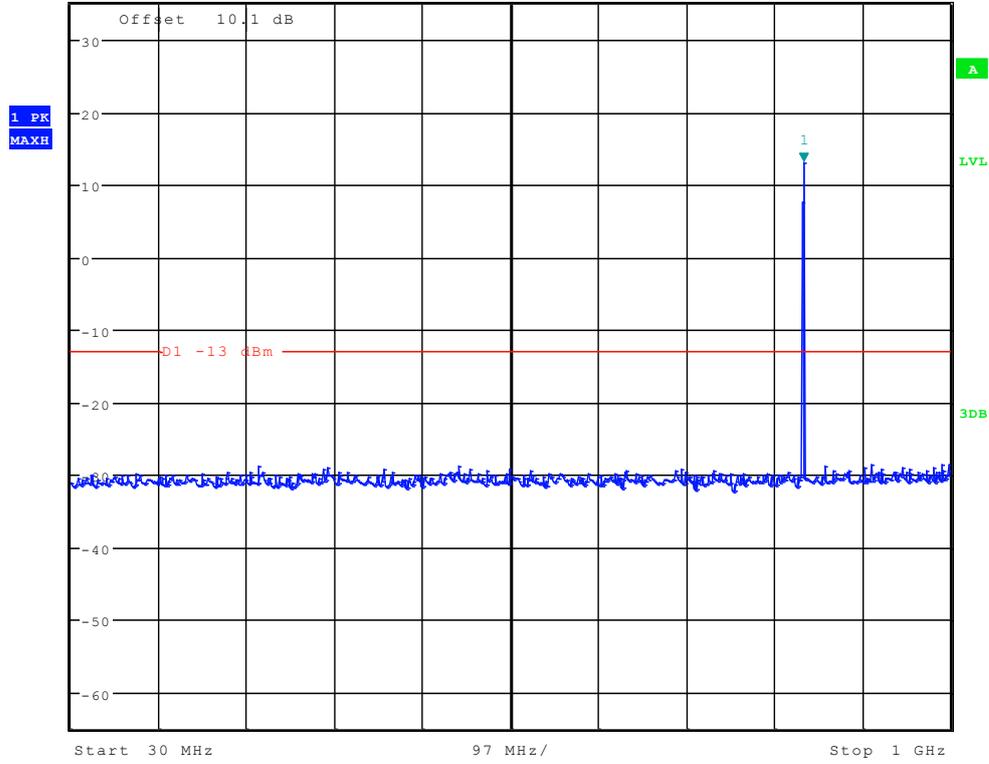
Ref 35 dBm Att 55 dB SWT 300 ms 150.00000000 kHz
 *RBW 10 kHz Marker 1 [T1] -28.80 dBm
 *VBW 30 kHz



Date: 2.DEC.2011 02:39:35



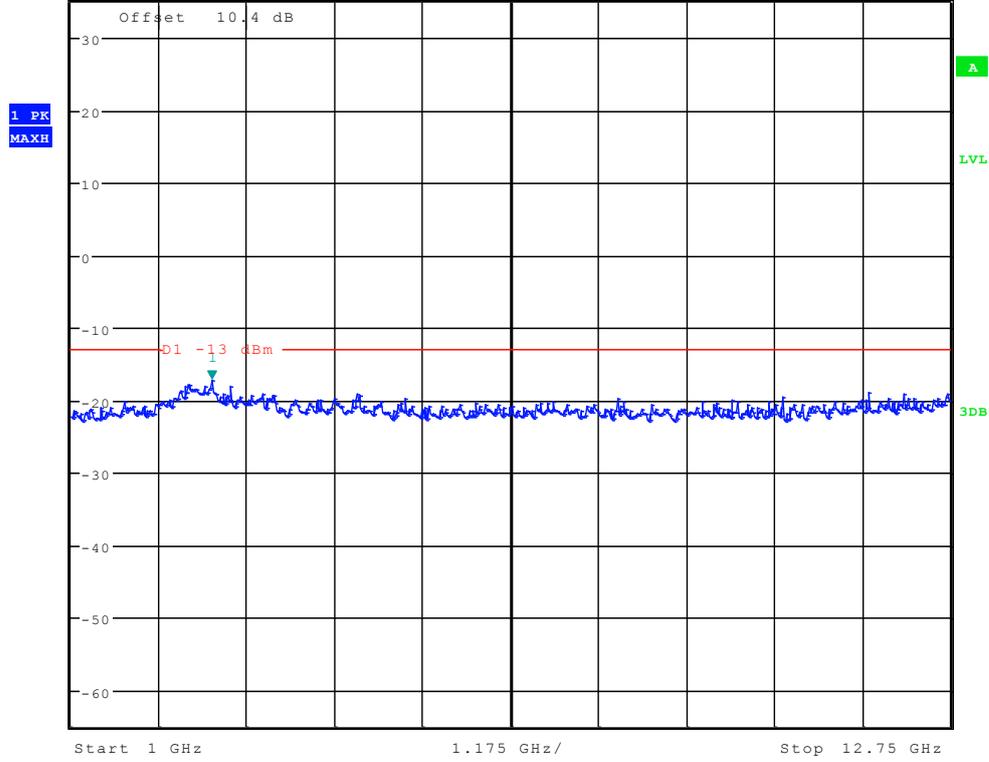
Ref 35 dBm Att 50 dB SWT 100 ms 838.333333333 MHz
*RBW 100 kHz Marker 1 [T1] 13.12 dBm
*VBW 300 kHz



Date: 2.DEC.2011 02:40:18



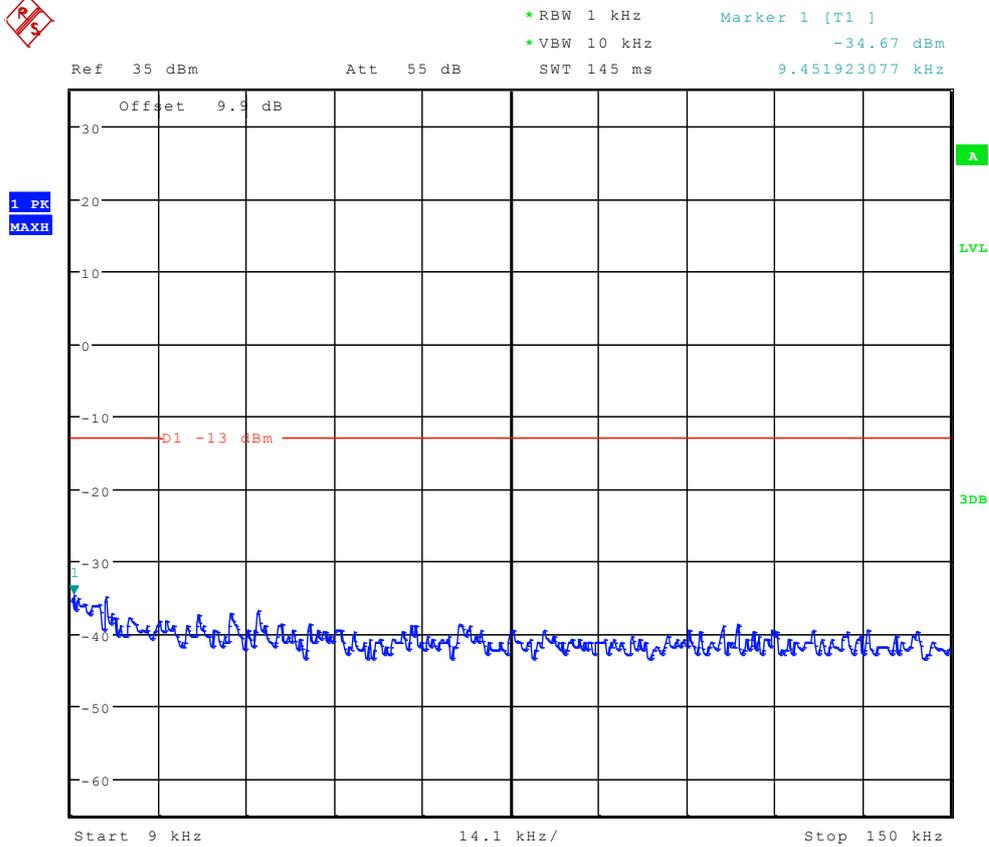
*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -17.10 dBm
Ref 35 dBm Att 50 dB SWT 70 ms 2.883012821 GHz



Date: 2.DEC.2011 02:41:02



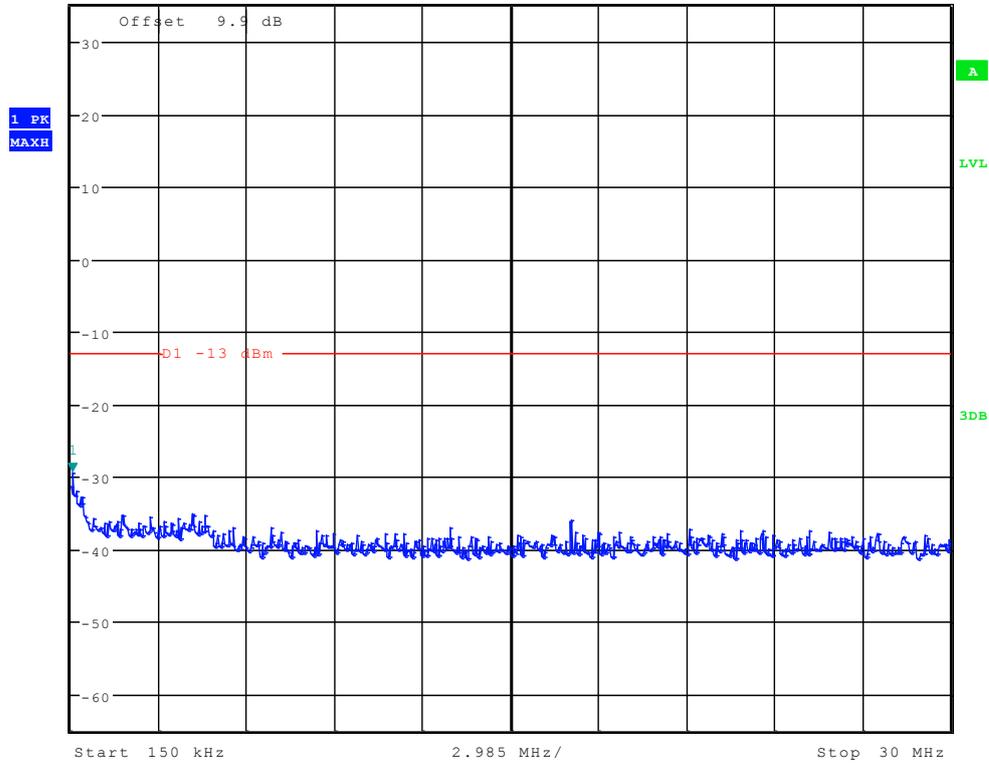
Channel 251



Date: 2.DEC.2011 02:39:05



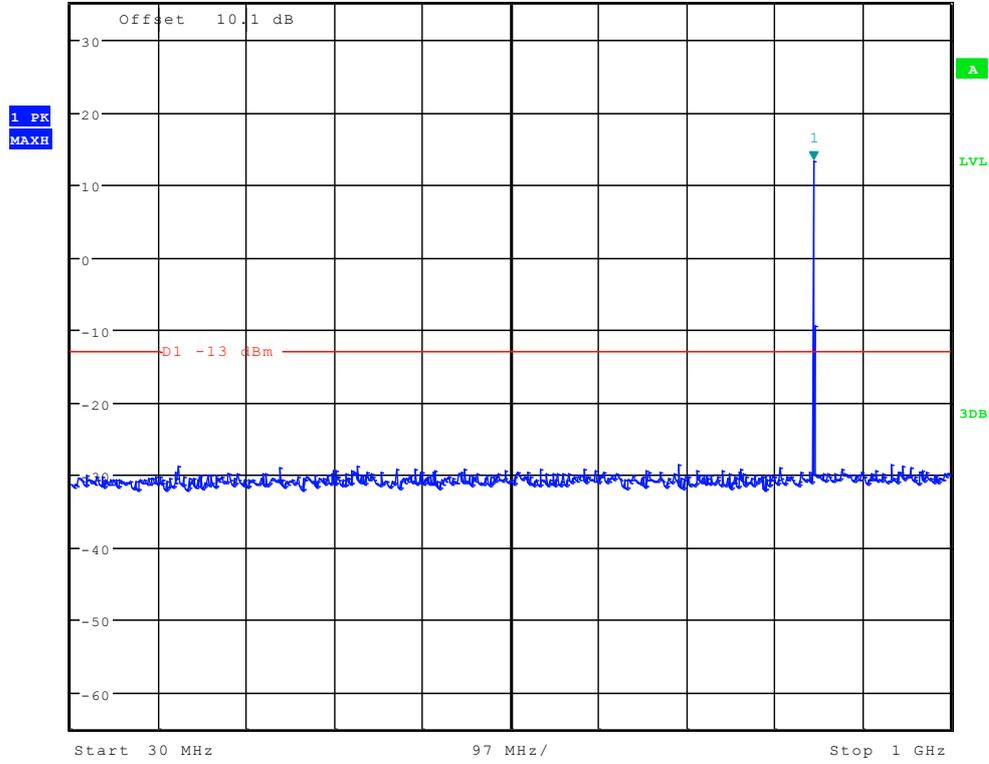
Ref 35 dBm Att 55 dB SWT 300 ms 197.836538462 kHz
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -29.48 dBm



Date: 2.DEC.2011 02:39:49



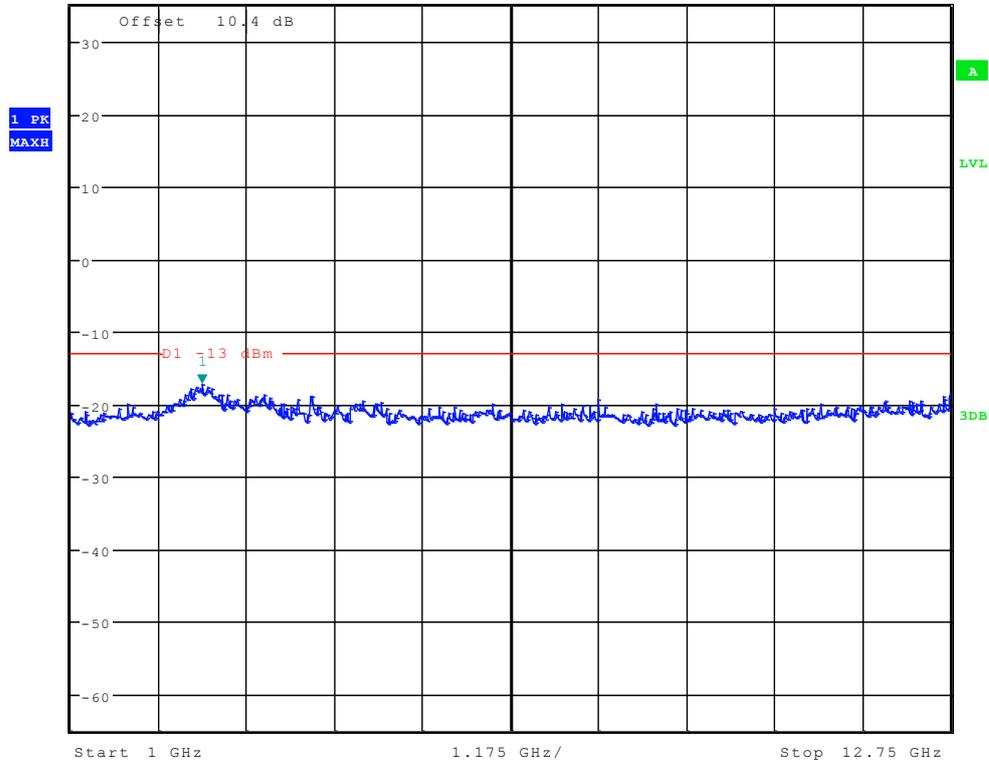
Ref 35 dBm Att 50 dB SWT 100 ms
*RBW 100 kHz Marker 1 [T1] 13.28 dBm
*VBW 300 kHz 849.214743590 MHz



Date: 2.DEC.2011 02:40:33



Ref 35 dBm Att 50 dB SWT 70 ms
*RBW 1 MHz Marker 1 [T1] -17.22 dBm
*VBW 3 MHz 2.751201923 GHz



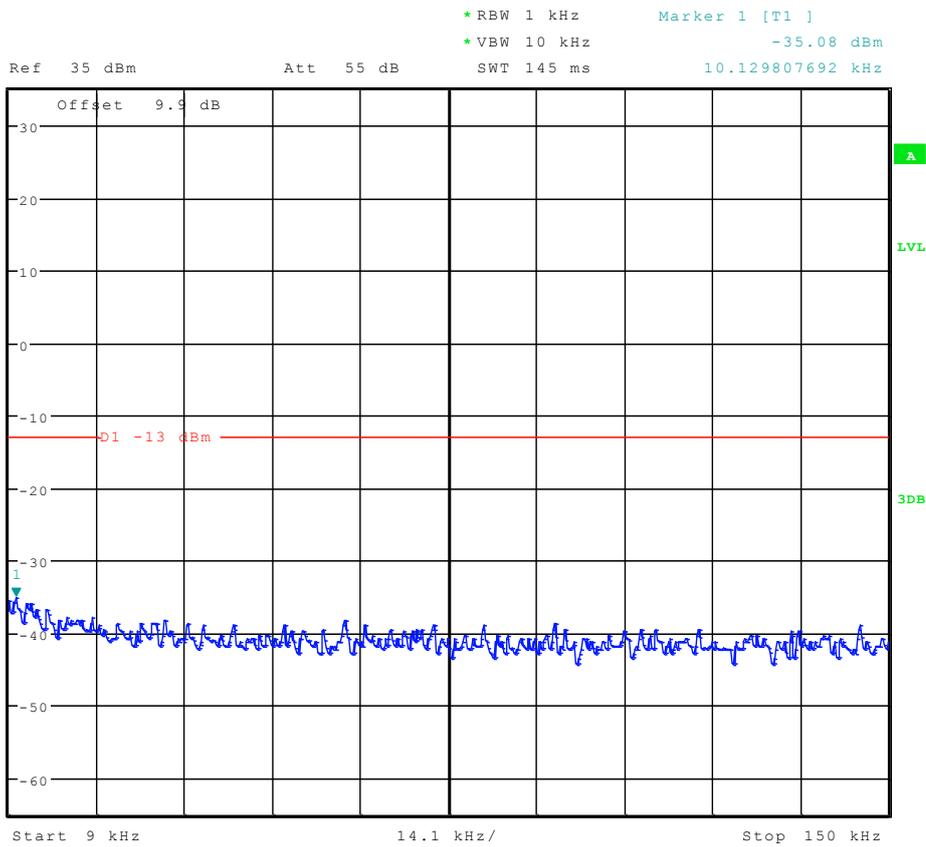
Date: 2.DEC.2011 02:41:17



TM2: EDGE Channel 128



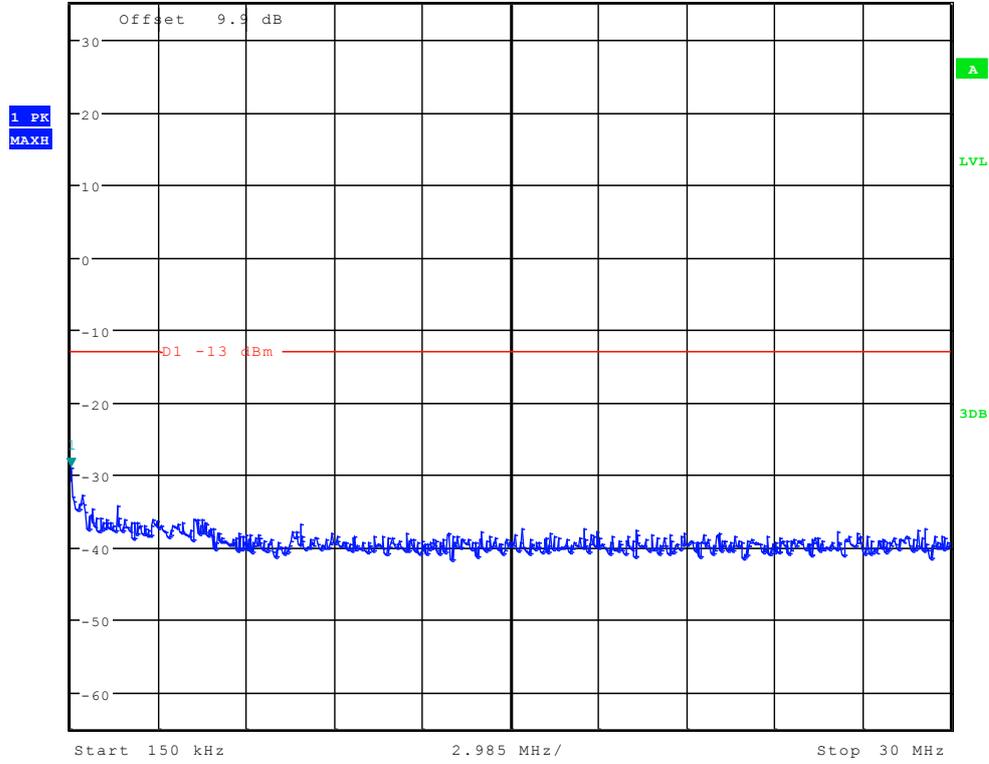
1 PK
MAXH



Date: 2.DEC.2011 02:47:54



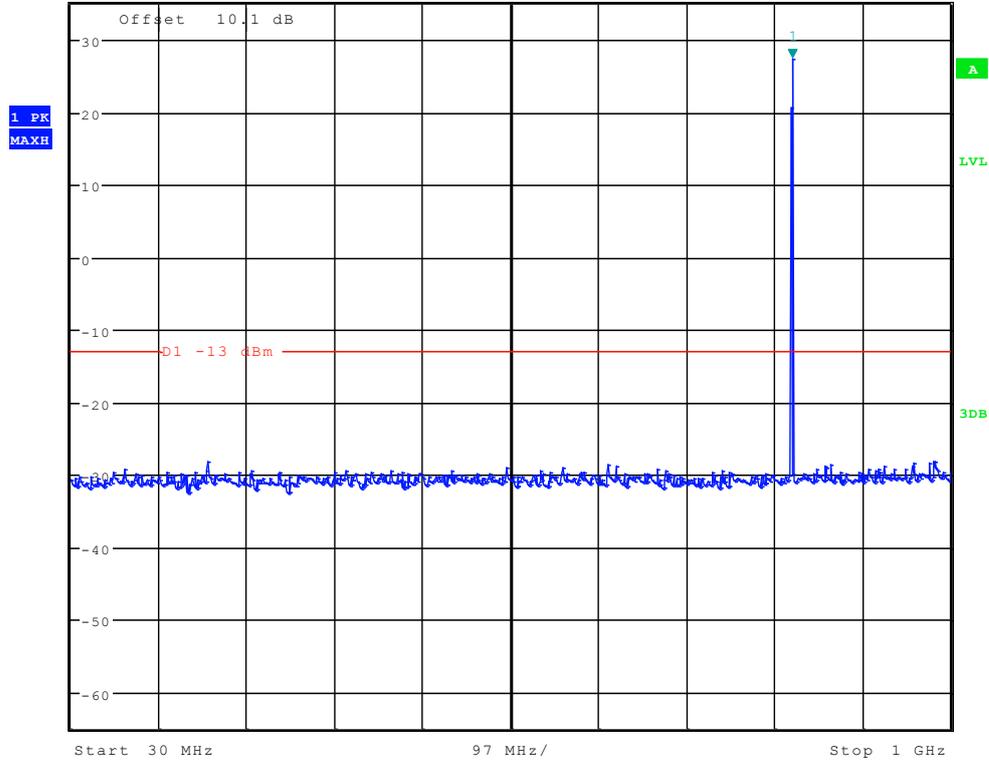
Ref 35 dBm Att 55 dB SWT 300 ms 150.00000000 kHz
 *RBW 10 kHz Marker 1 [T1] -28.90 dBm
 *VBW 30 kHz



Date: 2.DEC.2011 02:48:38



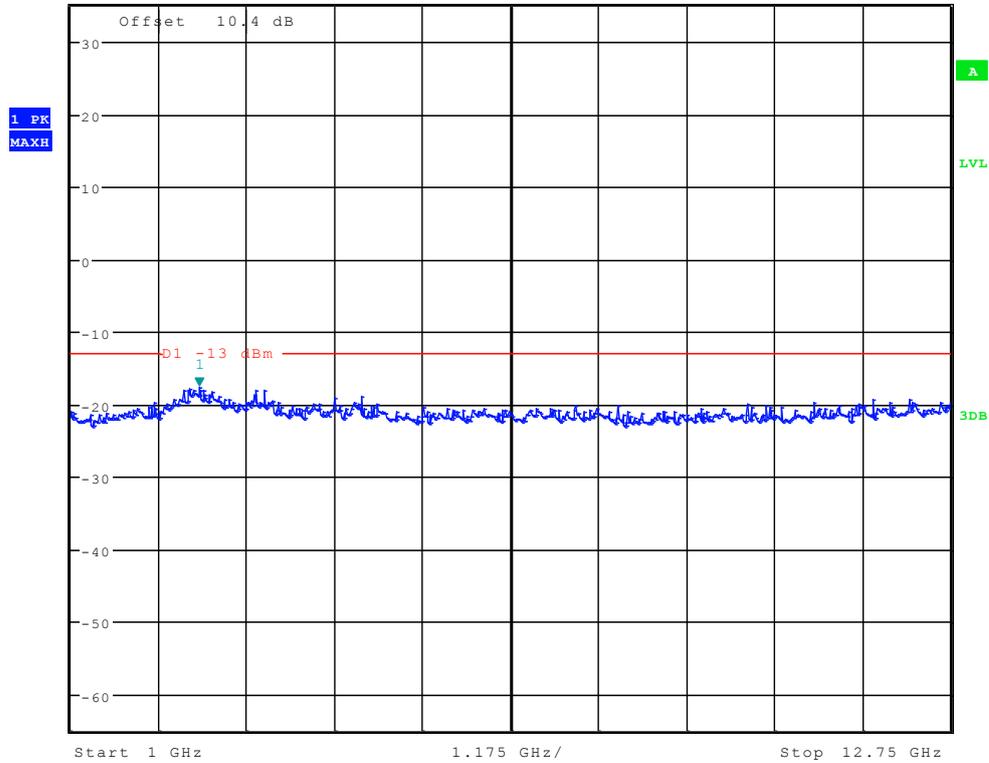
Ref 35 dBm Att 50 dB SWT 100 ms
 *RBW 100 kHz Marker 1 [T1] 27.32 dBm
 *VBW 300 kHz 825.897435897 MHz



Date: 2.DEC.2011 02:49:22



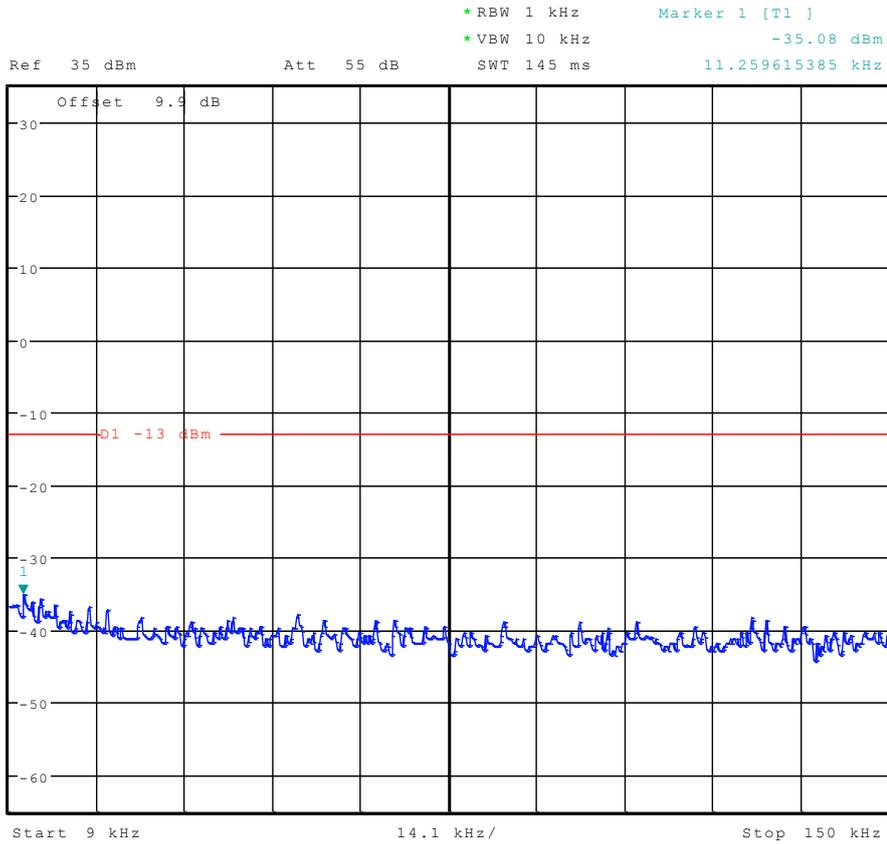
Ref 35 dBm Att 50 dB SWT 70 ms
*RBW 1 MHz Marker 1 [T1] -17.58 dBm
*VBW 3 MHz 2.713541667 GHz



Date: 2.DEC.2011 02:50:05



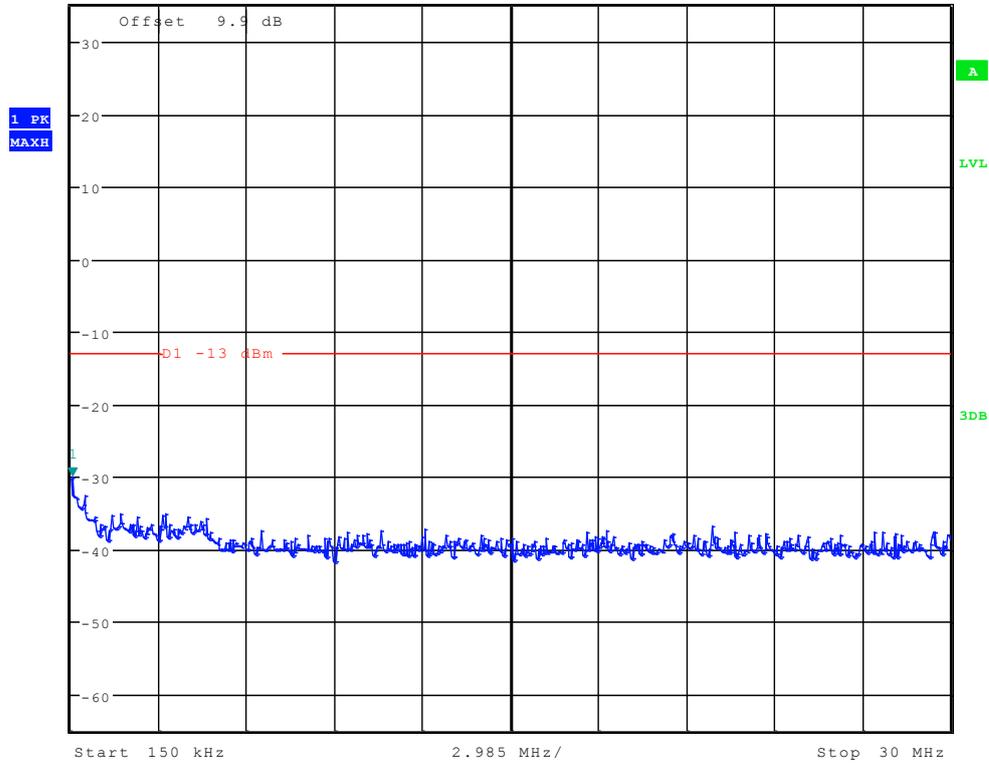
Channel 192



Date: 2.DEC.2011 02:48:08



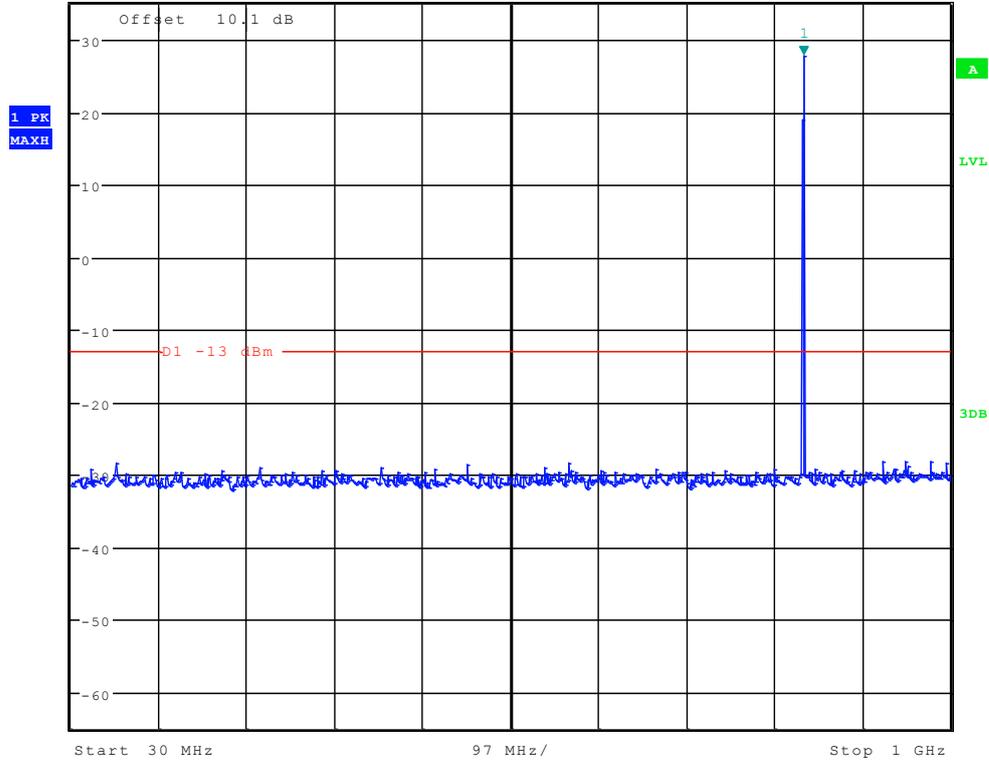
Ref 35 dBm Att 55 dB SWT 300 ms 197.836538462 kHz
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -30.10 dBm



Date: 2.DEC.2011 02:48:52



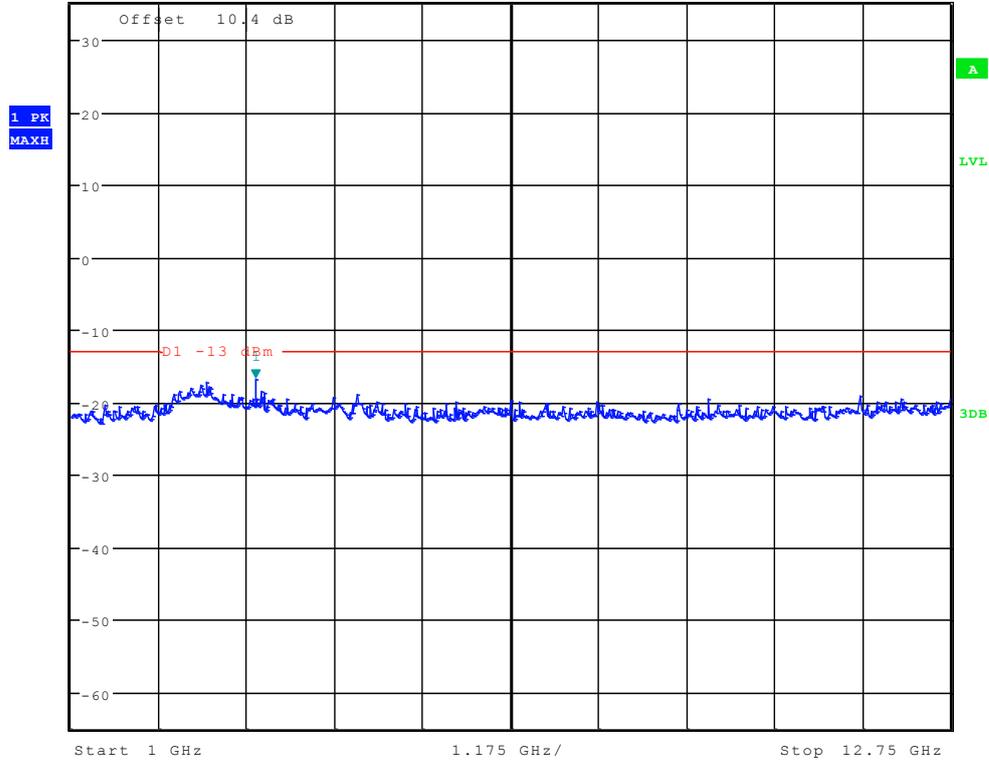
Ref 35 dBm Att 50 dB SWT 100 ms
*RBW 100 kHz Marker 1 [T1] 27.78 dBm
*VBW 300 kHz 838.333333333 MHz



Date: 2.DEC.2011 02:49:36



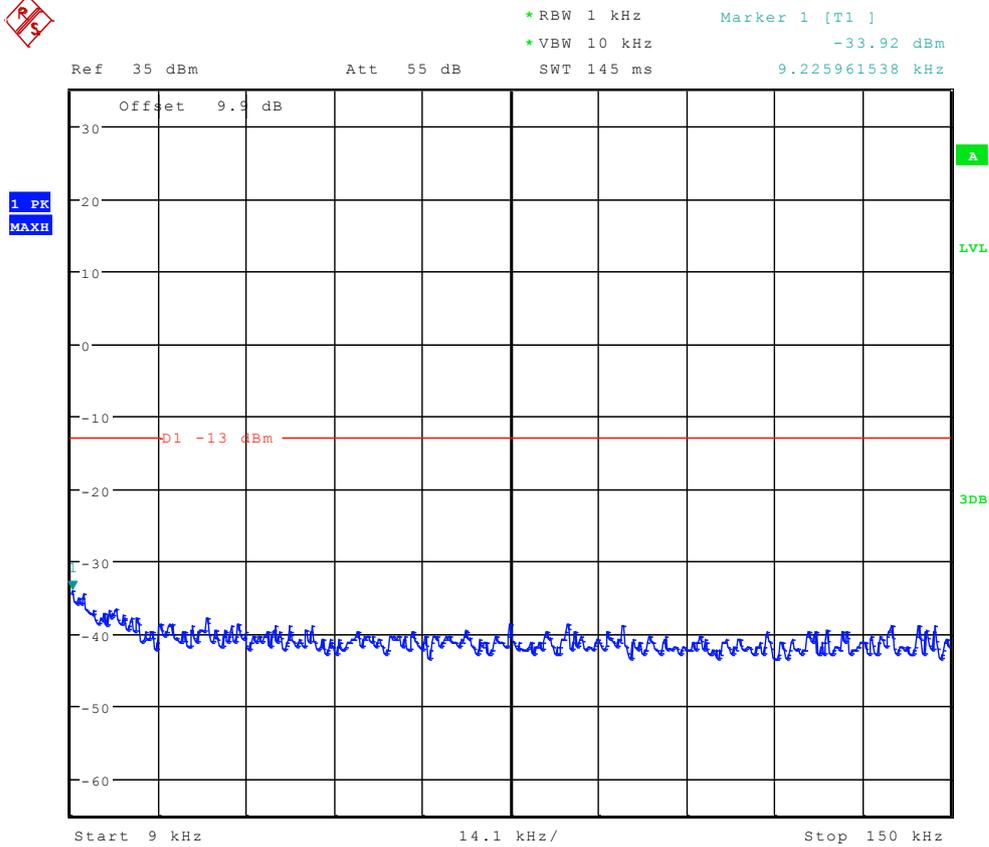
Ref 35 dBm Att 50 dB SWT 70 ms
*RBW 1 MHz Marker 1 [T1] -16.76 dBm
*VBW 3 MHz 3.466746795 GHz



Date: 2.DEC.2011 02:50:20



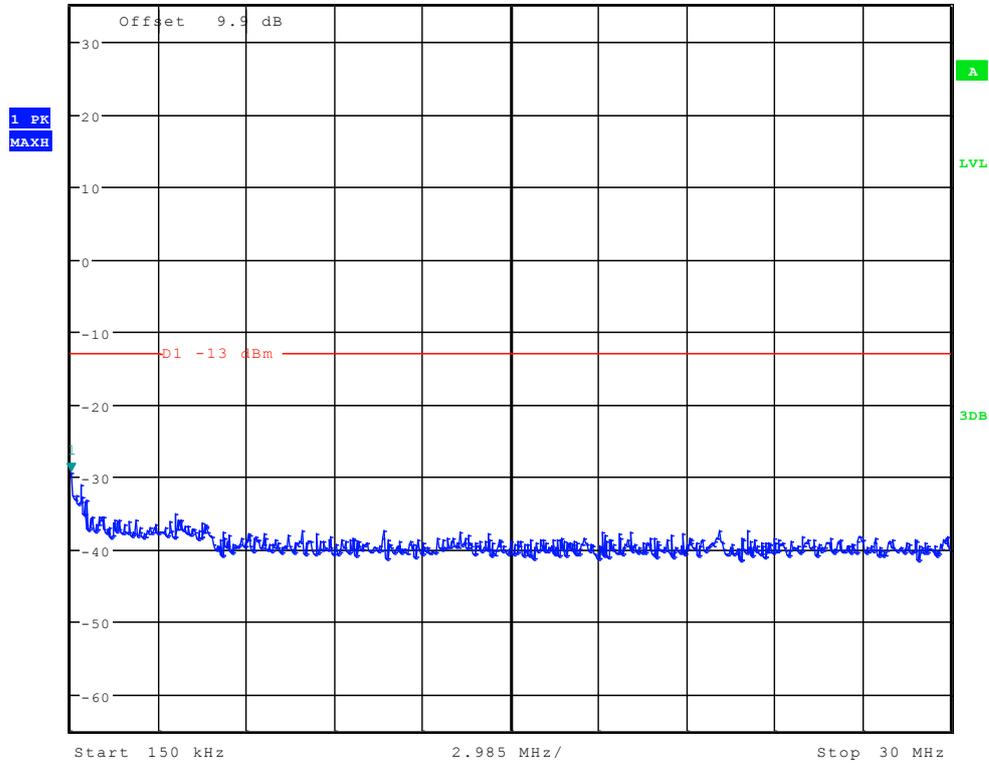
Channel 251



Date: 2.DEC.2011 02:48:23



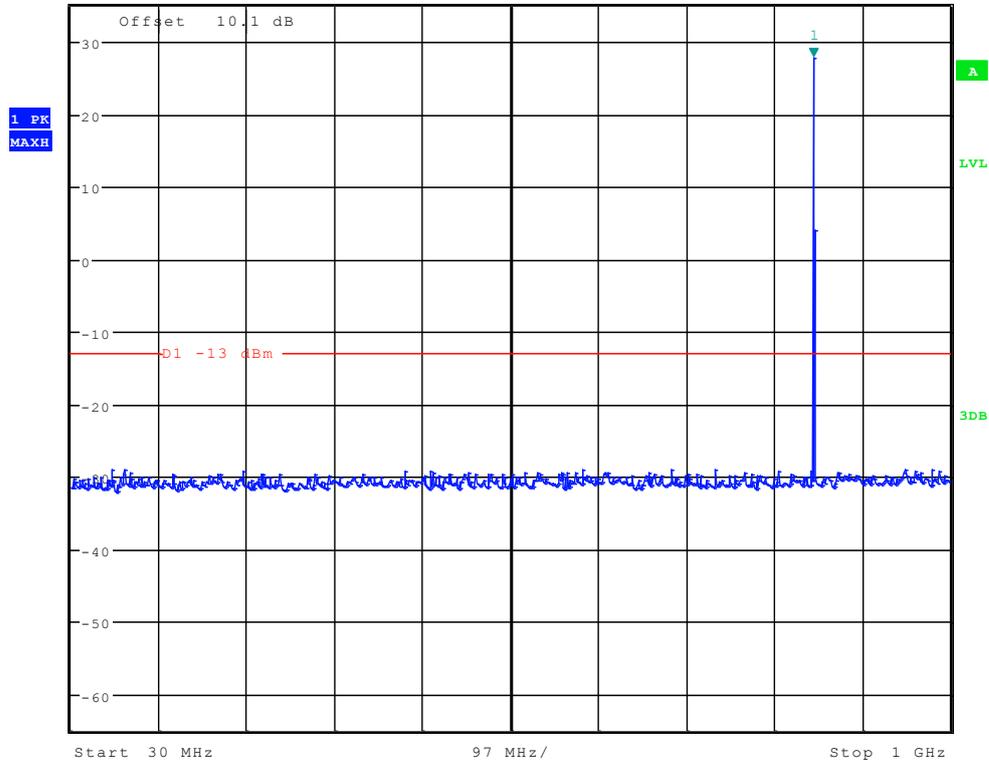
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -29.32 dBm
Ref 35 dBm Att 55 dB SWT 300 ms 150.000000000 kHz



Date: 2.DEC.2011 02:49:07



Ref 35 dBm Att 50 dB SWT 100 ms
*RBW 100 kHz Marker 1 [T1] 27.83 dBm
*VBW 300 kHz 849.214743590 MHz

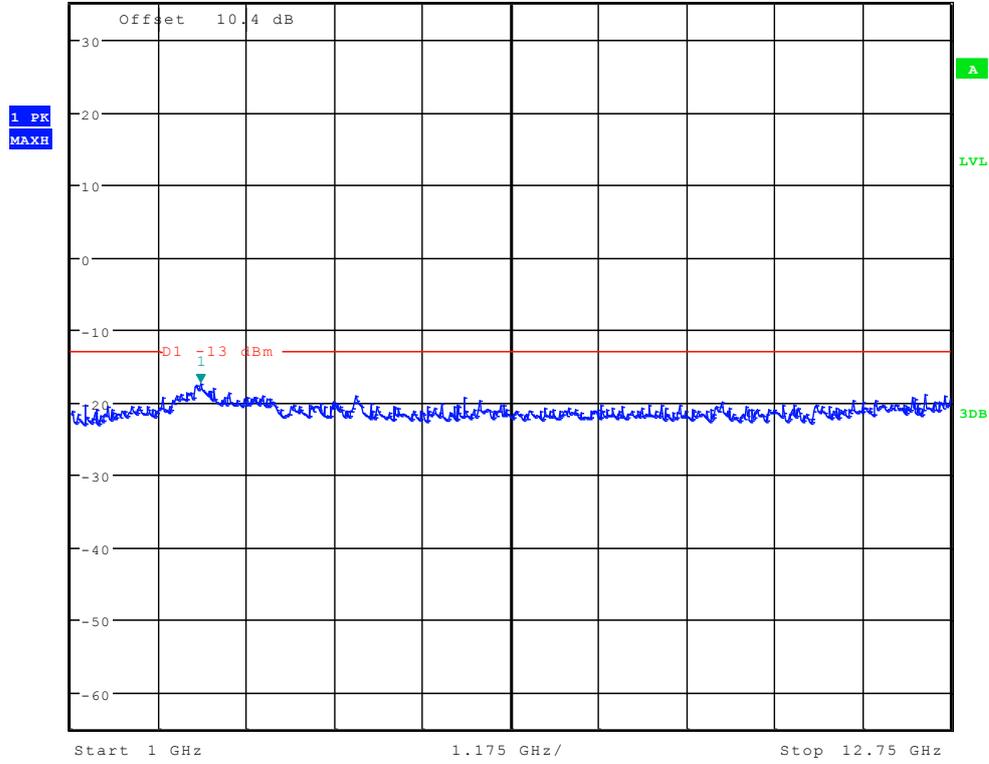


Date: 2.DEC.2011 02:49:50



Ref 35 dBm Att 50 dB SWT 70 ms

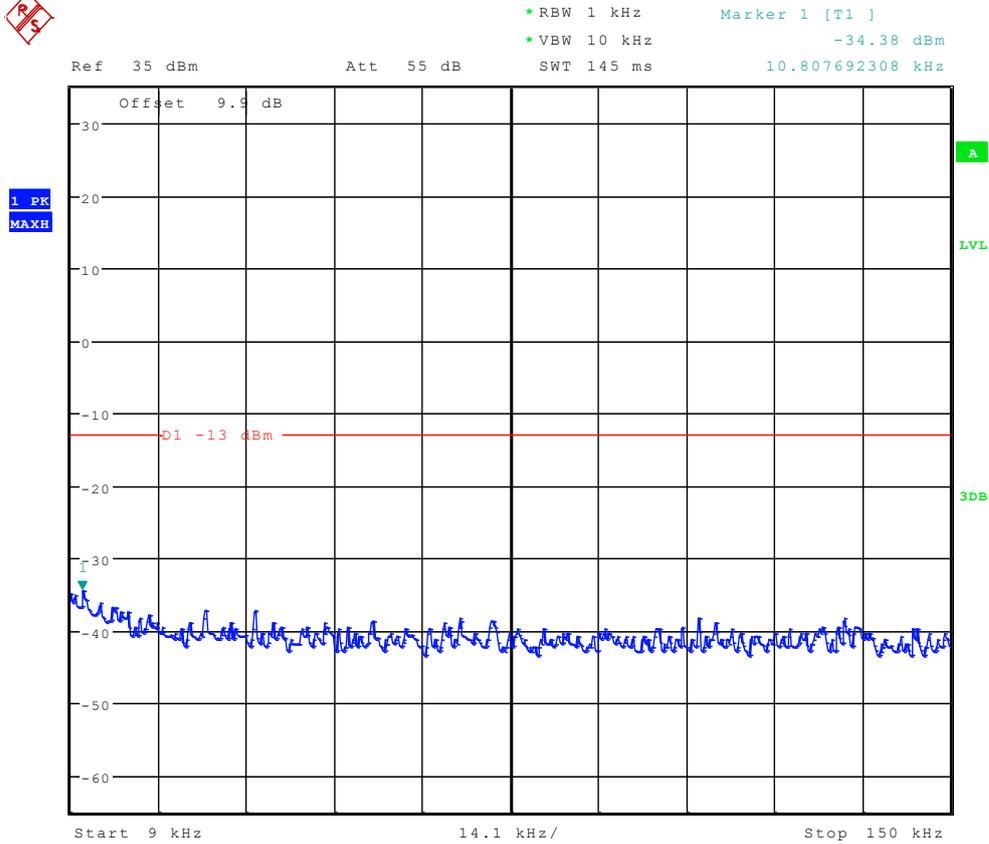
*RBW 1 MHz Marker 1 [T1] -17.35 dBm
*VBW 3 MHz 2.732371795 GHz



Date: 2.DEC.2011 02:50:35



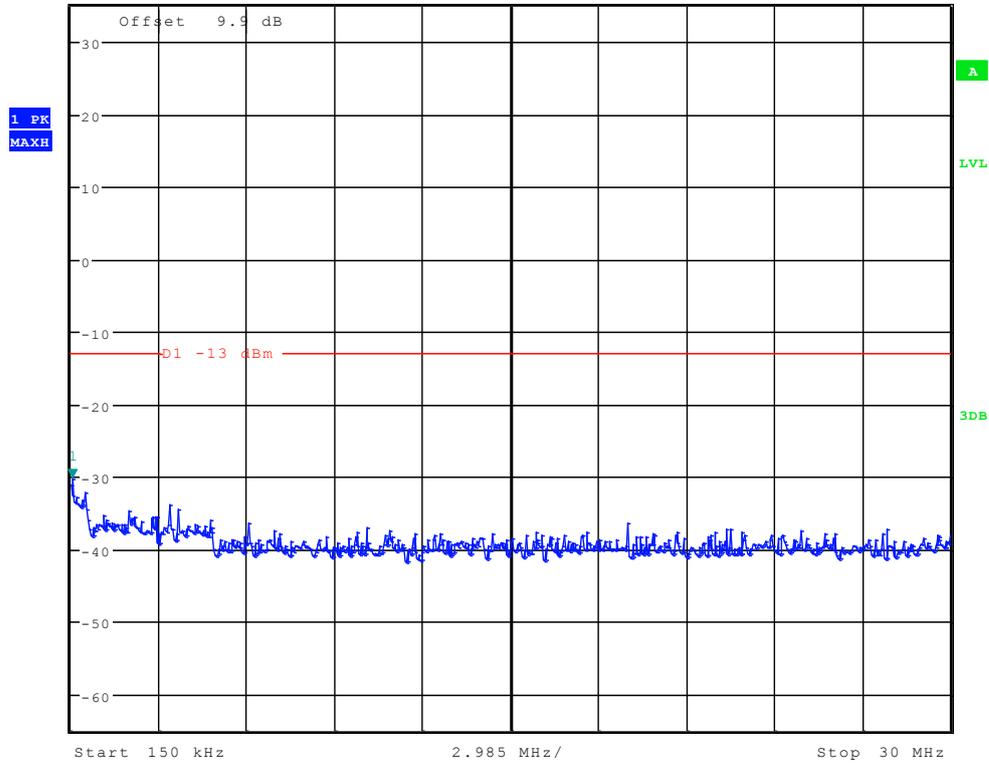
TM3: WCDMA Channel 4132



Date: 2.DEC.2011 02:55:07



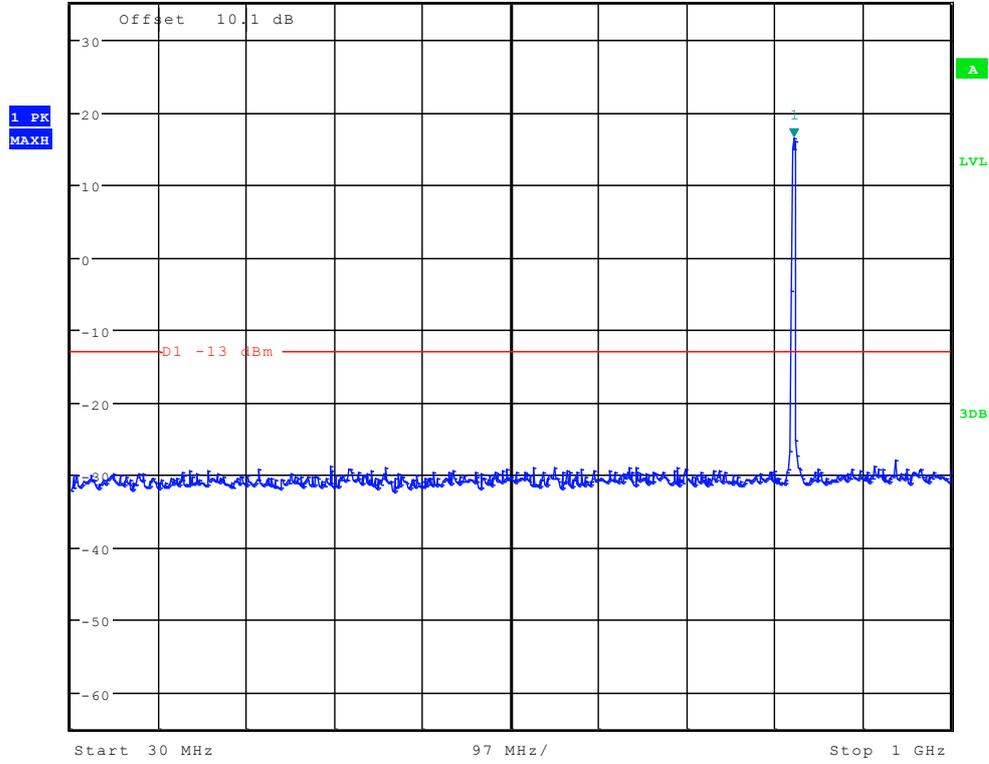
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -30.16 dBm
Ref 35 dBm Att 55 dB SWT 300 ms 197.836538462 kHz



Date: 2.DEC.2011 02:55:50



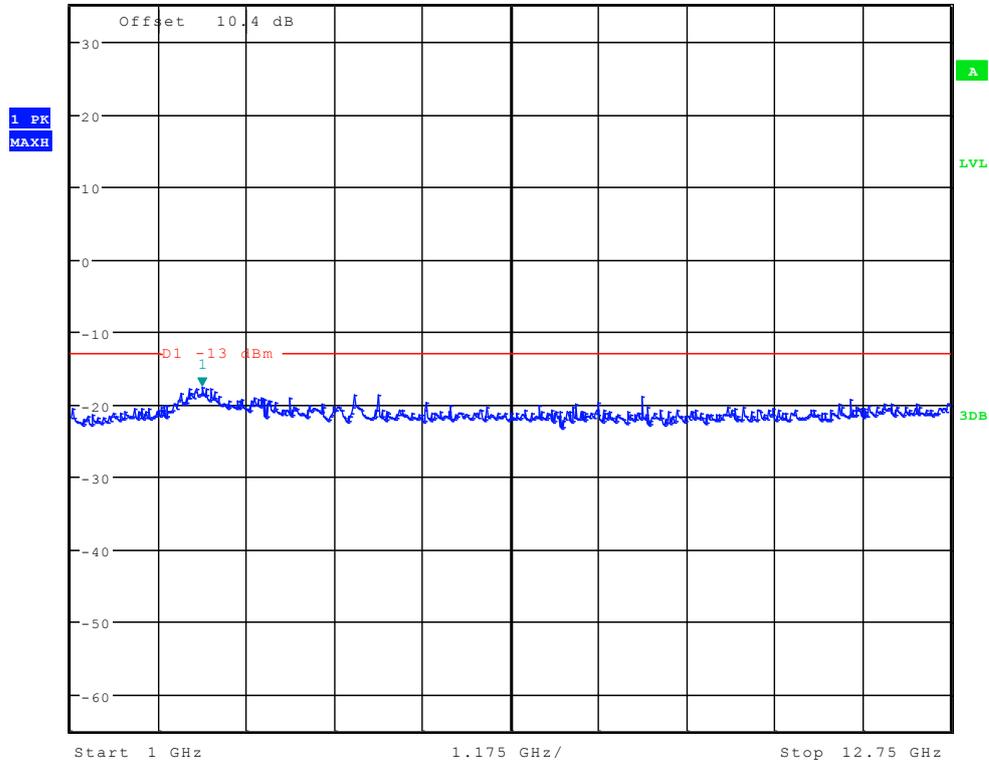
Ref 35 dBm Att 50 dB SWT 100 ms
*RBW 100 kHz Marker 1 [T1] 16.43 dBm
*VBW 300 kHz 827.451923077 MHz



Date: 2.DEC.2011 02:56:34



Ref 35 dBm Att 50 dB SWT 70 ms
*RBW 1 MHz Marker 1 [T1] -17.73 dBm
*VBW 3 MHz 2.751201923 GHz



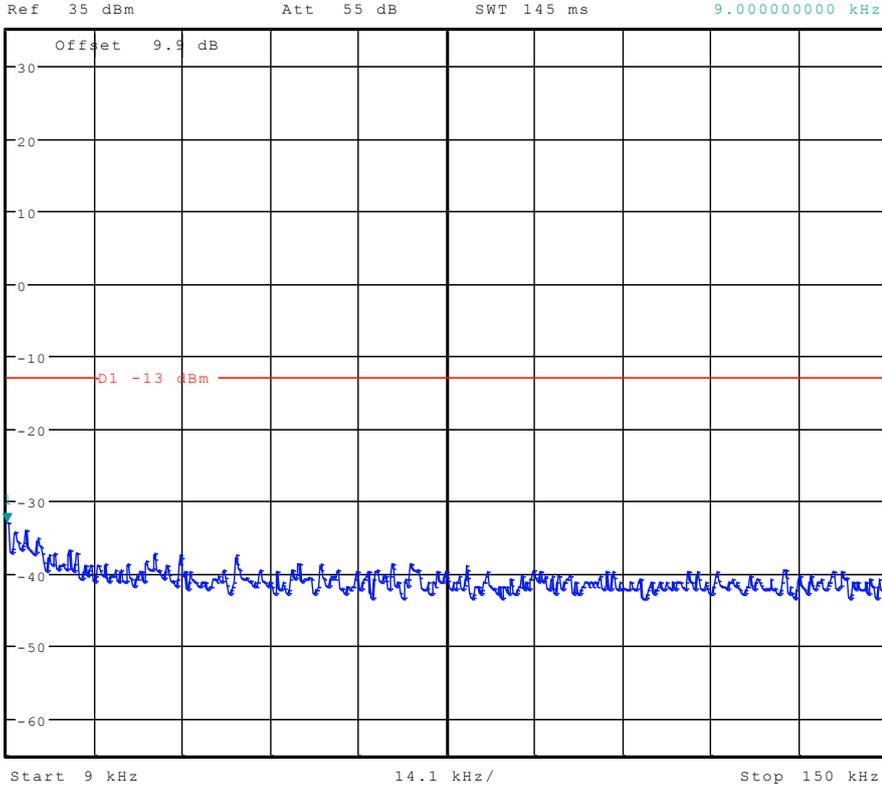
Date: 2.DEC.2011 02:57:18



Channel 4182



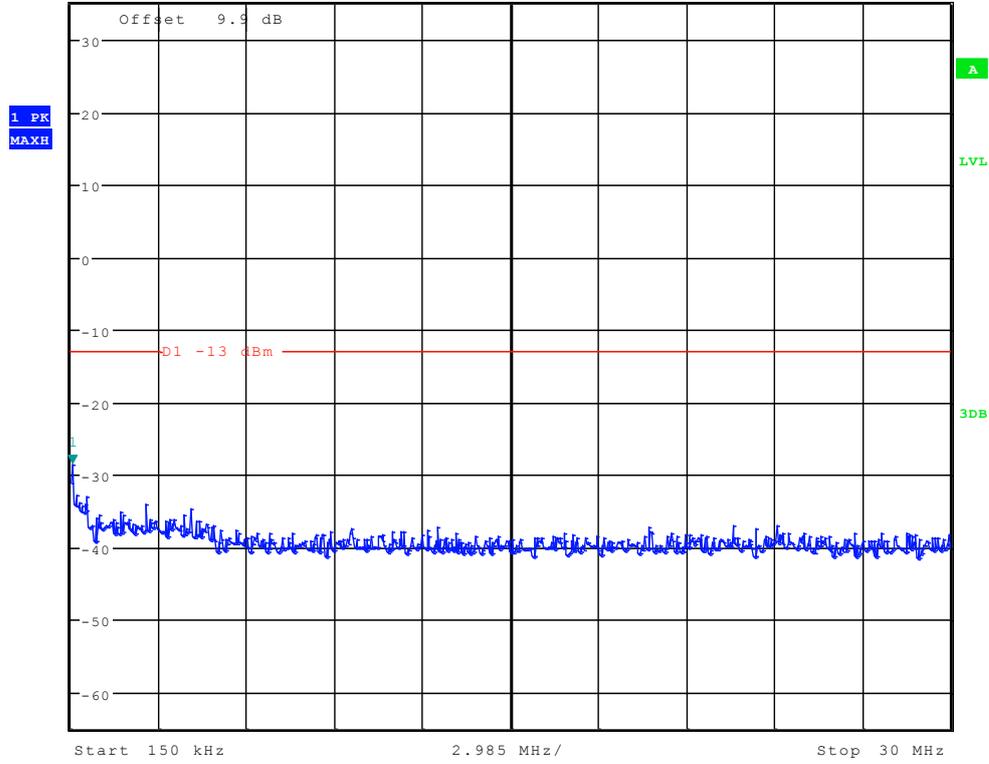
*RBW 1 kHz Marker 1 [T1]
*VBW 10 kHz -32.89 dBm
SWT 145 ms 9.000000000 kHz



Date: 2.DEC.2011 02:55:21



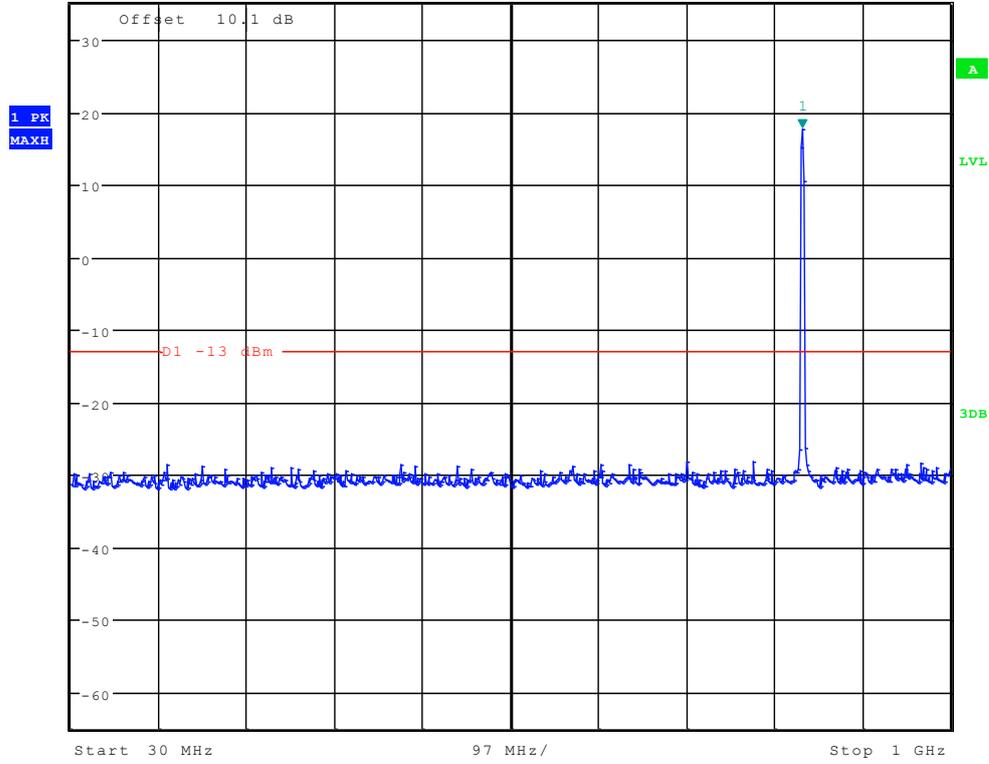
Ref 35 dBm Att 55 dB SWT 300 ms
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -28.55 dBm
197.836538462 kHz



Date: 2.DEC.2011 02:56:05



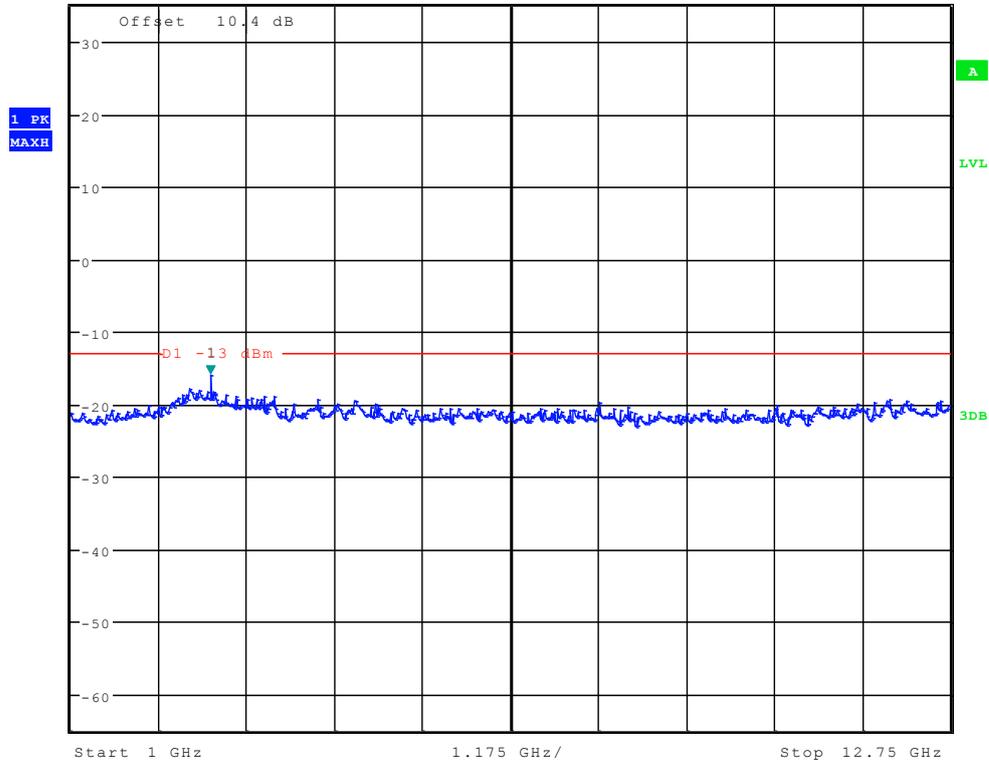
Ref 35 dBm Att 50 dB SWT 100 ms 836.778846154 MHz
*RBW 100 kHz Marker 1 [T1]
*VBW 300 kHz 17.76 dBm



Date: 2.DEC.2011 02:56:48



Ref 35 dBm Att 50 dB SWT 70 ms
*RBW 1 MHz Marker 1 [T1] -16.01 dBm
*VBW 3 MHz 2.864182692 GHz



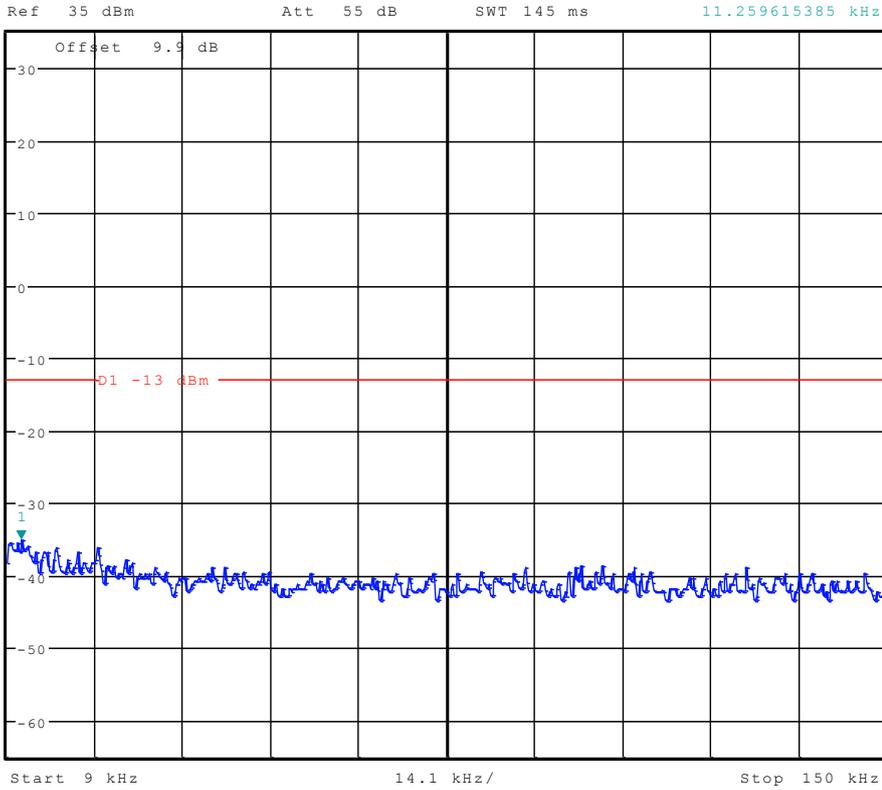
Date: 2.DEC.2011 02:57:33



Channel 4233



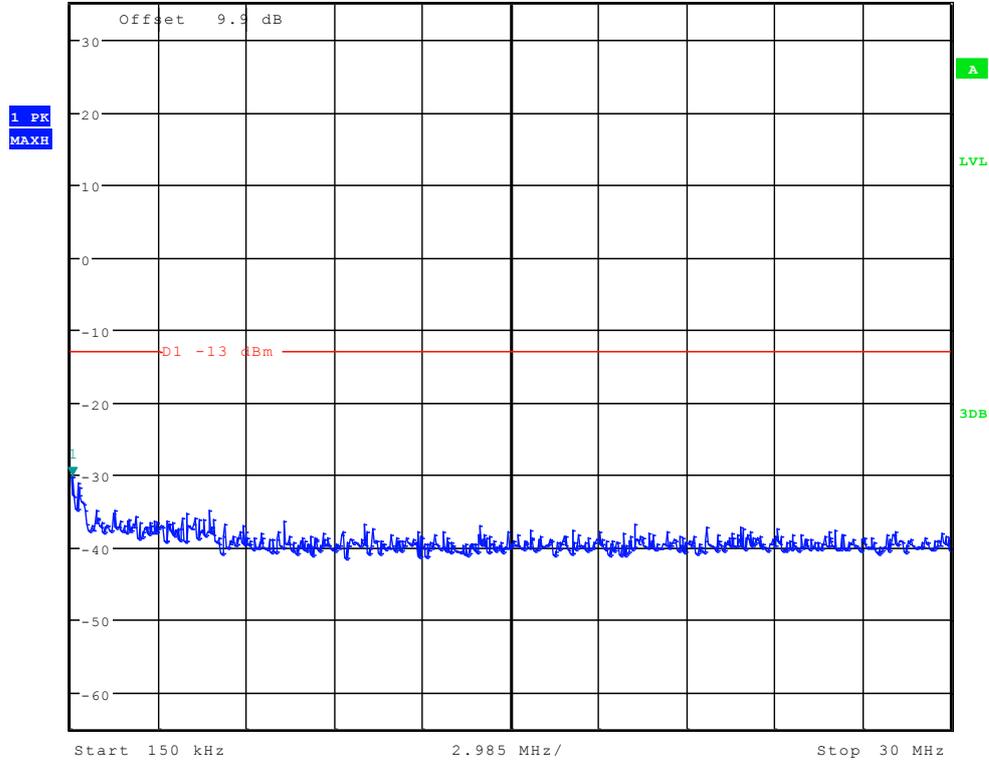
*RBW 1 kHz Marker 1 [T1]
*VBW 10 kHz -35.08 dBm
SWT 145 ms 11.259615385 kHz



Date: 2.DEC.2011 02:55:35



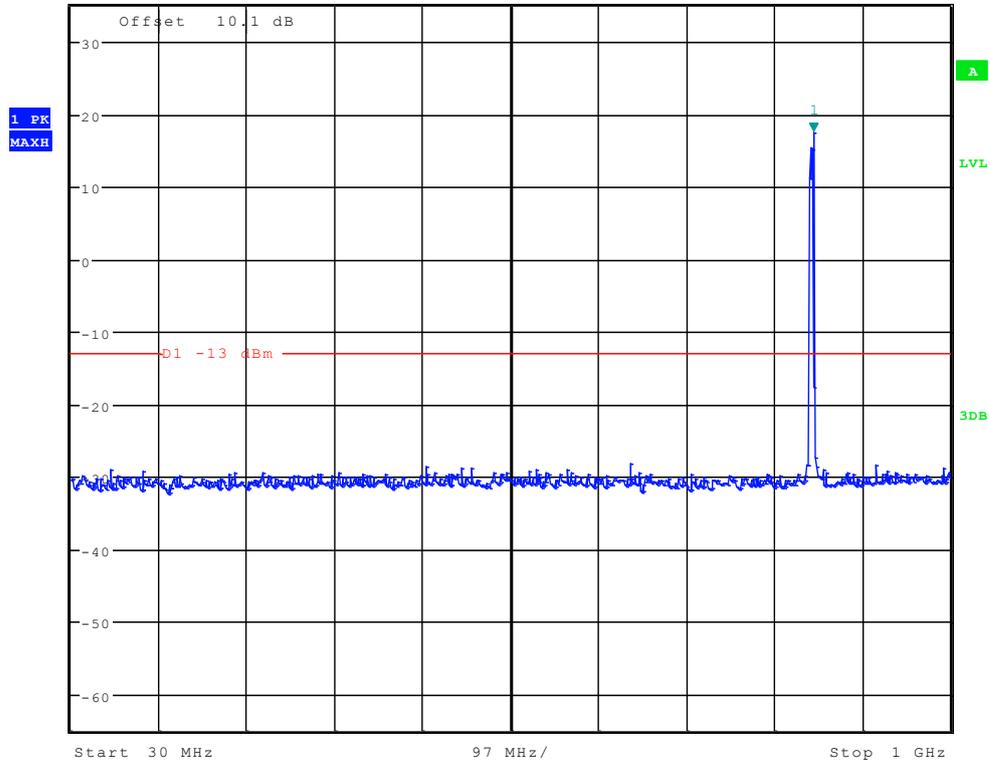
Ref 35 dBm Att 55 dB SWT 300 ms 197.836538462 kHz
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -30.22 dBm



Date: 2.DEC.2011 02:56:19



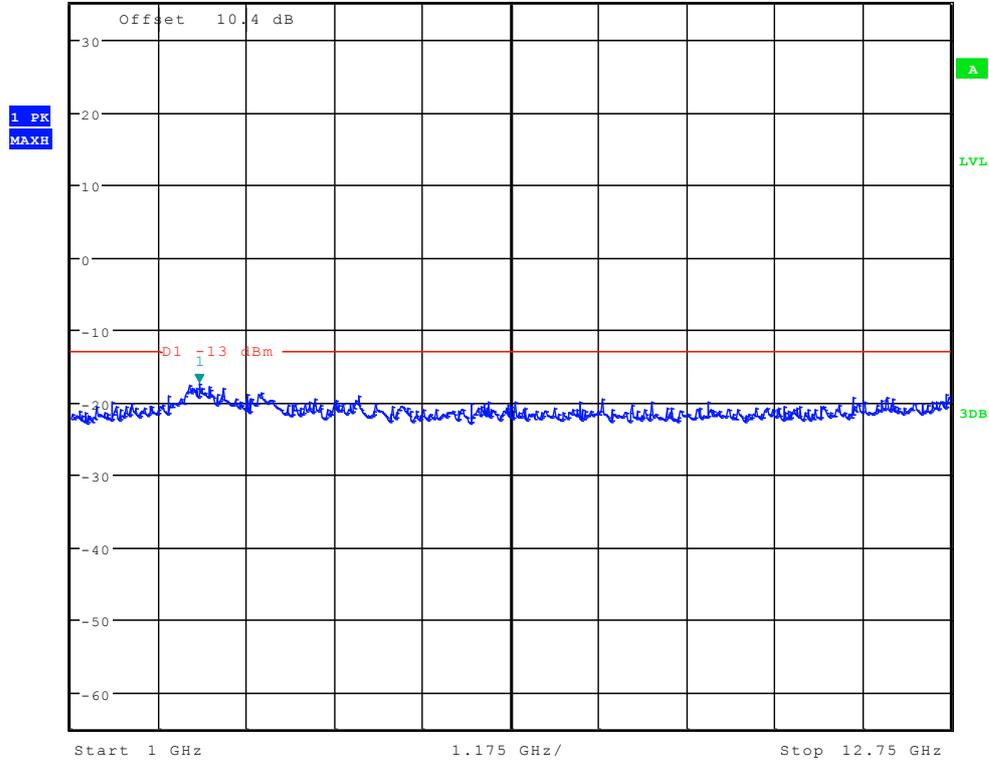
Ref 35 dBm Att 50 dB SWT 100 ms 849.214743590 MHz
 *RBW 100 kHz Marker 1 [T1] 17.50 dBm
 *VBW 300 kHz



Date: 2.DEC.2011 02:57:03



*RBW 1 MHz Marker 1 [T1]
*VBW 3 MHz -17.33 dBm
Ref 35 dBm Att 50 dB SWT 70 ms 2.713541667 GHz



Date: 2.DEC.2011 02:57:47



Appendix E

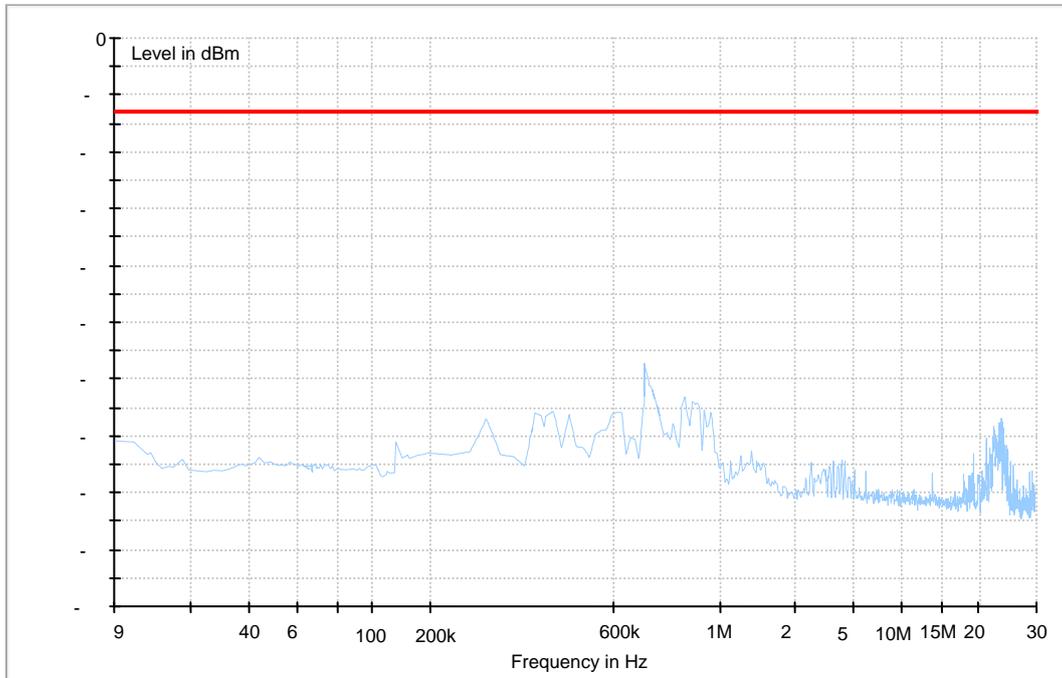
Radiated spurious emission

According to FCC Part 2.1053& Part 22.917



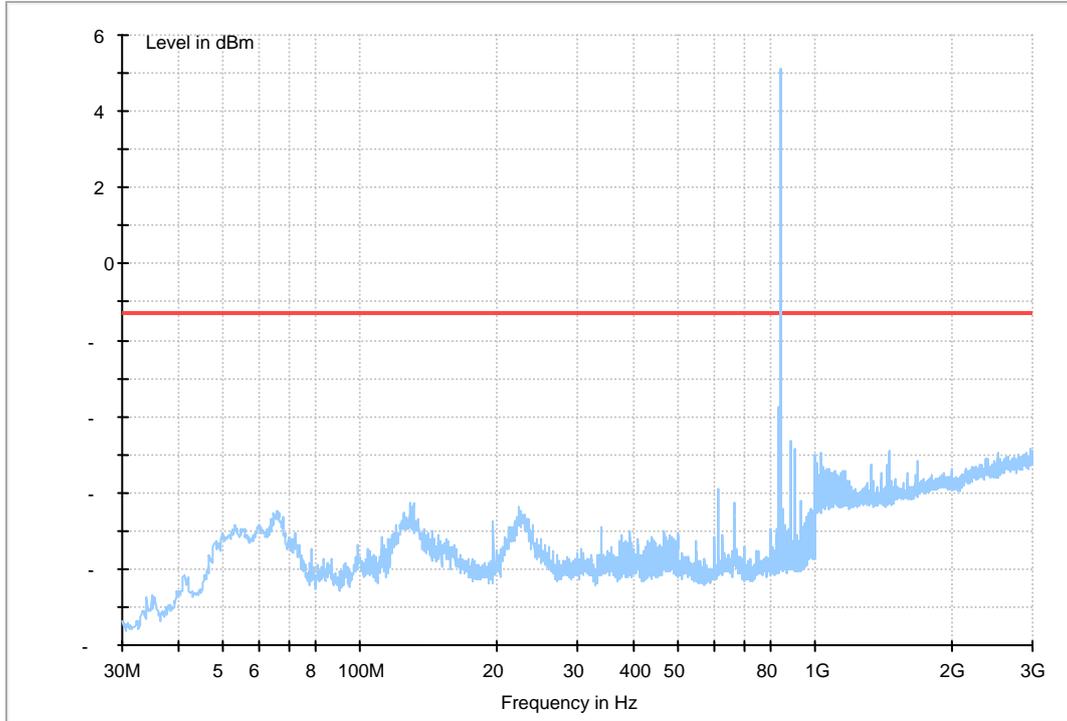
GPRS 850

Traffic Mode (9kHz-30MHz)



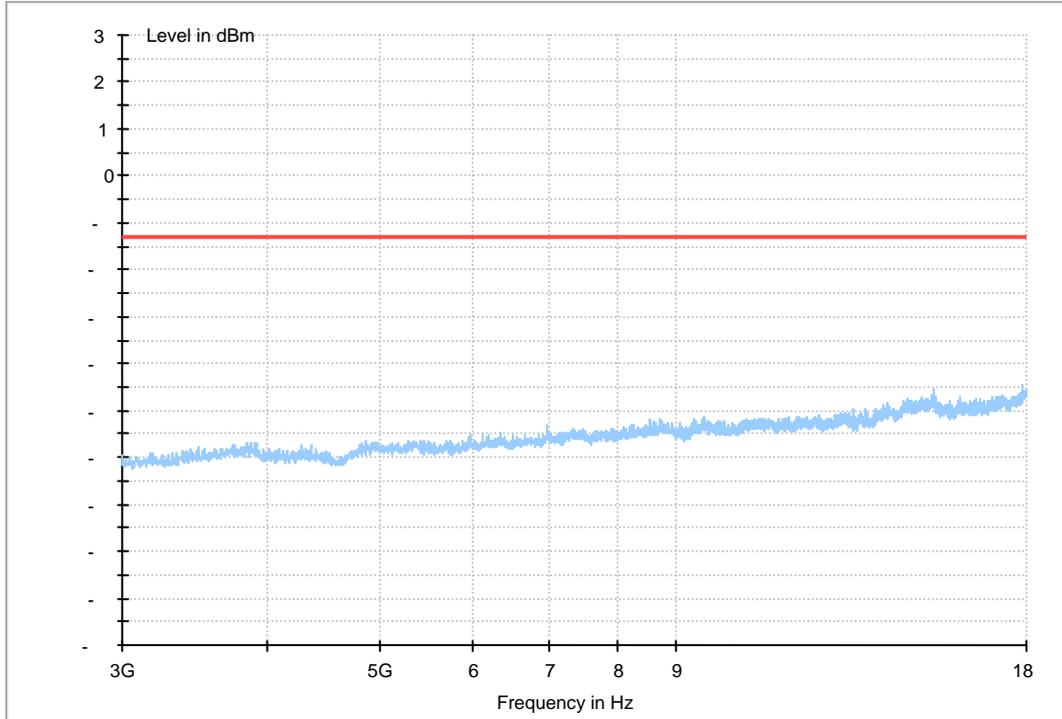


Traffic Mode (30MHz-3GHz)





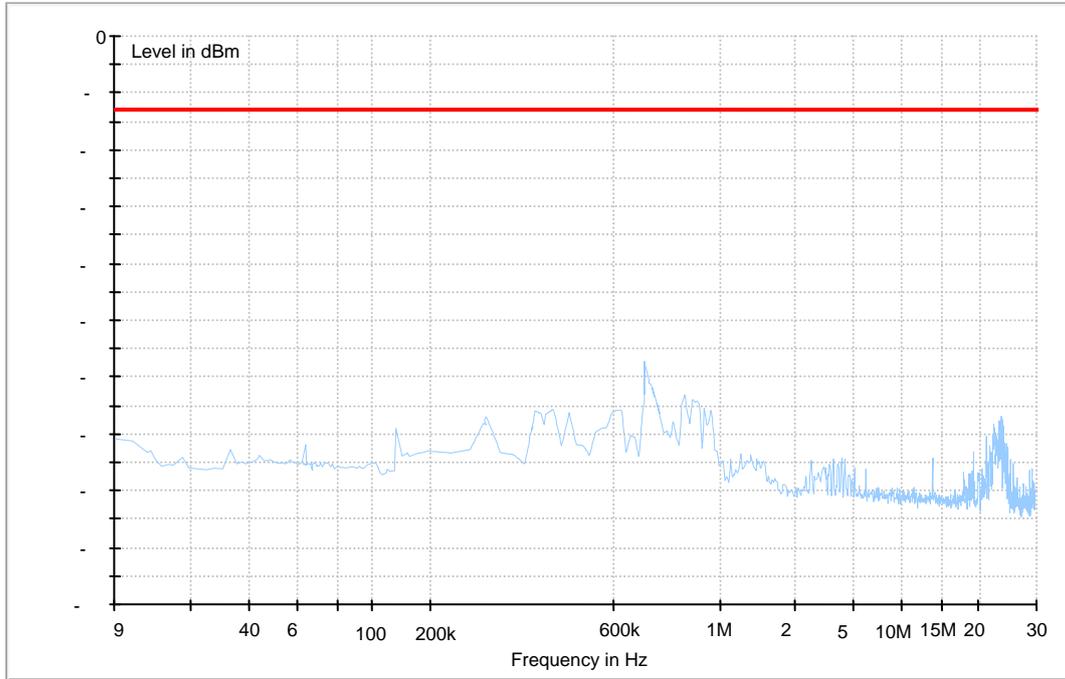
Traffic Mode (3GHz-18GHz)





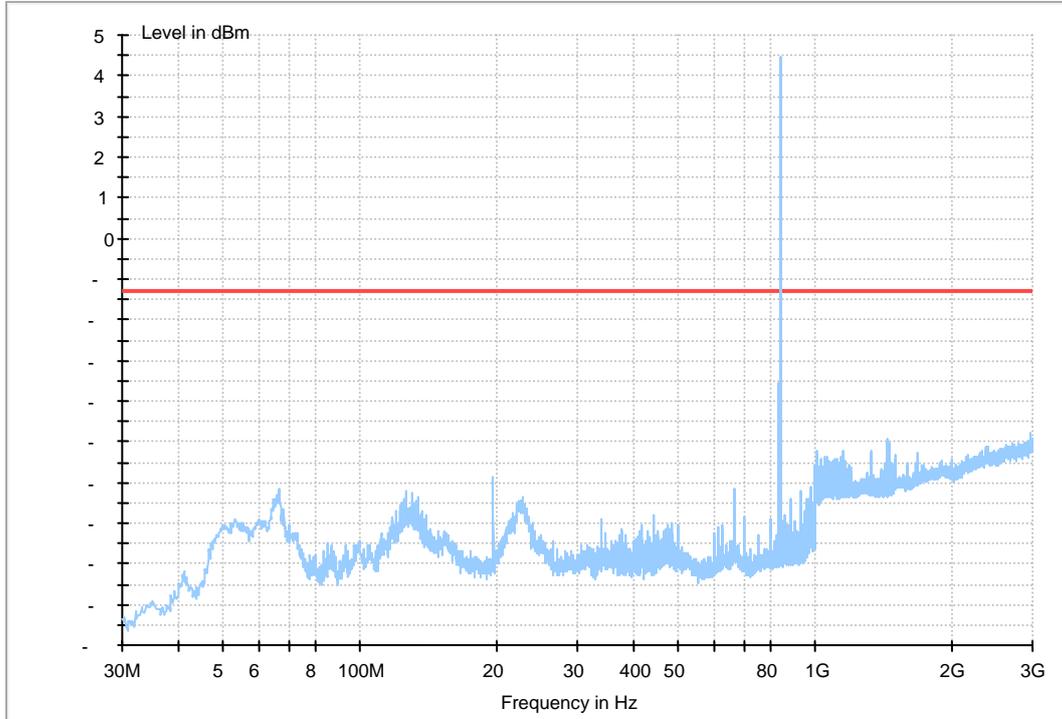
EDGE 850

Traffic Mode (9kHz-30MHz)



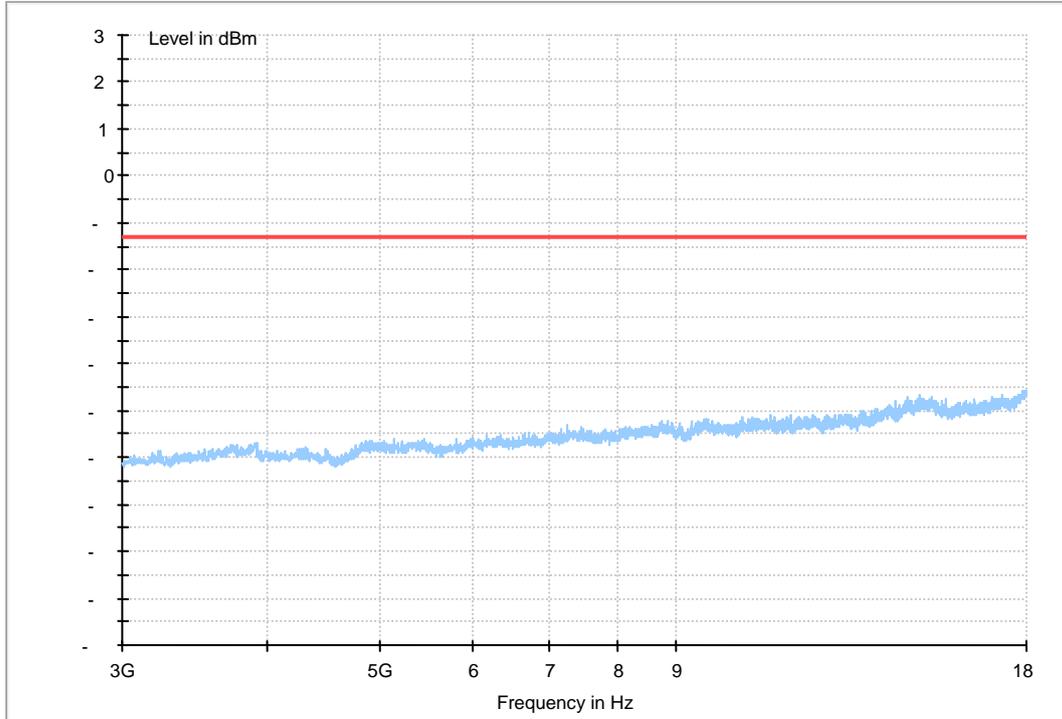


Traffic Mode (30MHz-3GHz)





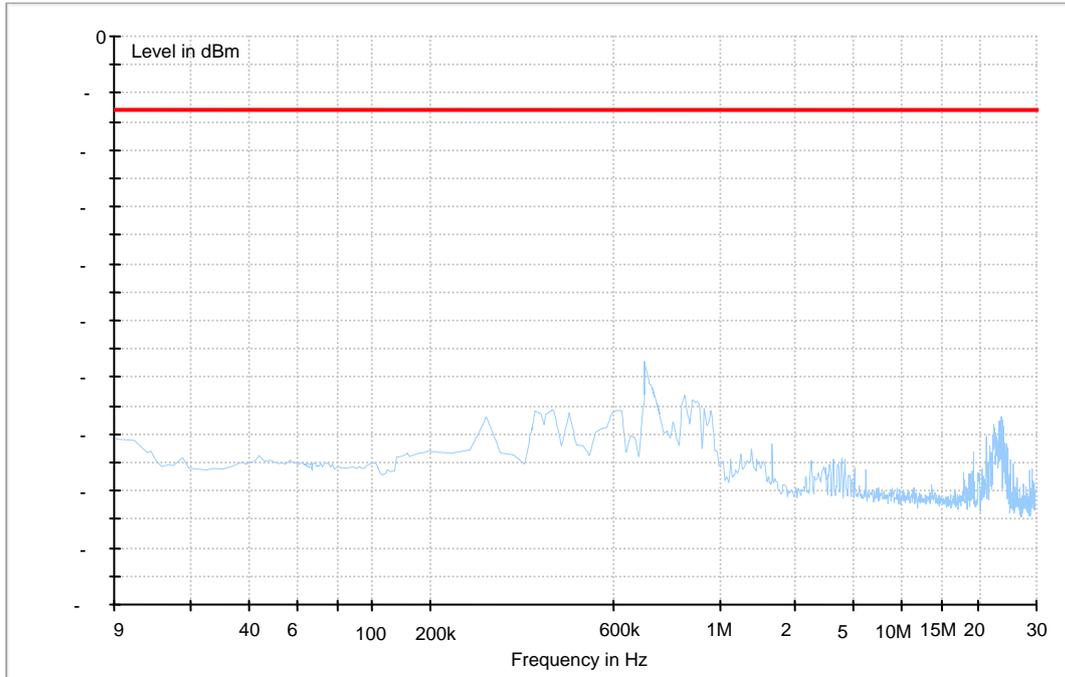
Traffic Mode (3GHz-18GHz)





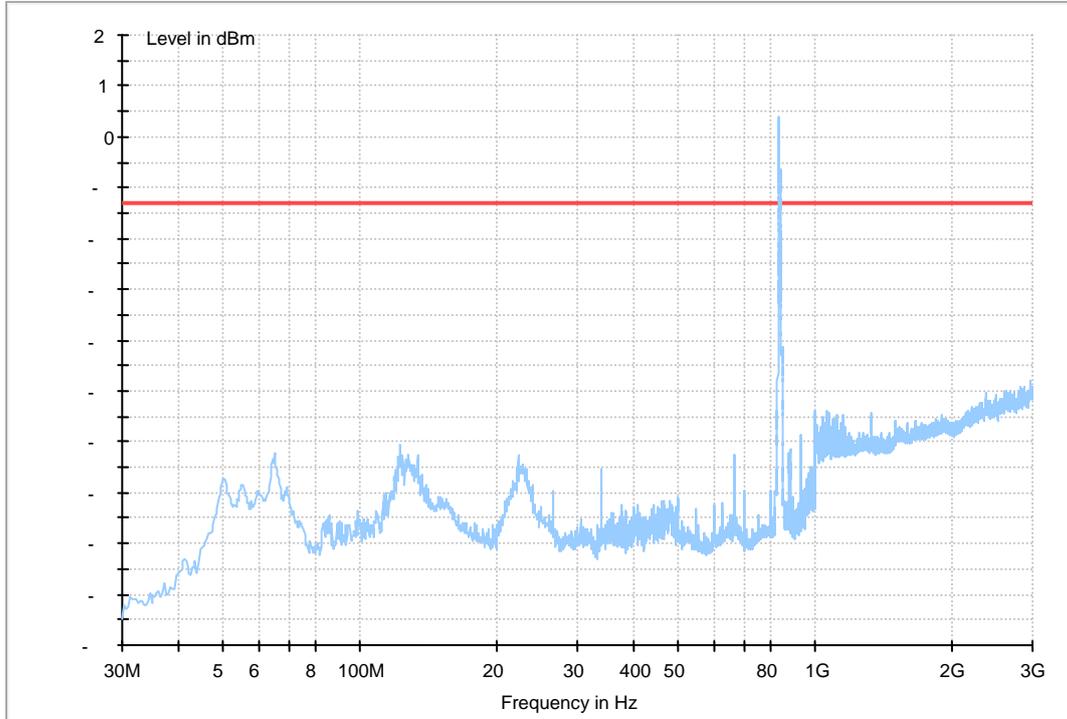
WCDMA 850

Traffic Mode (9kHz-30MHz)



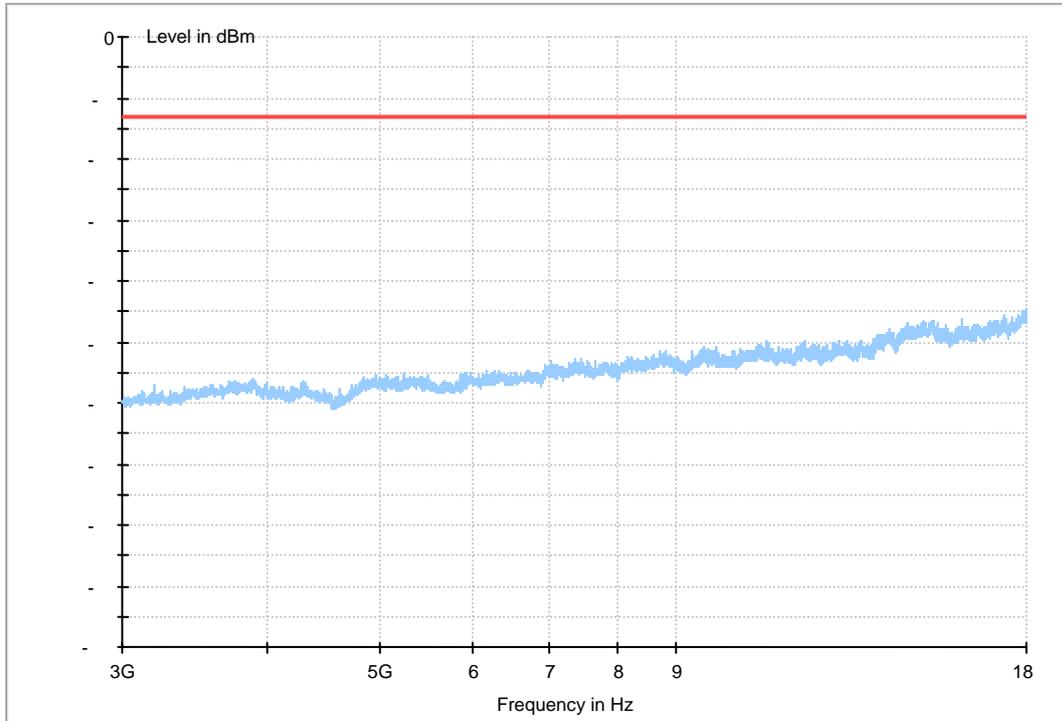


Traffic Mode (30MHz-3GHz)





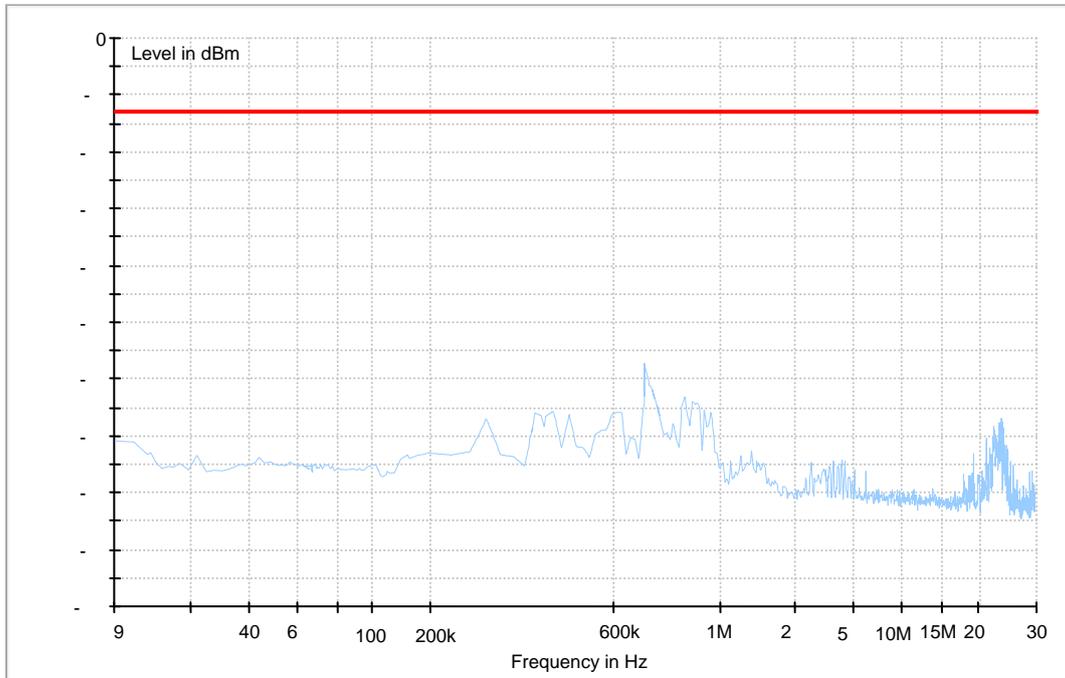
Traffic Mode (3GHz-18GHz)





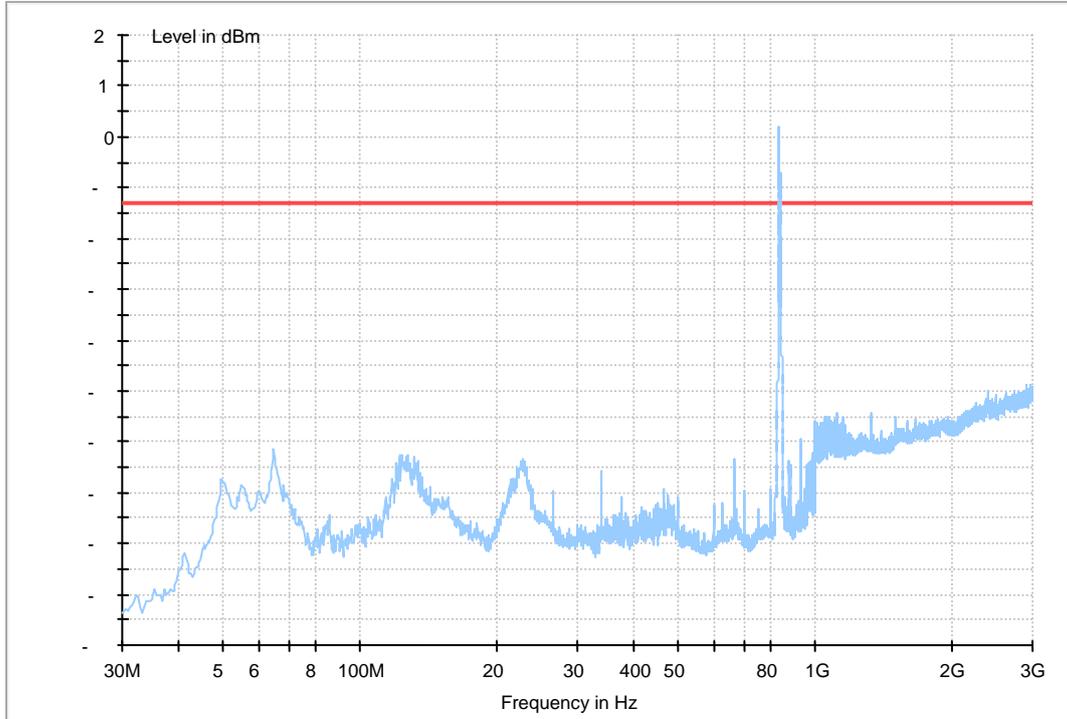
HSUPA 850

Traffic Mode (9kHz-30MHz)



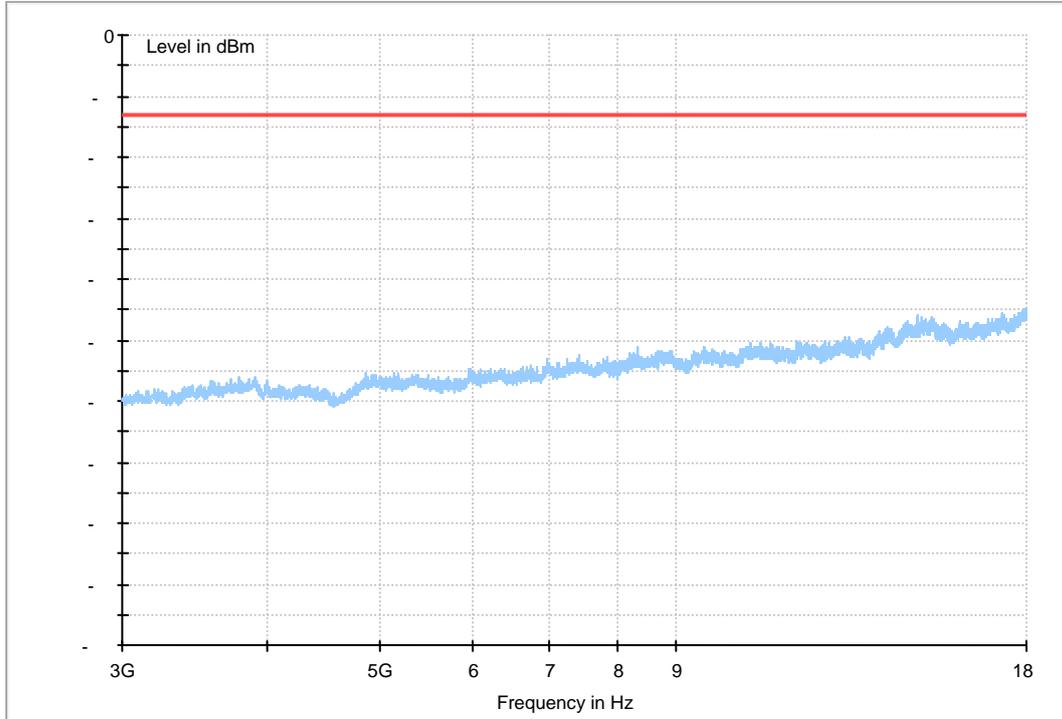


Traffic Mode (30MHz-3GHz)





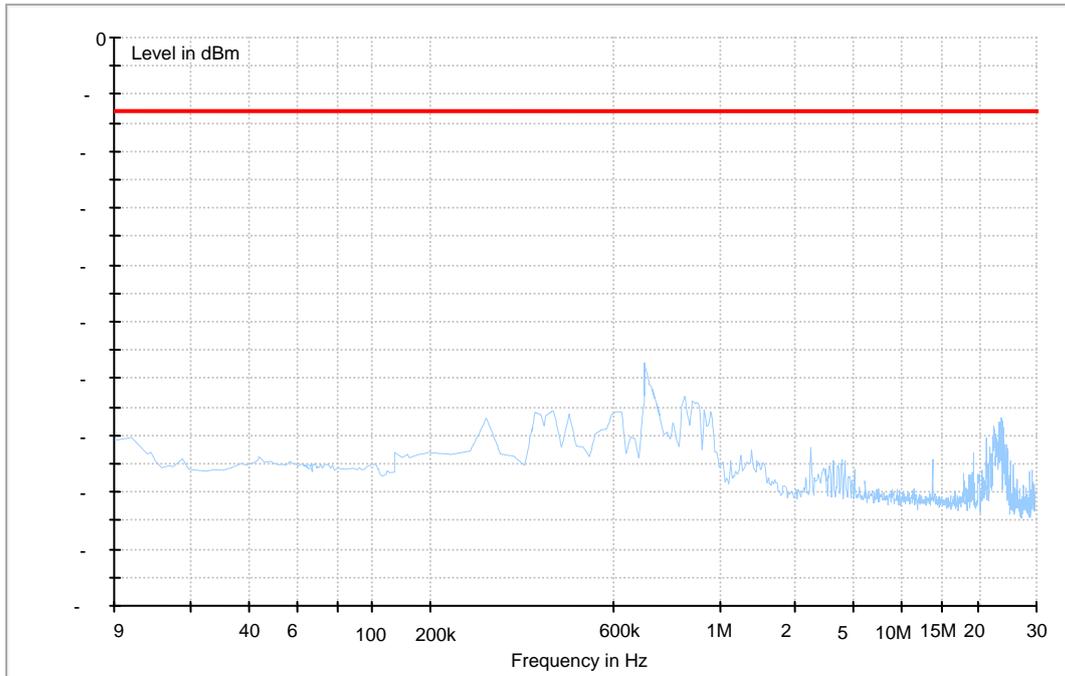
Traffic Mode (3GHz-18GHz)





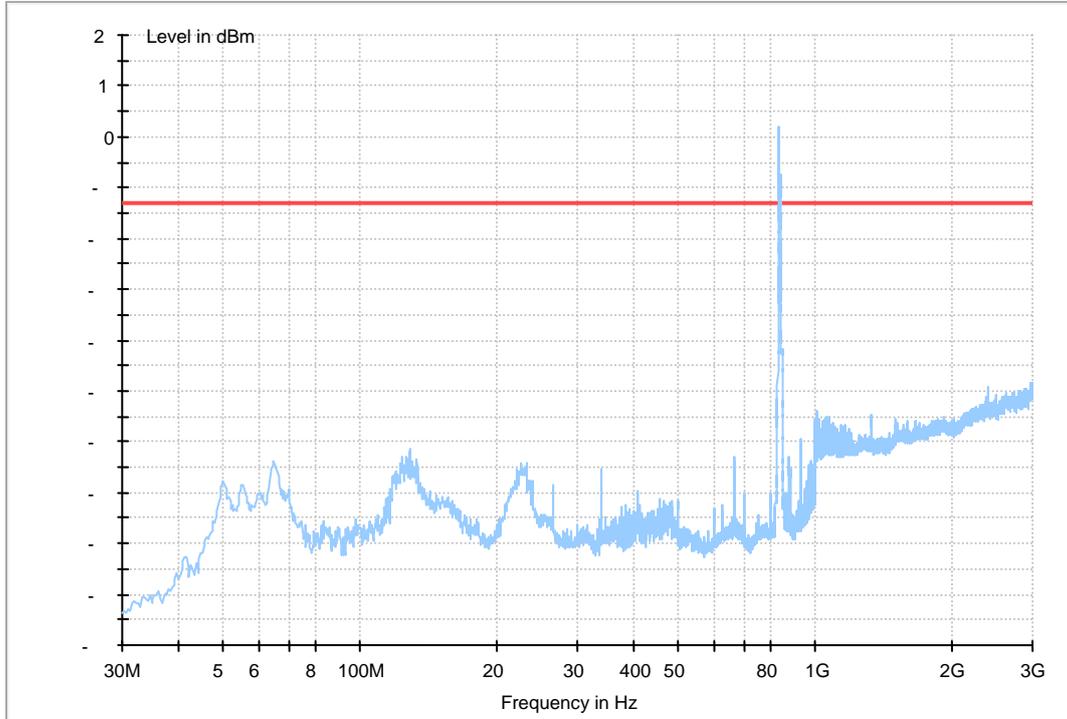
HSDPA 850

Traffic Mode (9kHz-30MHz)



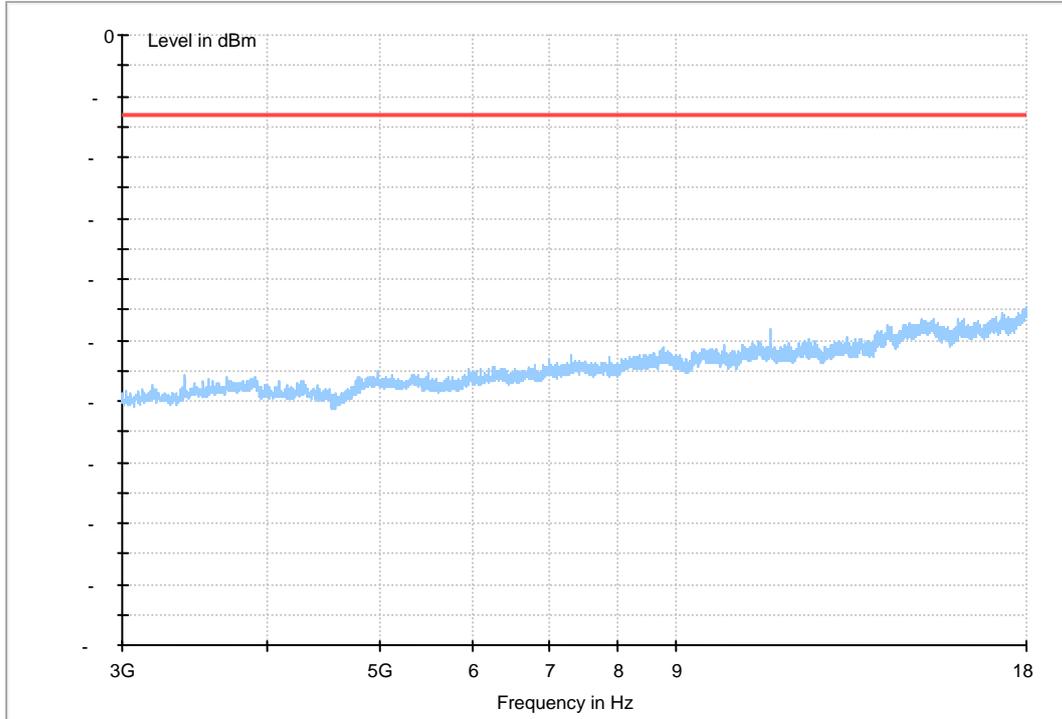


Traffic Mode (30MHz-3GHz)





Traffic Mode (3GHz-18GHz)





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	100%	-30 °C	-15	-0.0179	---	±2.5	Pass
			-20 °C	17	0.0203	---	±2.5	Pass
			-10 °C	-12	-0.0143	---	±2.5	Pass
			0 °C	-13	-0.0155	---	±2.5	Pass
			10 °C	12	0.0143	---	±2.5	Pass
			20 °C	14	0.0167	---	±2.5	Pass
			30 °C	-19	-0.0227	---	±2.5	Pass
			40 °C	17	0.0203	---	±2.5	Pass
			50 °C	18	0.0215	---	±2.5	Pass
TM 2	M	100%	-30 °C	15	0.0179	---	±2.5	Pass
			-20 °C	-11	-0.0131	---	±2.5	Pass
			-10 °C	16	0.0191	---	±2.5	Pass
			0 °C	19	0.0227	---	±2.5	Pass
			10 °C	-15	-0.0179	---	±2.5	Pass
			20 °C	-13	-0.0155	---	±2.5	Pass
			30 °C	15	0.0179	---	±2.5	Pass
			40 °C	19	0.0227	---	±2.5	Pass
			50 °C	-16	-0.0191	---	±2.5	Pass
TM 3	M	100%	-30 °C	-9	-0.0108	---	±2.5	Pass
			-20 °C	-11	-0.0132	---	±2.5	Pass
			-10 °C	17	0.0203	---	±2.5	Pass
			0 °C	15	0.0179	---	±2.5	Pass
			10 °C	-16	-0.0191	---	±2.5	Pass
			20 °C	17	0.0203	---	±2.5	Pass
			30 °C	15	0.0179	---	±2.5	Pass
			40 °C	8	0.0096	---	±2.5	Pass
			50 °C	-16	-0.0191	---	±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	20 °C	VL	13	0.0155	---	±2.5	Pass
			VN	-11	-0.0131	---	±2.5	Pass
			VH	17	0.0203	---	±2.5	Pass
TM 2	M	20 °C	VL	12	0.0143	---	±2.5	Pass
			VN	16	0.0191	---	±2.5	Pass
			VH	-12	-0.0143	---	±2.5	Pass
TM 3	M	20 °C	VL	8	0.0096	---	±2.5	Pass
			VN	12	0.0143	---	±2.5	Pass
			VH	13	0.0155	---	±2.5	Pass