



FCC RF Test Report

Product Name:
LTE/HSPA+/HSUPA/HSDPA/UMTS/GSM/GPRS/EDGE Mobile
Phone with Bluetooth

Model Number: HUAWEI U9202L, U9202L, HUAWEI U9202L-1,
U9202L-1

Report No: SYBH(Z-RF)015072012-2002
FCC ID: QISU9202L-1

Reliability Laboratory of Huawei Technologies Co., Ltd.

Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China
Tel: +86 755 28780808 Fax: +86 755 89652518

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.
4. The test report is invalid if not marked with "exclusive stamp for the test report".
5. The test report is invalid if not marked with the stamps or the signatures of the persons responsible for performing, revising and approving the test report.
6. The test report is invalid if there is any evidence of erasure and/or falsification.
7. If there is any dissidence for the test report, please file objection to the test centre within 15 days from the date of receiving the test report.
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:	July., 16, 2012
Start Date of Test:	July., 18, 2012
End Date of Test:	Aug., 03, 2012
Test Result:	Pass

Approved By Senior Engineer Sep, 04, 2012 Dai Linjun *Dai Linjun*
 Date Name Signature

Reviewed By Sep, 04, 2012 Cousy Xu *Cousy XU*
 Date Name Signature

Operated By Sep, 04, 2012 Huang Qiuliang *Huang Qiuliang*
 Date Name Signature



Modification Record

Last Report No.	Date	Modification Description
SYBH(Z-RF) 015072012-2002	2012-8-14	First report.
SYBH(Z-RF) 015072012-2002	2012-9-4	1. Increase the test Procedure for Peak-to-Average Power Ratio at page 13 of main report. 2. CCDF plots have been removed from Annex A 3. PAR for GSM operation has been corrected at page 3 of Annex A.

Sep. 04, 2012

Contents

1	<u>General Information</u>	6
1.1	APPLIED STANDARD.....	6
1.2	TEST LOCATION.....	6
1.3	TEST ENVIRONMENTAL CONDITION.....	6
2	<u>Summary</u>	7
3	<u>Product Description</u>	8
3.1	PRODUCT INFORMATION	8
4	<u>Test Description</u>	10
4.1	SUPPORTED FREQUENCY RANGE	10
4.2	TRANSMITTER / RECEIVER CHARACTERISTICS.....	10
4.3	ANTENNA GAIN.....	11
4.4	POWER SUPPLY	11
5	<u>General Test Conditions / Configurations</u>	12
5.1	RF CHANNELS UNDER TEST.....	12
5.2	TEST MODES.....	12
5.3	TEST ENVIRONMENT	12
5.4	TEST SETUP.....	13
5.5	TEST CONDITIONS	17
6	<u>Main Test Instruments</u>	19
7	<u>Test Results</u>	20
8	<u>Measurement Uncertainty</u>	20



General Information

1.1 Applied Standard	
Applied Rules:	47 CFR FCC Part 2:2011, Subpart J 47 CFR FCC Part 24:2011, Subpart E 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

1 Summary

Table 1 Summary of results

Test Case	FCC Part No.	Requirements	Result
PCS Band			
Transmitter Output Power	2.1046 & 24.232	Peak EIRP not exceed 2 W Peak-to-average ratio not exceed 13 dB	Pass
Modulation Characteristics	2.104	Digital modulation	Pass
Occupied Bandwidth	2.104	(Not specified)	Pass
Band Edges Compliance	2.1051 & 24.238	Below -13 dBm/1%*EBW, in 1 MHz range	Pass
Spurious Emission at Antenna Terminals	2.1051 & 24.238	Below -13 dBm/1 kHz, 9 kHz to 150 kHz Below -13 dBm/10 kHz, 150 kHz to 30 MHz Below -13 dBm/1 MHz, 30 MHz to 10 th harmonics	Pass
Field Strength of Spurious Radiation	2.1053 & 24.238	Below -13 dBm/1 MHz	Pass
Frequency Stability	2.1055 & 24.235	Stay within the authorized frequency block	Pass

2 Product Description

2.1 Product Information

2.1.1 General Description

HUAWEI U9202L, U9202L, HUAWEI U9202L-1, U9202L-1 is a subscriber equipment in the LTE/WCDMA/GSM system. The LTE frequency band is Band III, Band VII and Band XX. The HSPA+/HSUPA/HSDPA/UMTS frequency band is Band I, Band V and Band VIII. The GSM/GPRS/EDGE frequency band includes GSM850 and GSM900 and DCS1800 and PCS1900, but only PCS1900MHz band test data included in this report. The Mobile Phone implements such functions as RF signal receiving/transmitting, LTE/WCDMA/GSM protocol processing, voice, video, MMS service, GPS, AGPS and WIFI etc. Externally it provides micro SD card interface, earphone port (to provide voice service) and USIM card interface. 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.

2.1.2 Board Information

Table 2 Board Information

LTE/HSPA+/HSUPA/HSDPA/UMTS/GSM/GPRS/EDGE Mobile Phone with Bluetooth		
HUAWEI U9202L, U9202L, HUAWEI U9202L-1, U9202L-1		
Board and Module		
Description	Hardware Version	Software Version
Main board of Mobile Phone	Ver.B	U9202L-1V100R001C00B109

2.1.3 Adapter Technical Data

AC/DCAdapter Model	HW-050100U3W
Manufacturer	Huawei Technologies Co., Ltd.
Input Voltage	~100-240V 50/60Hz 0.2A
Output Voltage	5V  1A
Rated Power	5W



2.1.4 Battery Technical Data

Name	Manufacture	Description
Rechargeable Li-ion	Huawei Technologies Co., Ltd.	Battery Model: HB5R1H Rated capacity: 1930mAh Nominal Voltage: $\text{---} +3.7\text{V}$ Charging Voltage: $\text{---} +4.2\text{V}$



3 Test Description

3.1 Supported Frequency Range

Characteristics	Description
Downlink	1930 to 1990 MHz
Uplink	1850 to 1910 MHz

3.2 Transmitter / Receiver Characteristics

Characteristics	Description
System Type	GSM
TX Output Power (per Antenna Port)	GSM system: 30dBm;
Channel Spacing(s) / Bandwidth(s)	GSM system: 200 kHz
Designation of Emissions	GSM system: 246KGXW (GMSK modulation), 246KG7W (8PSK modulation)

3.3 Antenna Gain

Antenna Gain(dBi)	0.8
-------------------	-----

3.4 Power Supply

Specification	Description
Power Supply Type	Directly Connected to DC Power Supply
Input to EUT (DC power)	DC Voltage Nominal: \approx 3.7 V DC Voltage Range: \approx 3.5 V to 4.2 V

4 General Test Conditions / Configurations

4.1 RF Channels under Test

Test Mode	TX / RX	RF Channel		
		Low (L)	Middle (M)	High (H)
TM1/TM2	TX	Channel 512	Channel 661	Channel 810
		1850.2MHz	1880.0MHz	1909.8MHz
	RX	Channel 512	Channel 661	Channel 810
		1930.2 MHz	1960.0 MHz	1989.8 MHz

4.2 Test Modes

Test Mode	Test Modes Description
TM1	GSM/GPRS, GMSK modulation
TM2	EDGE, 8PSK modulation

4.3 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	Ambient	
Temperature	TN	Ambient
Voltage	VL	3.5V
	VN	3.7V
	VH	4.2V

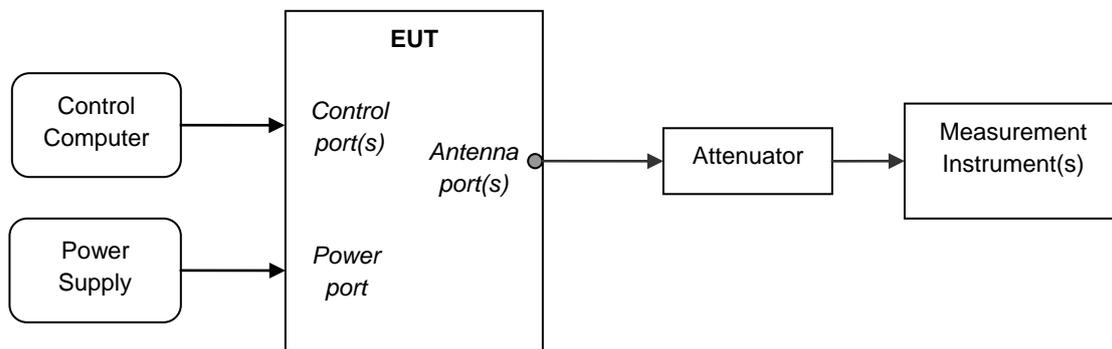
NOTE: VL= lower extreme test voltage
 VN= nominal voltage
 VH= upper extreme test voltage
 TN= normal temperature

4.4 Test Setup

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.

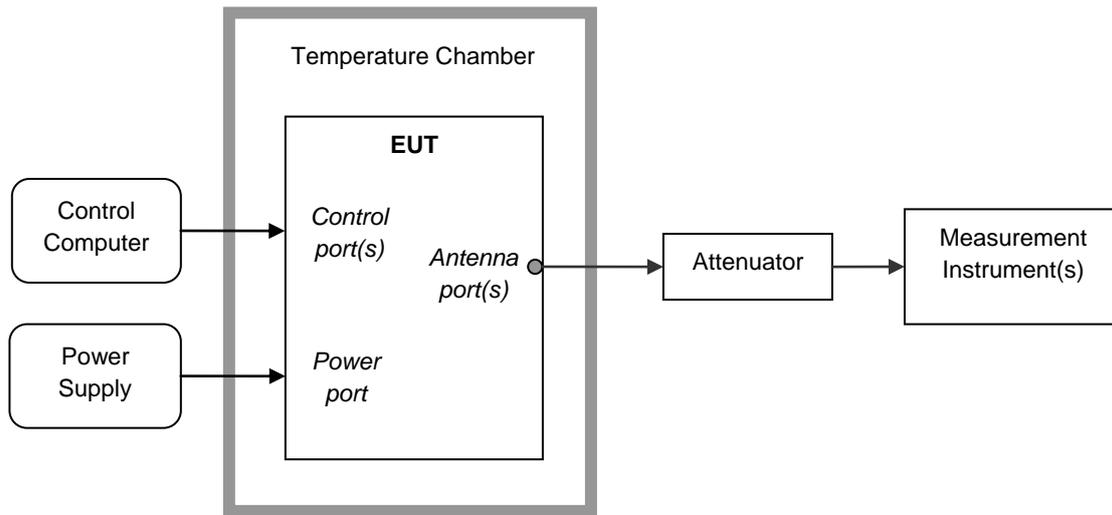
4.4.2 Test Setup 1



Note: Test Procedure for Peak-to-Average Power Ratio

Measurement Function	Preset to normal spectrum mode, use the "CCDF" measurement function.
Center Frequency	Signal Nominal Center Frequency (for each carrier of the carriers-configuration).
Meas BW/RBW	≥ Nominal Signal Channel Bandwidth.
Trigger	Trigger setting to ensure the measurement is only performed within burst-on duration (if the signal duty cycle X is not 100%).
Measurement Interval	Triggered duration length. For example, if the gate trigger is made on one-slot of the GSM signal (about 577μs), the trigger length and the measurement interval should be 577μs. (Note: FCC KDB 971168 require using 1 ms setting. This may result into error result especially for TDD or TDMA system)
Count Number	A value that stabilizes the measured CCDF curve (normally > 10E6).

4.4.3 Test Setup 2



4.4.4 Test Setup 3

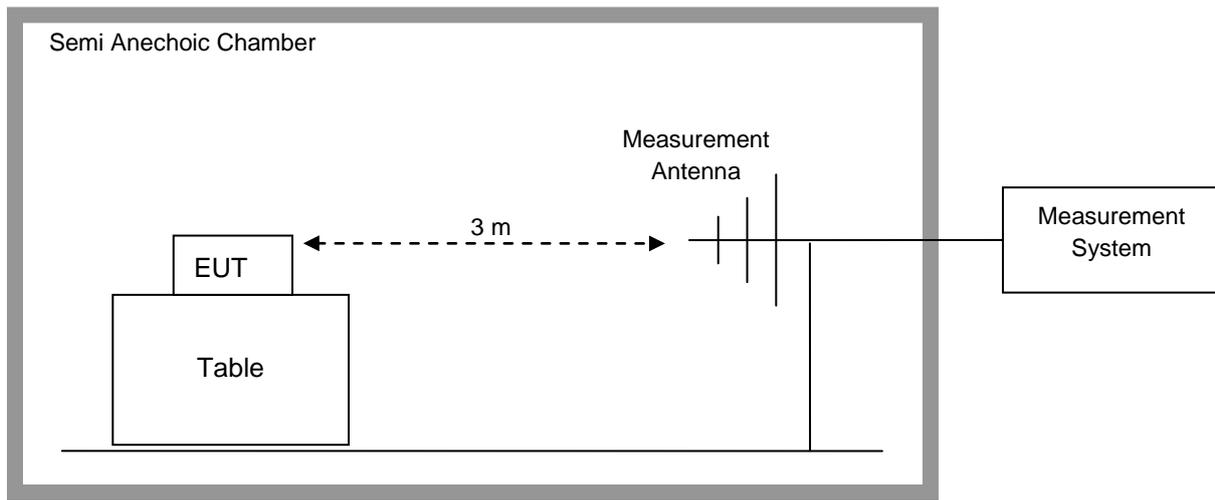
NOTE1: Effective radiated power (ERP) or Effective Isotropic radiated power (EIRP) refers to the EUT radiation power output, assuming all emissions are radiated from half-wave dipole antennas or horn antennas.

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 or EIRP

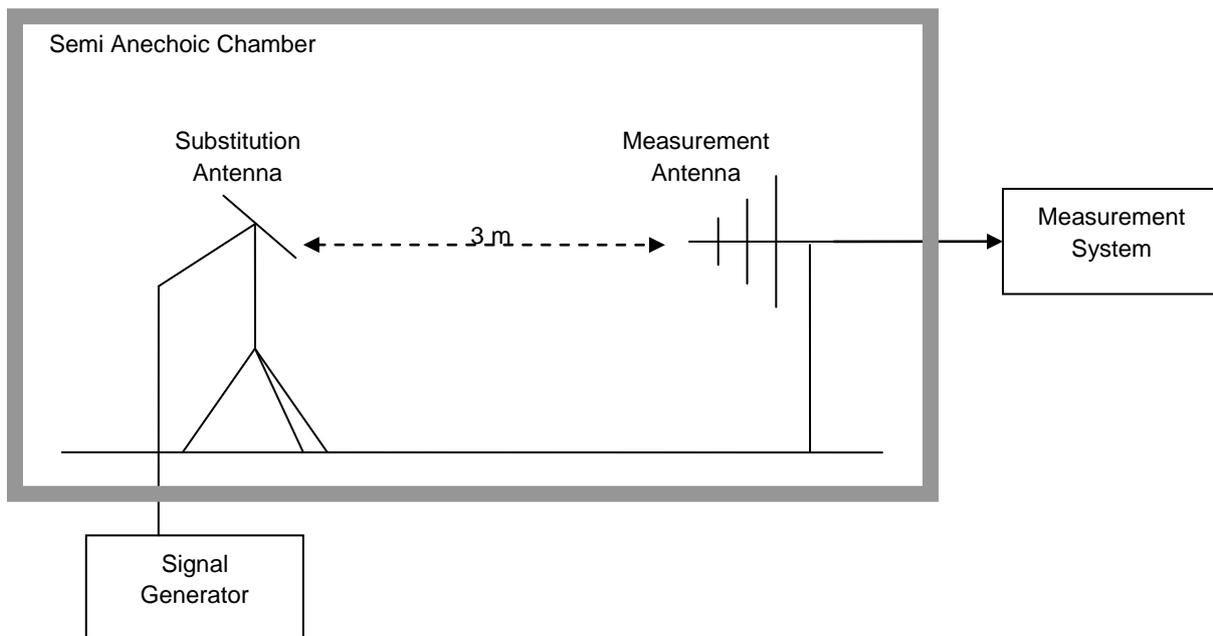
1. Connect the test system according to Figure. EUT is running for 30 minutes before test, and measurement instruments are warming-up for 30 minutes.
2. Set up communication link between Universal radio communication tester and EUT, set EUT working frequency, and control EUT to transmit at maximum power.
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 T, M, B respectively.
Complete the test data.



Step 2: Substitution method to verify the maximum ERP or EIRP

1. Measurement setup is according to the following figures. 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. 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.



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)	L, M, H
	Test Mode	TM1/TM2
Modulation Characteristics	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	RF Channels (TX)	M
	Test Mode	TM1/TM2
Occupied Bandwidth	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	Detector	PK
	RF Channels (TX)	L, M, H
	Test Mode	TM1/TM2
Band Edges Compliance	Test Configuration	Ambient Temperature & Rated Voltage
	Test Setup	Test Setup 1
	Detector	RMS
	RF Channels (TX)	L, H
	Test Mode	TM1/TM2
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/TM2
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
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/TM2

5 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	MY49420179	Jul., 17,2013
Signal Analyzer	R&S	FSQ31	200021	Sept., 27,2012
Temperature Chamber	WEISS	WKL64	24600294	Feb.,13,2013
Signal generator	Agilent	E8257D	MY49281095	Jul.,09,2013
Spectrum analyzer	R&S	FSU3	200474	Mar., 05, 2013
Spectrum analyzer	R&S	FSU43	100144	Mar., 05, 2013
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100304	Apr., 05, 2013
Double-Ridged Waveguide Horn Antenna (1G~18GHz)	R&S	HF907	100391	Apr., 05, 2013
Trilog Broadband Antenna (30M~3GHz)	SCHWARZBECK	VULB 9163	9163-521	Jul., 07, 2013
Pyramidal Horn Antenna(26GHz-40GHz)	ETS-Lindgren	3160-10	00123940	Feb., 27, 2013
Pyramidal Horn Antenna(18GHz-26.5GHz)	ETS-Lindgren	3160-09	00125912	Feb., 27, 2013

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 Test Setup	Appendix H

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

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

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



Appendix A

Transmitter Output Power According to FCC Part 2.1046 & Part24.232



Conducted Power of Transmitter

TEST CONDITIONS	RF Output Power (Conducted)					
	Channel512(L)		Channel661(M)		Channel810(H)	
	1850.2MHz		1880.0MHz		1909.8MHz	
	dBm		dBm		dBm	
T_{nom} / V_{nom}	Measured	Limit	Measured	Limit	Measured	Limit
TM1	28.72	33	28.55	33	28.51	33
TM2	24.52	33	24.49	33	24.42	33



Peak-to-Average Ratio

TEST CONDITIONS	Peak-to-Average Ratio					
	Channel512(L)		Channel661(M)		Channel810(H)	
	1850.2MHz		1880.0MHz		1909.8MHz	
	dB		dB		dB	
T_{nom} / V_{nom}	Measured	Limit	Measured	Limit	Measured	Limit
TM1	1.25	13	1.07	13	1.09	13
TM2	3.19	13	3.22	13	3.1	13



Effective Isotropic Radiated Power of Transmitter (EIRP)

Test Mode	Freq. [MHz]	Meas. Level [dBm]	Substitution Antenna Type	SGP [dBm]	Substitution Gain [dBi]	Cable Loss [dB]	Substitution Level (EIRP)	FCC limit [dBm]	Result
							[dBm]		
TM1	1850.2	29.52	Horn Ant.	25.89	4.5	1	29.39	33	Pass
TM1	1880	29.35	Horn Ant.	26.02	4.5	1	29.52	33	Pass
TM1	1909.8	29.31	Horn Ant.	25.59	4.8	1	29.39	33	Pass
TM2	1850.2	25.32	Horn Ant.	21.67	4.5	1	25.17	33	Pass
TM2	1880	25.29	Horn Ant.	21.85	4.5	1	25.35	33	Pass
TM2	1909.8	25.22	Horn Ant.	21.45	4.8	1	25.25	33	Pass

Note: a, For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

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

b, SGP=Signal Generator Level

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



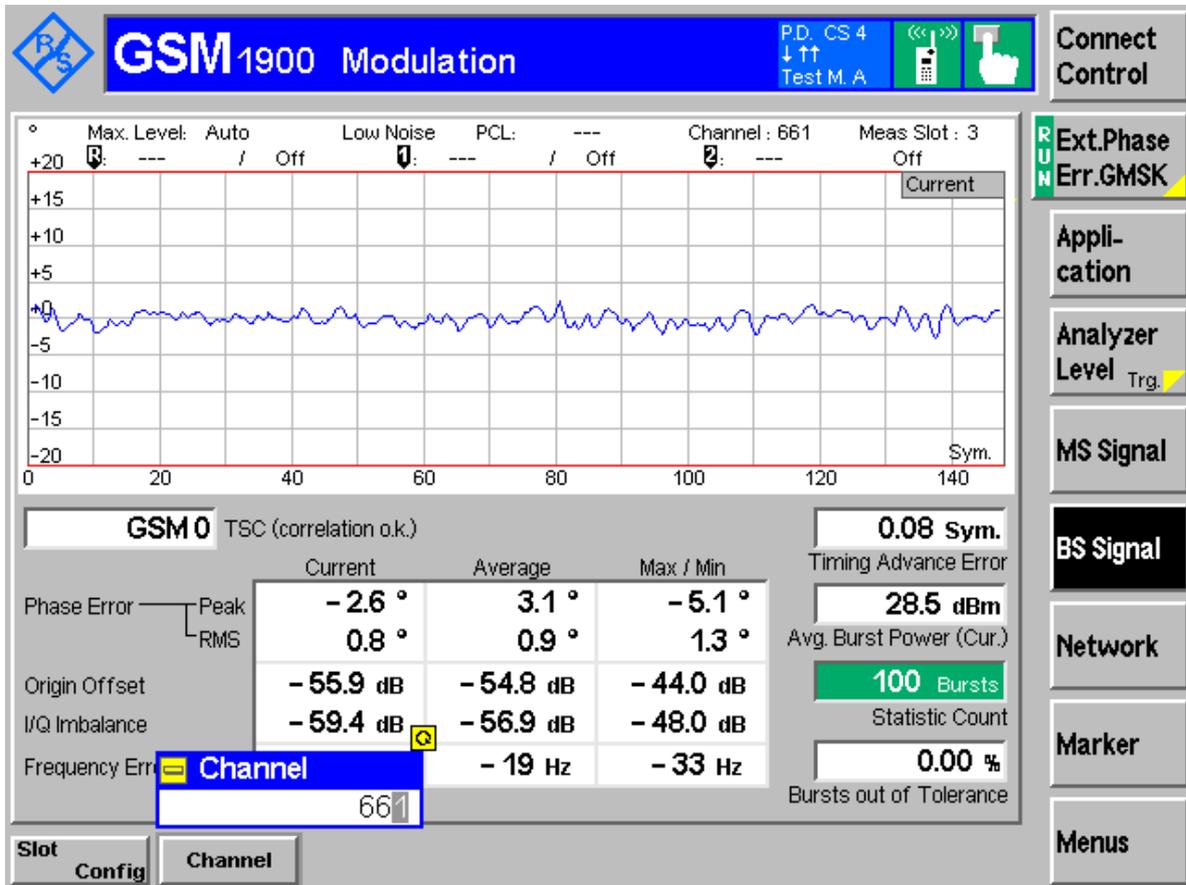
Appendix B

Modulation Characteristics

According to FCC Part 2.1047 & Part24 Subpart E

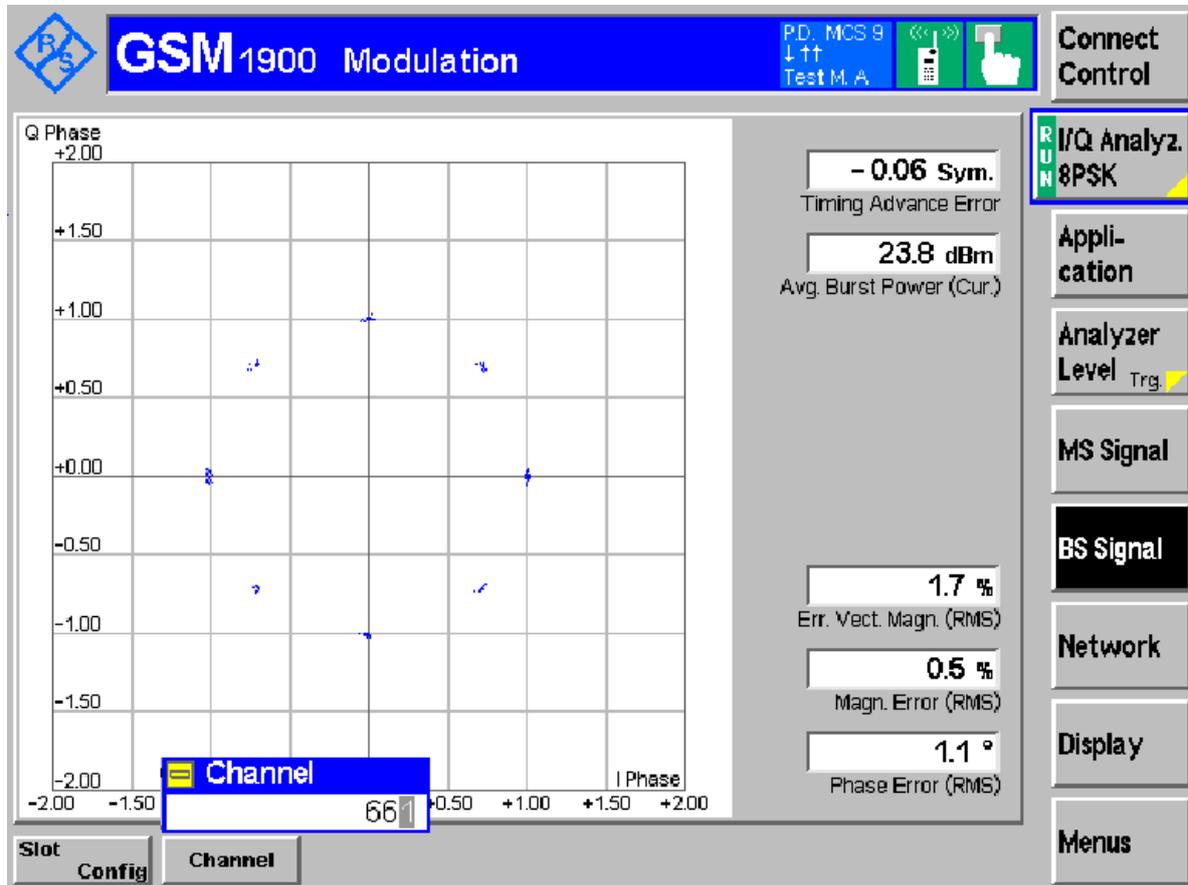


TM1:GPRS/GSM Channel 661





TM2:EDGE Channel 661



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



Appendix C

Occupied Bandwidth According to FCC Part 2.1049 & Part 24 Subpart E



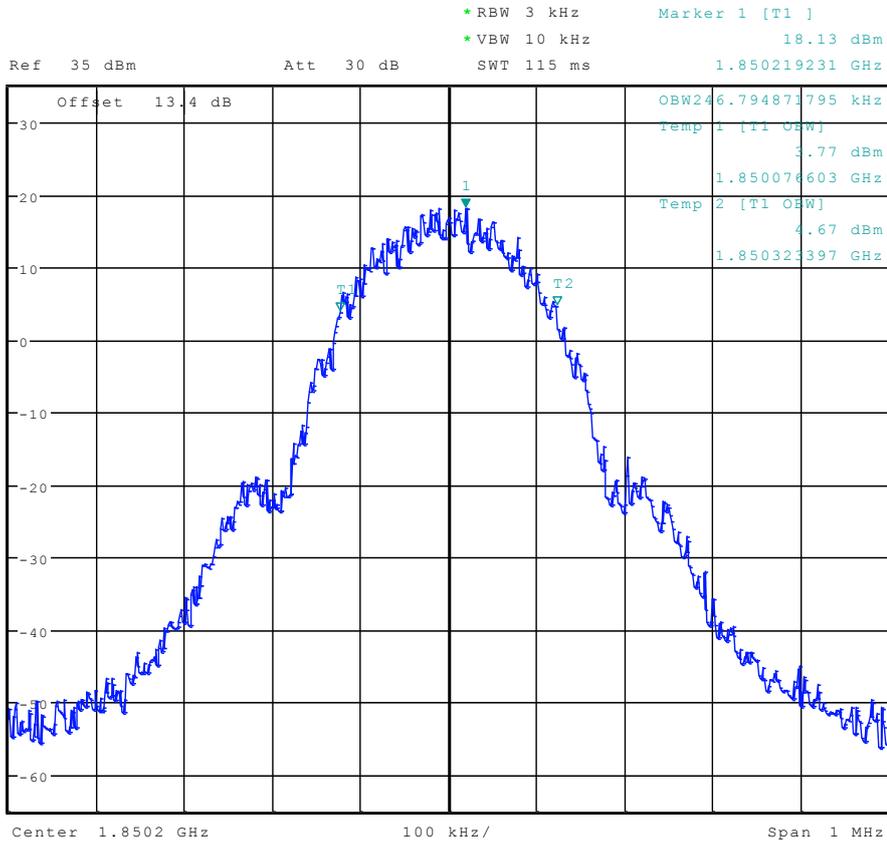
Result Table

Table 1 Measurement Results

Test Mode	RF Channel	Occupied Bandwidth [kHz]	Verdict
TM1	512	246.79	Pass
	661	245.19	Pass
	810	245.19	Pass
TM2	512	245.19	Pass
	661	245.19	Pass
	810	246.79	Pass



TM1:GPRS/GSM Channel 512



Date: 14.JUL.2012 00:33:05



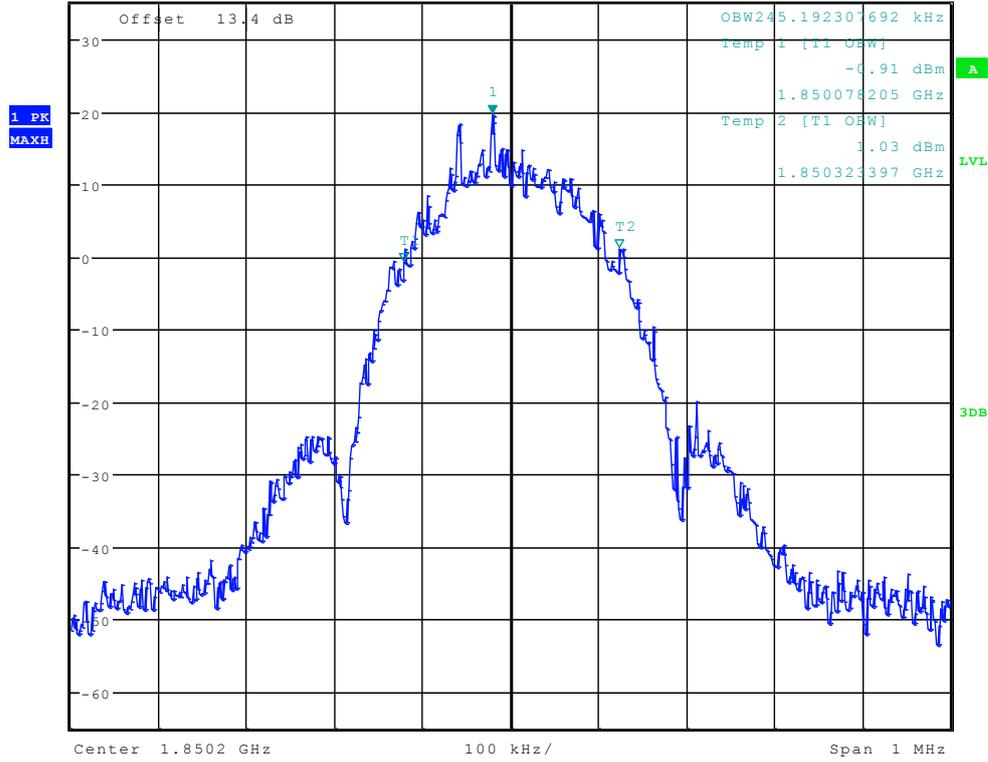
TM2:EDGE

Channel 512



Ref 35 dBm Att 30 dB SWT 115 ms

*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz 19.49 dBm
1.850179167 GHz



Date: 14.JUL.2012 00:47:59



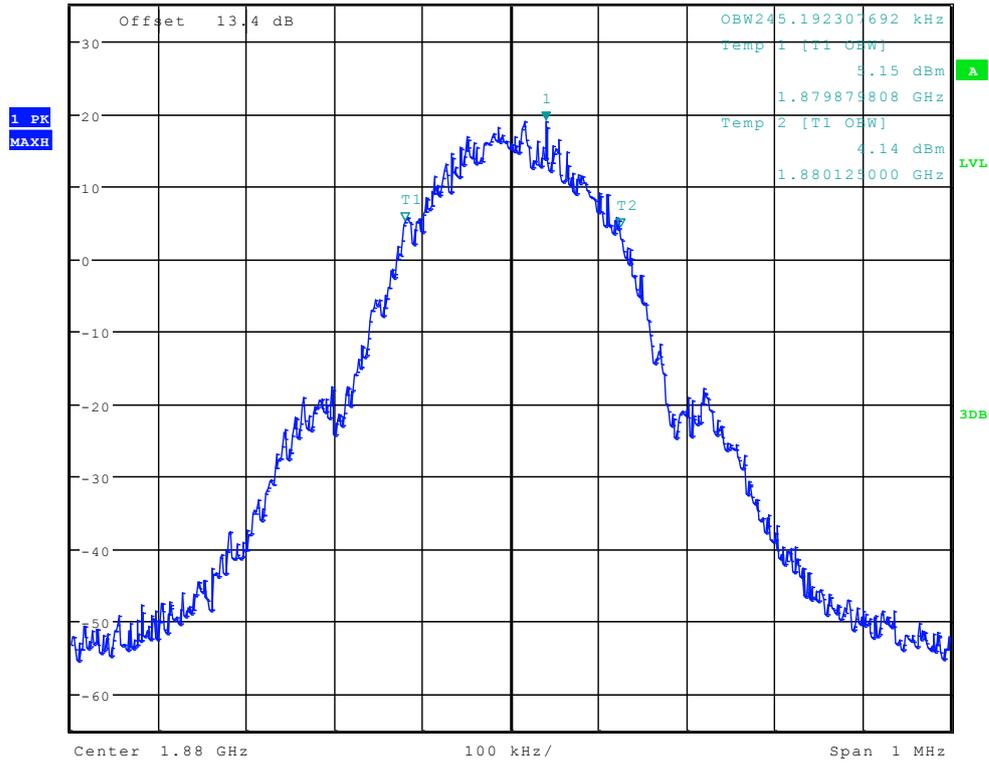
TM1:GPRS/GSM

Channel 661



Ref 35 dBm Att 30 dB SWT 115 ms

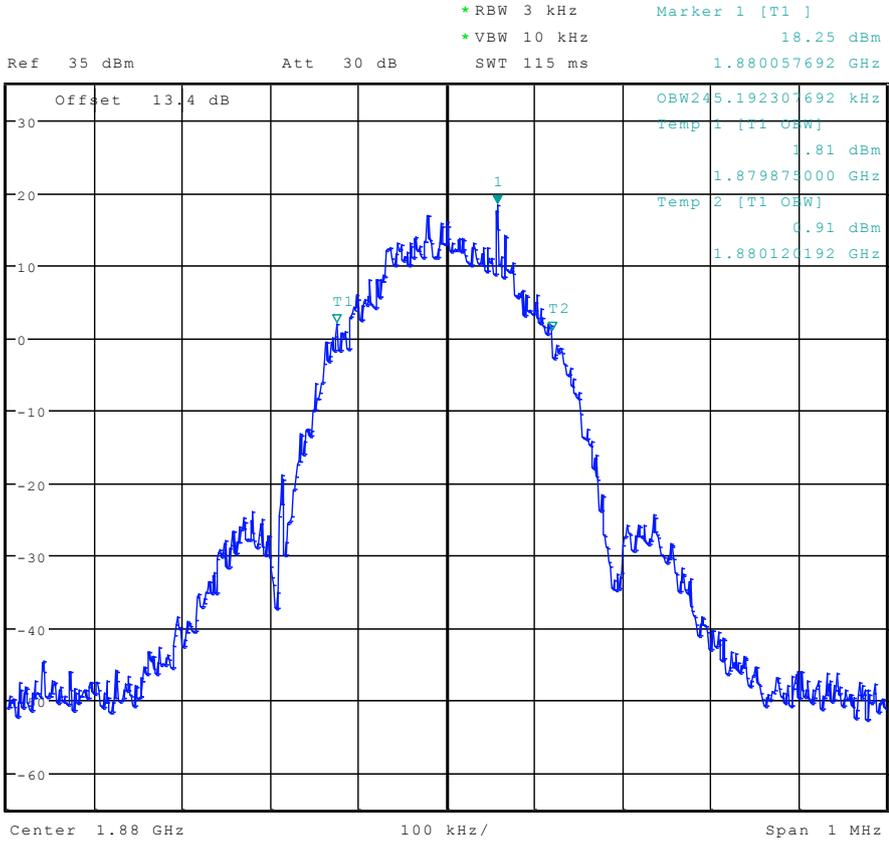
*RBW 3 kHz Marker 1 [T1]
*VBW 10 kHz 18.85 dBm
1.880040064 GHz



Date: 14.JUL.2012 00:33:19



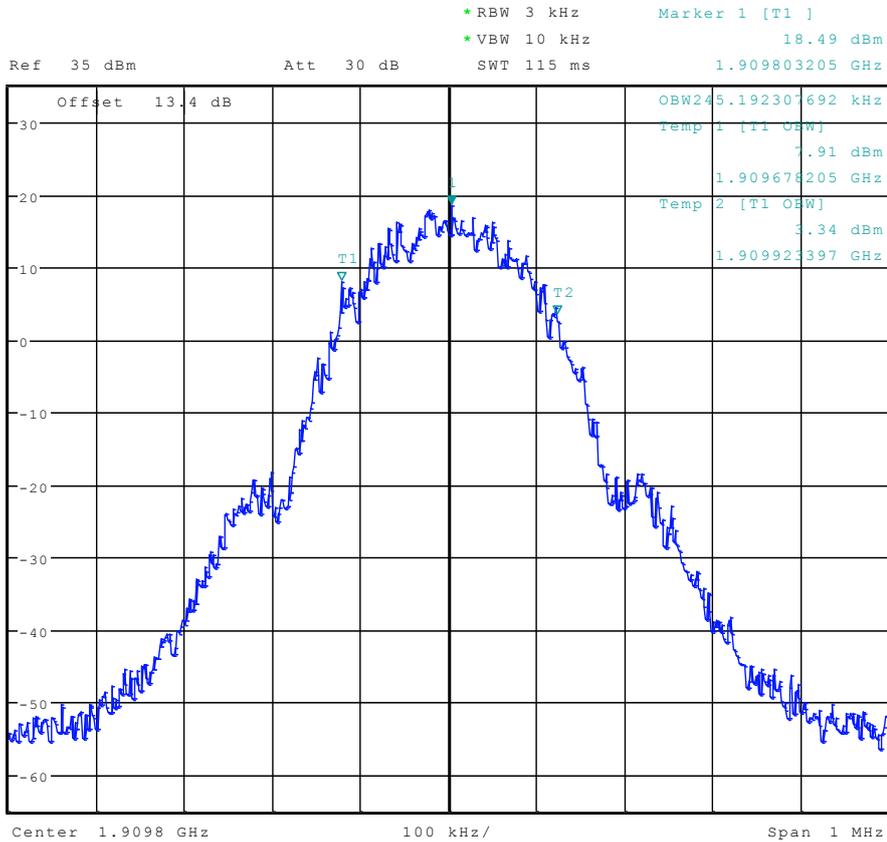
TM2:EDGE Channel 661



Date: 14.JUL.2012 00:48:13



TM1:GPRS/GSM Channel 810



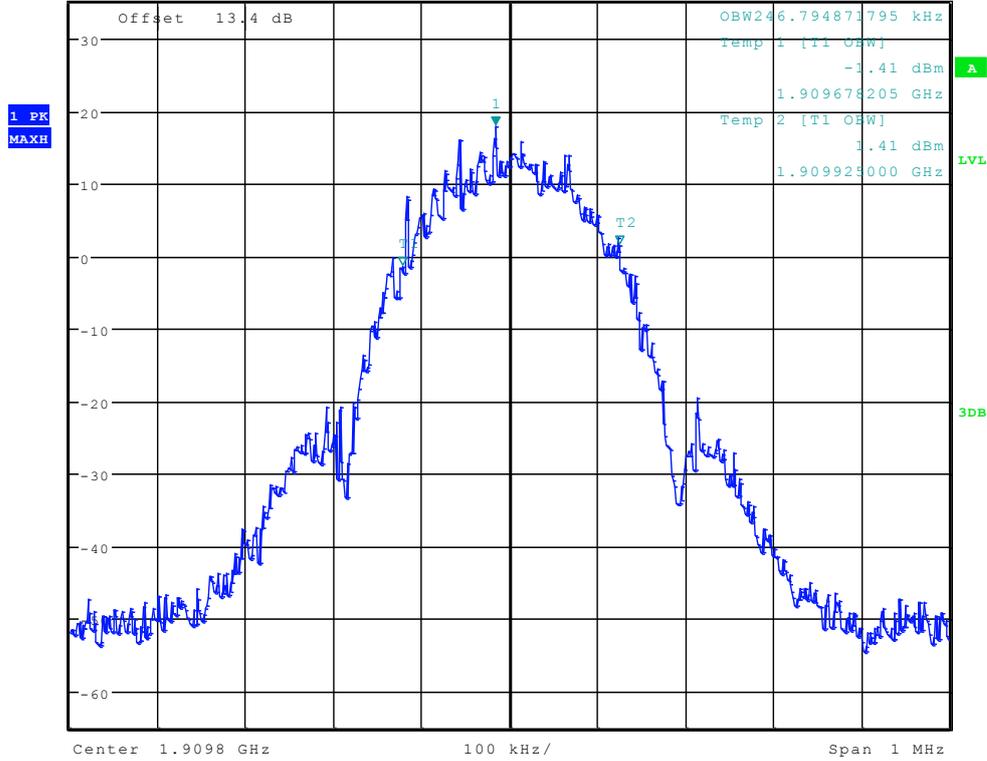
Date: 14.JUL.2012 00:33:32



TM2:EDGE Channel 810



*RBW 3 kHz Marker 1 [T1] 17.79 dBm
 *VBW 10 kHz
 Ref 35 dBm Att 30 dB SWT 115 ms 1.909783974 GHz



Date: 14.JUL.2012 00:48:26

-----END-----



Appendix D

Band Edges Compliance

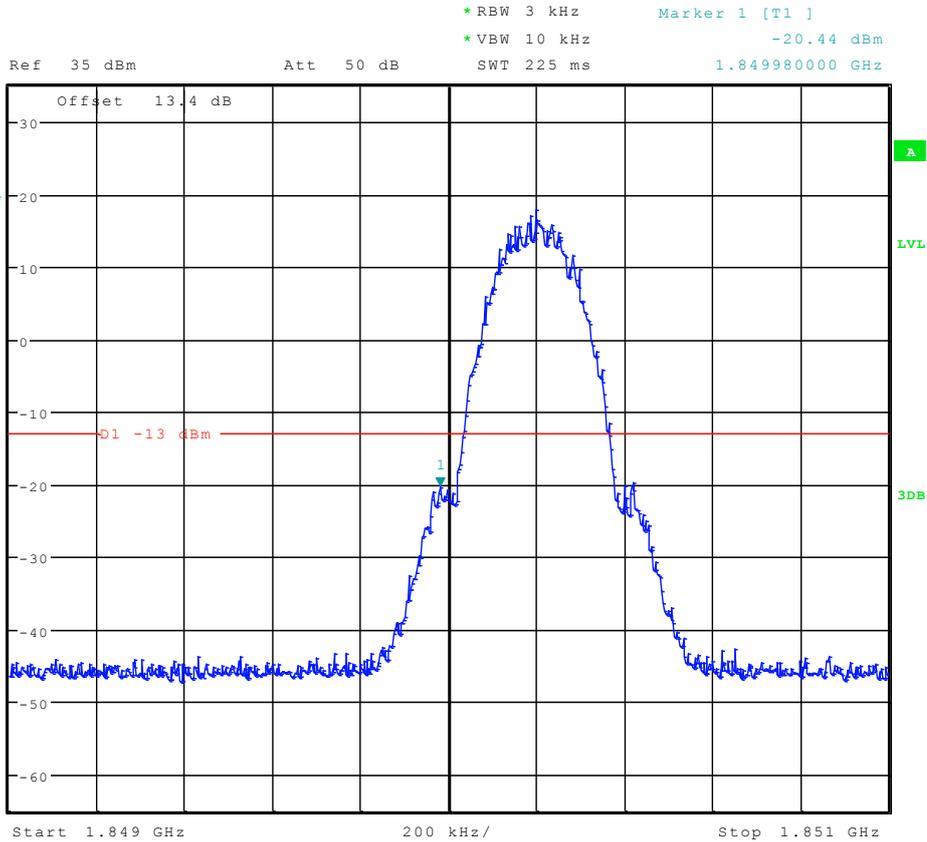
According to FCC Part 2.1051 & 24.238



TM1:GPRS/GSM

Left Edge

Channel 512



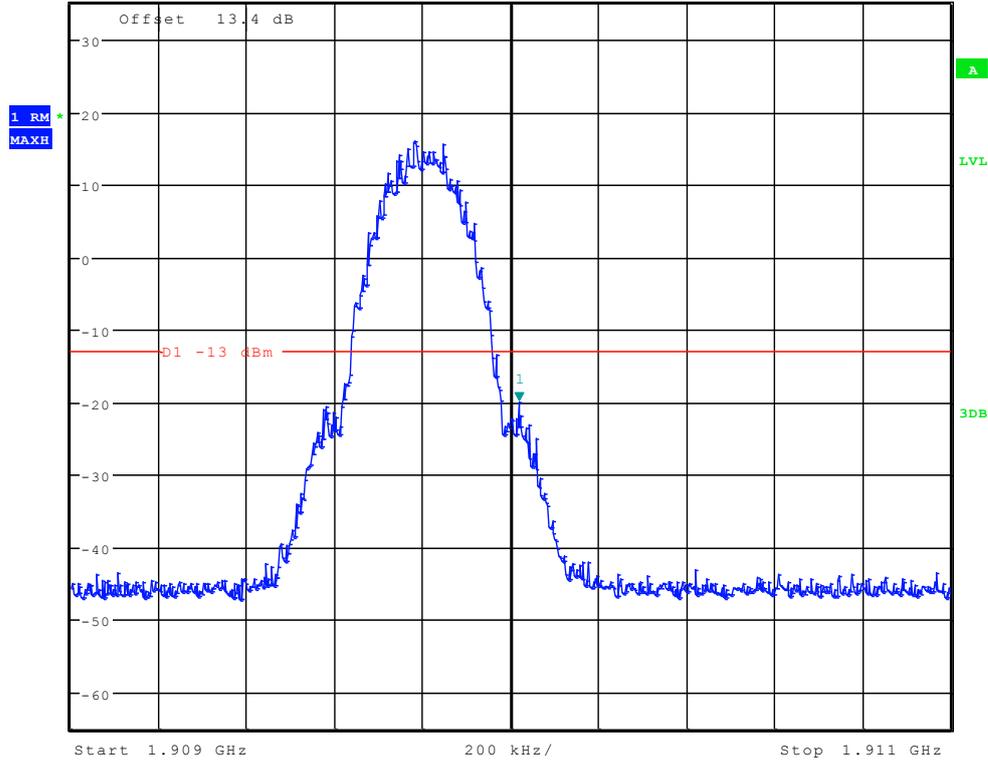
Date: 14.JUL.2012 00:42:17



Right Edge Channel 810



Ref 35 dBm Att 50 dB SWT 225 ms
*RBW 3 kHz *VBW 10 kHz
Marker 1 [T1] -20.02 dBm
1.910020000 GHz



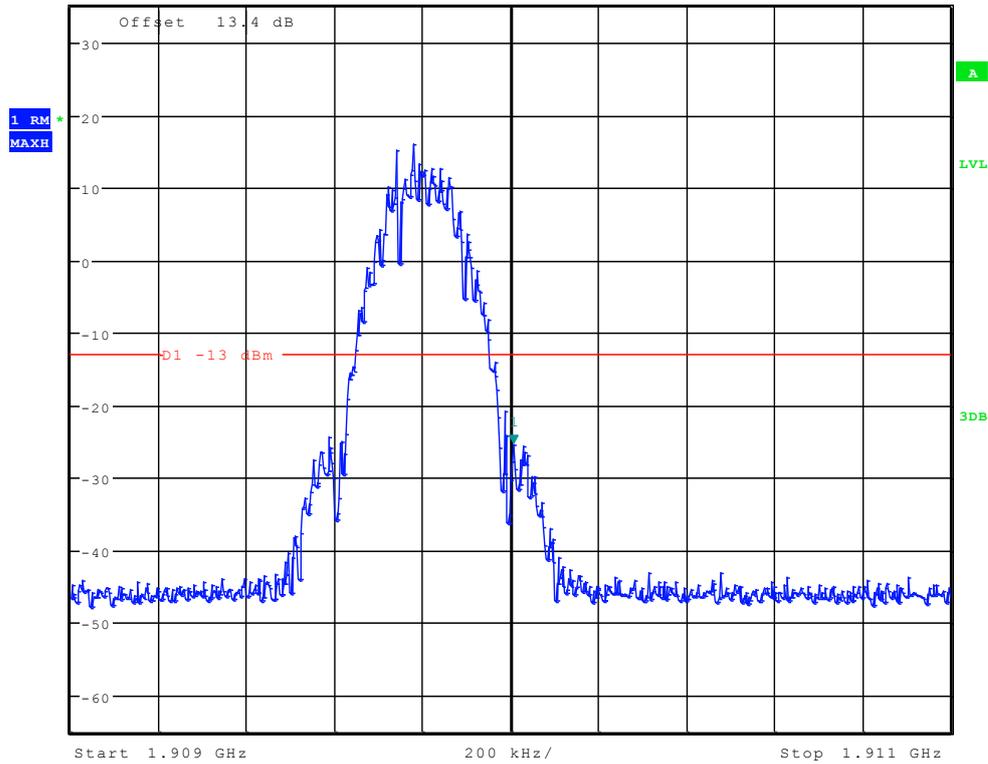
Date: 14.JUL.2012 00:43:38



Right Edge Channel 810



Ref 35 dBm Att 50 dB SWT 225 ms
 *RBW 3 kHz *VBW 10 kHz
 Marker 1 [T1] -25.37 dBm
 1.910005000 GHz



Date: 14.JUL.2012 00:47:45

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



Appendix E

Spurious Emission at Antenna Terminal

According to FCC Part 2.1051 & 24.238

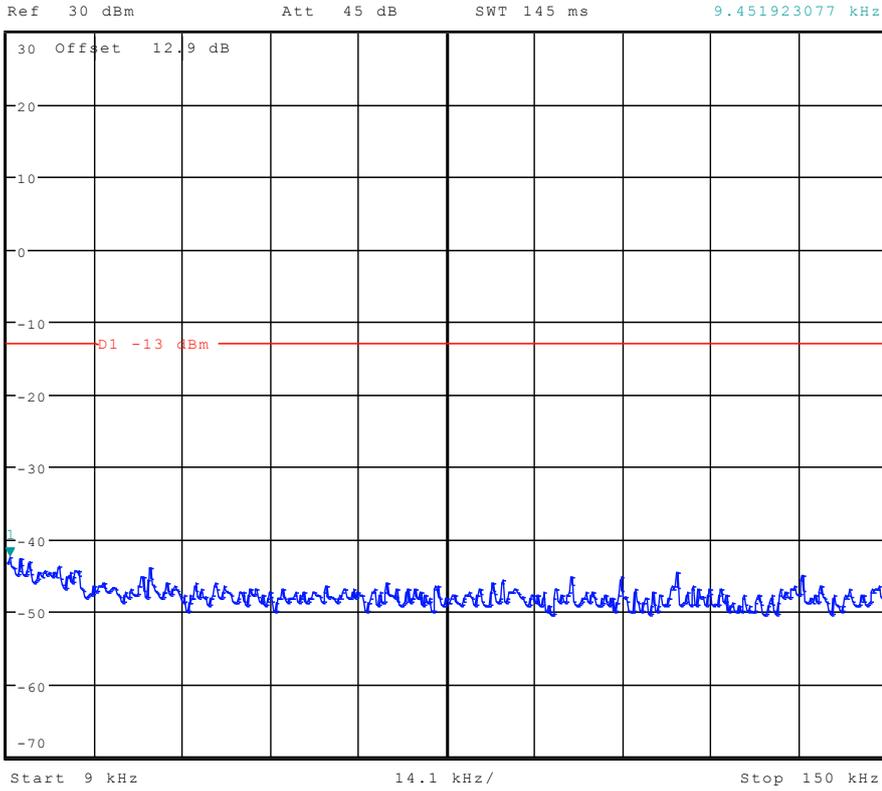


TM1:GPRS/GSM

Channel 512



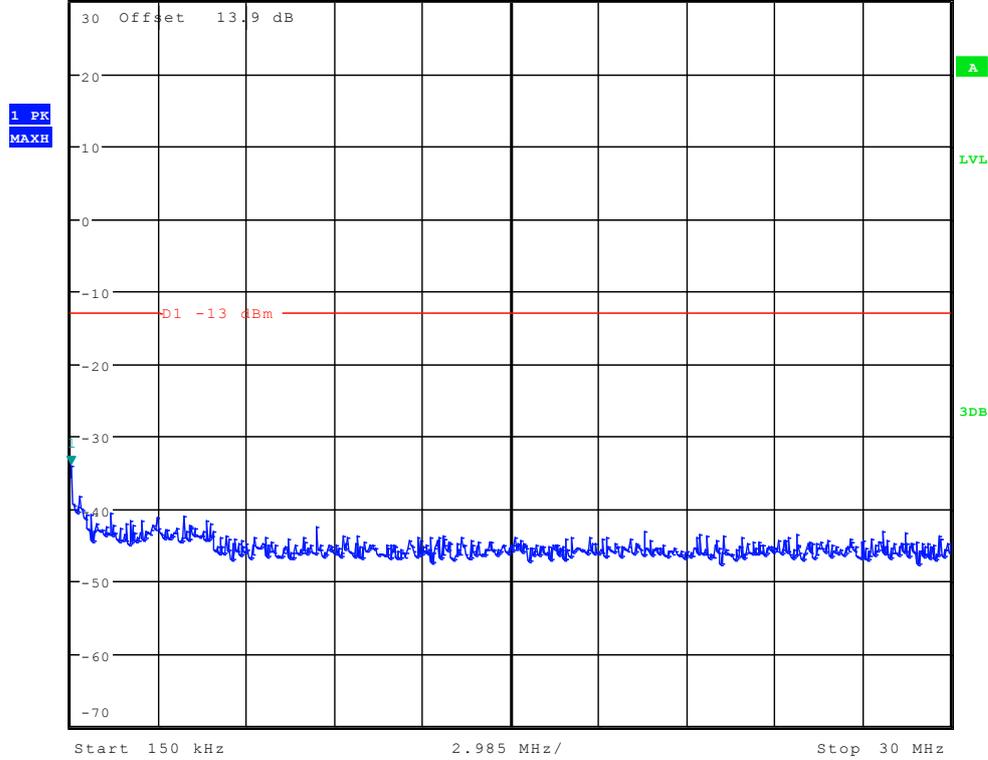
*RBW 1 kHz Marker 1 [T1]
*VBW 10 kHz -42.39 dBm
SWT 145 ms 9.451923077 kHz



Date: 14.JUL.2012 00:33:47



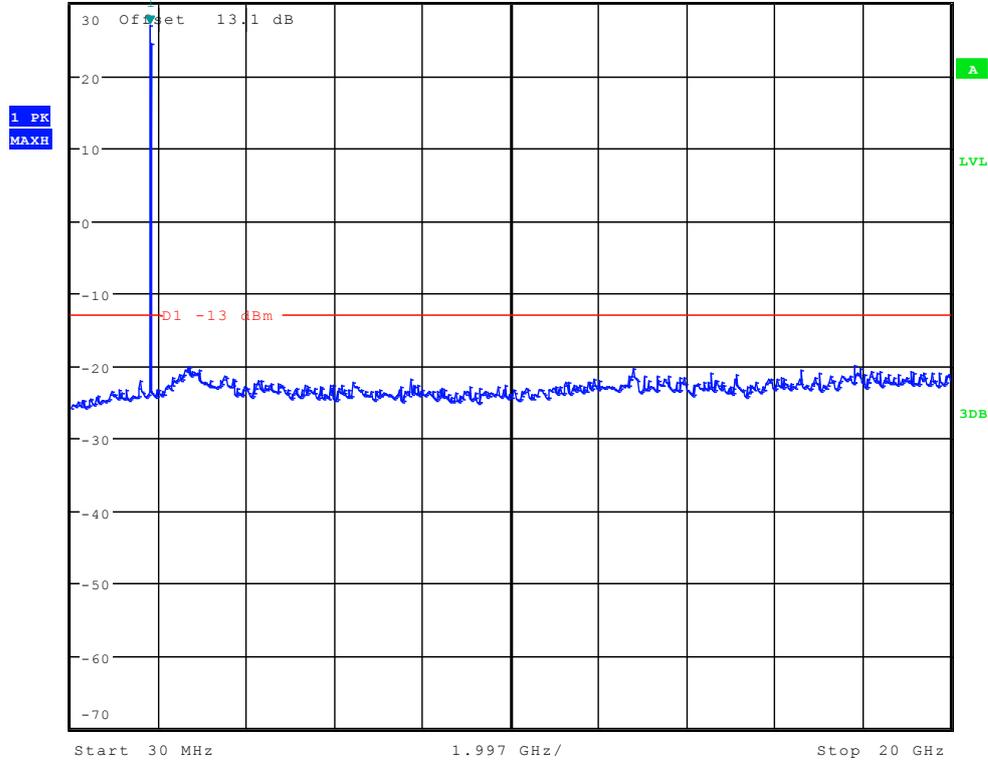
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -33.99 dBm
Ref 30 dBm Att 45 dB SWT 300 ms 150.00000000 kHz



Date: 14.JUL.2012 00:34:31



* RBW 1 MHz Marker 1 [T1]
* VBW 3 MHz 27.05 dBm
Ref 30 dBm Att 45 dB SWT 115 ms 1.822179487 GHz



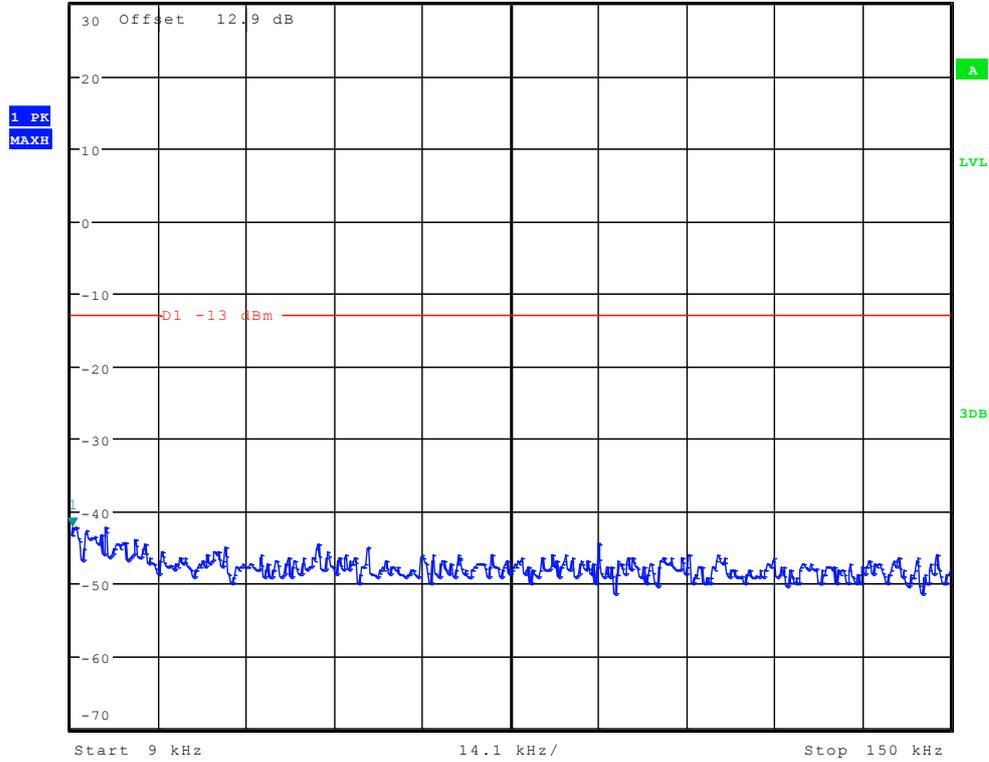
Date: 14.JUL.2012 00:35:15



Channel 661



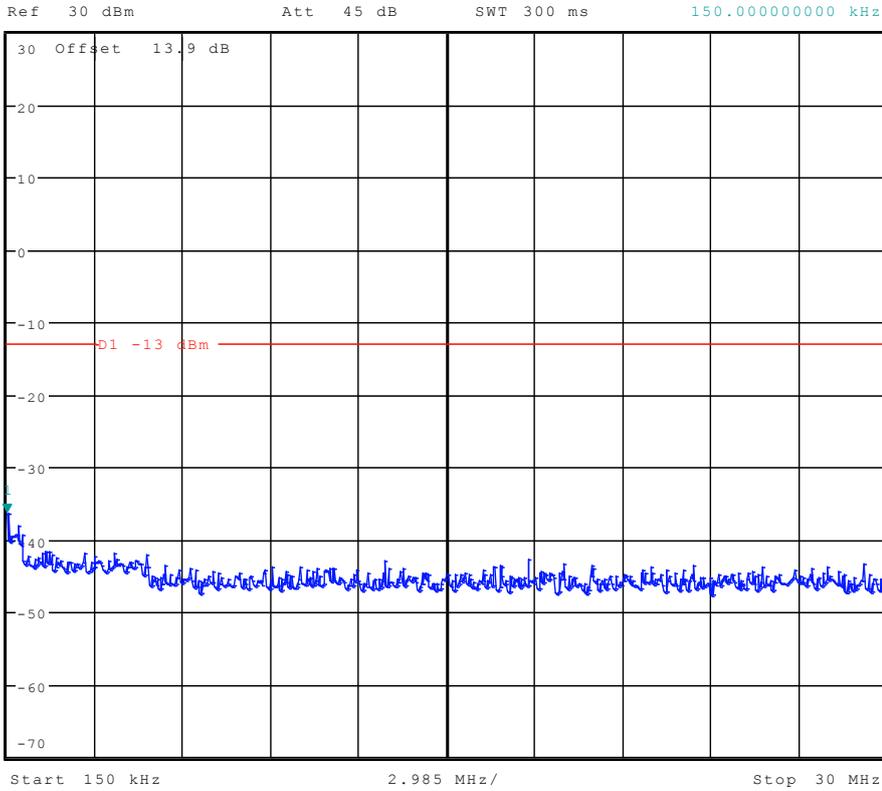
* RBW 1 kHz Marker 1 [T1] -42.08 dBm
 * VBW 10 kHz 9.225961538 kHz
 Ref 30 dBm Att 45 dB SWT 145 ms



Date: 14.JUL.2012 00:34:02



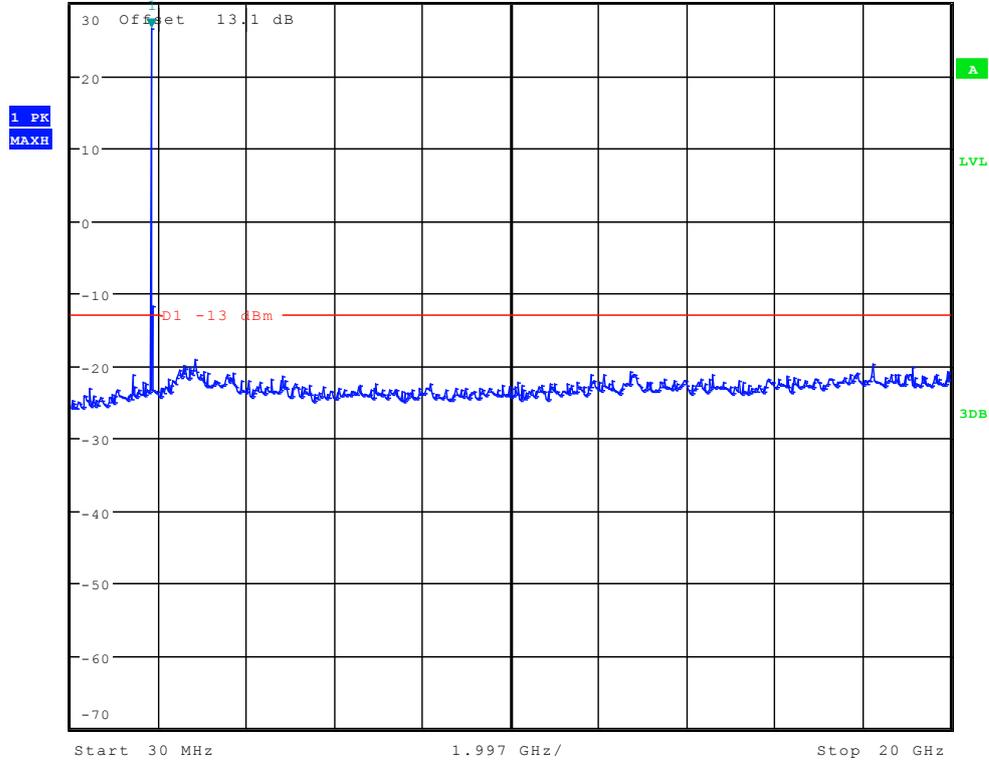
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -36.22 dBm
SWT 300 ms 150.00000000 kHz



Date: 14.JUL.2012 00:34:45



* RBW 1 MHz Marker 1 [T1]
* VBW 3 MHz 26.51 dBm
Ref 30 dBm Att 45 dB SWT 115 ms 1.854182692 GHz



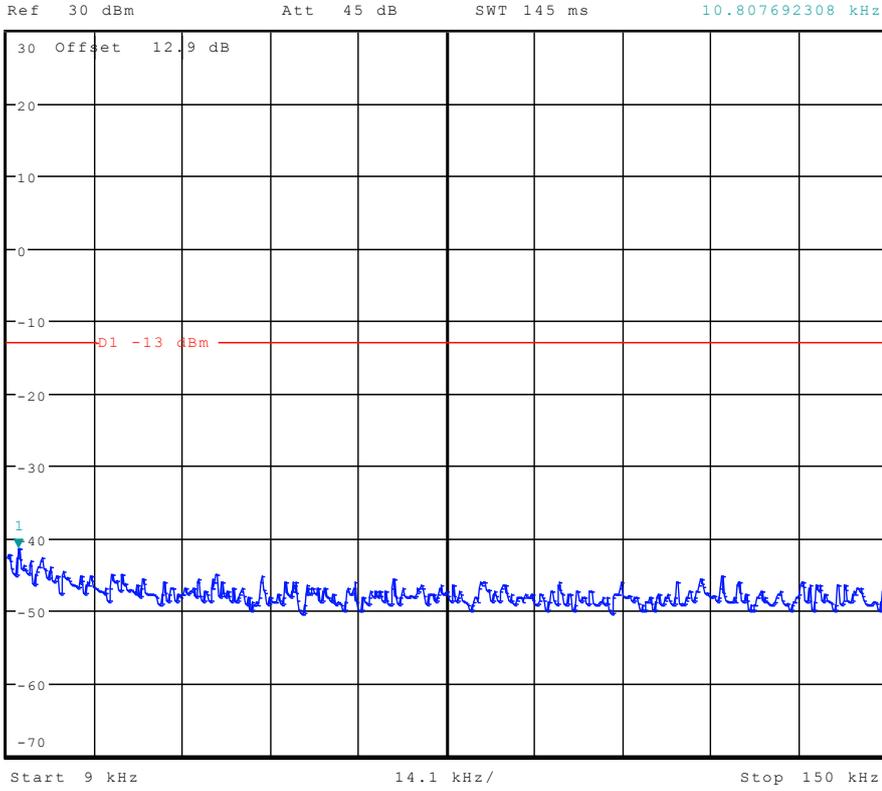
Date: 14.JUL.2012 00:35:30



Channel 810



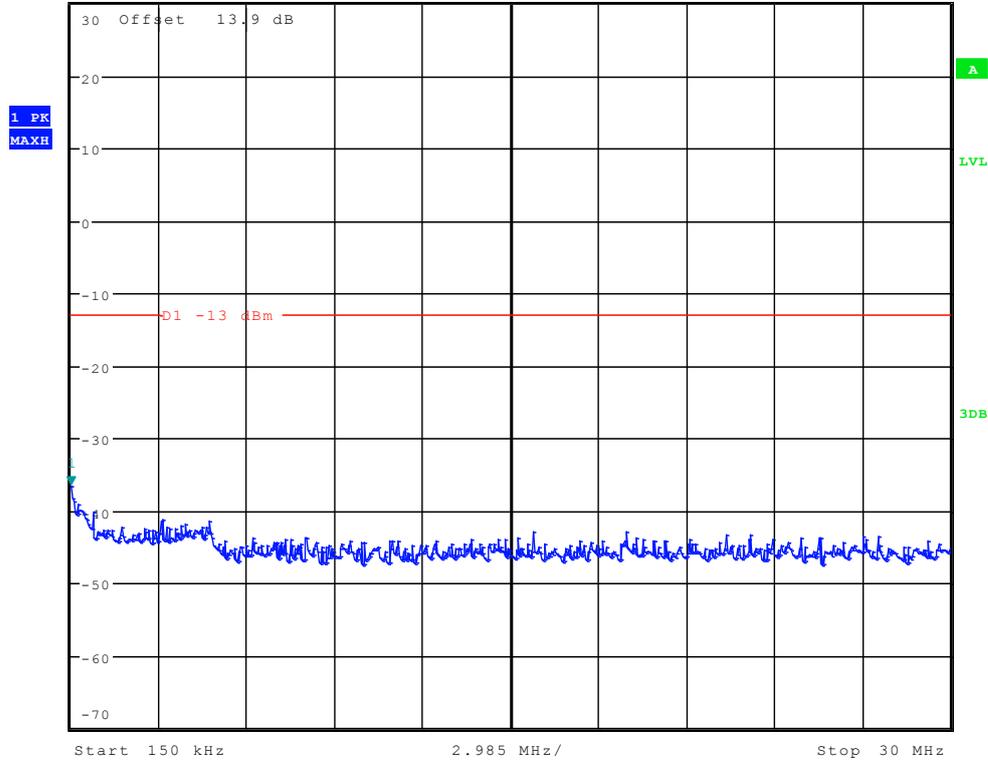
*RBW 1 kHz Marker 1 [T1]
*VBW 10 kHz -41.38 dBm
SWT 145 ms 10.807692308 kHz



Date: 14.JUL.2012 00:34:16



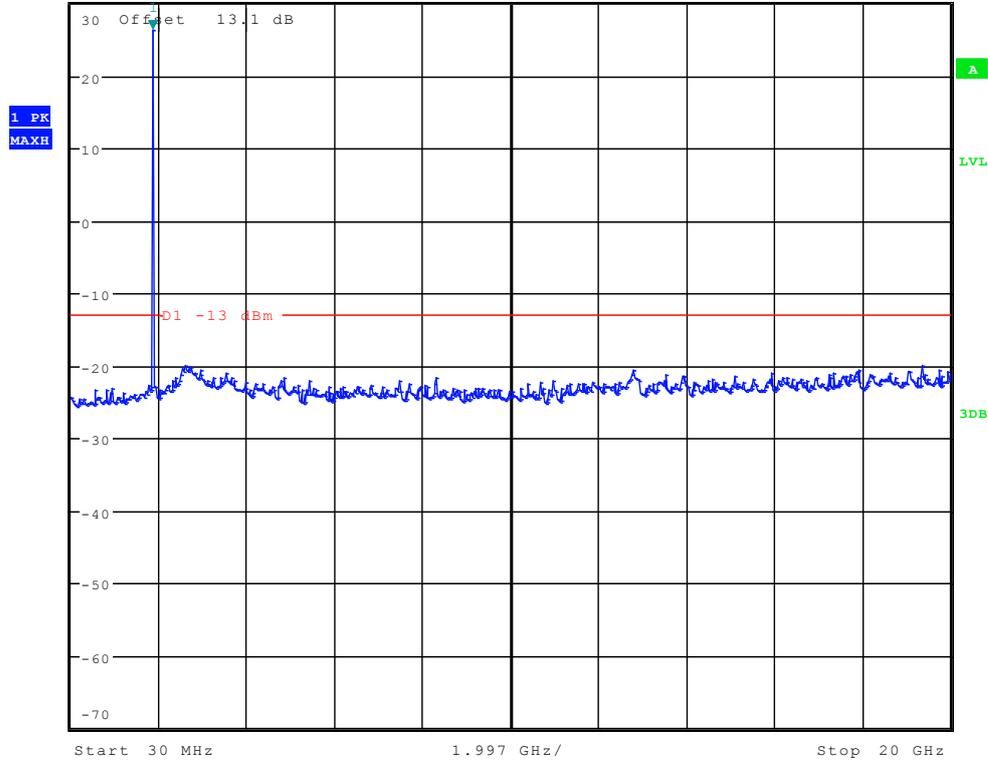
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -36.52 dBm
Ref 30 dBm Att 45 dB SWT 300 ms 150.00000000 kHz



Date: 14.JUL.2012 00:35:00



Ref 30 dBm Att 45 dB SWT 115 ms
 *RBW 1 MHz Marker 1 [T1] 26.28 dBm
 *VBW 3 MHz 1.886185897 GHz



Date: 14.JUL.2012 00:35:45



TM2:EDGE

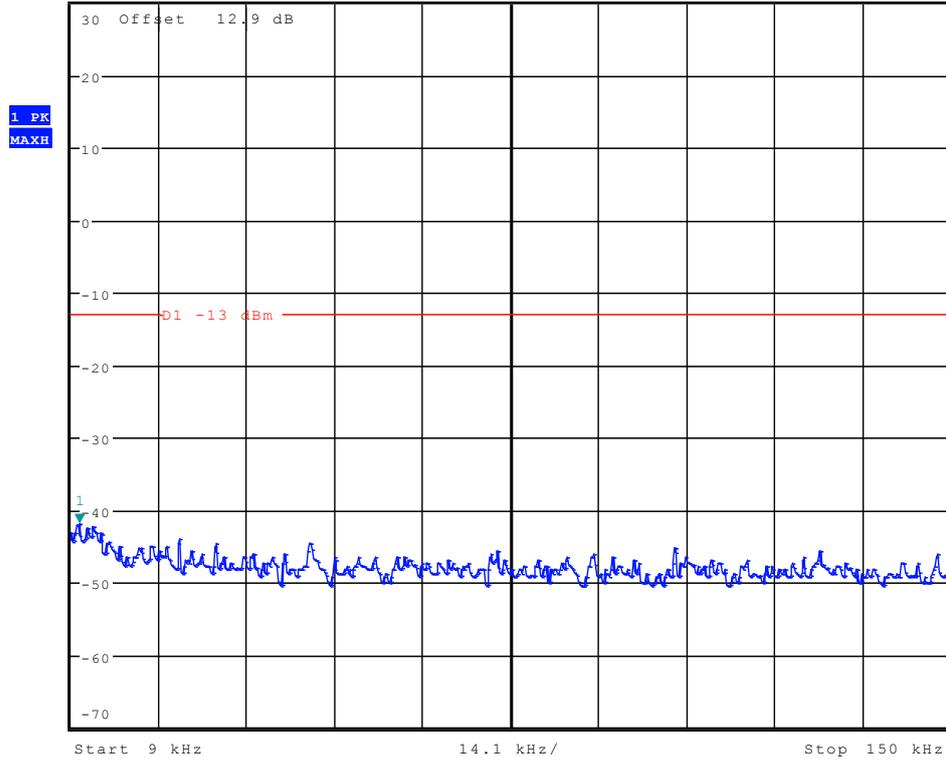
Channel 512



*RBW 1 kHz Marker 1 [T1]
*VBW 10 kHz -41.67 dBm
SWT 145 ms 10.355769231 kHz

Ref 30 dBm

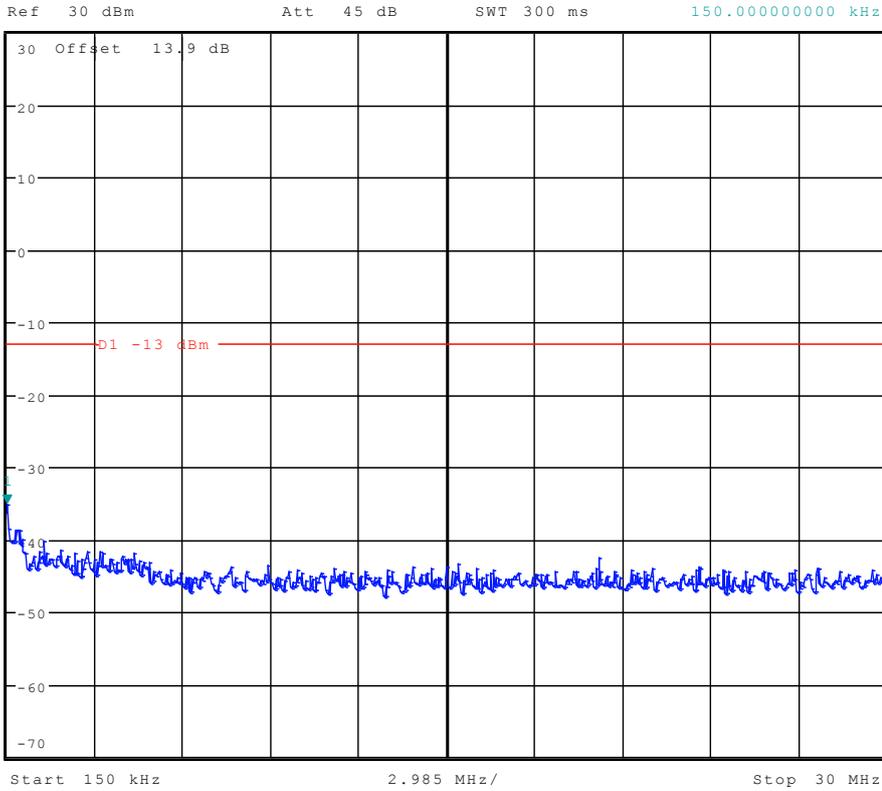
Att 45 dB



Date: 14.JUL.2012 00:48:41



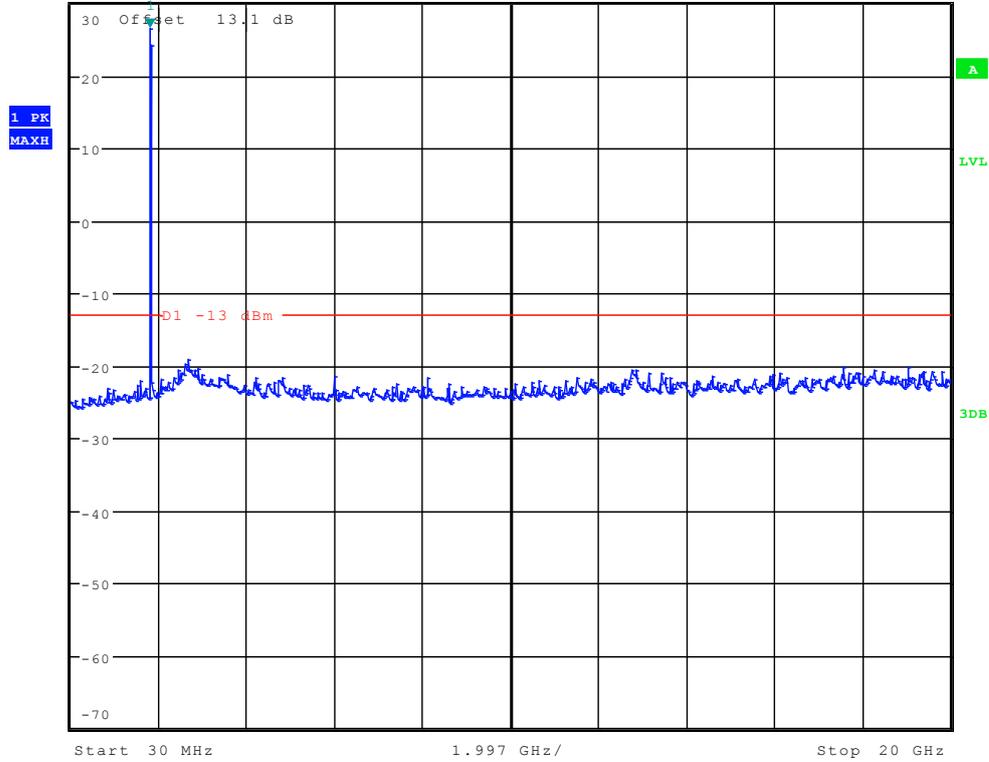
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -35.00 dBm
SWT 300 ms 150.000000000 kHz



Date: 14.JUL.2012 00:49:25



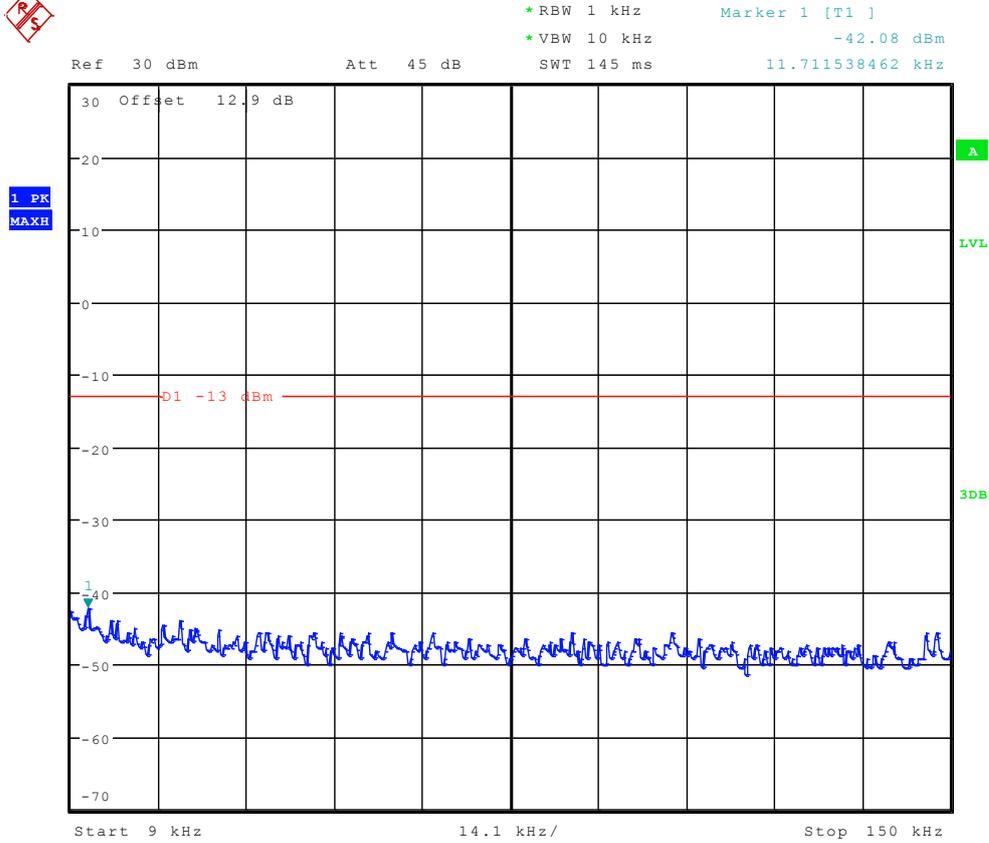
Ref 30 dBm Att 45 dB SWT 115 ms *RBW 1 MHz Marker 1 [T1] *VBW 3 MHz 26.62 dBm
1.822179487 GHz



Date: 14.JUL.2012 00:50:09



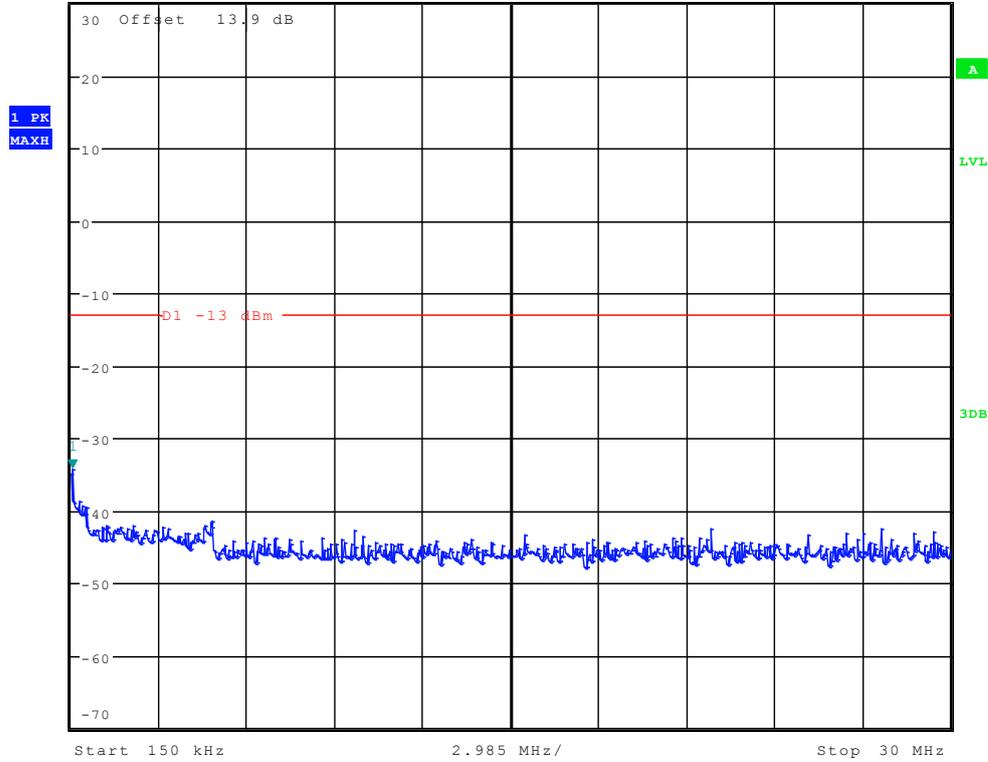
Channel 661



Date: 14.JUL.2012 00:48:56



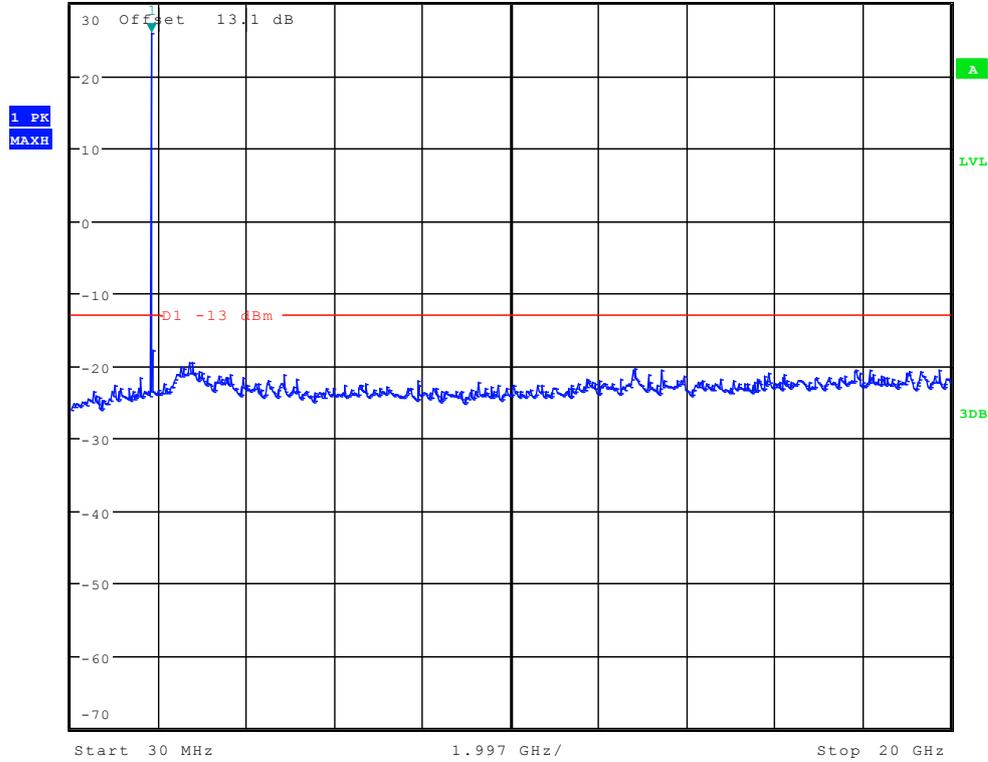
Ref 30 dBm Att 45 dB SWT 300 ms
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -34.13 dBm
197.836538462 kHz



Date: 14.JUL.2012 00:49:39



Ref 30 dBm Att 45 dB SWT 115 ms
 *RBW 1 MHz Marker 1 [T1] 25.96 dBm
 *VBW 3 MHz 1.854182692 GHz



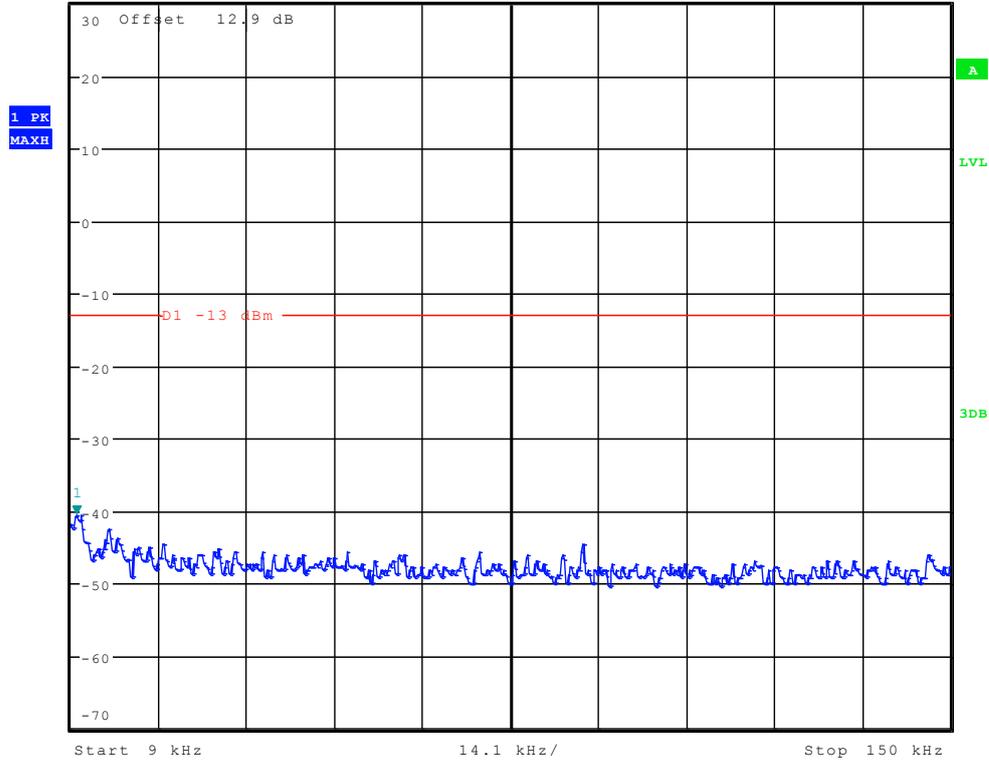
Date: 14.JUL.2012 00:50:23



Channel 810



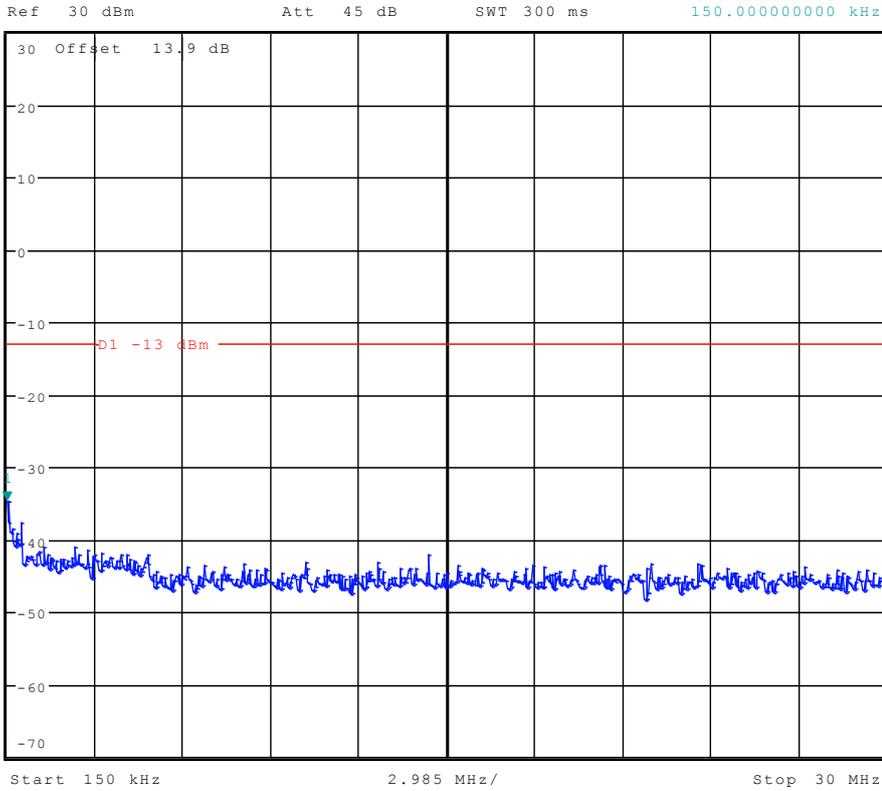
Ref 30 dBm Att 45 dB RBW 1 kHz VBW 10 kHz SWT 145 ms Marker 1 [T1] -40.48 dBm
9.903846154 kHz



Date: 14.JUL.2012 00:49:10



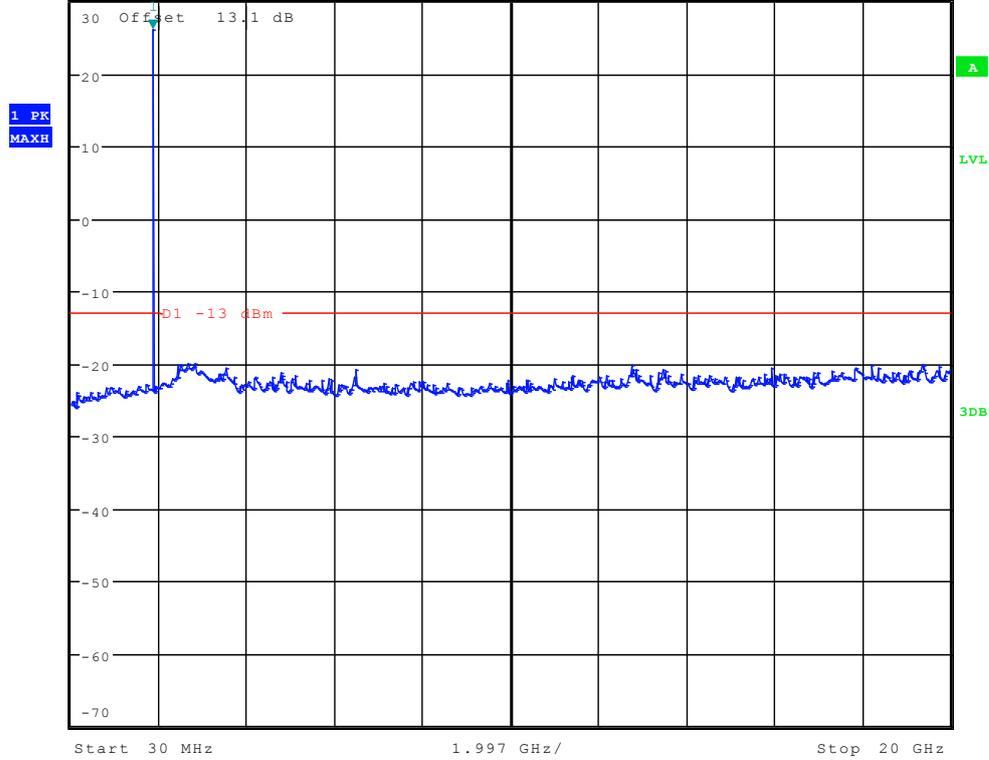
*RBW 10 kHz Marker 1 [T1]
*VBW 30 kHz -34.51 dBm
SWT 300 ms 150.000000000 kHz



Date: 14.JUL.2012 00:49:54



Ref 30 dBm Att 45 dB SWT 115 ms Marker 1 [T1]
 *RBW 1 MHz 26.08 dBm
 *VBW 3 MHz 1.886185897 GHz



Date: 14.JUL.2012 00:50:56

-----END-----



Appendix F

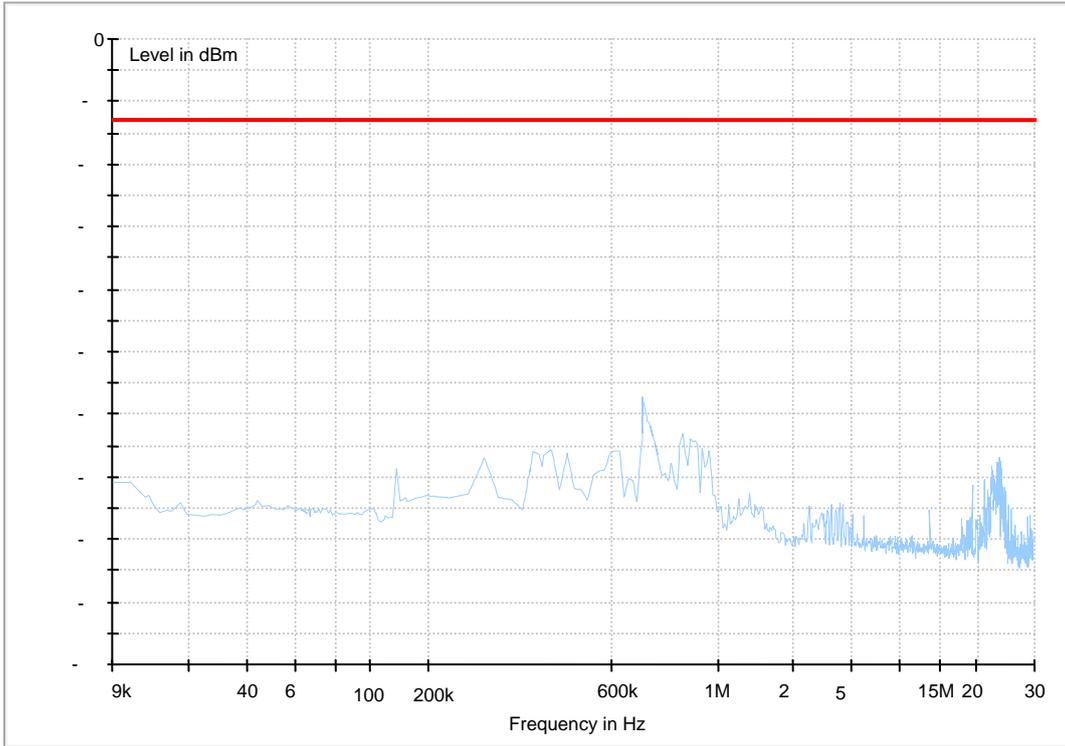
Radiated spurious emission

According to FCC Part 2.1053& Part 24.238

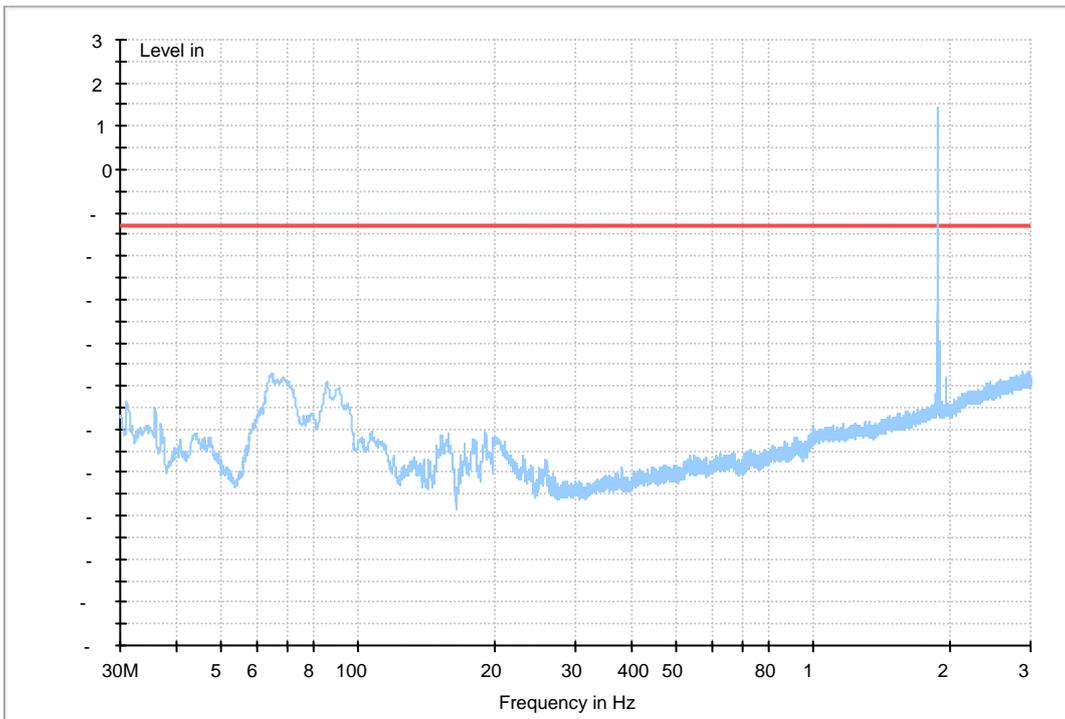


GSM 1900

(9kHz-30MHz)

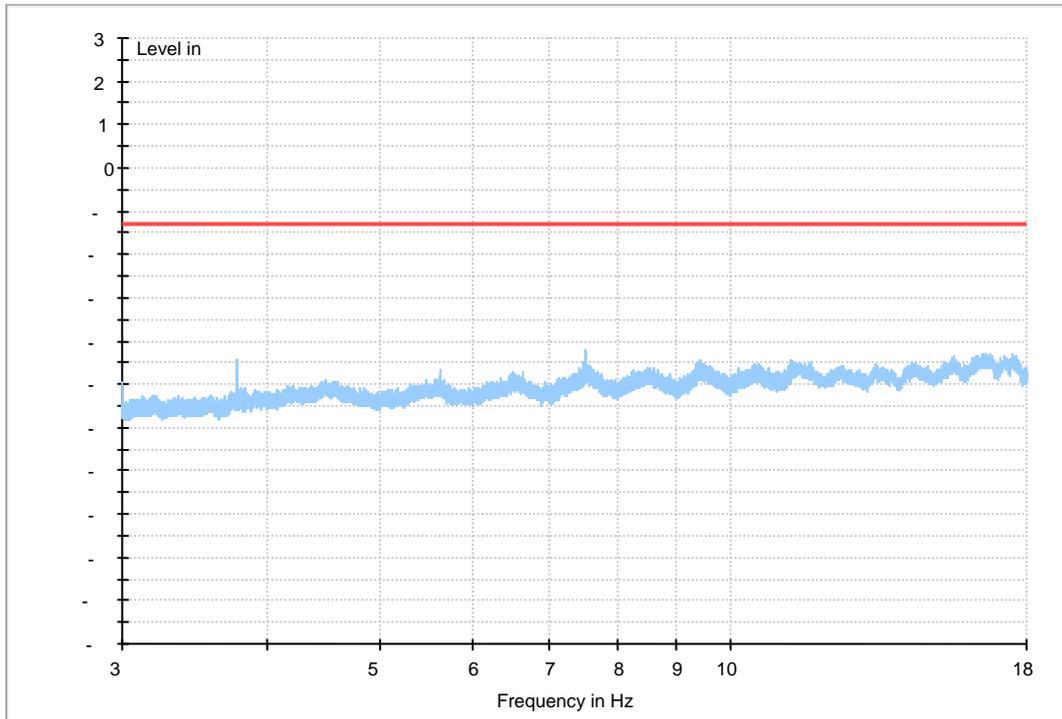


(30MHz~3GHz)

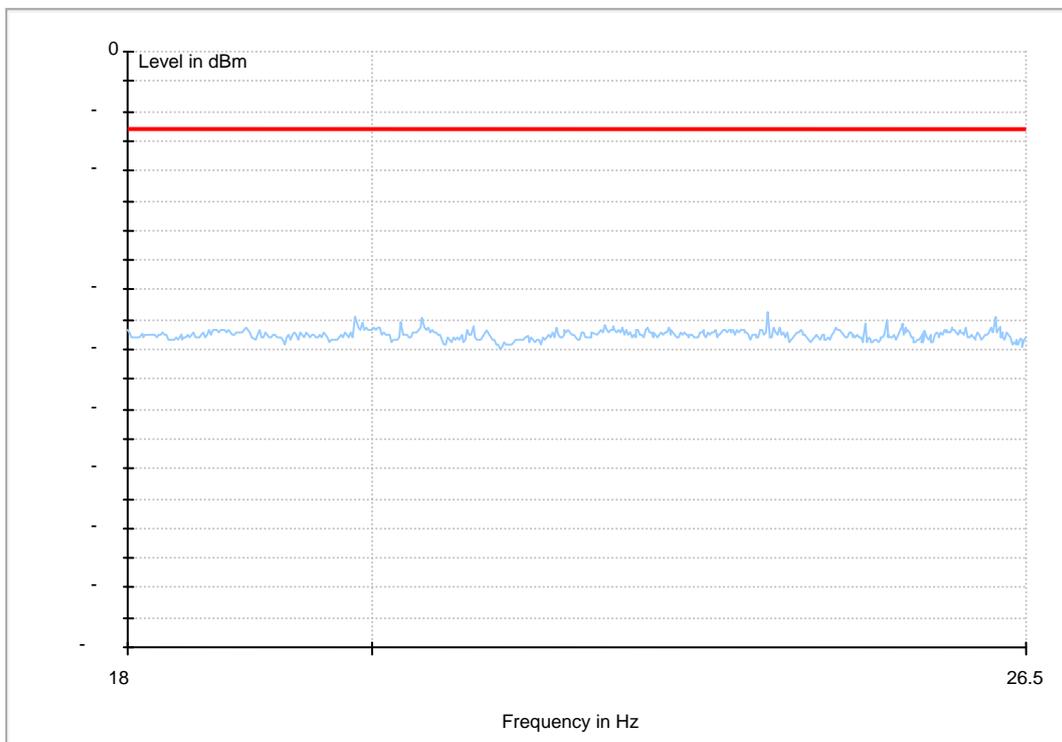




(3GHz~18GHz)



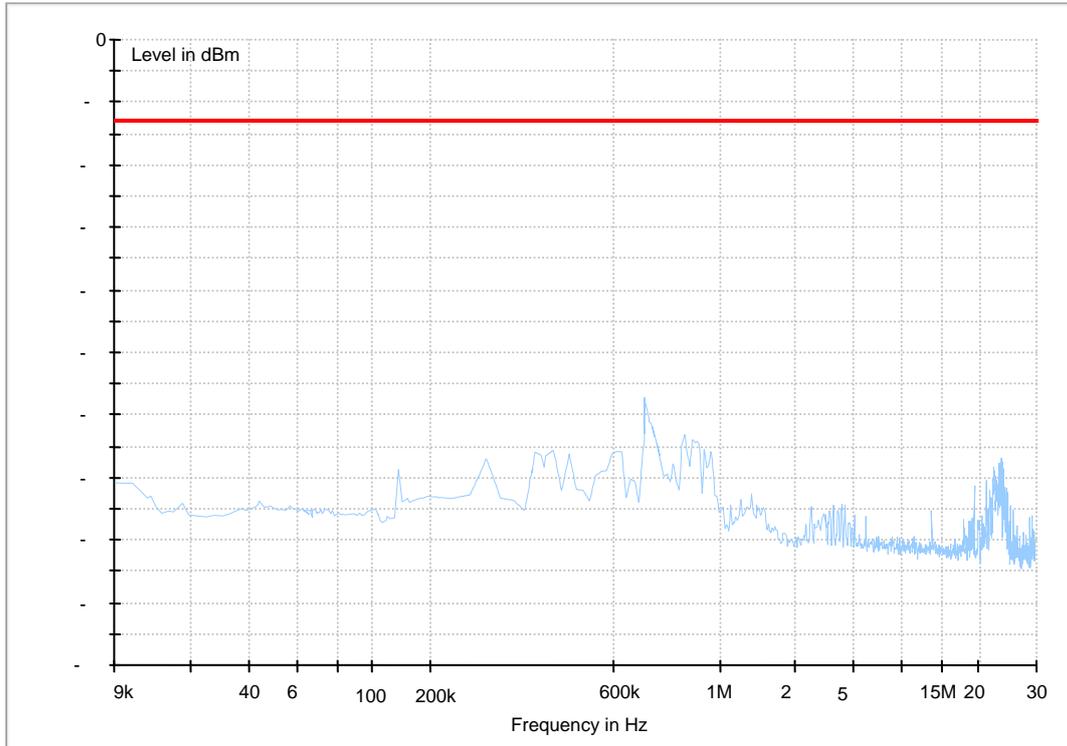
(18GHz-26.5GHz)



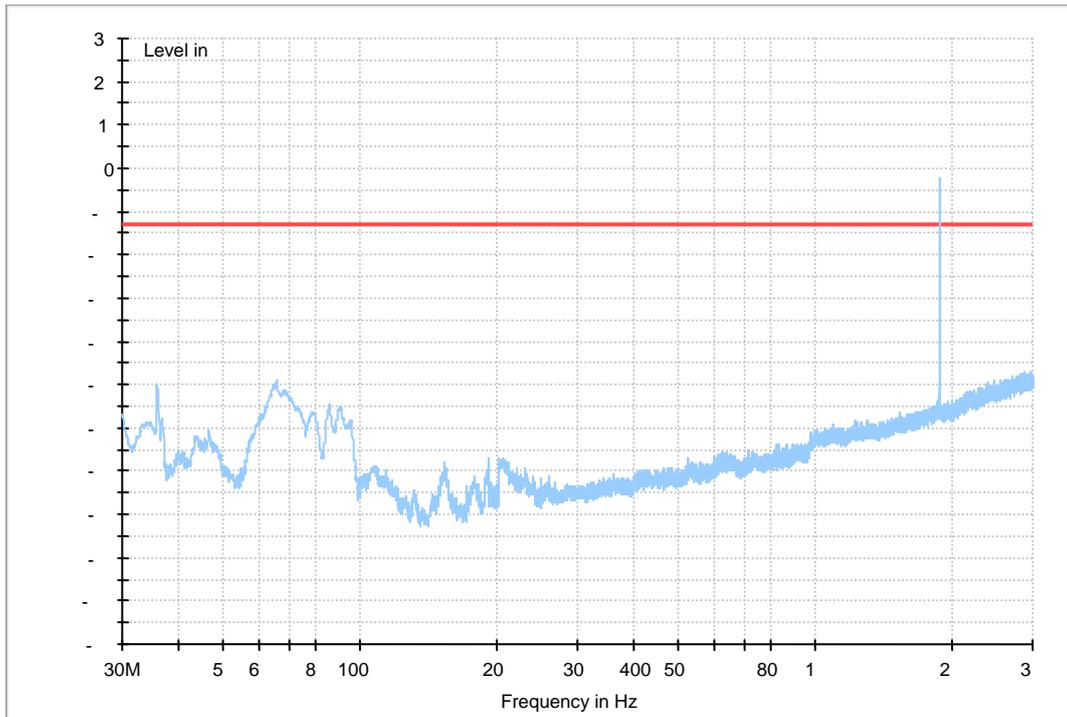


GPRS 1900

(9kHz-30MHz)

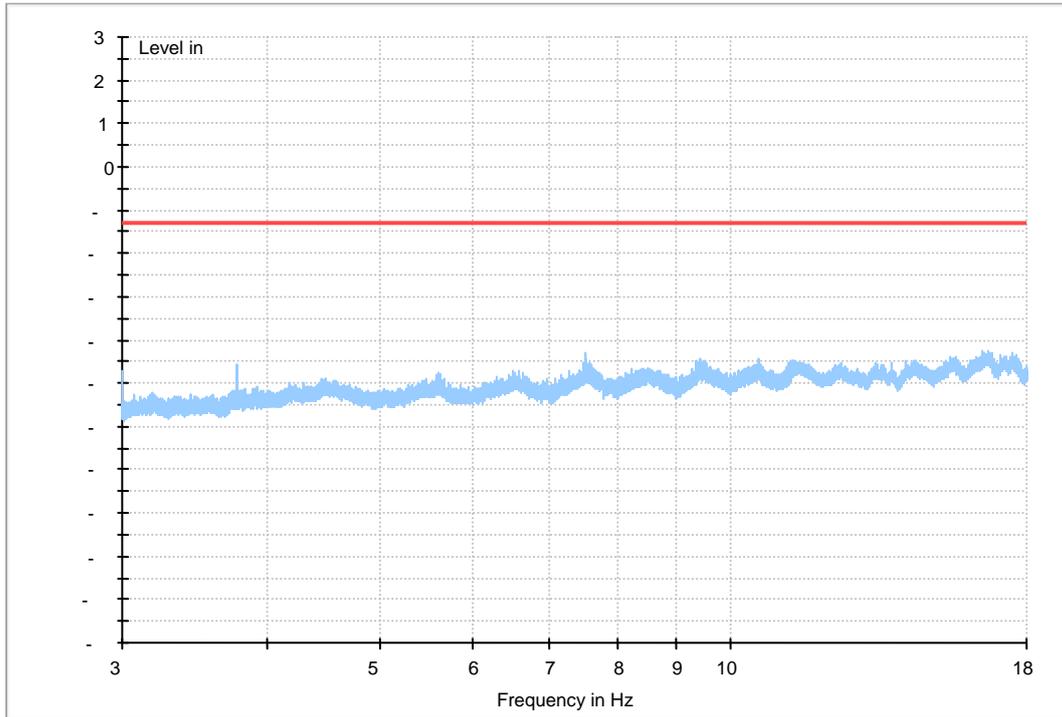


(30MHz~3GHz)

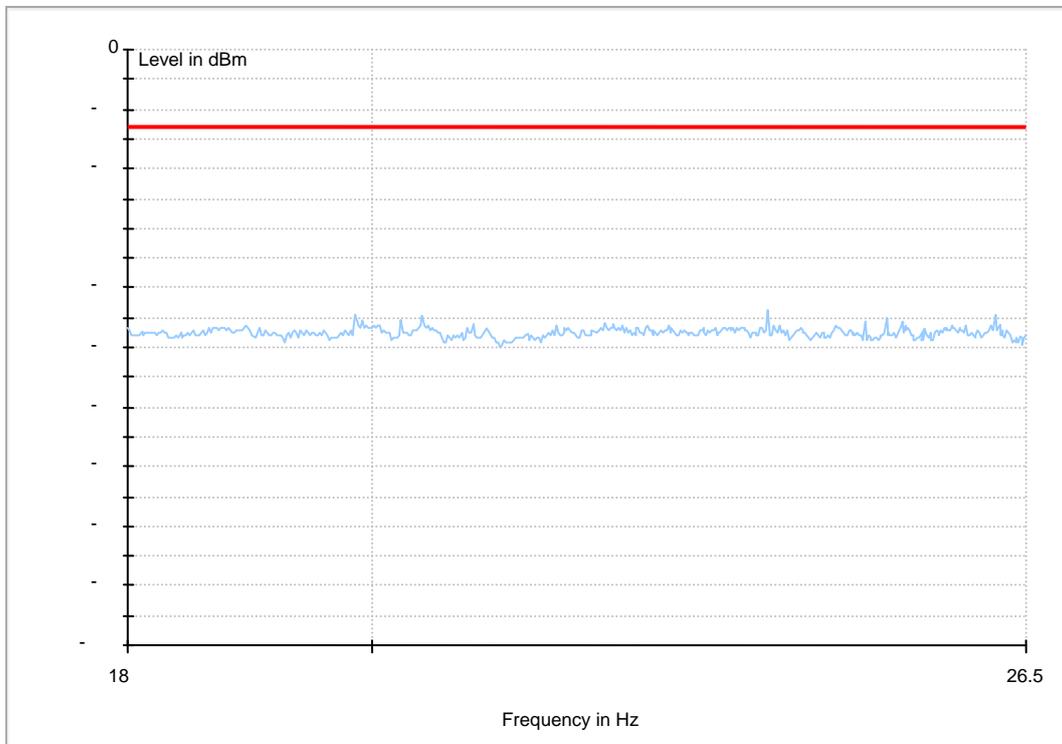




(3GHz~18GHz)



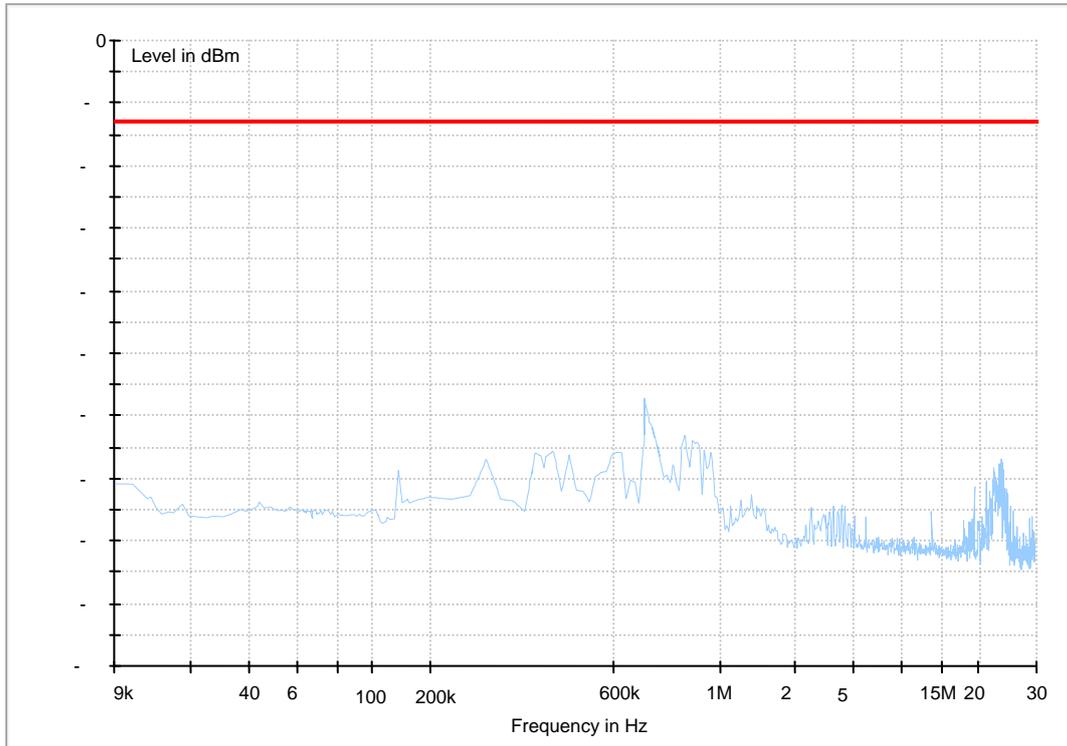
(18GHz-26.5GHz)



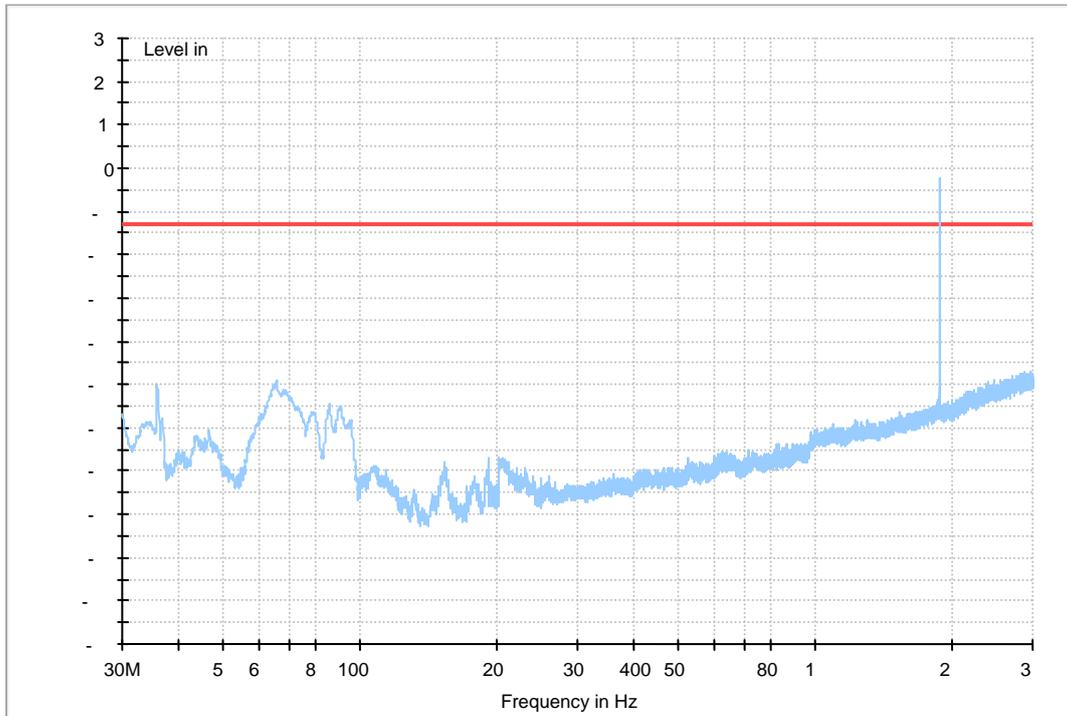


EDGE 1900

(9kHz-30MHz)

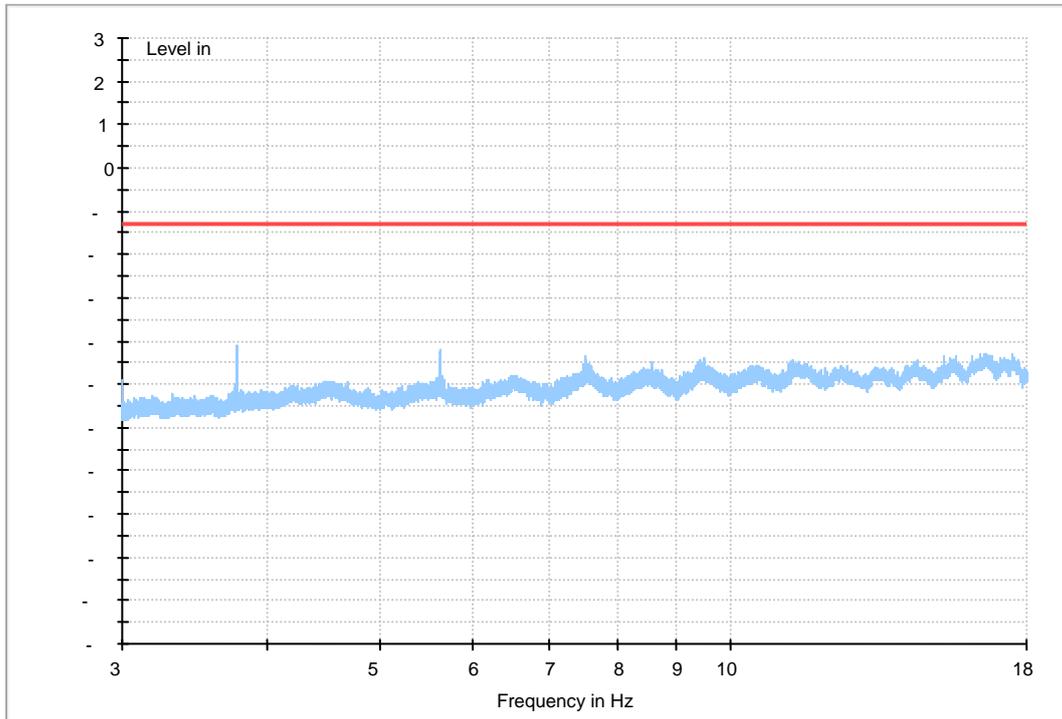


(30MHz~3GHz)

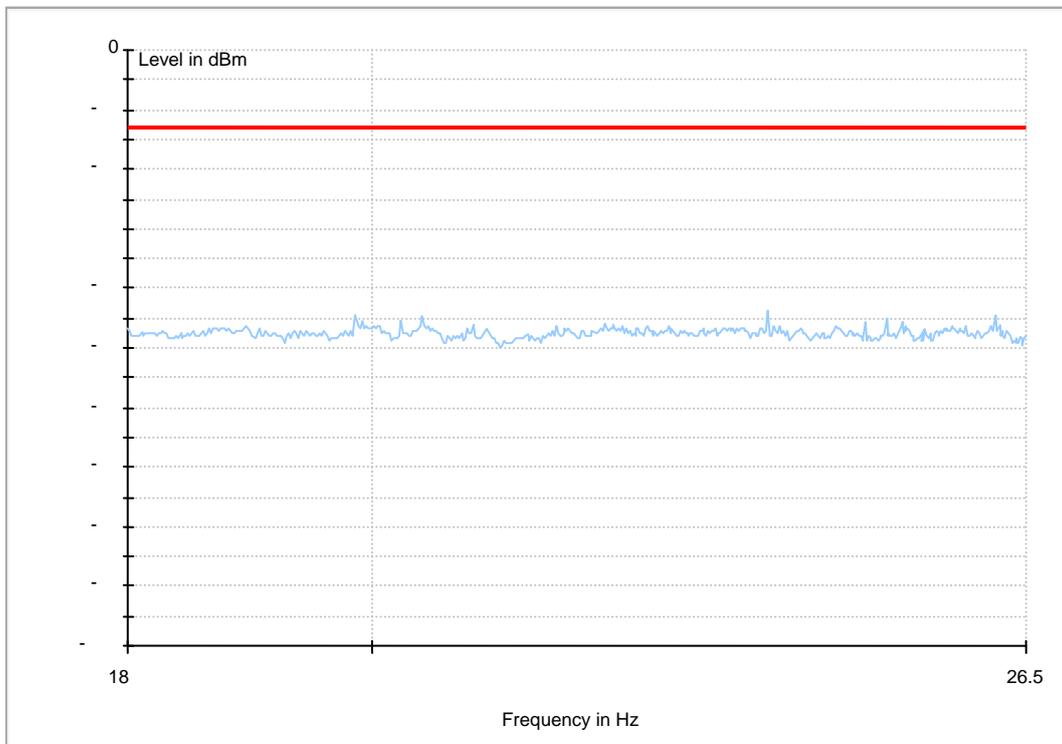




(3GHz~18GHz)



(18GHz-26.5GHz)



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



Appendix G

Frequency Stability According to FCC Part 2.1055& Part 24.235



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	25	0.01330	---	±2.5	Pass
			-20 °C	24	0.01277	---	±2.5	Pass
			-10 °C	-10	-0.00532	---	±2.5	Pass
			0 °C	-16	-0.00851	---	±2.5	Pass
			10 °C	14	0.00745	---	±2.5	Pass
			20 °C	14	0.00745	---	±2.5	Pass
			30 °C	-23	-0.01223	---	±2.5	Pass
			40 °C	-13	-0.00691	---	±2.5	Pass
			50 °C	27	0.01436	---	±2.5	Pass
TM 2	M	VN	-30 °C	22	0.01170	---	±2.5	Pass
			-20 °C	20	0.01064	---	±2.5	Pass
			-10 °C	26	0.01383	---	±2.5	Pass
			0 °C	-17	-0.00904	---	±2.5	Pass
			10 °C	27	0.01436	---	±2.5	Pass
			20 °C	27	0.01436	---	±2.5	Pass
			30 °C	-8	-0.00426	---	±2.5	Pass
			40 °C	23	0.01223	---	±2.5	Pass
			50 °C	-6	-0.00319	---	±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	-16	-0.00851	---	±2.5	Pass
			VN	25	0.01330	---	±2.5	Pass
			VH	9	0.00479	---	±2.5	Pass
TM 2	M	TN	VL	12	0.00638	---	±2.5	Pass
			VN	-25	-0.01330	---	±2.5	Pass
			VH	25	0.01330	---	±2.5	Pass

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