FCC
RF Test Report

Product Name: HSPA/UMTS/GPRS/GSM/EDGE Mobile Phone with Bluetooth; Ares

Model Number: HUAWEI U8667, U8667

Report No: SYBH(Z-RF)017072012-2002
FCC ID:QISU8667

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:	Jul., 06, 2012
Start Date of Test:	Jul., 07, 2012
End Date of Test:	Jul., 18, 2012
Test Result:	Pass

	Date	Name	Signature
Approved By Senior Engineer	Jul., 25, 2012	Dai Linjun	
Reviewed By	Jul., 25, 2012	Cousy Xu	
Operated By	Jul., 25, 2012	Huang Qiuliang	

Contents

1 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

2 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 10th 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

3 Product Description

3.1 Product Information

3.1.1 General Description

HUAWEI U8667, U8667 subscriber equipment in the WCDMA/GSM system. The HSPA/UMTS frequency band is Band I and Band II and Band IV, but only Band II test data included in this report. The GSM/GPRS/EDGE frequency band includes GSM850 and GSM900 and DCS1800 and PCS1900, but only PCS1900 test data included in this report. The Mobile Phone implements such functions as RF signal receiving/transmitting, HSPA/UMTS and GSM/GPRS/EDGE 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.

3.1.2 Board Information

Table 2 Board Information

HSPA/UMTS/GPRS/GSM/EDGE Mobile Phone with Bluetooth; Ares		
HUAWEI U8667, U8667		
Board and Module		
Software Version	Hardware Version	Serial Number
U8667 V100R001USAC189B828	HD1U867M	N5W01B9252500823

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

AC/DCAdapter Model	HW-050100E1W
Manufacturer	Huawei Technologies Co., Ltd.
Input Voltage	~100-240V 50/60Hz 0.2A
Output Voltage	5V ⎓ 1A
Rated Power	5W

AC/DCAdapter Model	HW-050100Z1W
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: HB5N1HA Rated capacity: 1650mAh Nominal Voltage: ⎓ +3.7V Charging Voltage: ⎓ +4.2V

4 Test Description

4.1 Supported Frequency Range

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

4.2 Transmitter / Receiver Characteristics

Characteristics	Description
System Type	GSM UMTS
TX Output Power (per Antenna Port)	GSM system: 30dBm; UMTS system: 24dBm
Channel Spacing(s) / Bandwidth(s)	GSM system: 200 kHz UMTS system: 5 MHz
Designation of Emissions	GSM system: 246KGXW (GMSK modulation), 249KG7W (8PSK modulation) UMTS system: 4M14F9W

4.3 Antenna Gain

Antenna Gain(dBi)	2.2

4.4 Power Supply

Specification	Description
Power Supply Type	Directly Connected to DC /AC Power Supply
Input to EUT (DC power)	DC Voltage Nominal: ⎓ 3.7 V DC Voltage Range: ⎓ 3.6 V to 4.2 V
Input to EUT (AC power)	AC Voltage Nominal: ~ 120 V (50/60 Hz) AC Voltage Range: ~ 100 V to ~240 V

5 General Test Conditions / Configurations

5.1 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
TM3/TM4/TM5	TX	Channel 9262	Channel9400	Channel9538
		1852.4MHz	1880.0MHz	1907.6MHz
	RX	Channel 9662	Channel 9800	Channel 9938
		1932.4 MHz	1960.0 MHz	1987.6 MHz

5.2 Test Modes

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

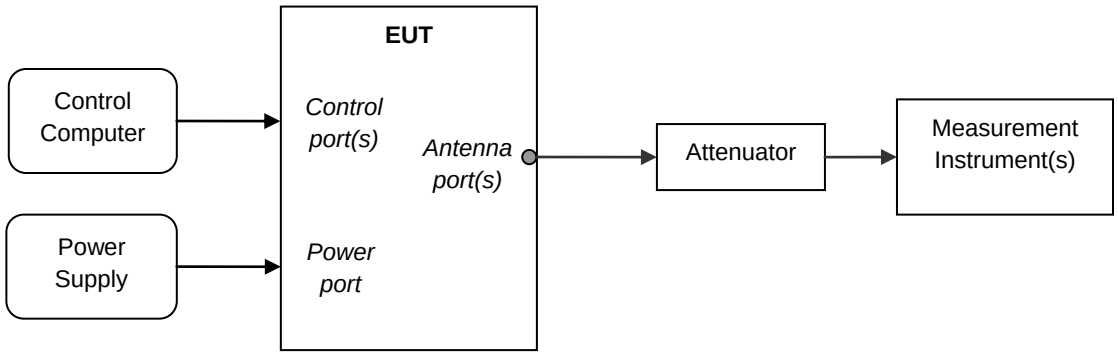
NOTE: VL= lower extreme test voltage
VN= nominal voltage
VH= upper extreme test voltage
TN= normal temperature

5.4 Test Setup

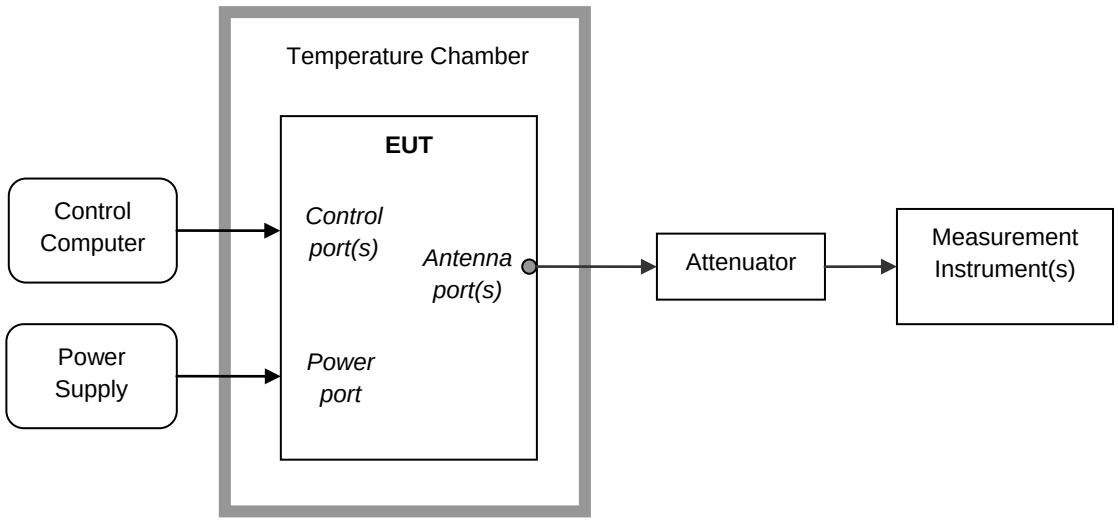
5.4.1 General Test Setup Configurations

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



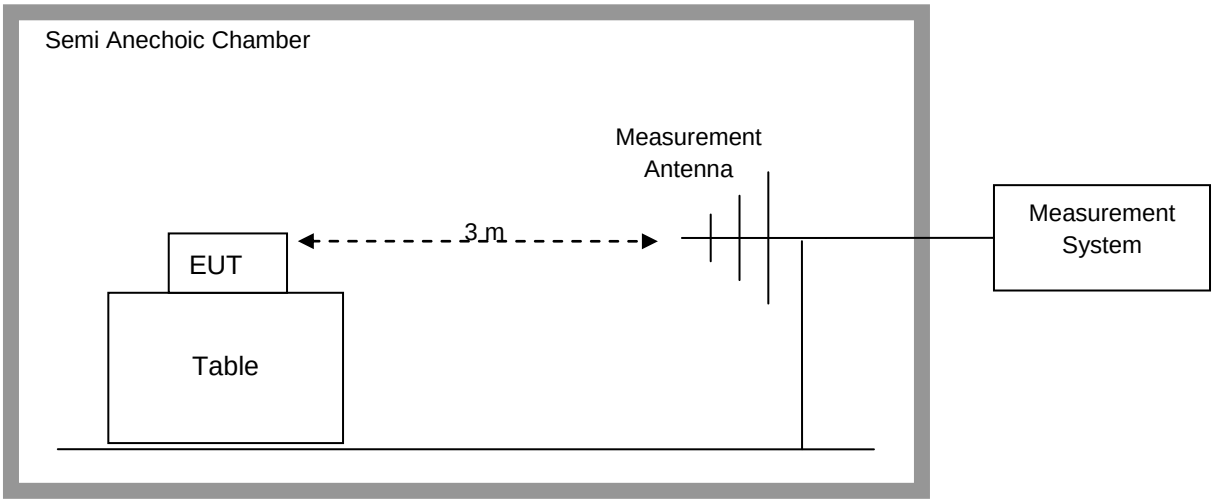
5.4.4 Test Setup 3

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.

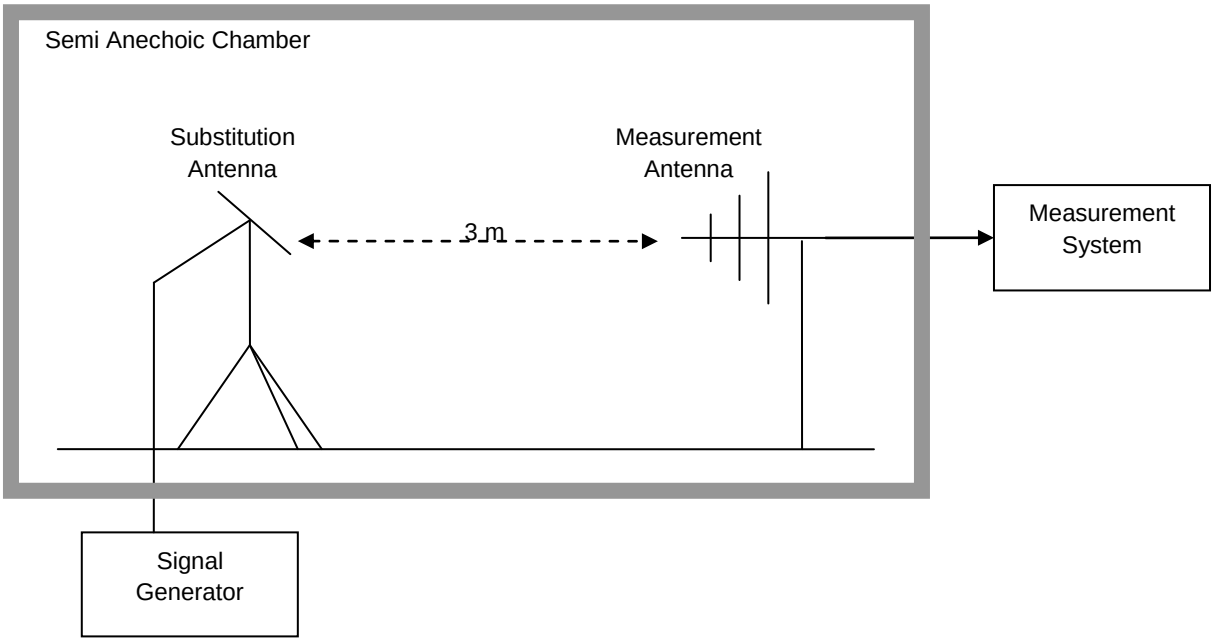
Step 1: Pre-test to find the Maximum ERP or EIRP

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.


Semi Anechoic Chamber
Measurement
Antenna
3 m
EUT
Table
Measurement
System

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

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. 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/TM2/TM3/TM4TM5
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)	L, M, H
	Test Mode	TM1/TM2/TM3
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/TM3
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/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/TM4TM5
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/TM3

6 Main Test Instruments

Table 4 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.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	Sep.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

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 Test Setup	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 & Part24.232

Conducted Power of Transmitter

		RF Output Power (Conducted)					
TEST CONDITIONS		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		29.45	33	29.19	33	29.43	33
TM2		25.88	33	25.72	33	25.87	33
TEST CONDITIONS		Channel9262(L)		Channel9400(M)		Channel9538(H)	
		1852.4MHz		1880.0MHz		1907.6MHz	
		dBm		dBm		dBm	
T_{nom} / V_{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM3		22.81	33	22.65	33	22.36	33
TM4	Case1	22.78	33	22.52	33	22.25	33
	Case2	22.76	33	22.51	33	22.19	33
	Case3	22.35	33	22.08	33	21.67	33
	Case4	22.41	33	22.04	33	21.71	33
TM5	Case1	22.21	33	22.15	33	21.75	33
	Case2	21.14	33	20.72	33	20.76	33
	Case3	21.54	33	21.24	33	21.03	33
	Case4	21.21	33	20.91	33	20.79	33
	Case5	22.15	33	22.25	33	21.53	33

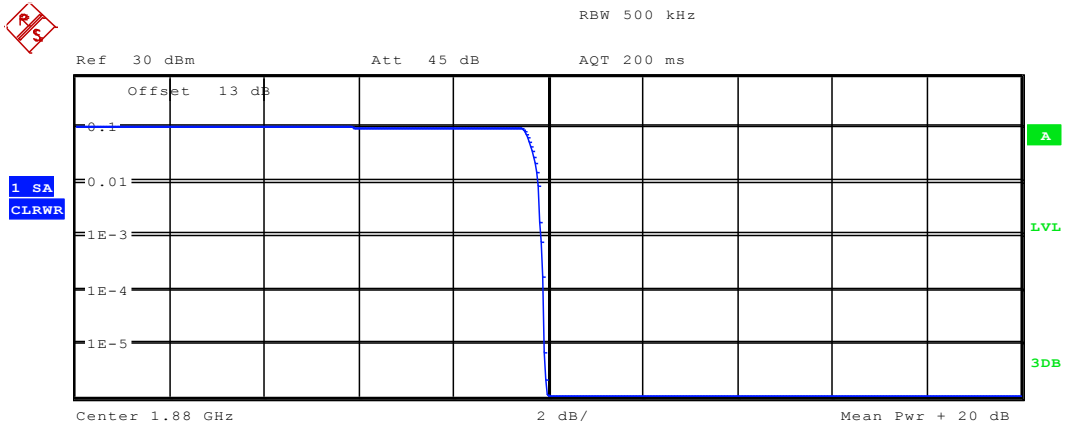
Peak-to-Average Ratio

		Peak-to-Average Ratio					
TEST CONDITIONS		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		9.59	13	9.87	13	9.62	13
TM2		12.75	13	12.82	13	12.69	13
TEST CONDITIONS		Channel9262(L)		Channel9400(M)		Channel9538(H)	
		1852.4MHz		1880.0MHz		1907.6MHz	
		dB		dB		dB	
T_{nom} / V_{nom}		Measured	Limit	Measured	Limit	Measured	Limit
TM3		3.21	13	3.30	13	3.15	13
TM4	Case1	2.96	13	3.02	13	2.88	13
	Case2	2.86	13	2.94	13	2.93	13
	Case3	2.79	13	2.83	13	2.67	13
	Case4	3.01	13	2.86	13	2.94	13
TM5	Case1	3.12	13	2.69	13	3.06	13
	Case2	2.73	13	3.04	13	2.91	13
	Case3	2.59	13	2.95	13	2.86	13
	Case4	2.97	13	2.76	13	2.63	13
	Case5	2.91	13	2.85	13	2.99	13

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.

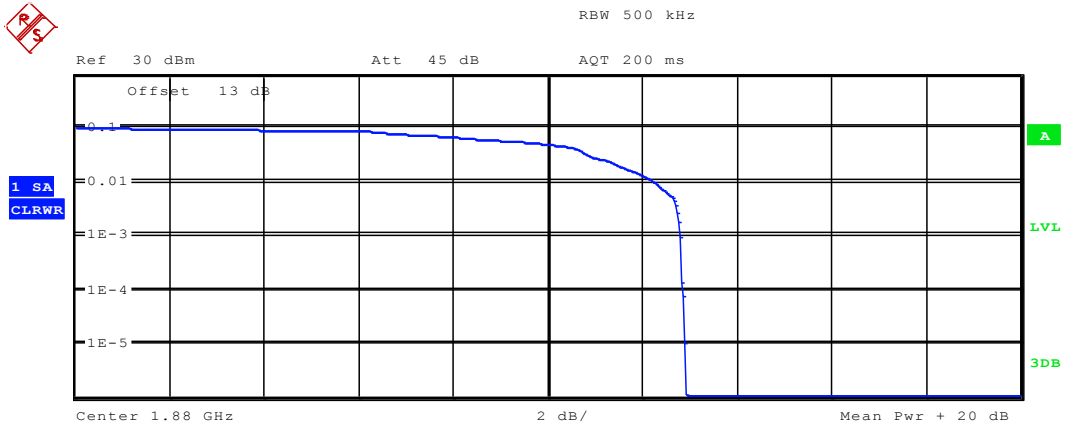
TM1



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 424kHz

	Trace 1
Mean	18.43 dBm
Peak	28.39 dBm
Crest	9.97 dB
10 %	9.49 dB
1 %	9.81 dB
.1 %	9.87 dB
.01 %	9.90 dB

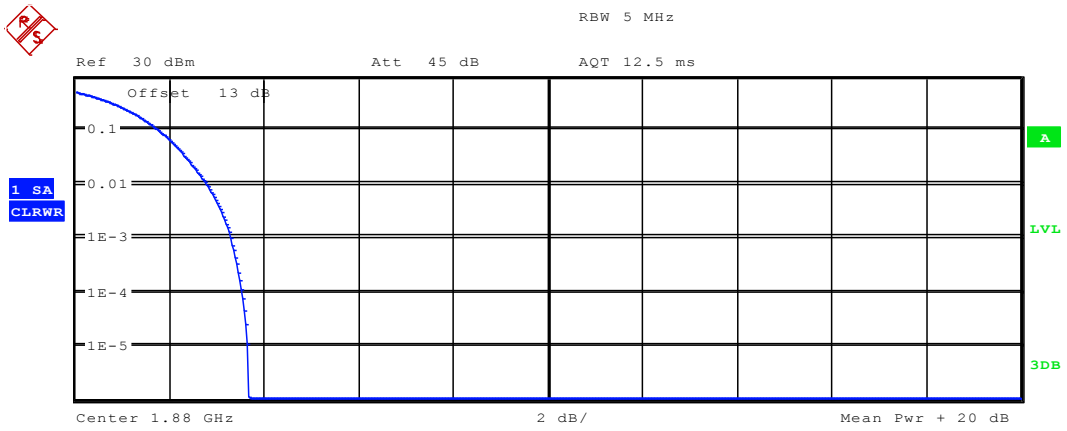
TM2



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 424kHz

	Trace 1
Mean	15.07 dBm
Peak	27.97 dBm
Crest	12.90 dB
10 %	2.31 dB
1 %	12.24 dB
.1 %	12.82 dB
.01 %	12.88 dB

TM3/ TM4/ TM5



Complementary Cumulative Distribution Function
NOF samples: 100000, Usable BW: 7.1MHz

	Trace 1
Mean	21.97 dBm
Peak	25.64 dBm
Crest	3.67 dB
10 %	1.76 dB
1 %	2.79 dB
.1 %	3.30 dB
.01 %	3.53 dB

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) [dBm]	FCC limit [dBm]	Result
TM1	1850.2	31.65	Horn Ant.	28.18	4.5	1	31.68	33	Pass
TM1	1880.0	31.39	Horn Ant.	27.82	4.5	1	31.32	33	Pass
TM1	1909.8	31.63	Horn Ant.	27.87	4.8	1	31.67	33	Pass
TM2	1850.2	28.08	Horn Ant.	24.53	4.5	1	28.03	33	Pass
TM2	1880.0	27.92	Horn Ant.	24.45	4.5	1	27.95	33	Pass
TM2	1909.8	28.07	Horn Ant.	24.21	4.8	1	28.01	33	Pass
TM3	1852.4	25.01	Horn Ant.	21.54	4.5	1	25.04	33	Pass
TM3	1880.0	24.85	Horn Ant.	21.39	4.5	1	24.89	33	Pass
TM3	1907.6	24.56	Horn Ant.	20.78	4.8	1	24.58	33	Pass

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

EIRP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBi]

b, SGP=Signal Generator Level

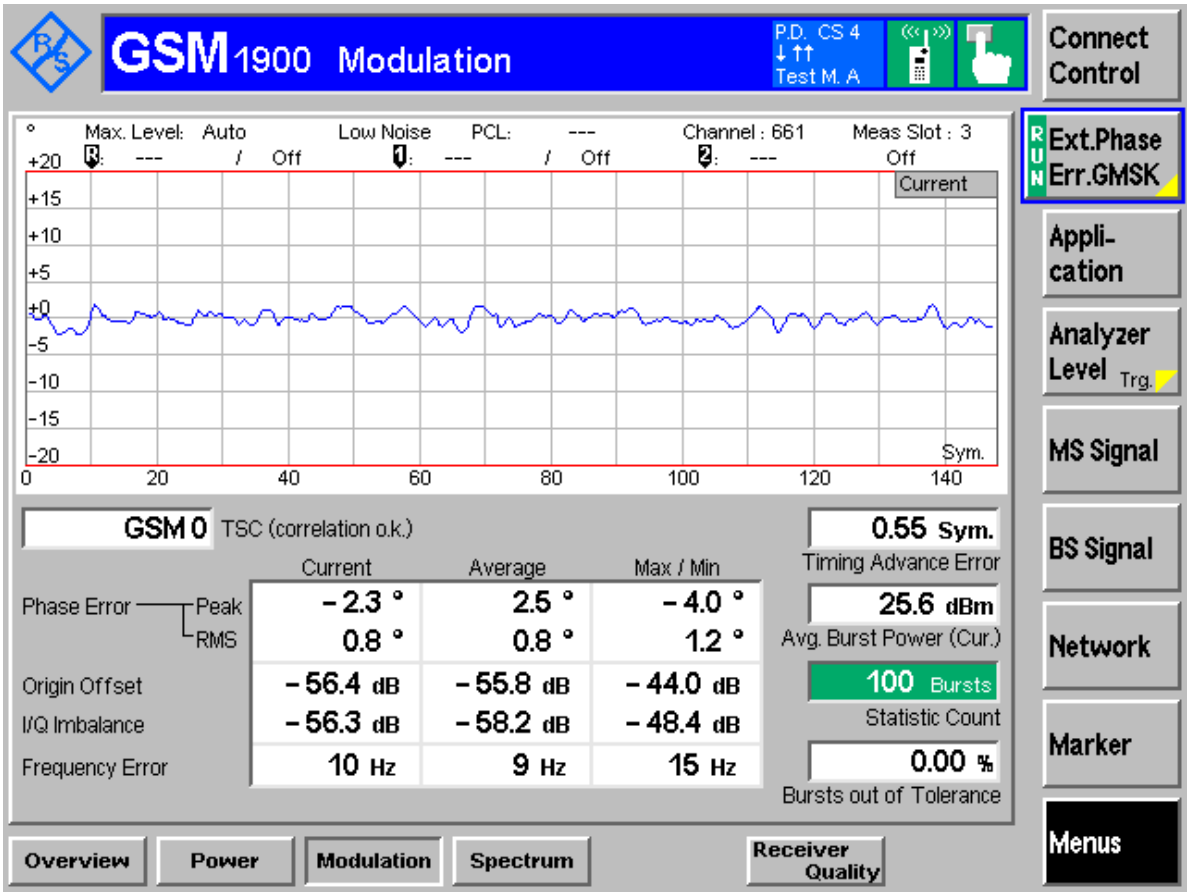
----------The END----------

Appendix B

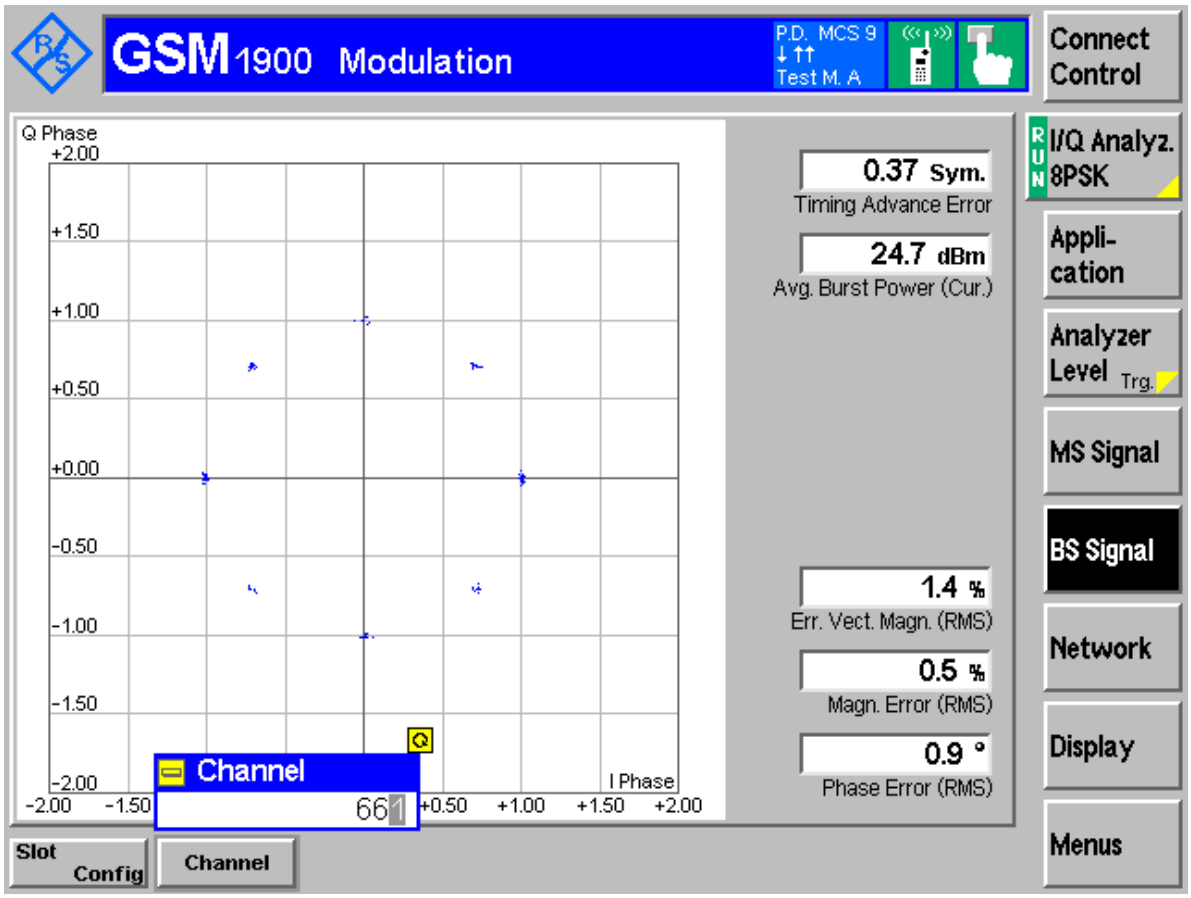
Modulation Characteristics

According to FCC Part 2.1047 & Part24 Subpart E

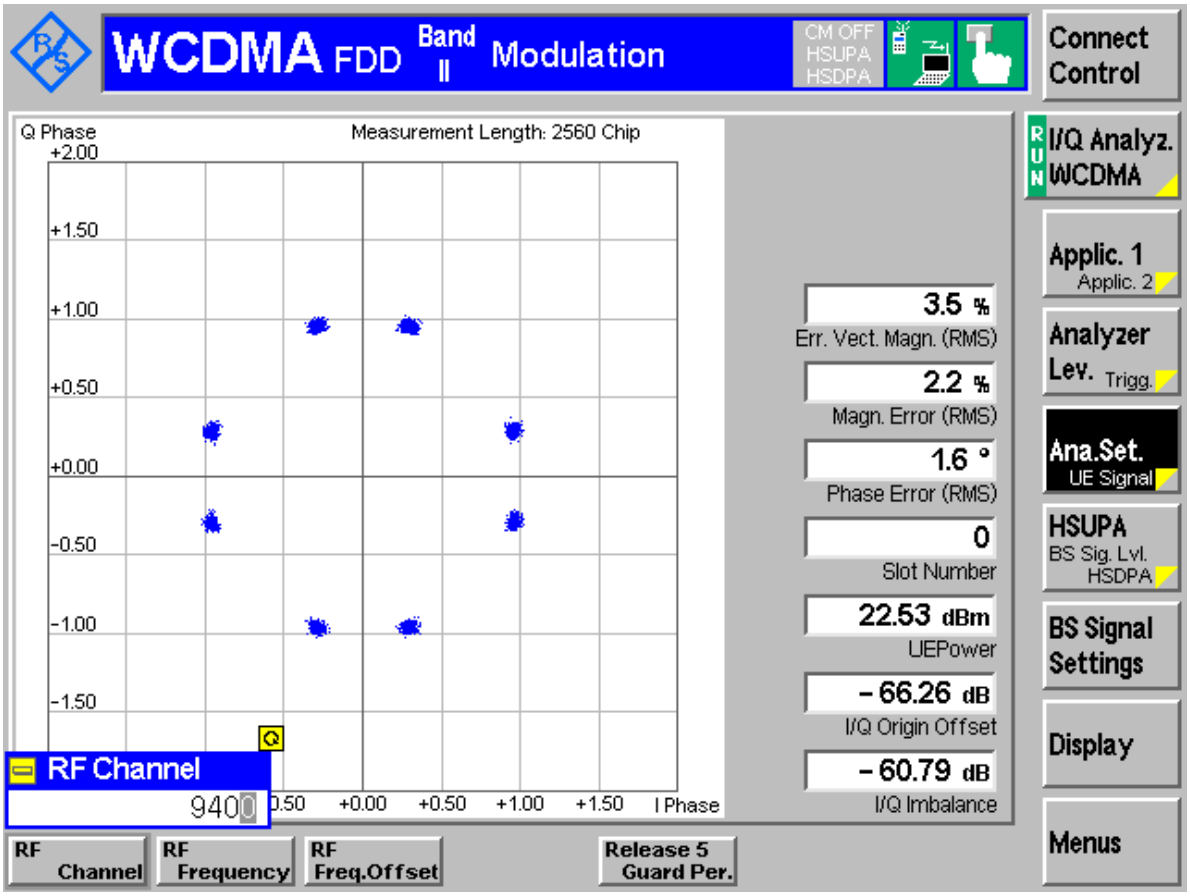
TM1:GPRS/GSM
Channel 661



TM2:EDGE
Channel 661



TM3: WCDMA
Channel 9400



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

Appendix C

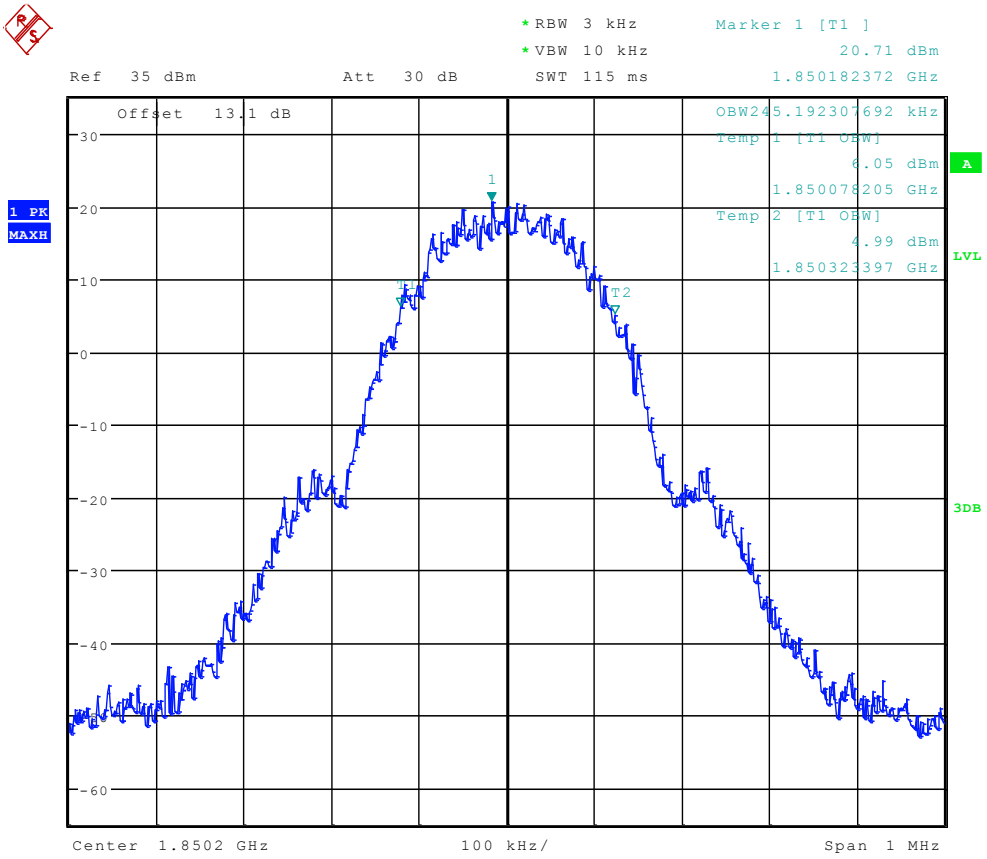
Occupied Bandwidth

According to FCC Part 2.1049 & Part 24 Subpart E

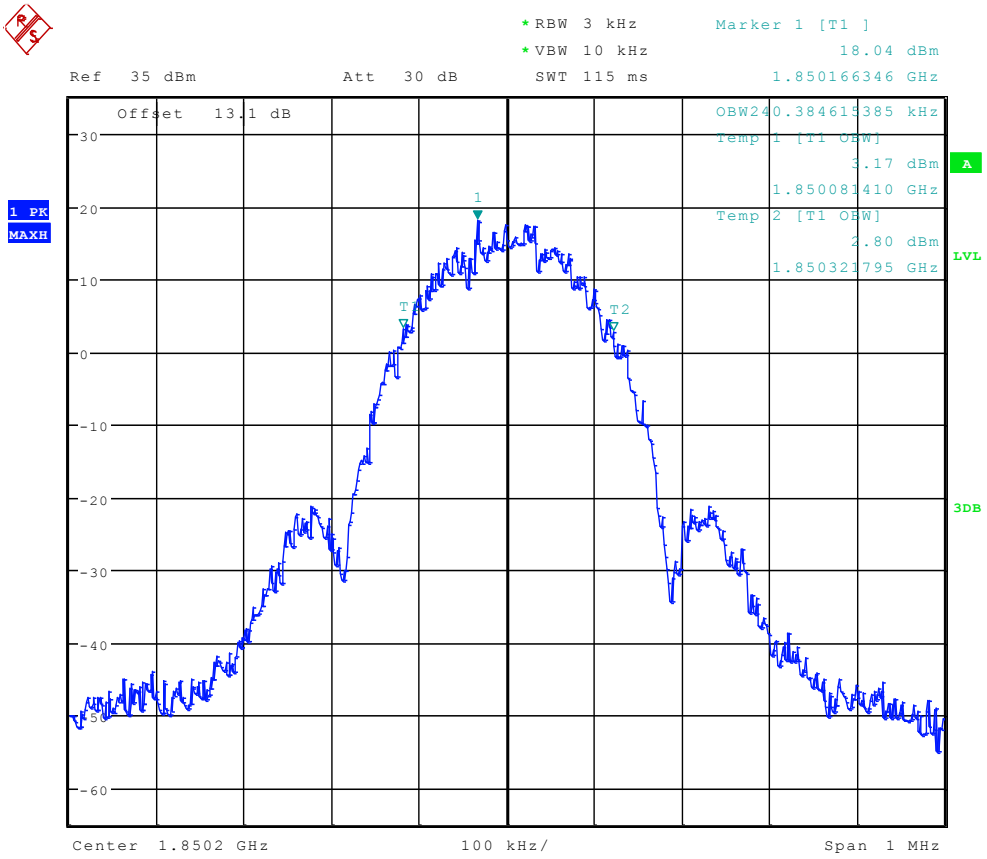
Table 1 Measurement Results

Test Mode	RF Channel	Occupied Bandwidth [kHz]	Verdict
TM1	512	245.19	Pass
	661	245.19	Pass
	810	245.19	Pass
TM2	512	240.38	Pass
	661	248.40	Pass
	810	246.79	Pass
Test Mode	RF Channel	Occupied Bandwidth [MHz]	Verdict
TM3	9262	4.13	Pass
	9400	4.13	Pass
	9538	4.12	Pass

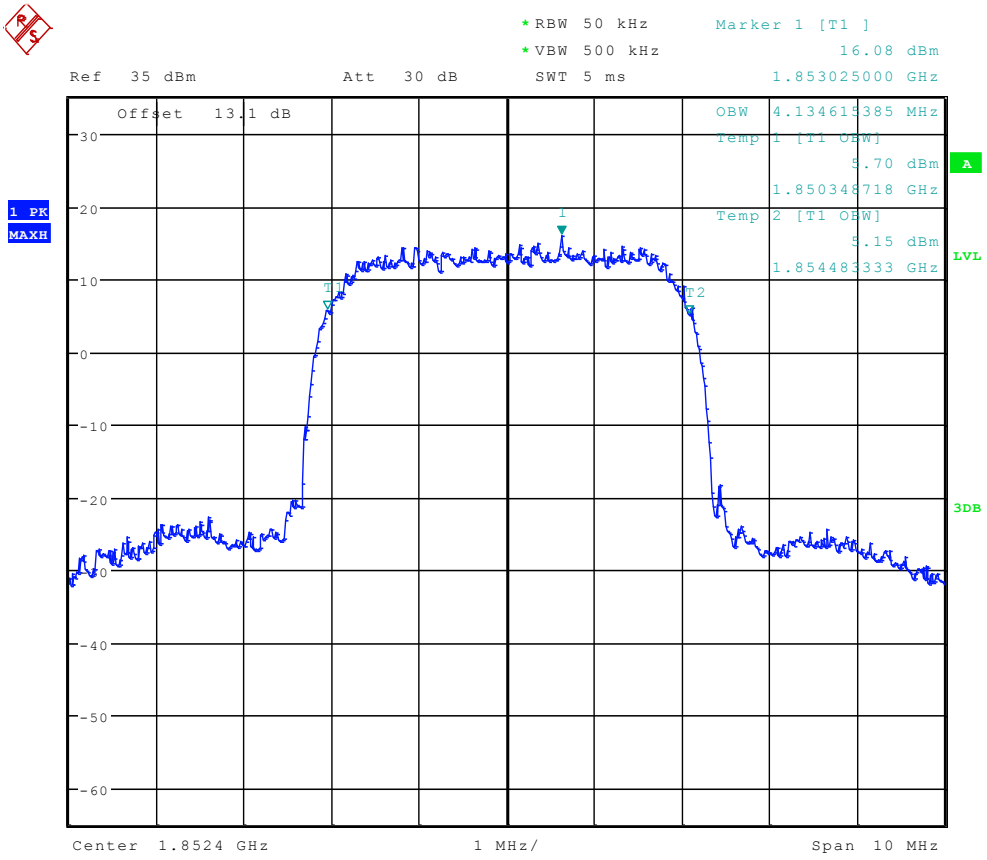
TM1:GPRS/GSM
Channel 512



TM2:EDGE
Channel 512

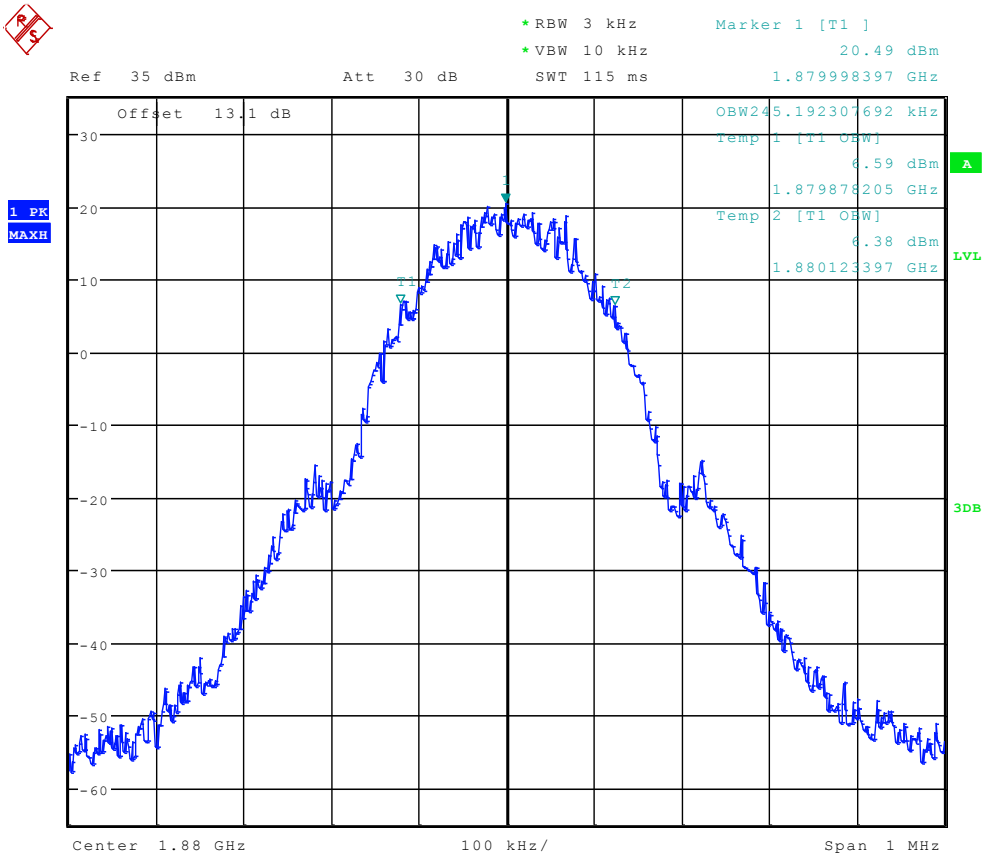


TM3: WCDMA
Channel 9262



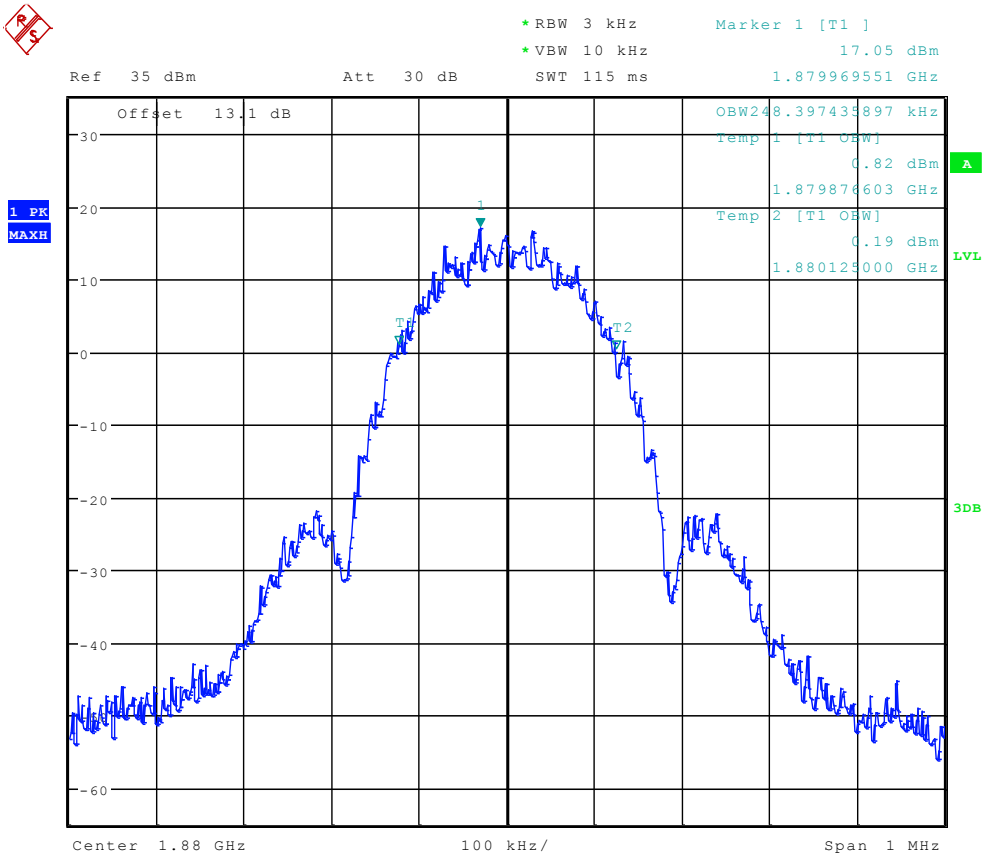
Date: 7.JUL.2012 18:09:32

TM1:GPRS/GSM
Channel 661



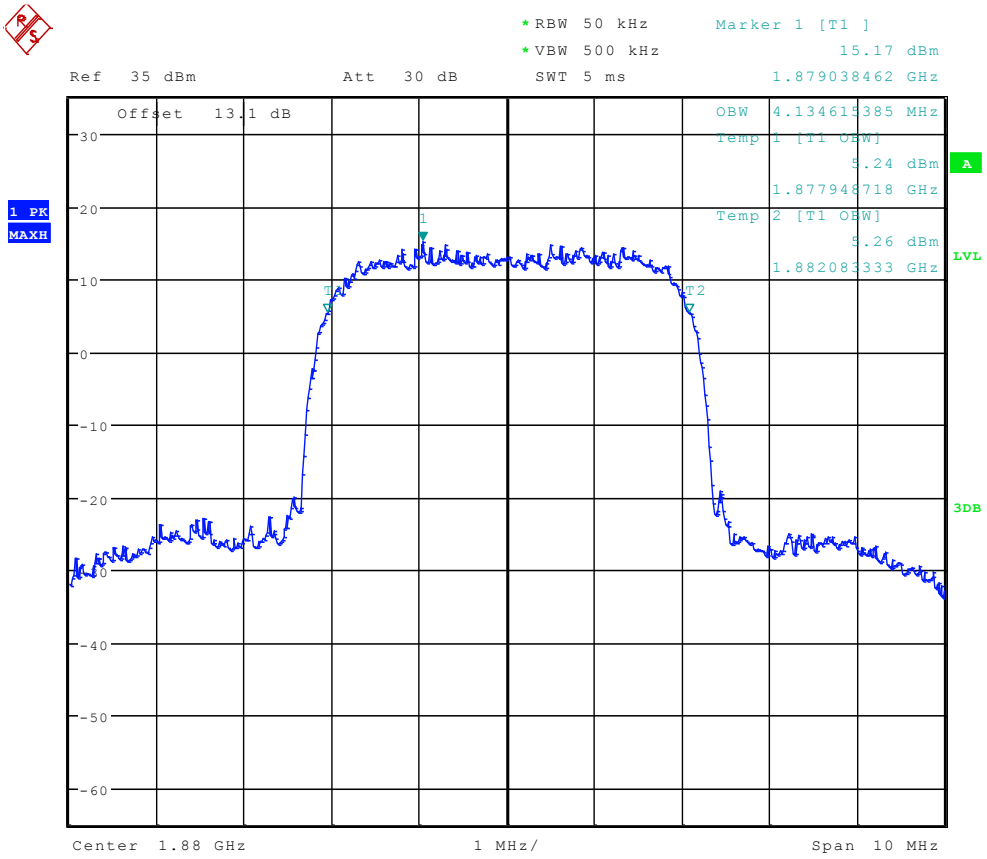
Date: 7.JUL.2012 17:59:56

TM2:EDGE
Channel 661

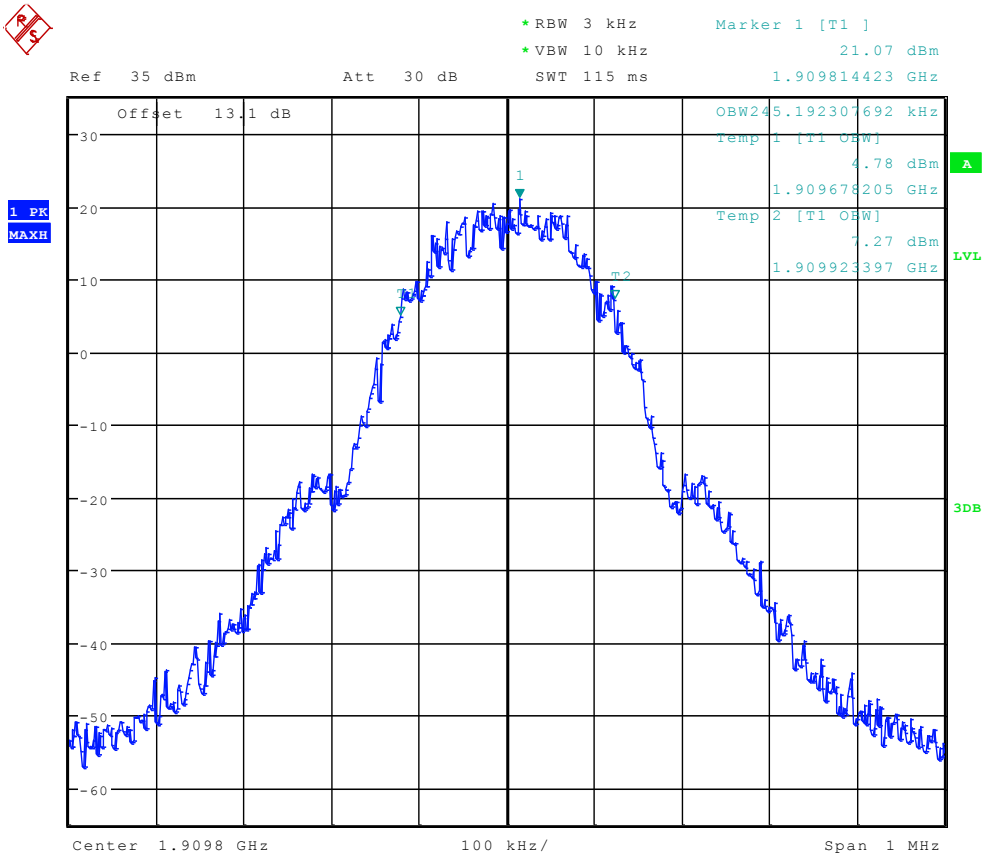


Date: 7.JUL.2012 18:04:10

TM3: WCDMA
Channel 9400

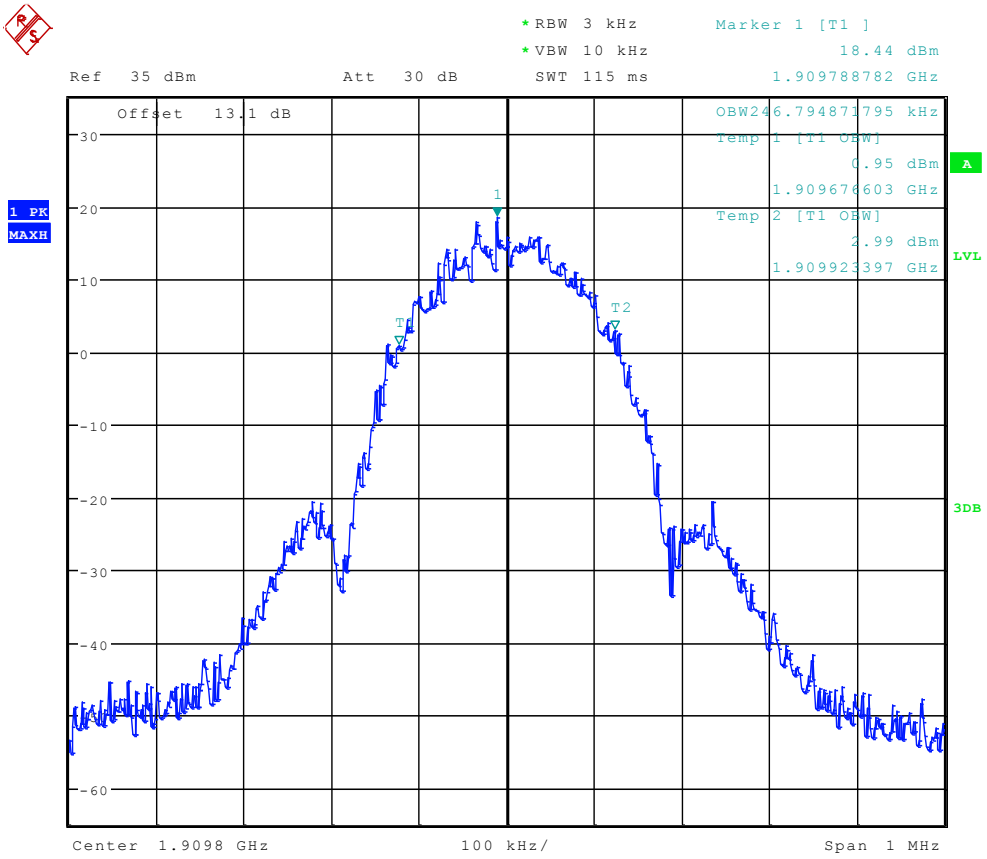


TM1:GPRS/GSM
Channel 810



Date: 7.JUL.2012 18:00:10

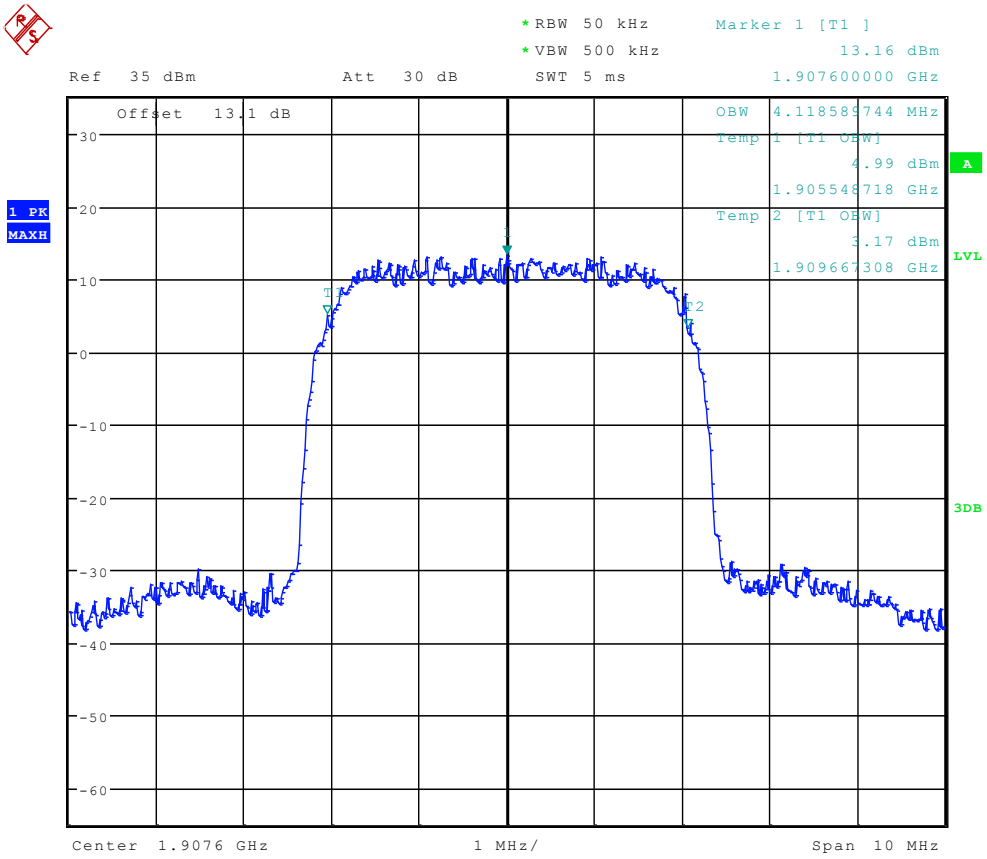
TM2:EDGE
Channel 810



Date: 7.JUL.2012 18:04:24

TM3: WCDMA

Channel 9538



Date: 7.JUL.2012 18:10:05

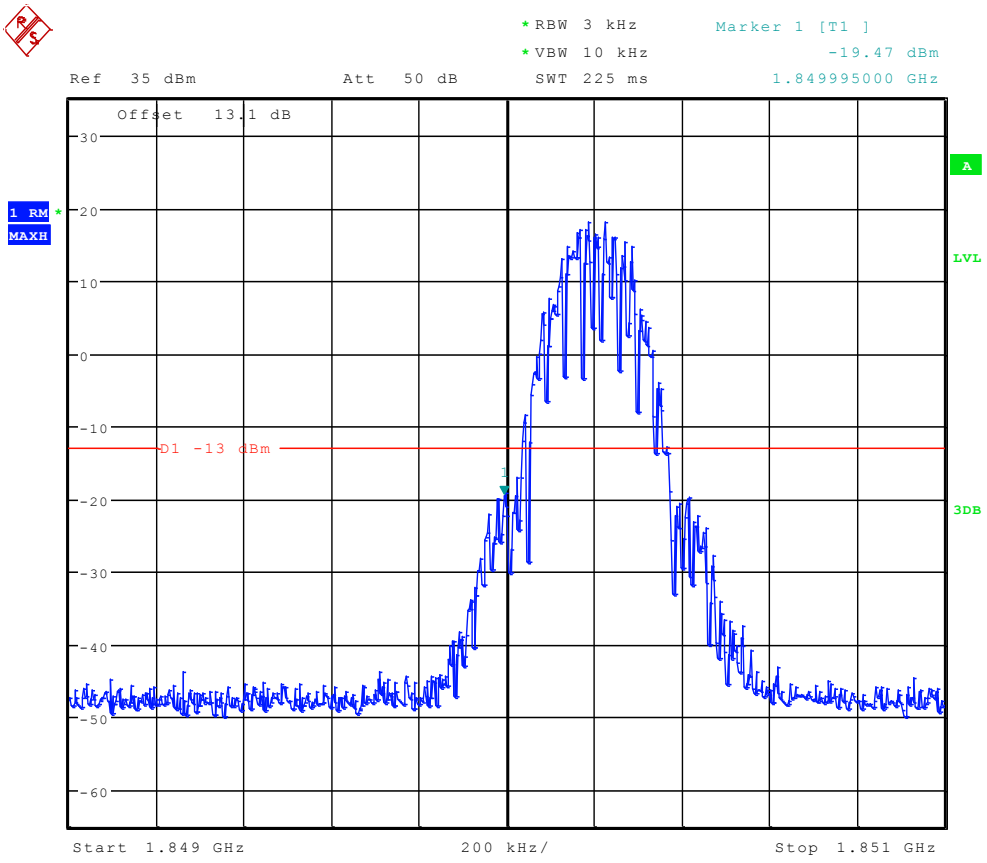
----------The END----------

Appendix D

Band Edges Compliance

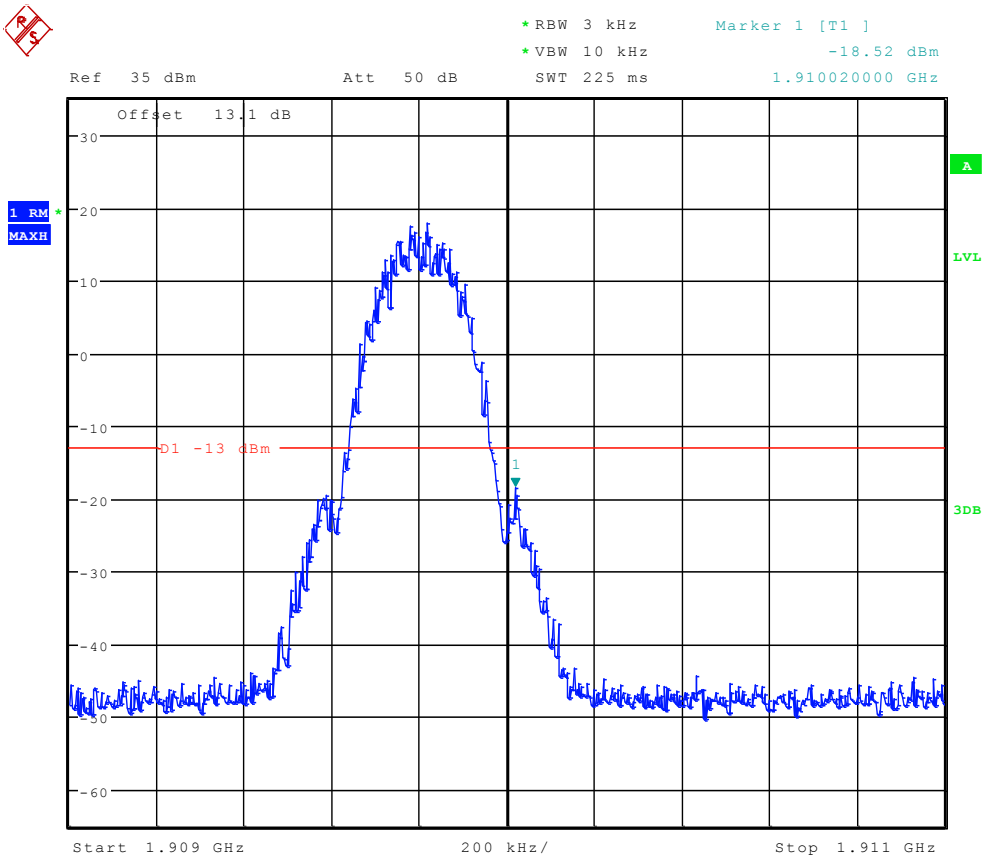
According to FCC Part 2.1051 & 24.238

TM1:GPRS/GSM
Left Edge
Channel 512



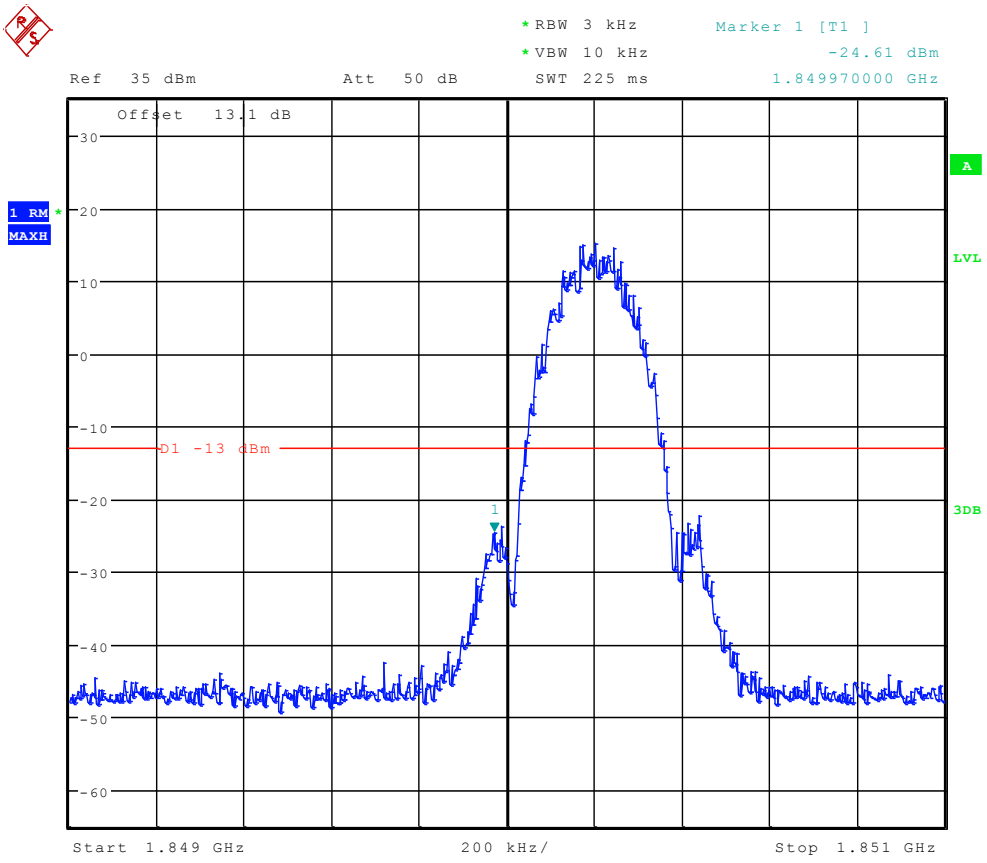
Date: 7.JUL.2012 18:02:35

Right Edge
Channel 810



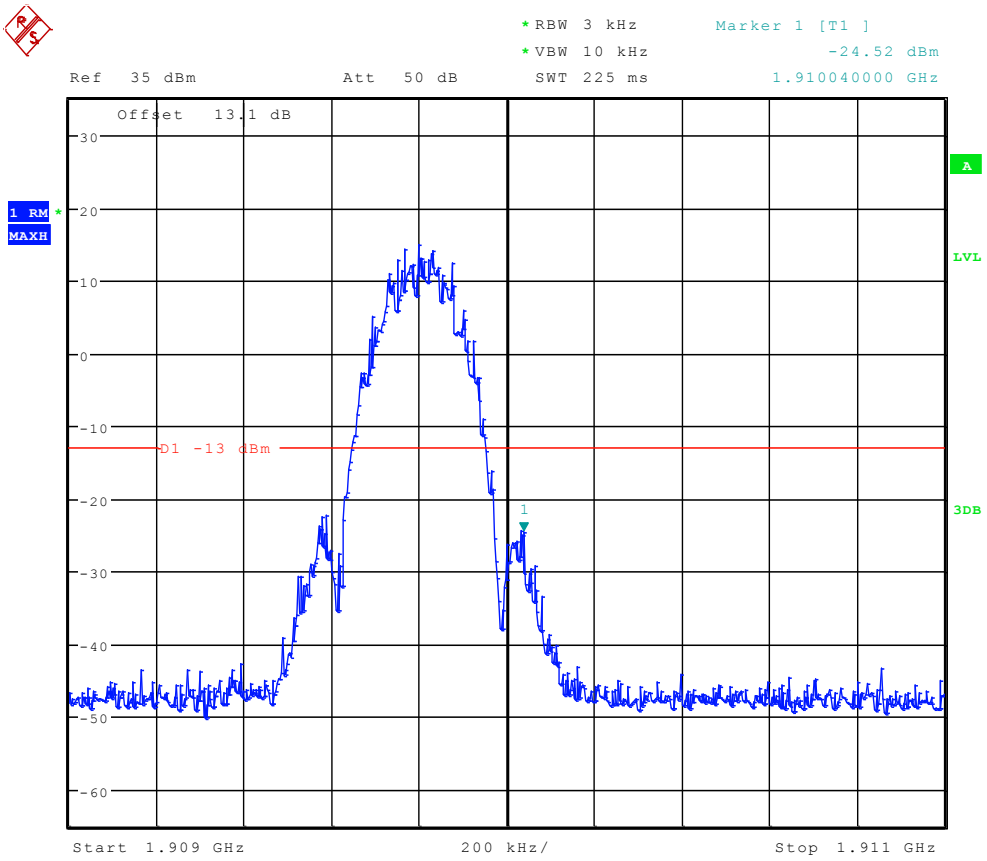
Date: 7.JUL.2012 18:02:48

TM2:EDGE
Left Edge
Channel 512



Date: 7.JUL.2012 18:07:04

Right Edge
Channel 810

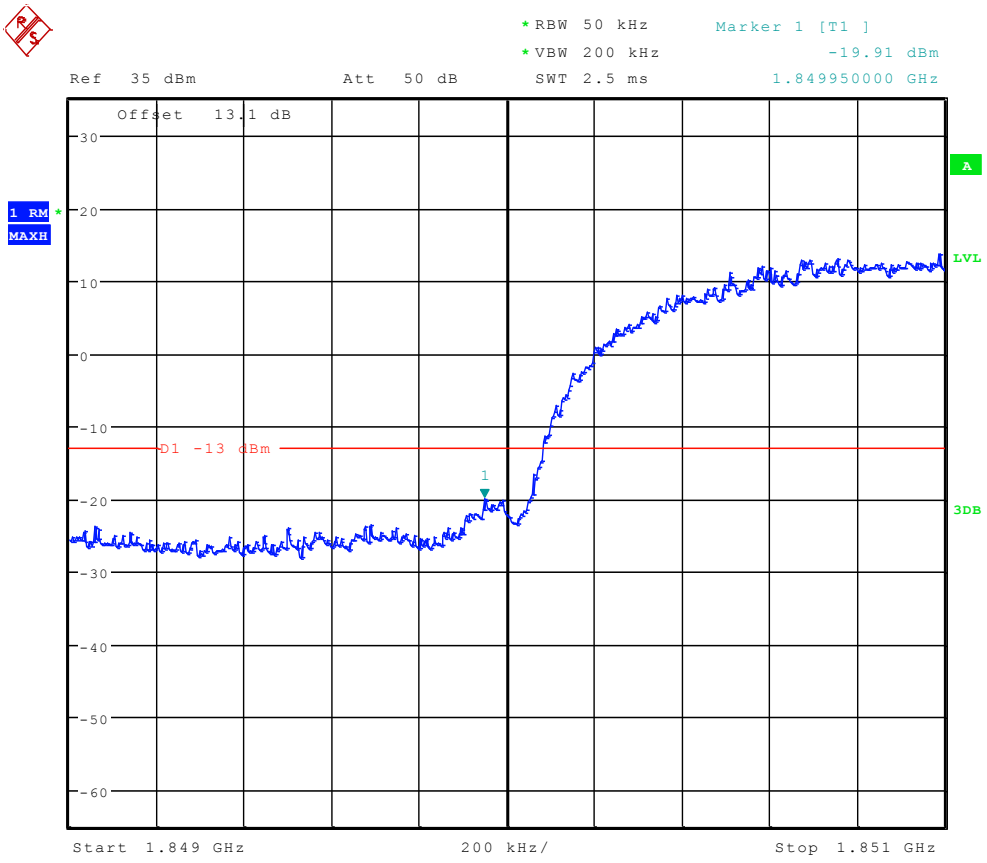


Date: 7.JUL.2012 18:07:17

TM3: WCDMA

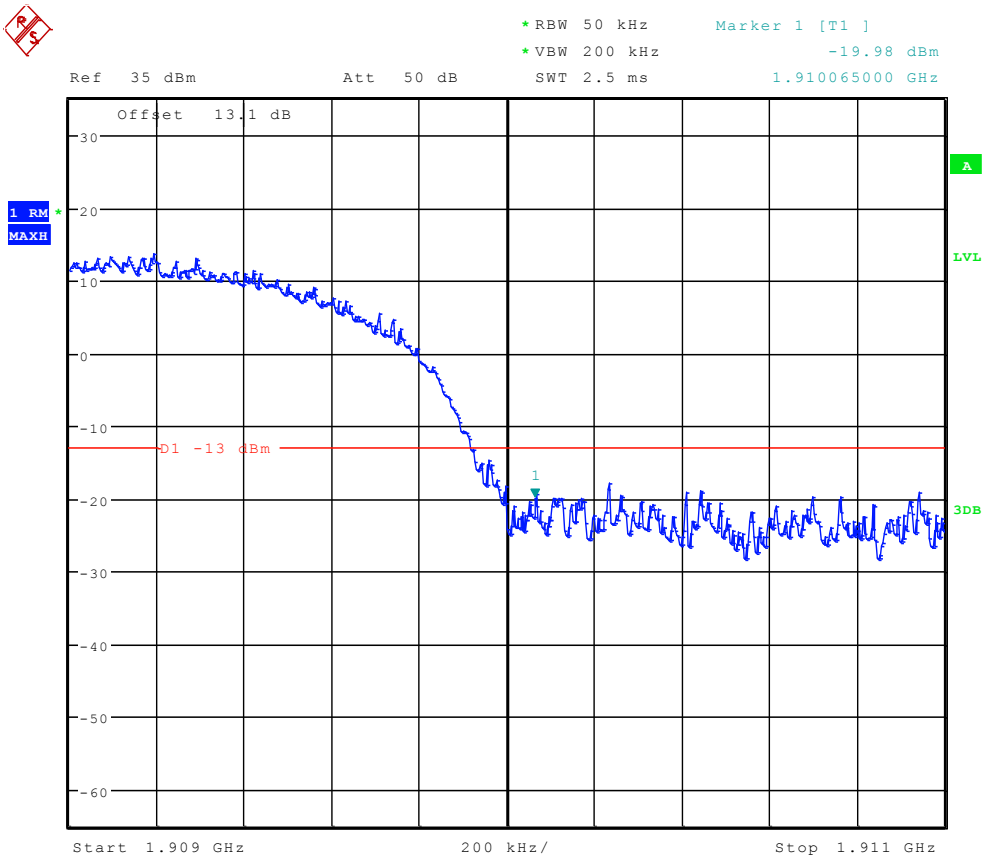
Left Edge

Channel 9262



Date: 7.JUL.2012 18:12:31

Right Edge
Channel 9538



Date: 7.JUL.2012 18:12:44

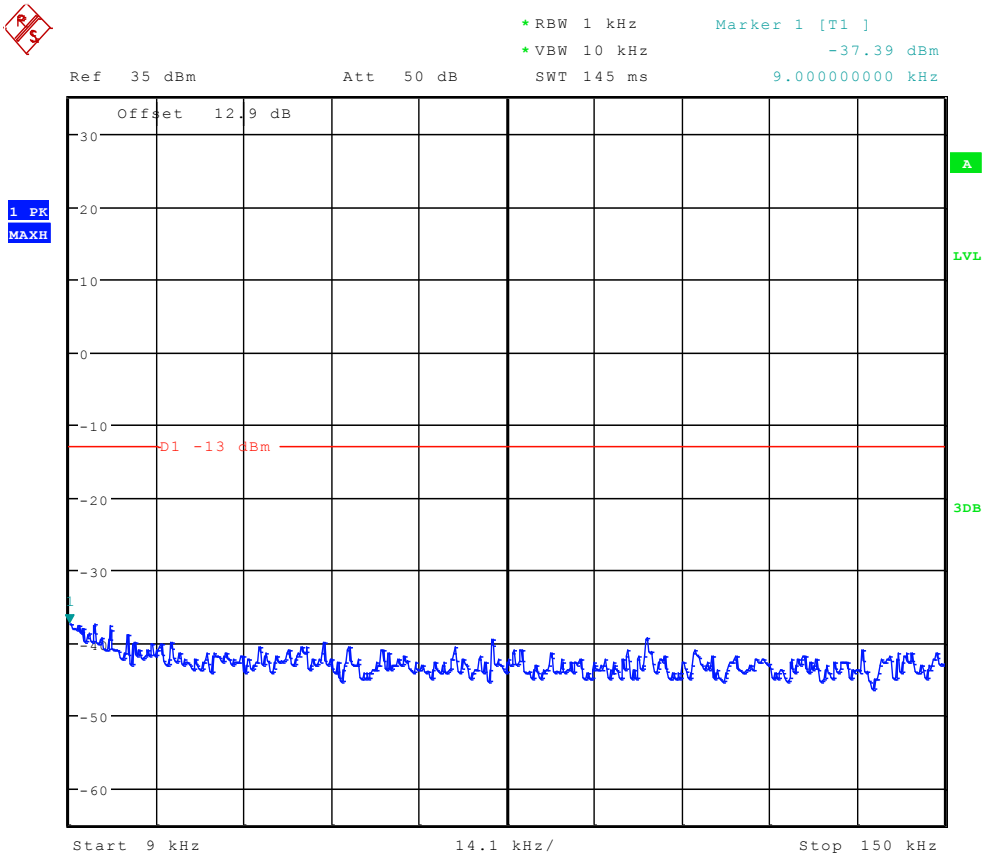
----------The END----------

Appendix E

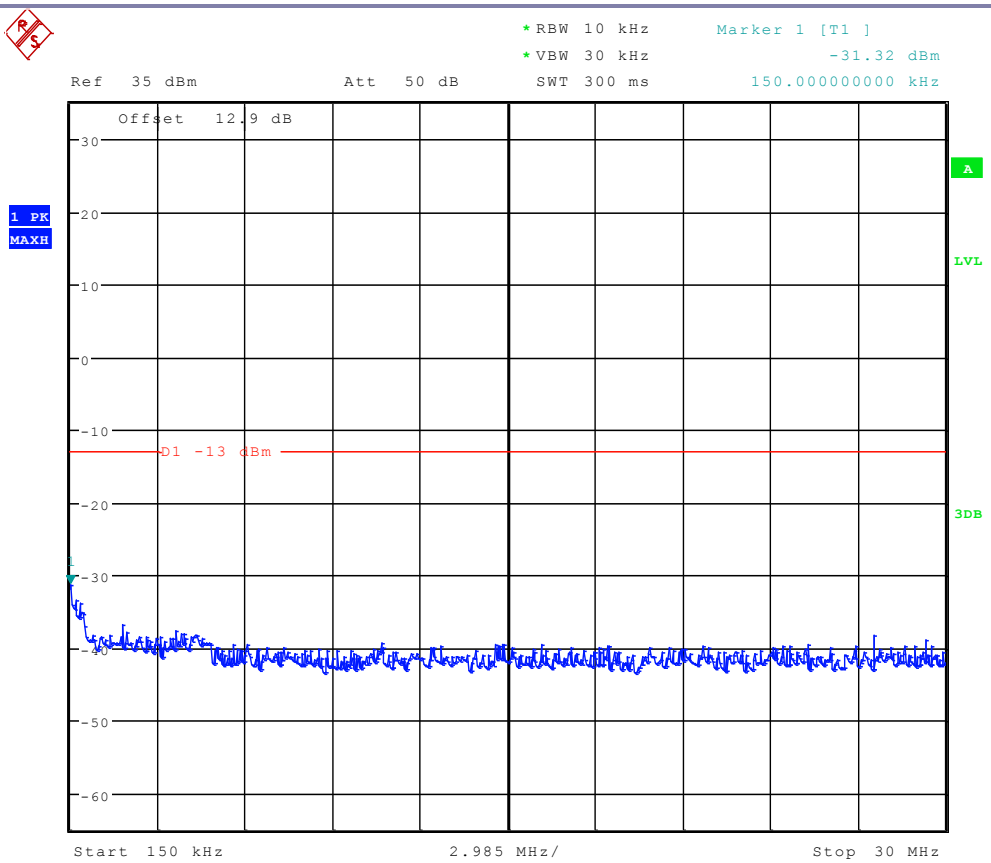
Spurious Emission at Antenna Terminal

According to FCC Part 2.1051 & 24.238

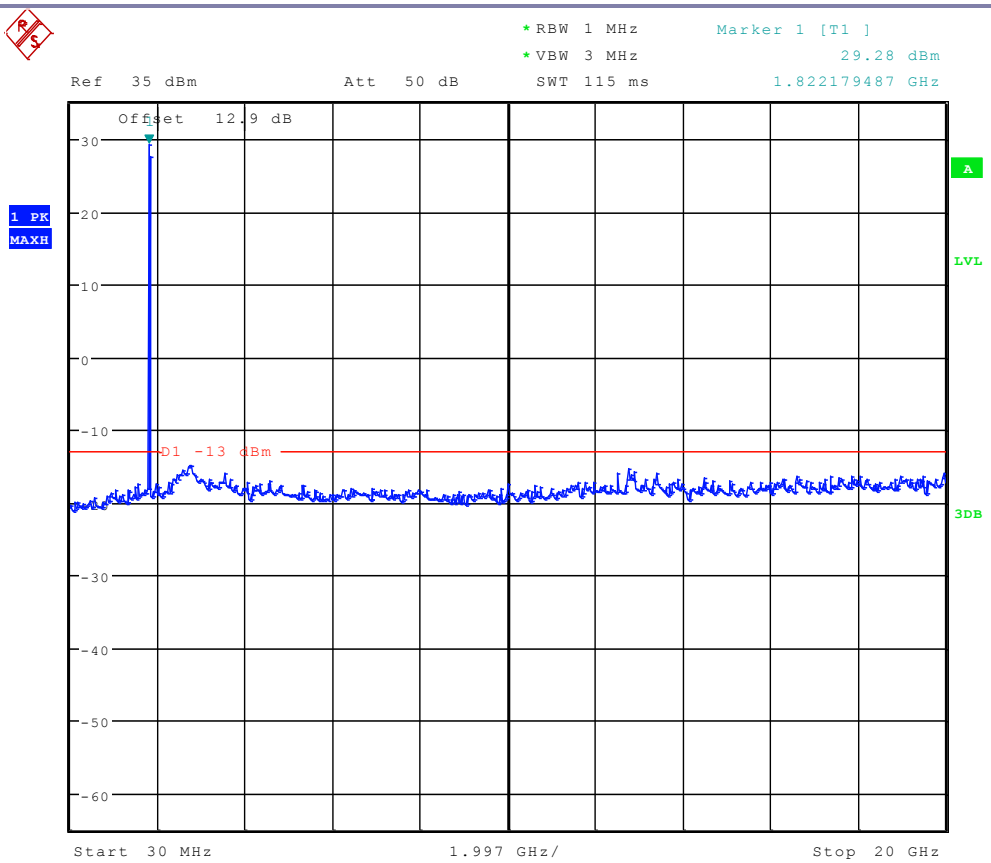
TM1:GPRS/GSM
Channel 512



Date: 7.JUL.2012 18:00:24

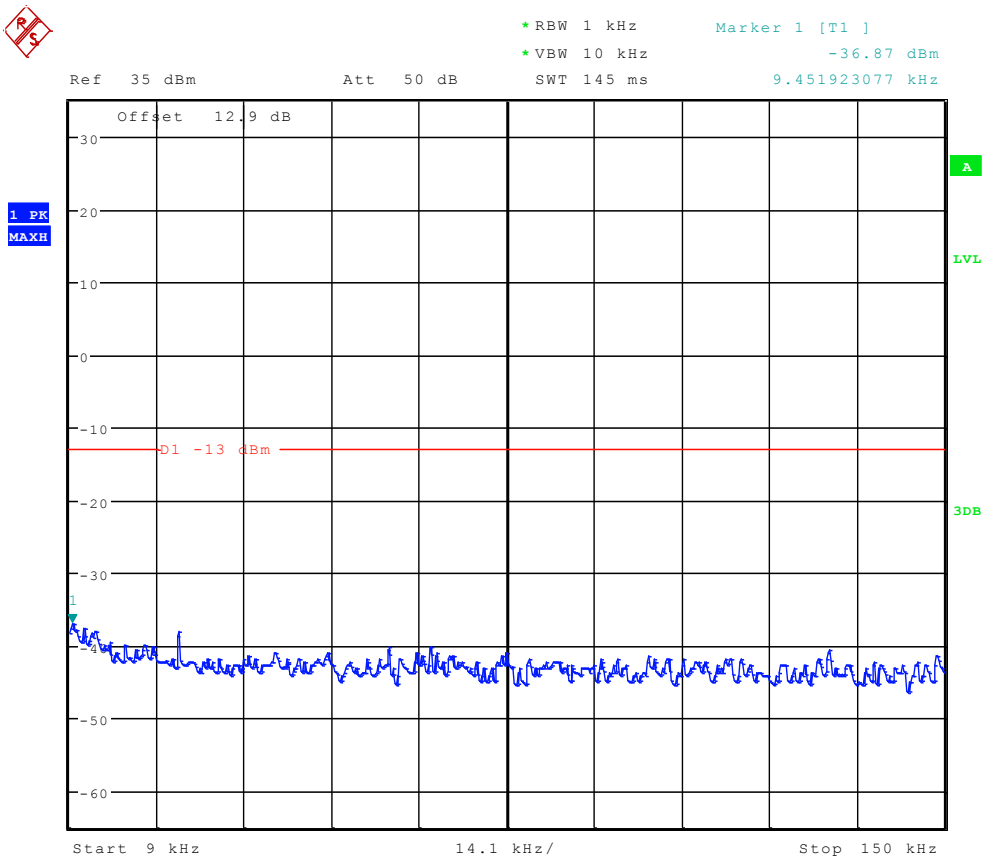


Date: 7.JUL.2012 18:01:08

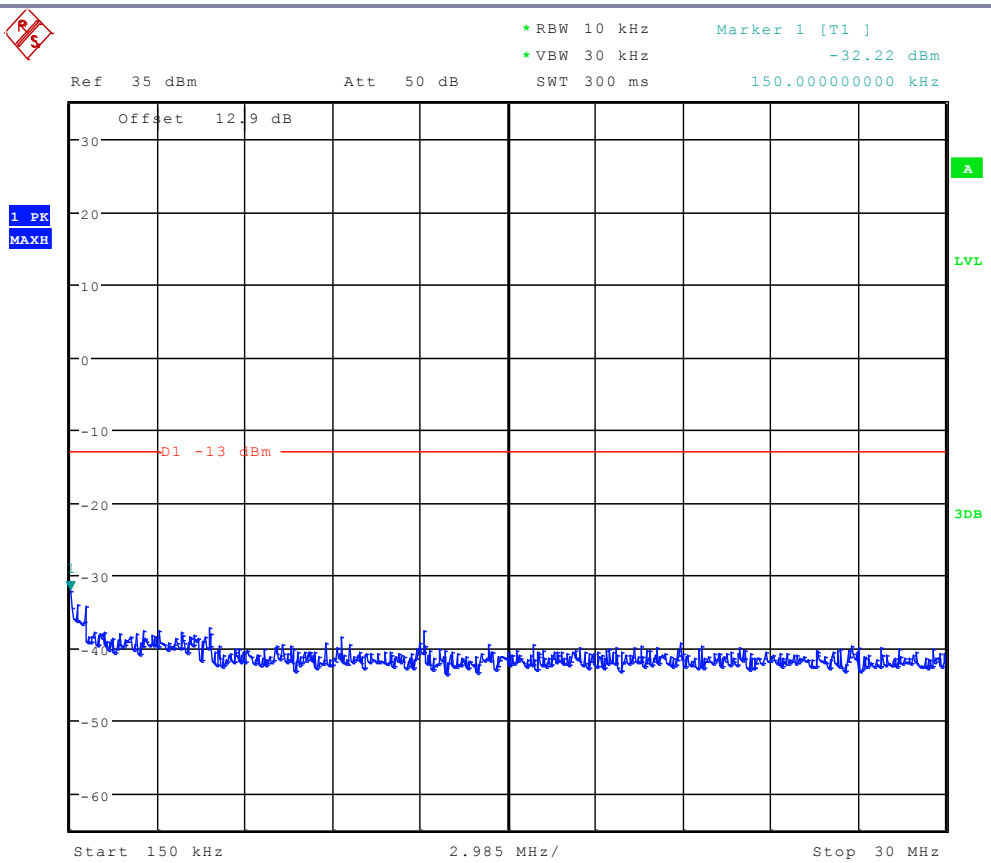


Date: 7.JUL.2012 18:01:52

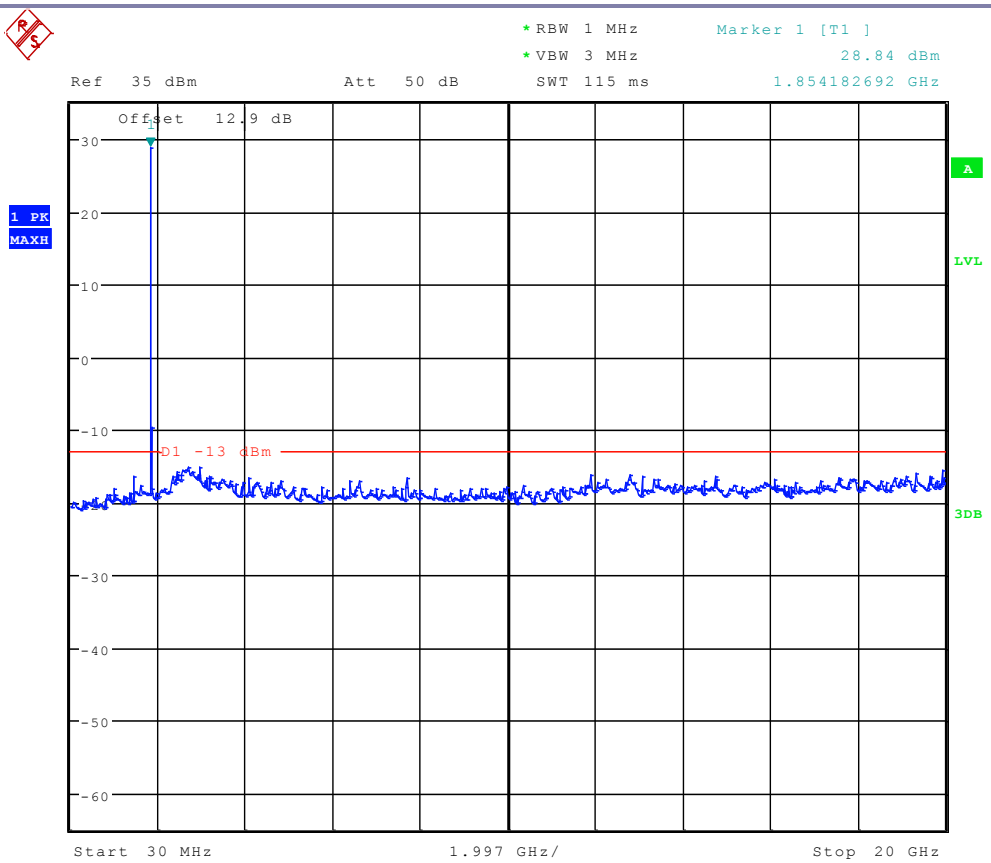
Channel 661



Date: 7.JUL.2012 18:00:39

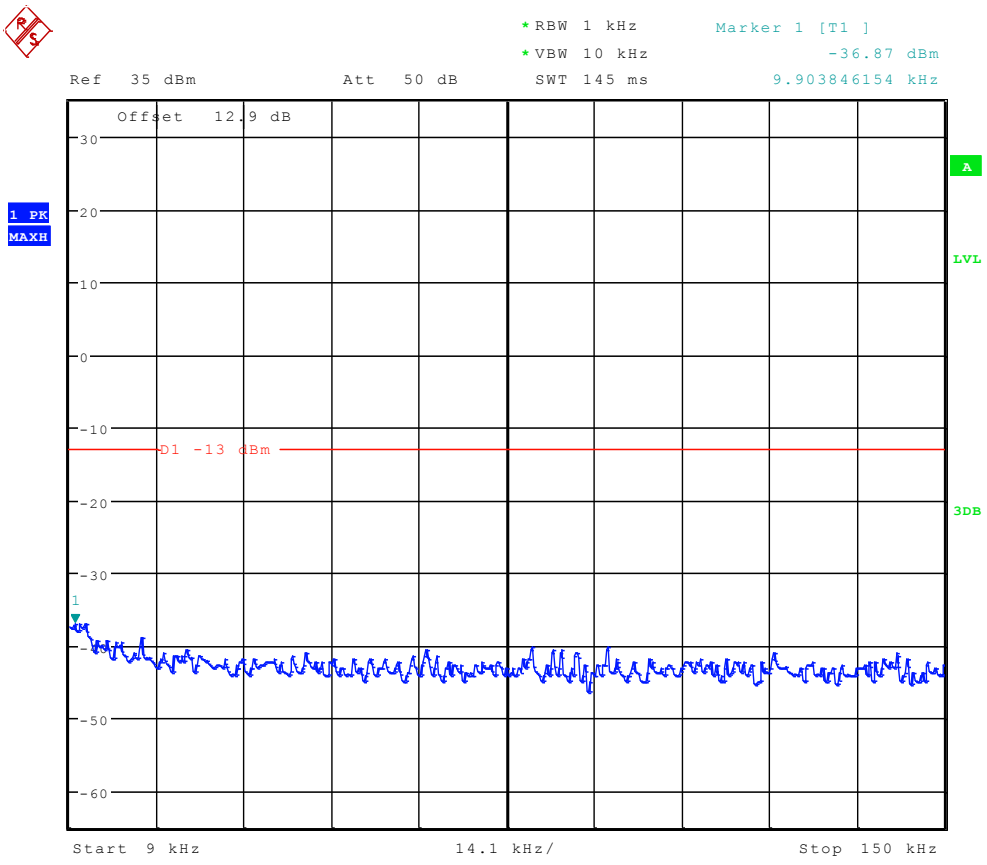


Date: 7.JUL.2012 18:01:22

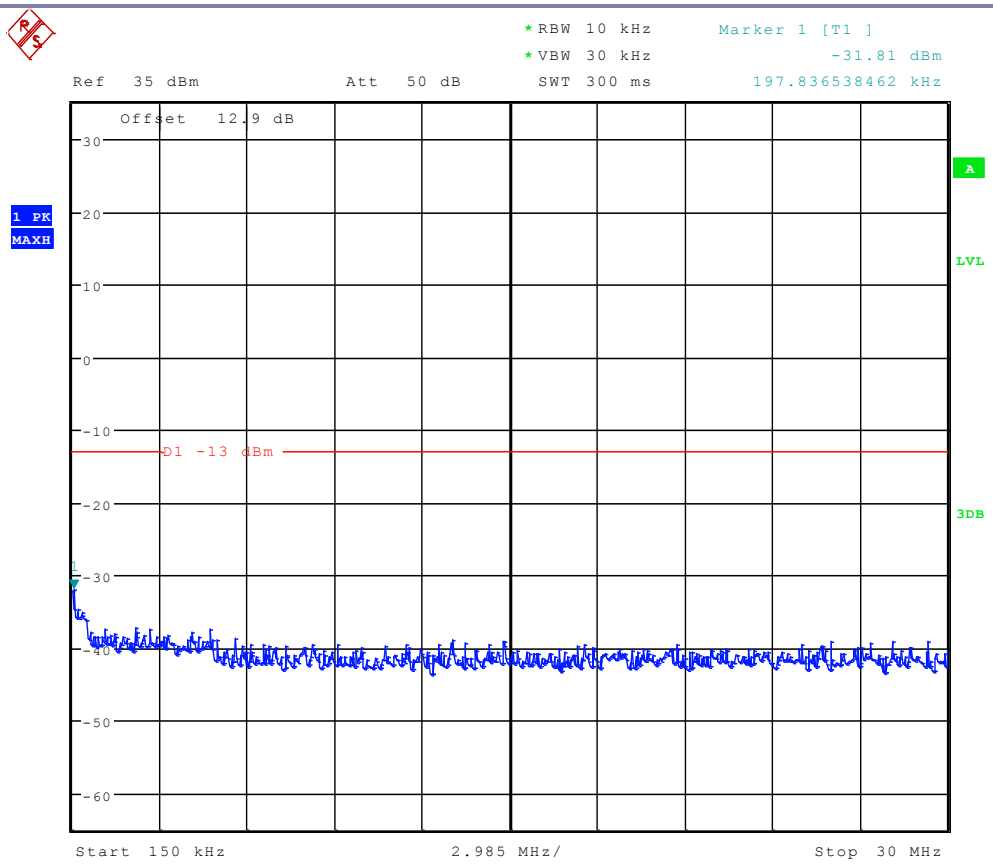


Date: 7.JUL.2012 18:02:06

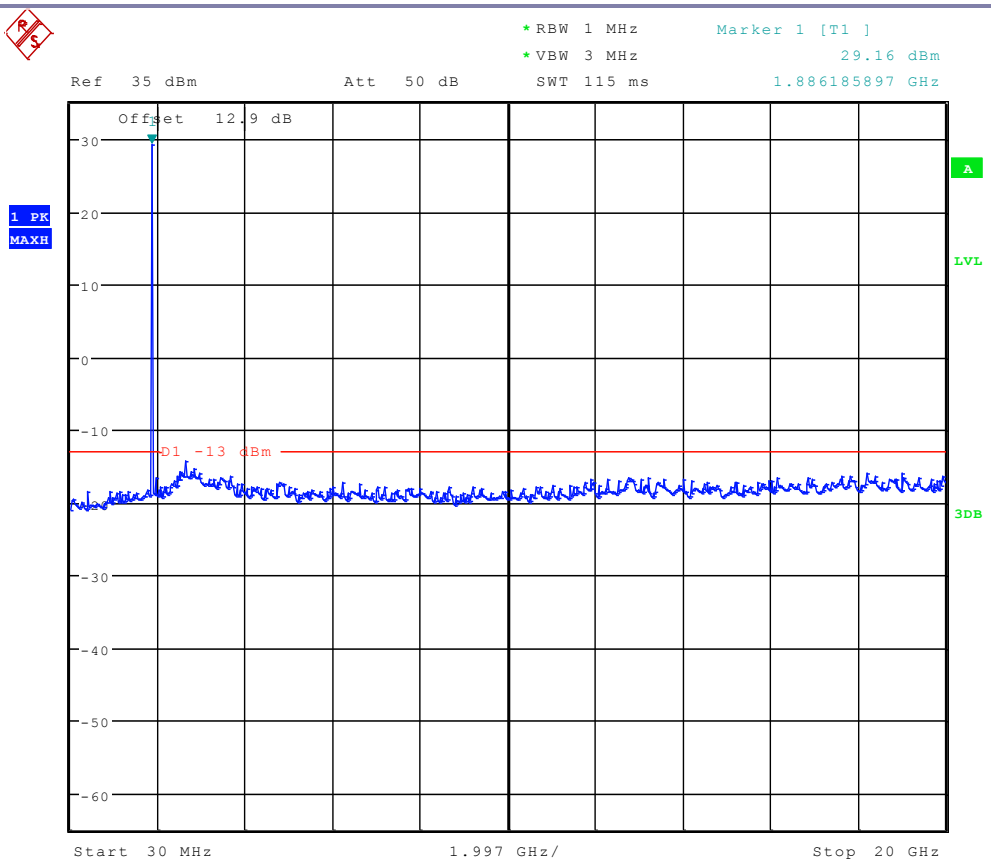
Channel 810



Date: 7.JUL.2012 18:00:53

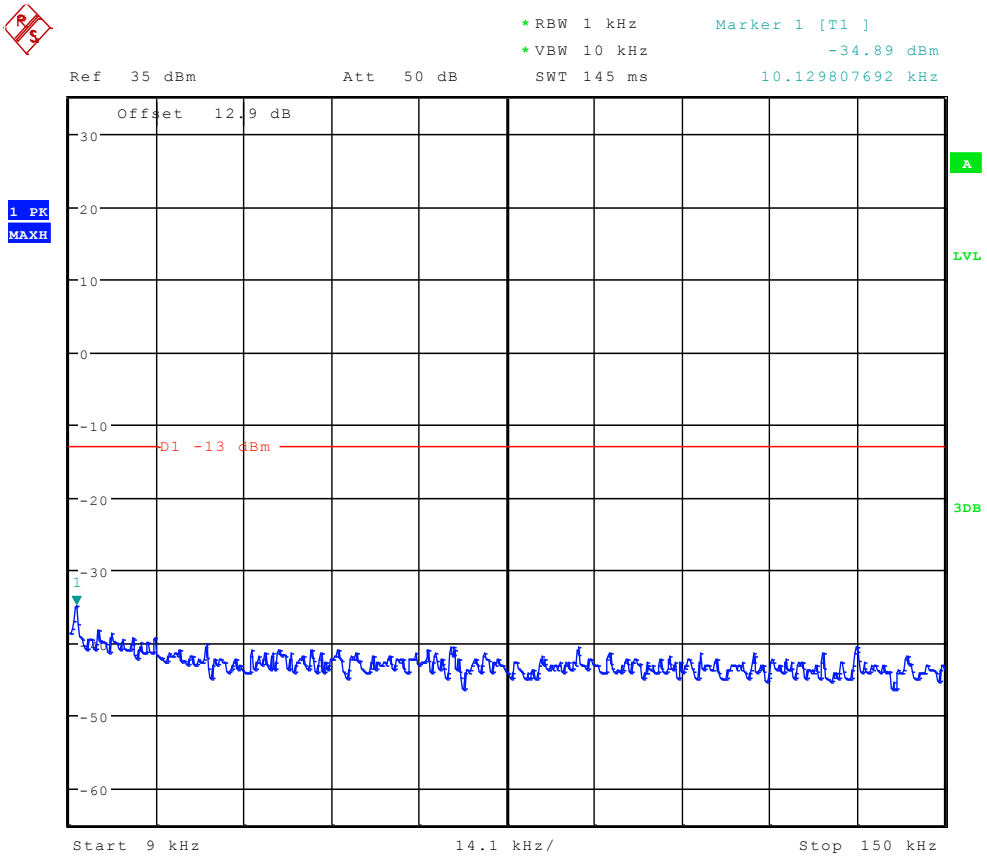


Date: 7.JUL.2012 18:01:37

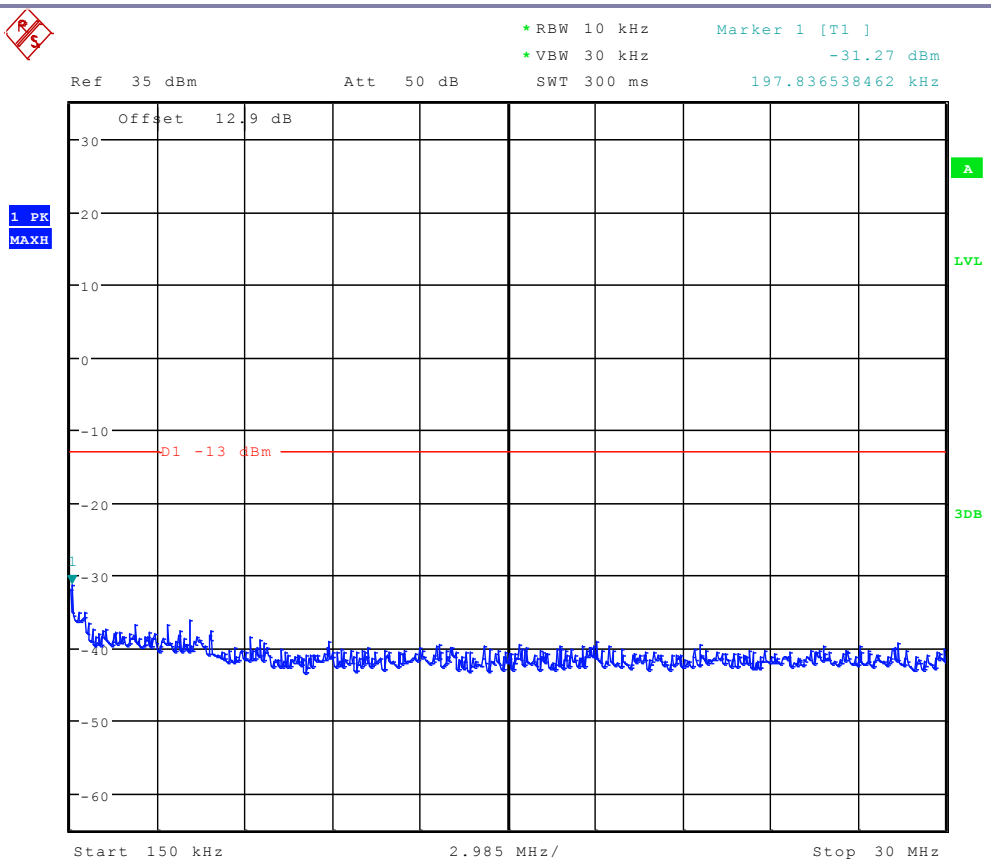


Date: 7.JUL.2012 18:02:20

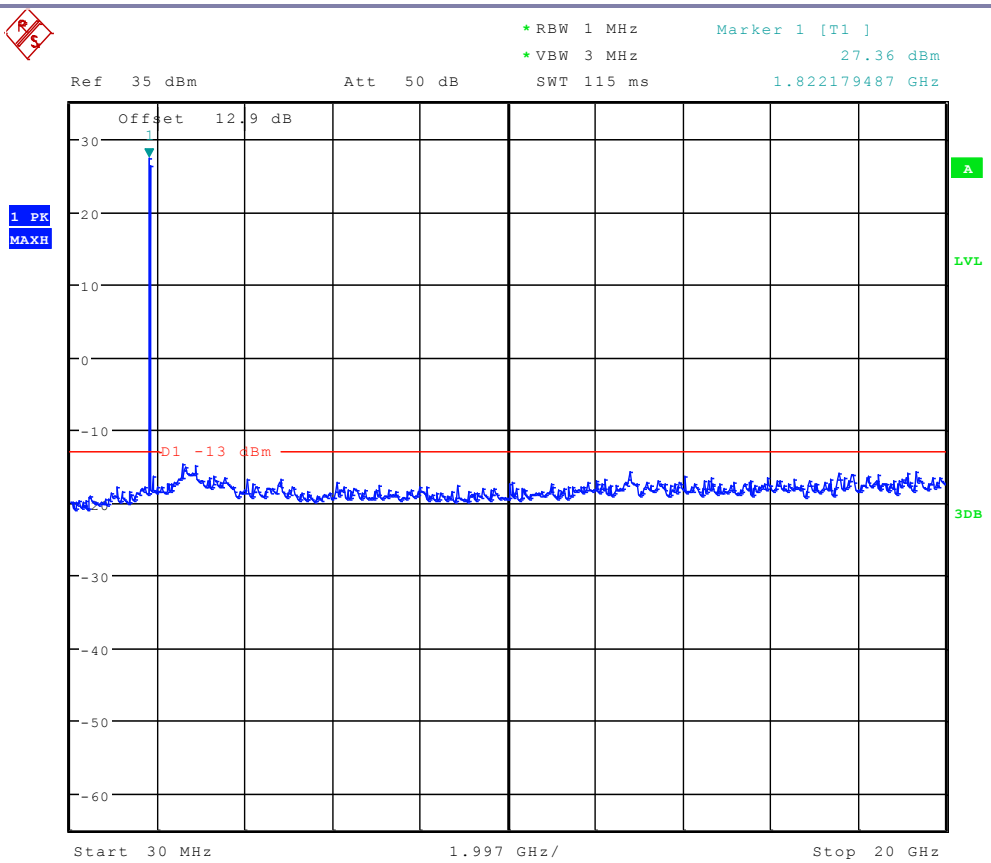
TM2:EDGE
Channel 512



Date: 7.JUL.2012 18:04:39

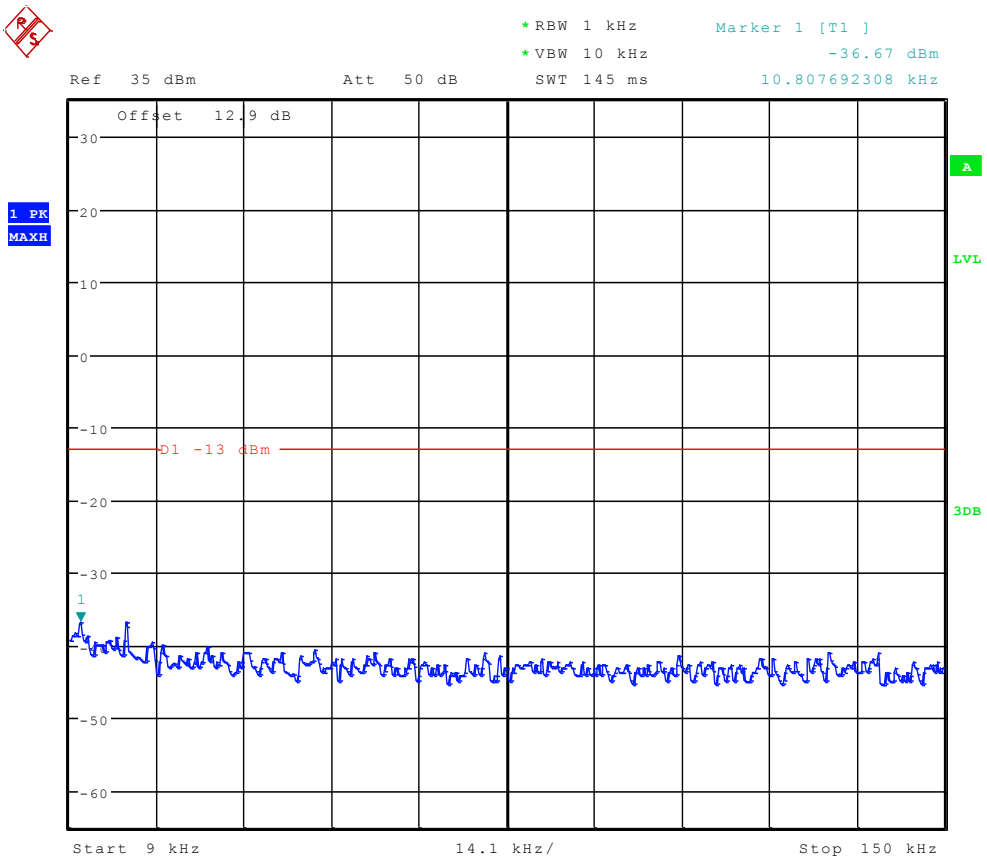


Date: 7.JUL.2012 18:05:22

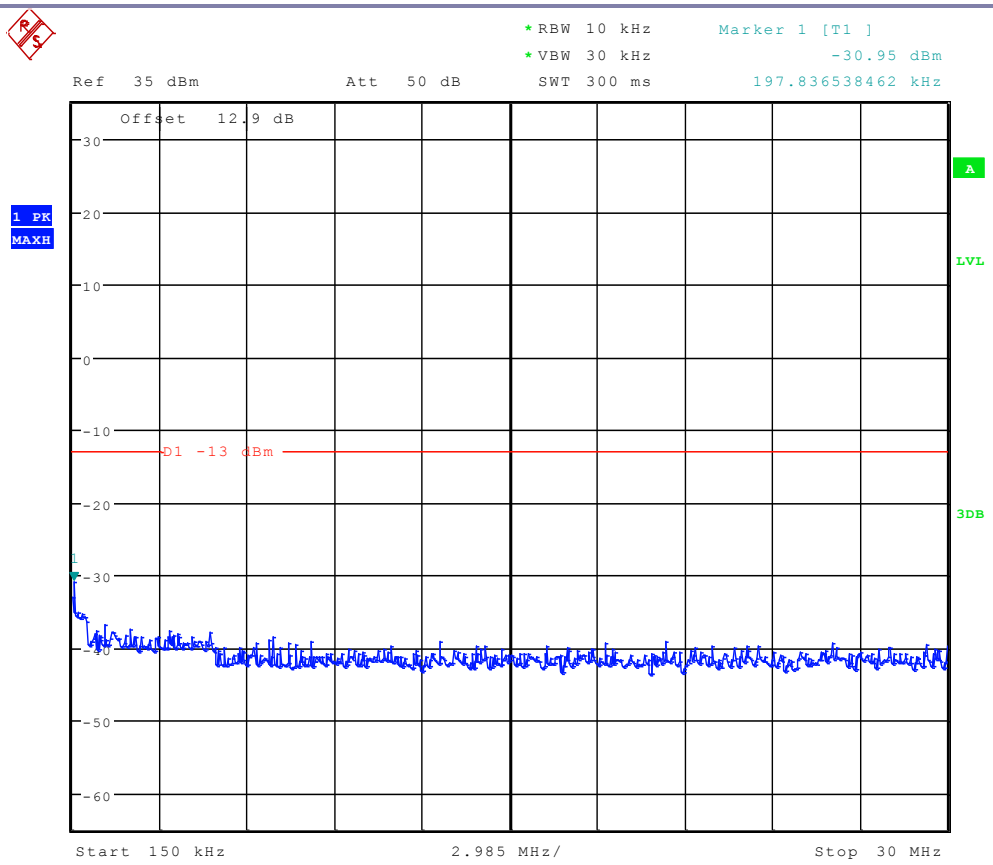


Date: 7.JUL.2012 18:06:06

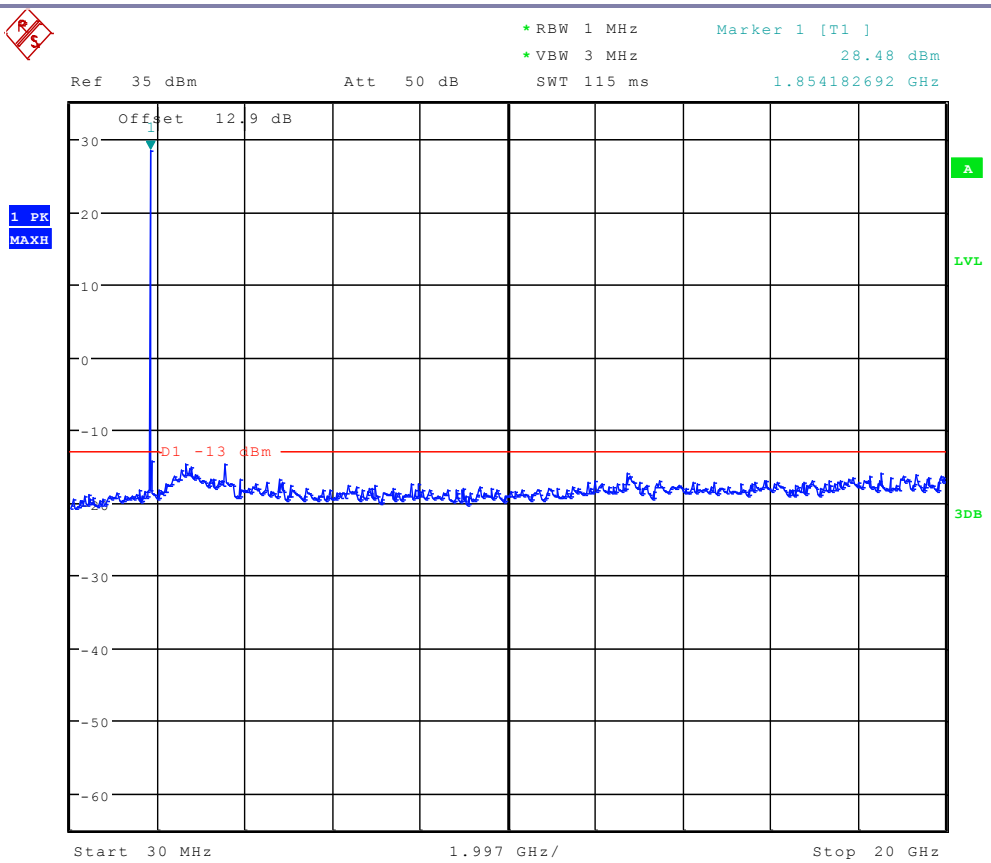
Channel 661



Date: 7.JUL.2012 18:04:53

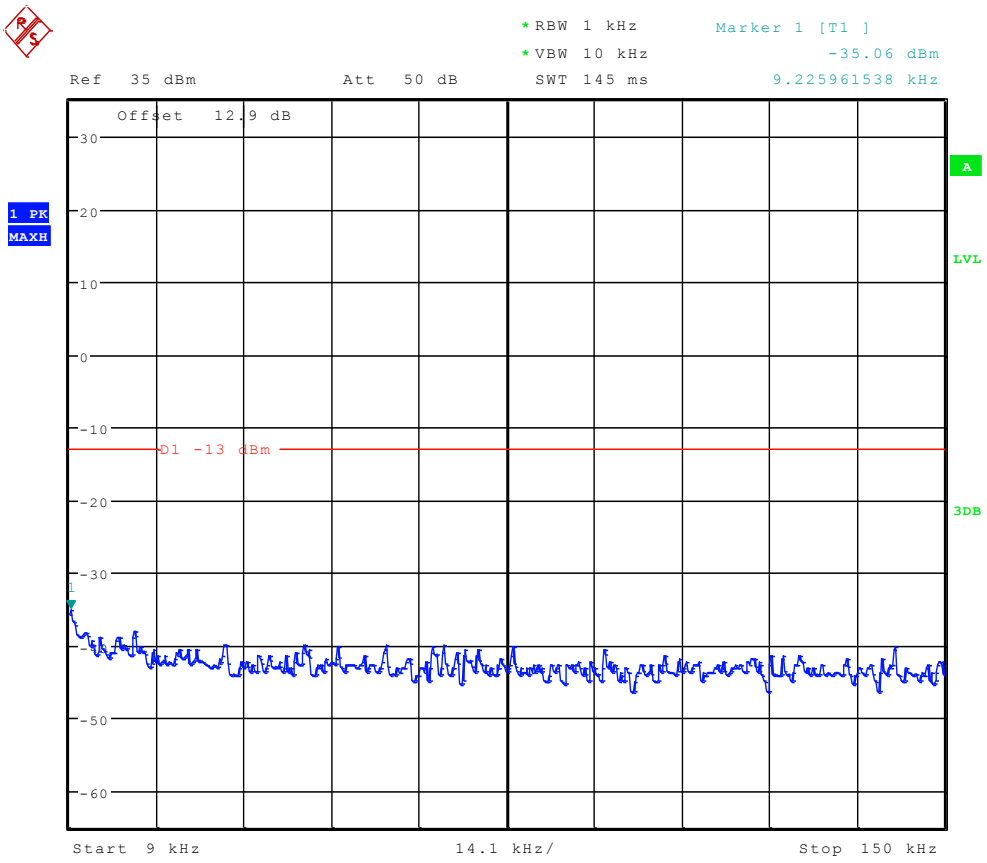


Date: 7.JUL.2012 18:05:37

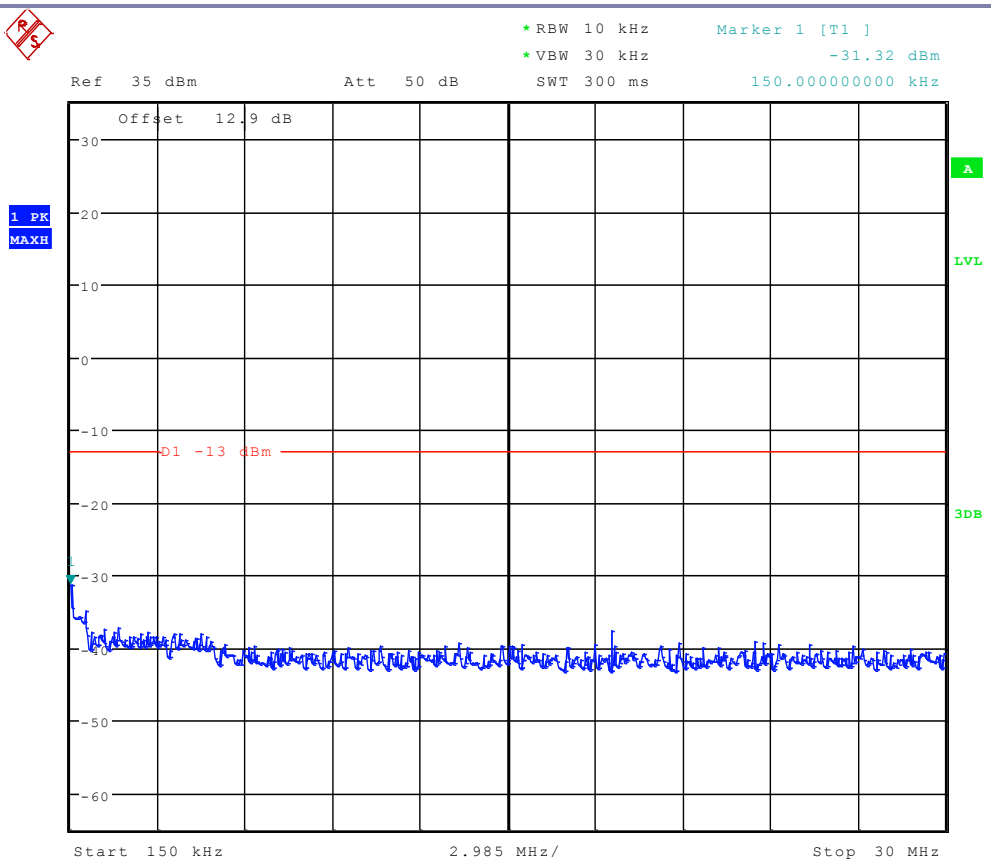


Date: 7.JUL.2012 18:06:20

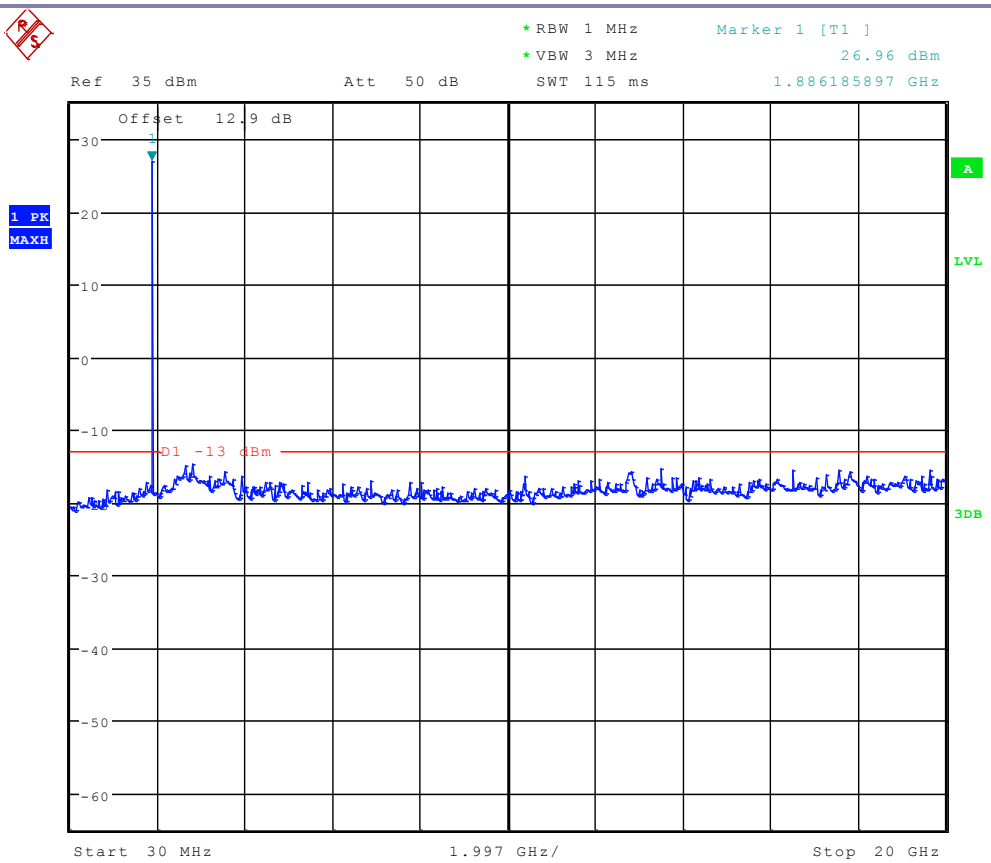
Channel 810



Date: 7.JUL.2012 18:05:07

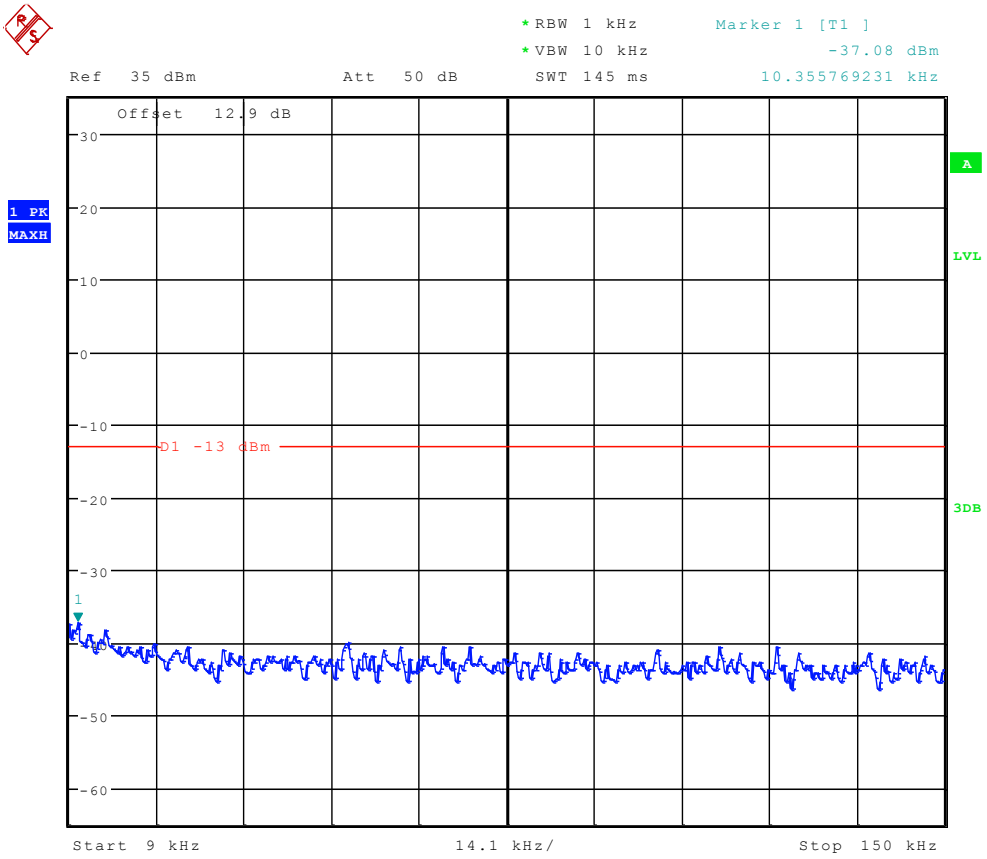


Date: 7.JUL.2012 18:05:51

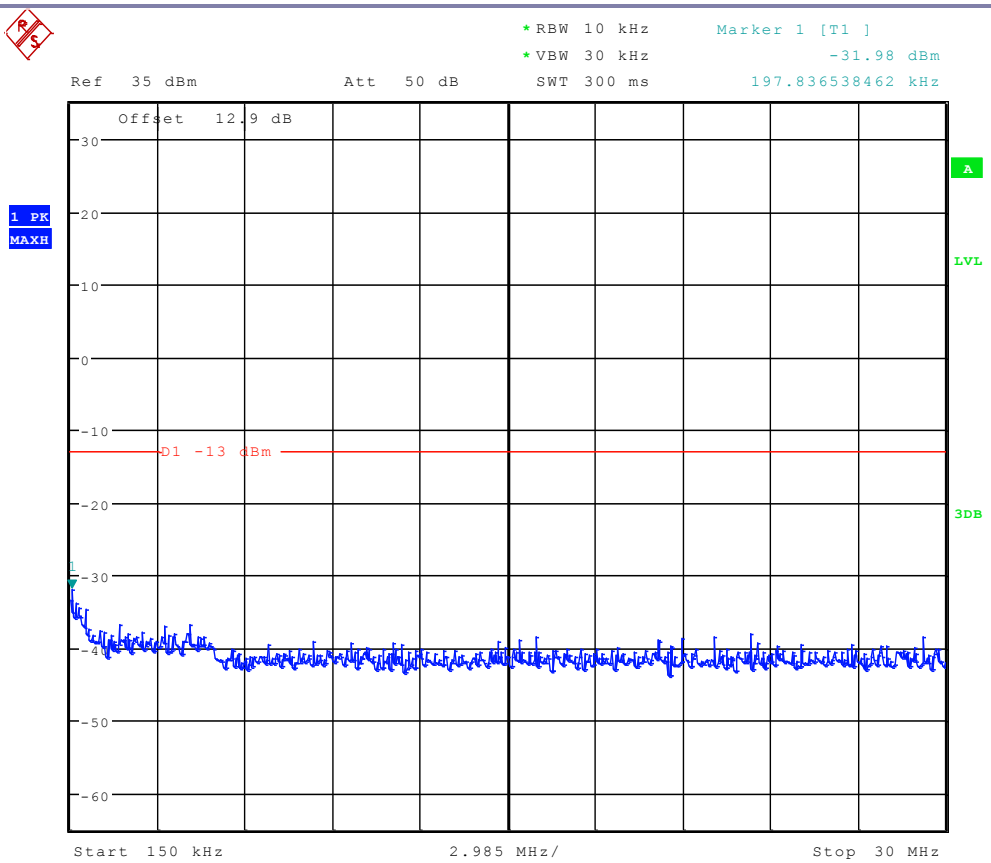


Date: 7.JUL.2012 18:06:35

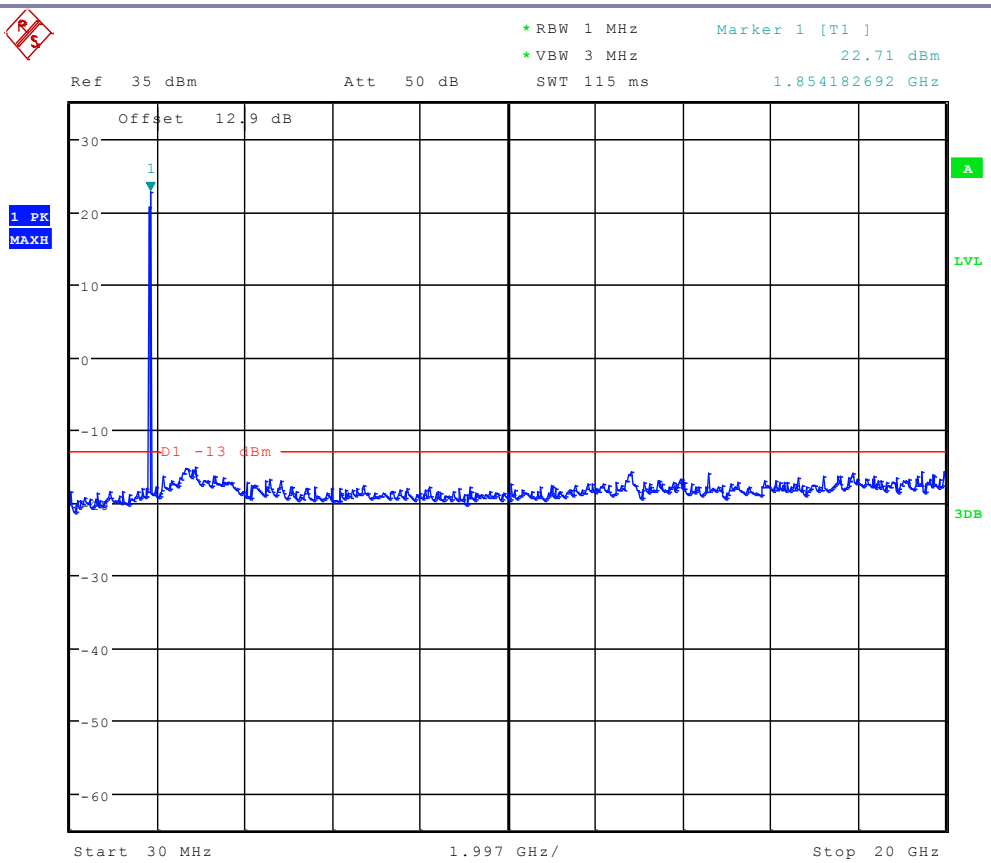
TM3: WCDMA
Channel 9262



Date: 7.JUL.2012 18:10:20

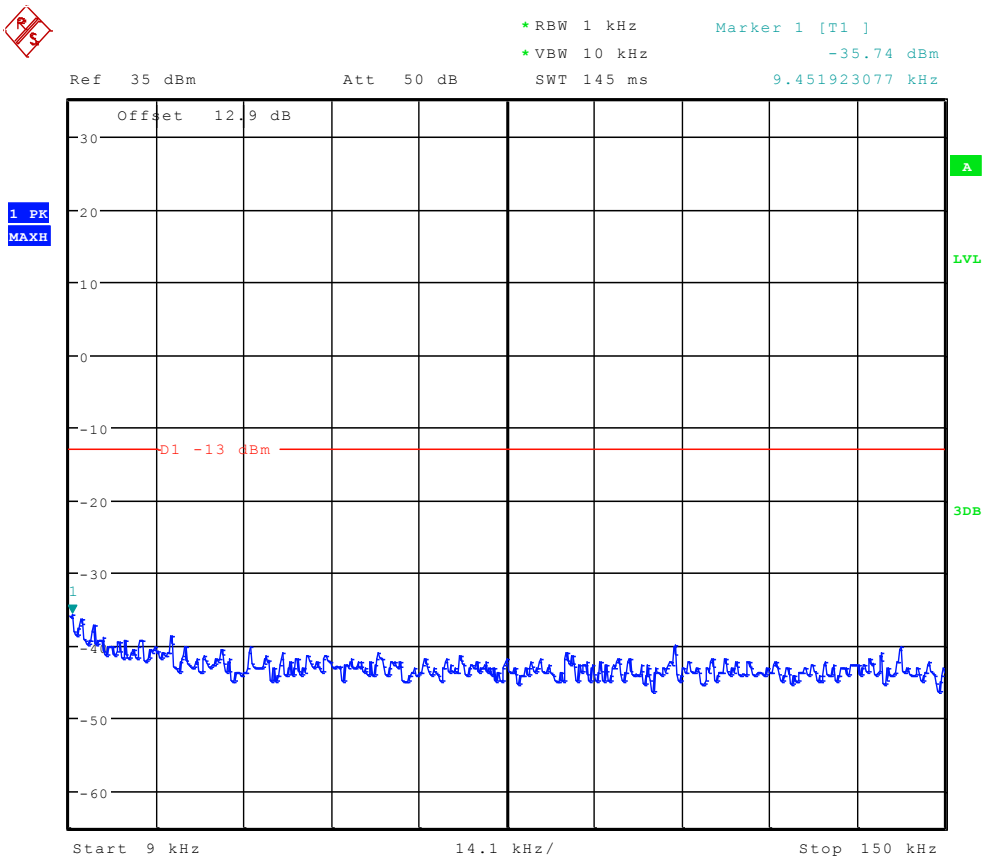


Date: 7.JUL.2012 18:11:04

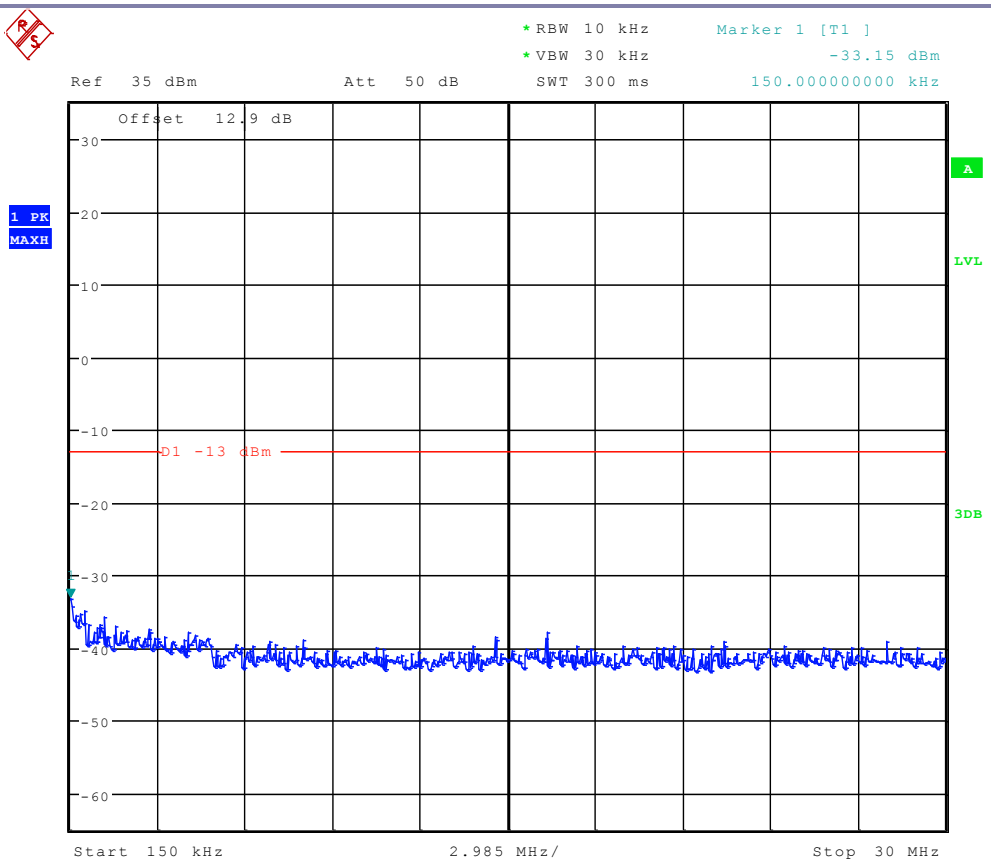


Date: 7.JUL.2012 18:11:48

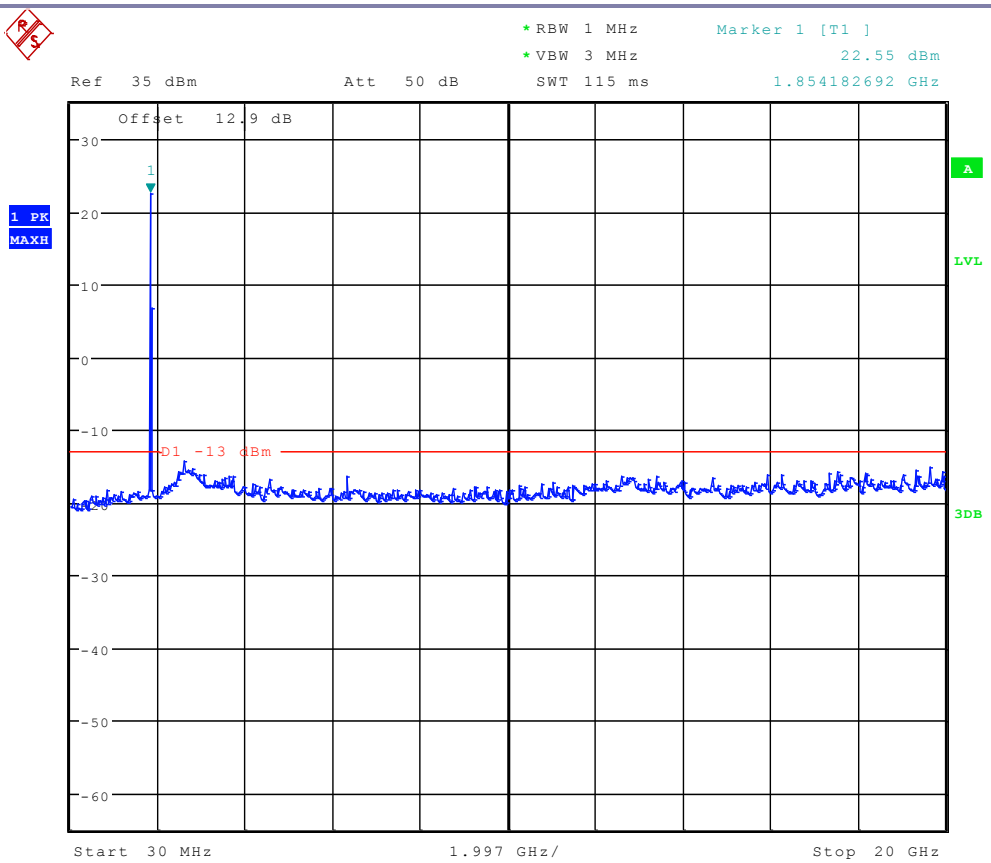
Channel 9400



Date: 7.JUL.2012 18:10:35

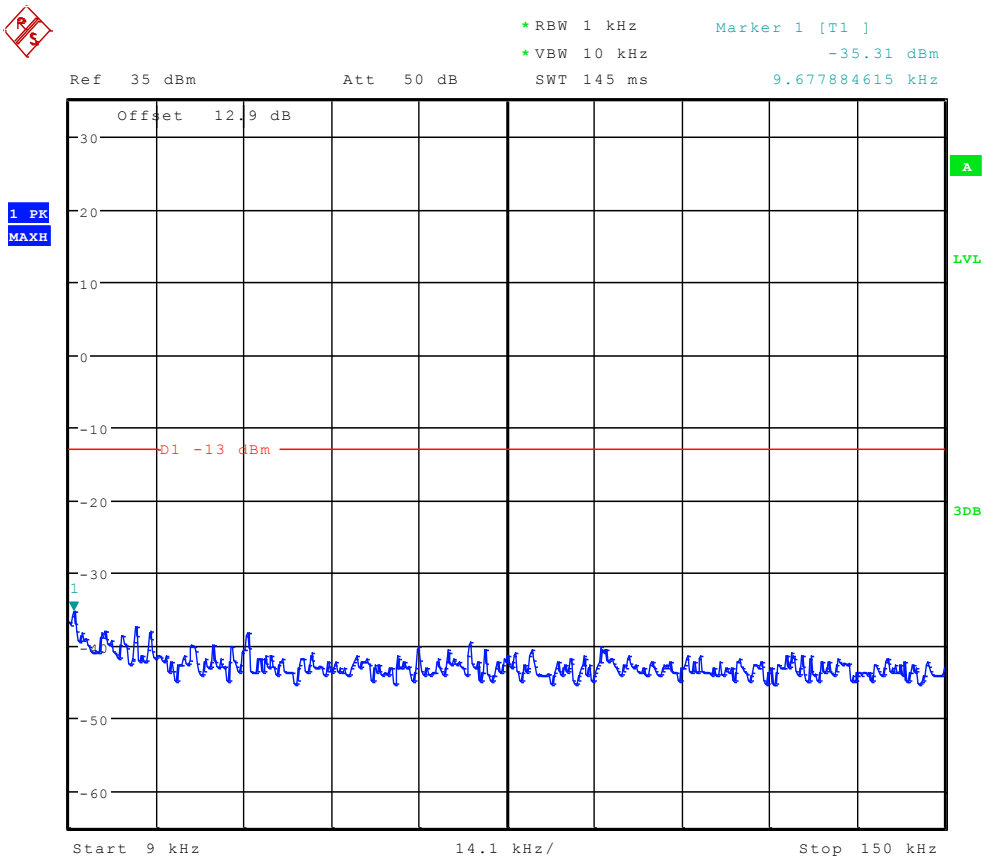


Date: 7.JUL.2012 18:11:18

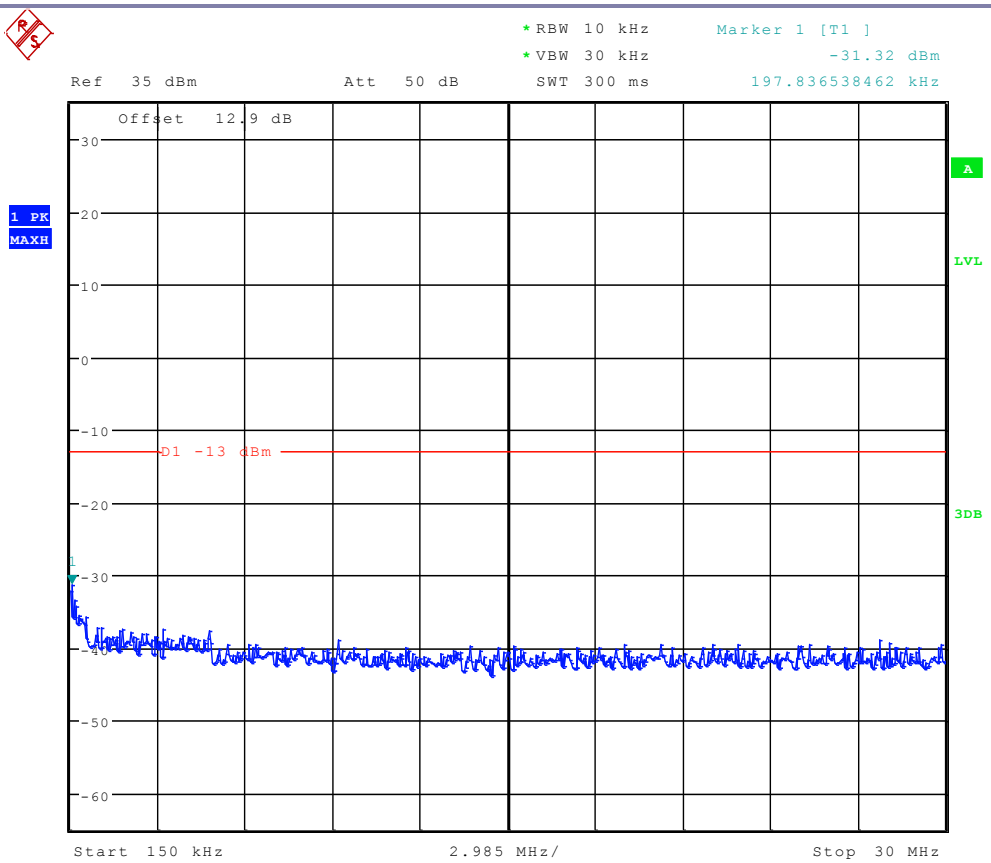


Date: 7.JUL.2012 18:12:02

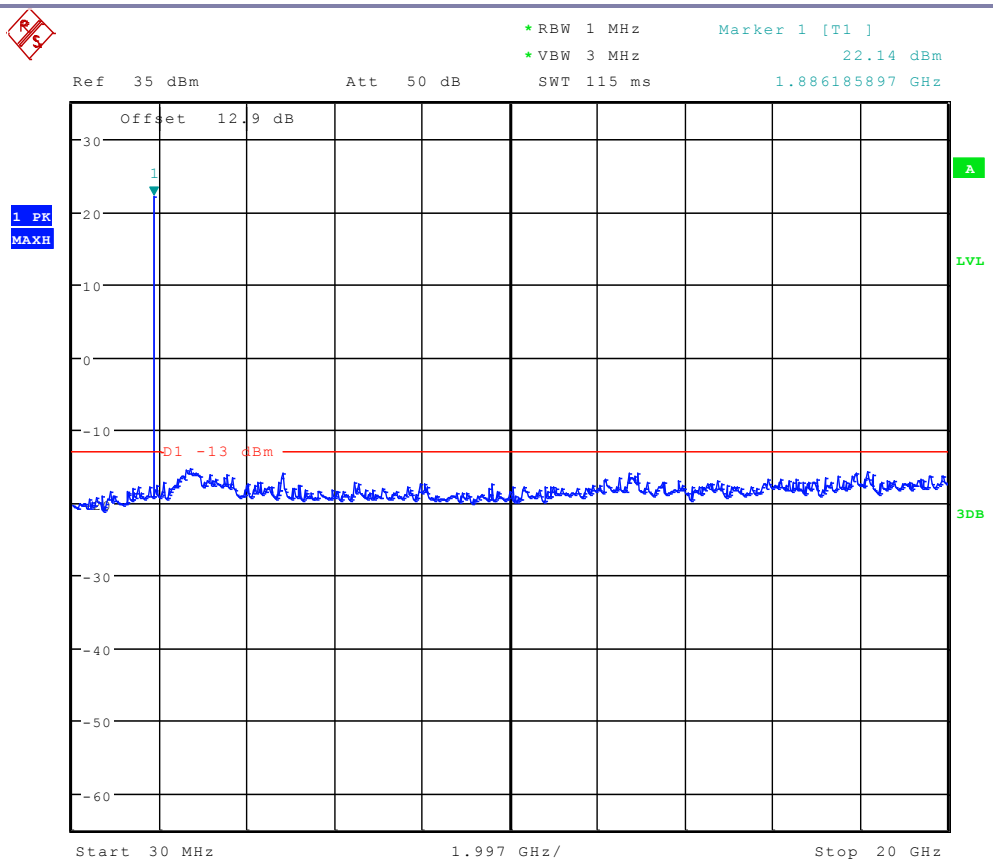
Channel 9538



Date: 7.JUL.2012 18:10:49



Date: 7.JUL.2012 18:11:33



Date: 7.JUL.2012 18:12:16

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

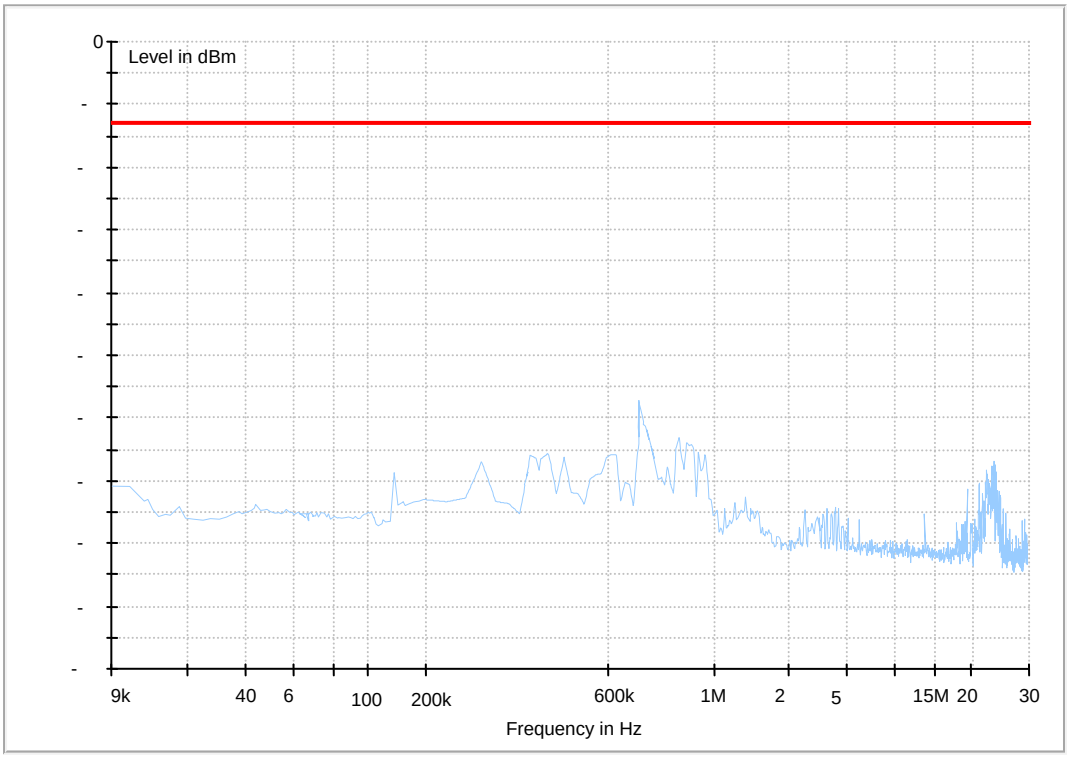
Appendix F

Field Strength of Spurious Radiation

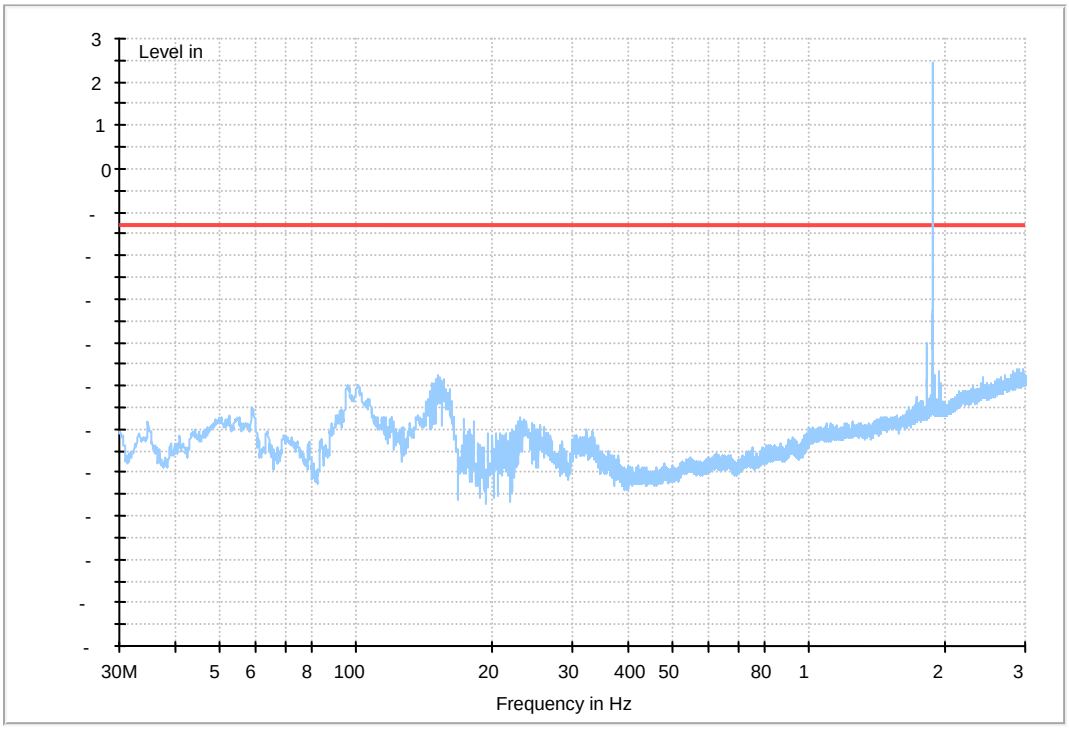
According to FCC Part 2.1053& Part 24.238

GSM 1900

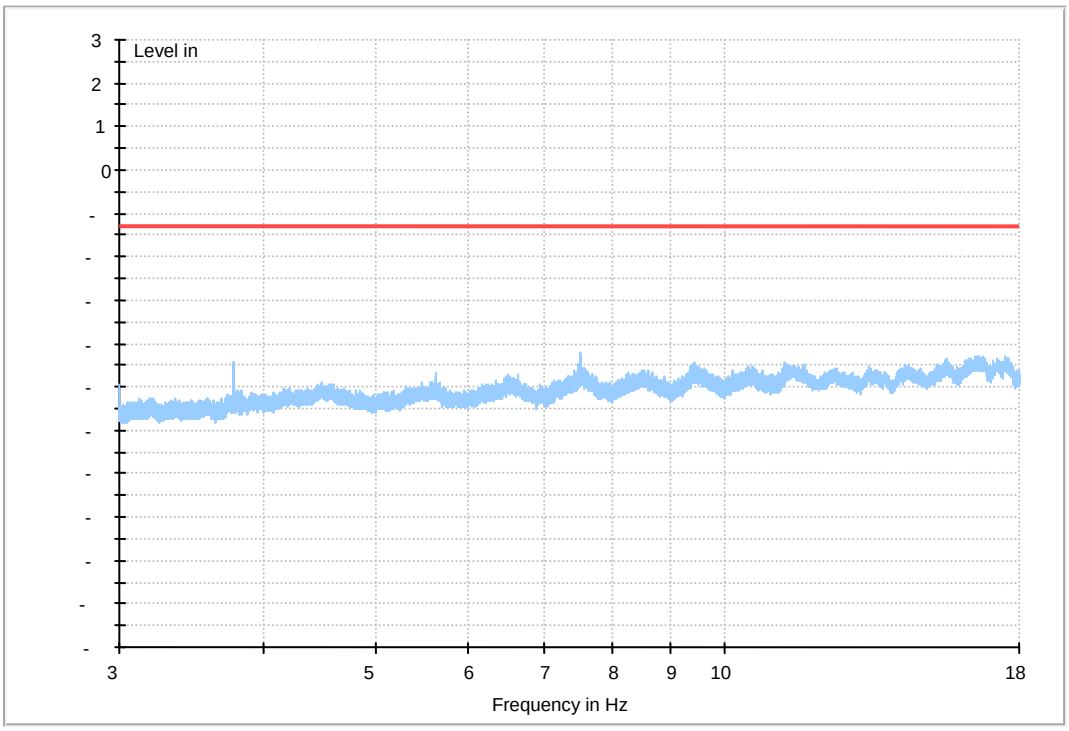
(9kHz-30MHz)



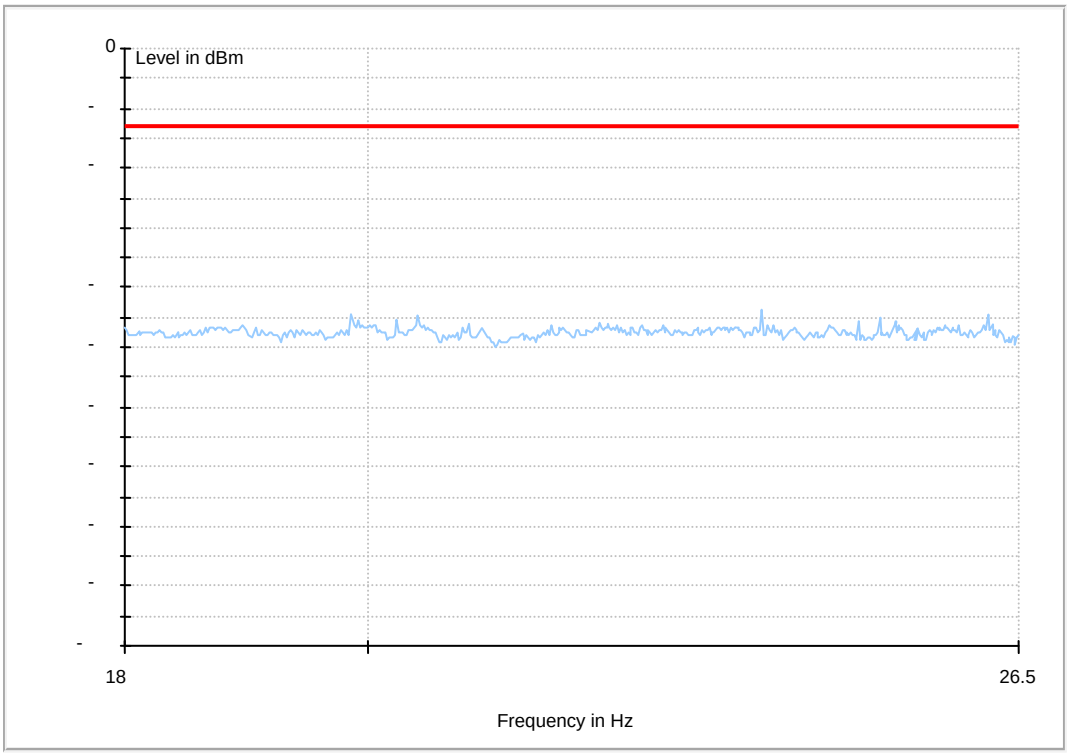
(30MHz~3GHz)



(3GHz~18GHz)

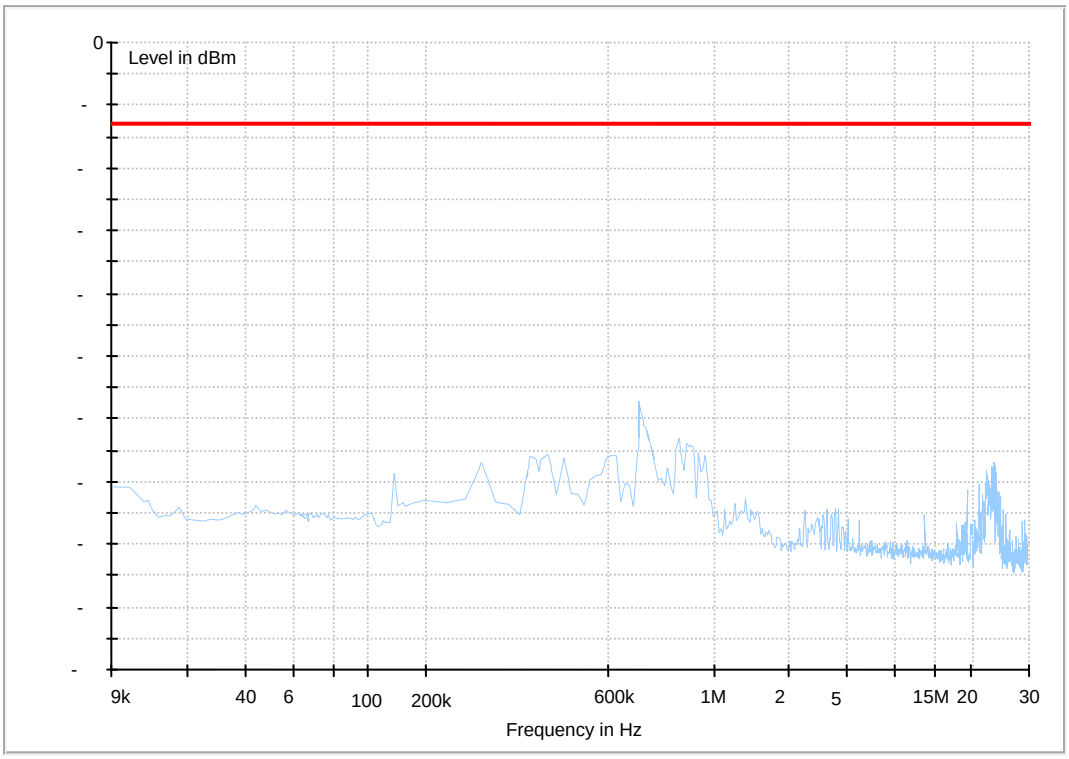


(18GHz-26.5GHz)

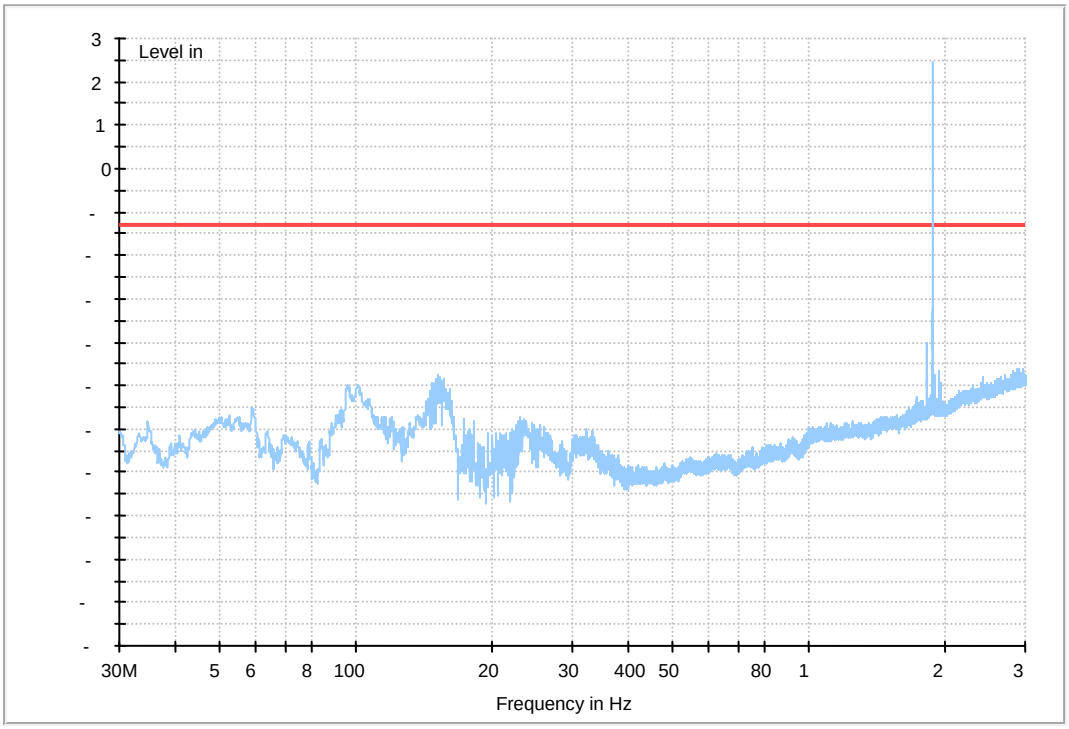


GPRS 1900

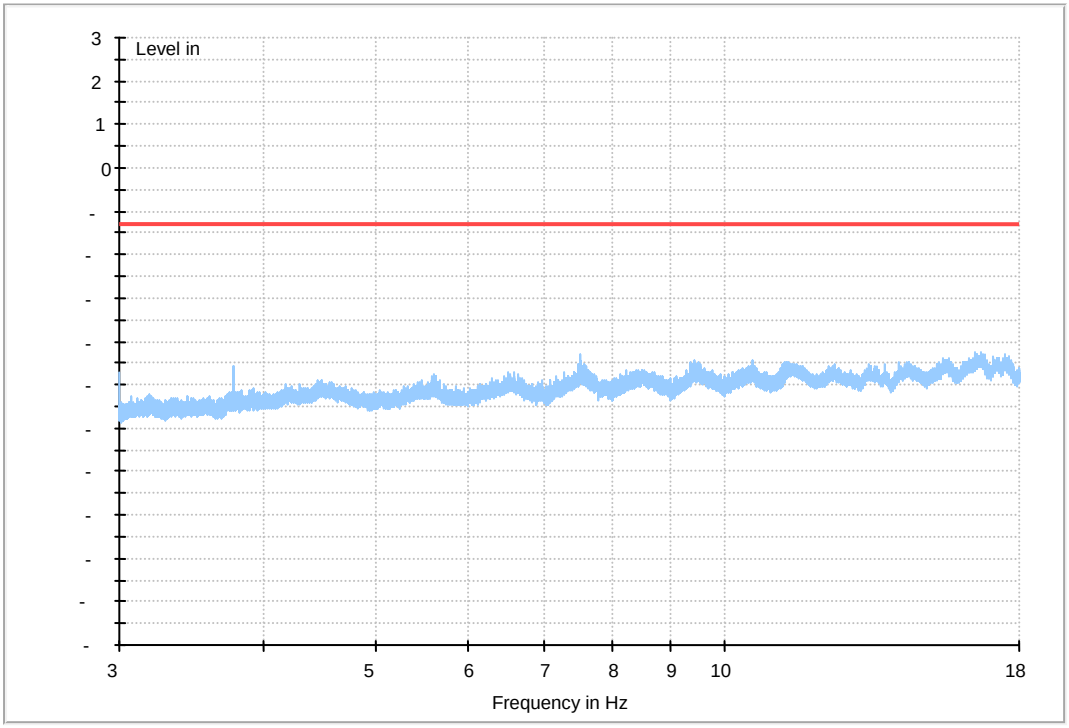
(9kHz-30MHz)



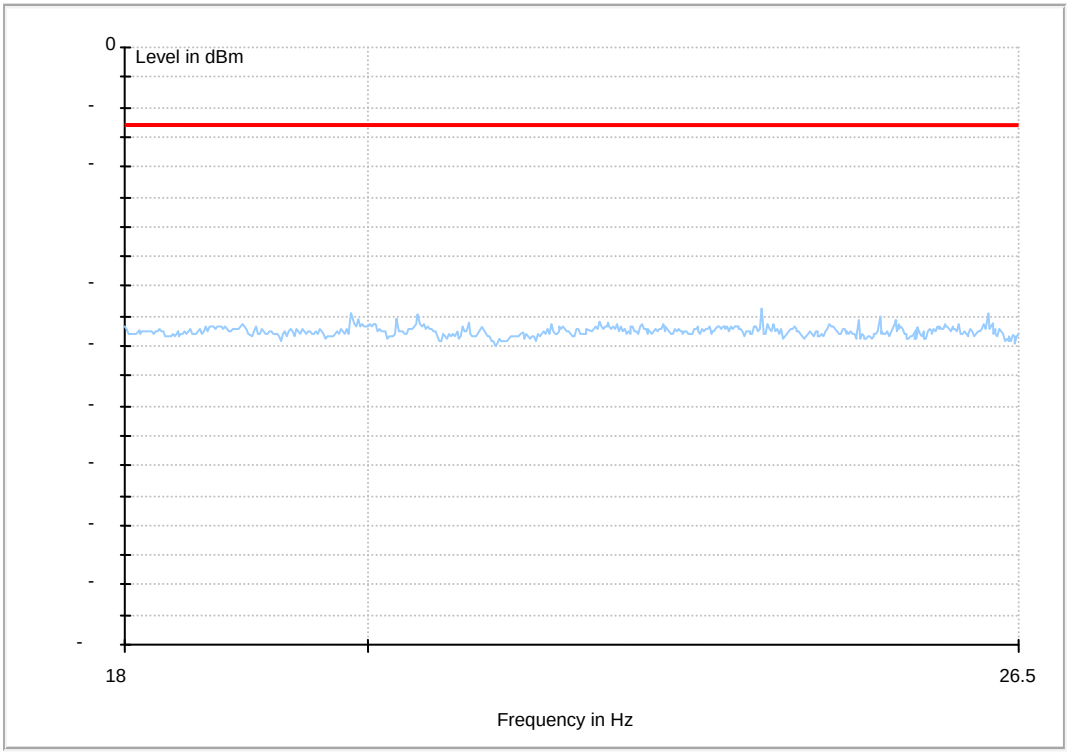
(30MHz~3GHz)



(3GHz~18GHz)

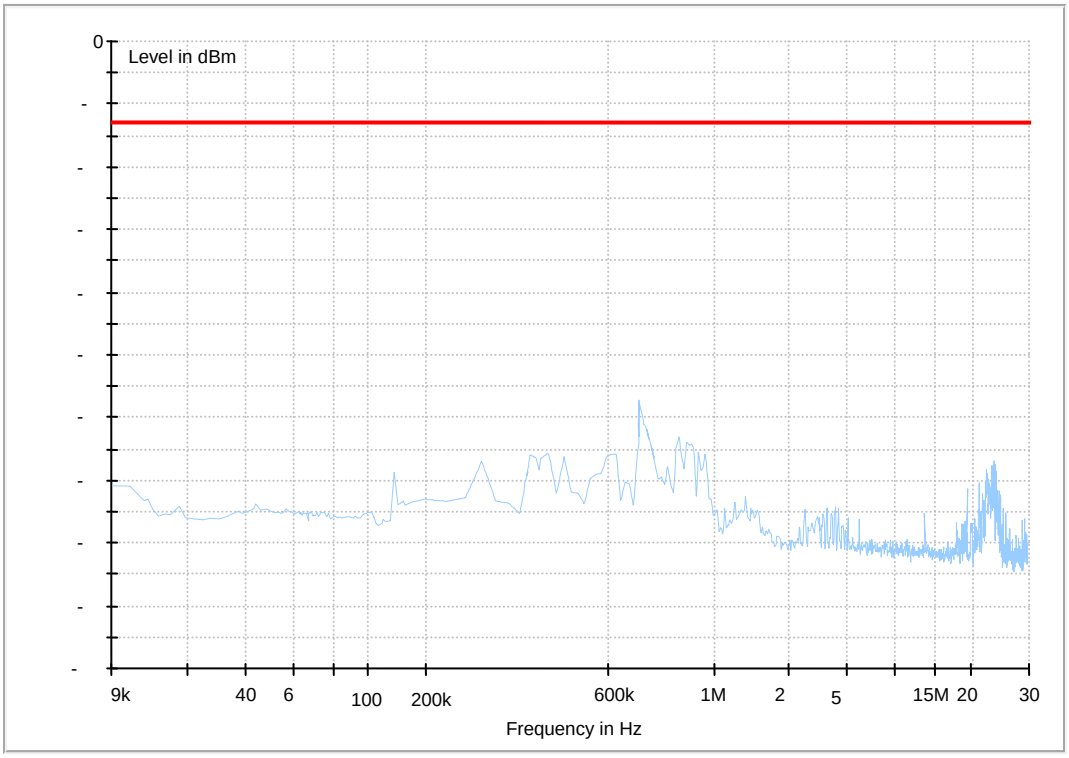


(18GHz-26.5GHz)

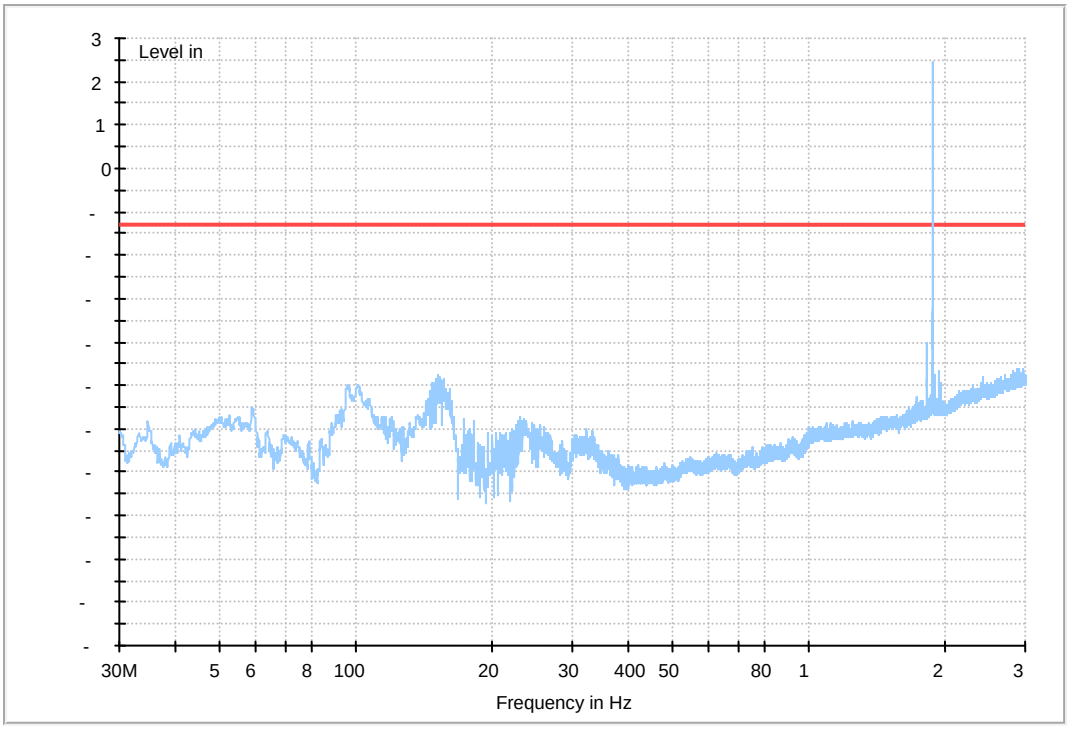


EDGE 1900

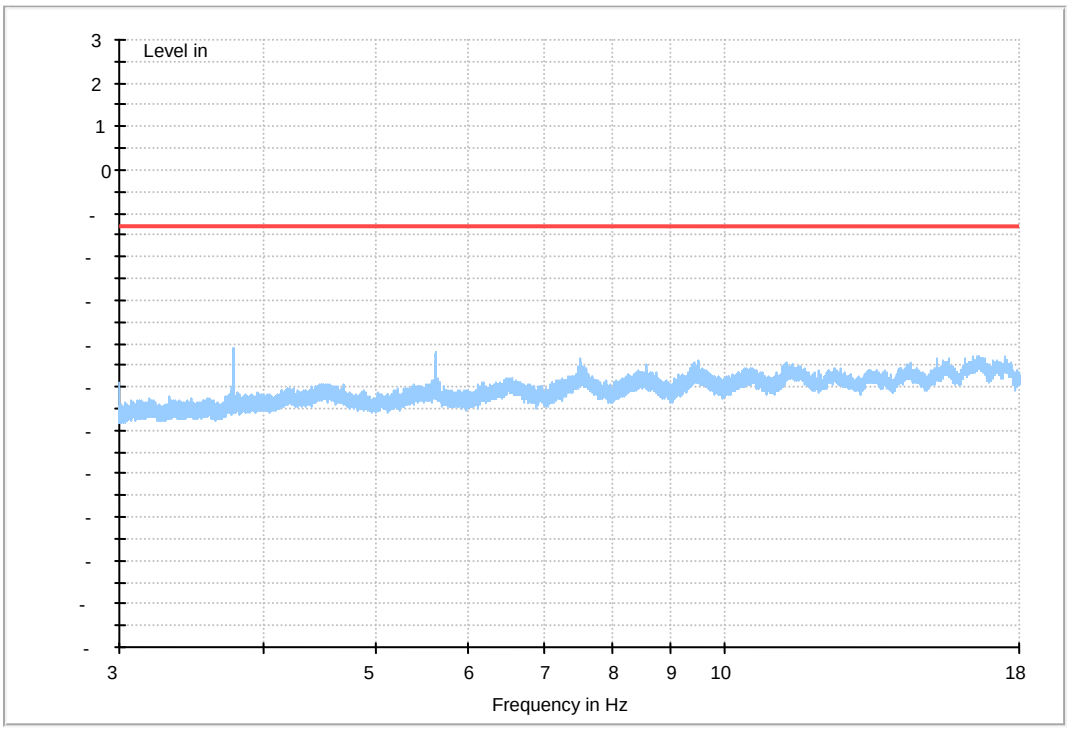
(9kHz-30MHz)



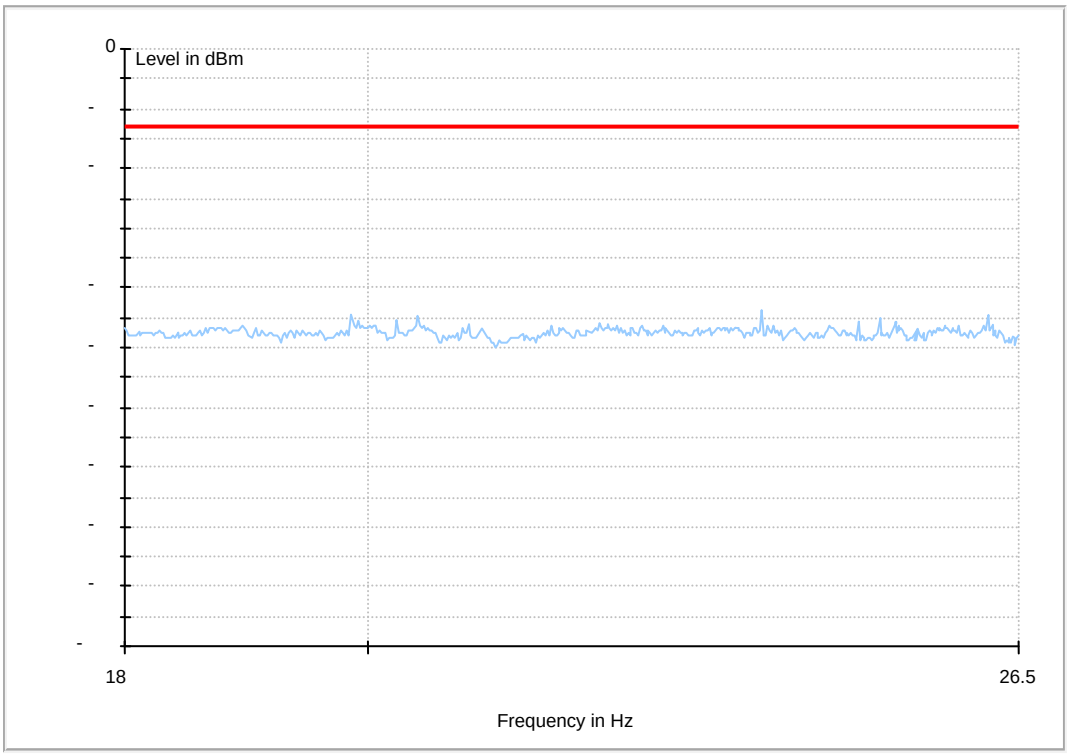
(30MHz~3GHz)



(3GHz~18GHz)

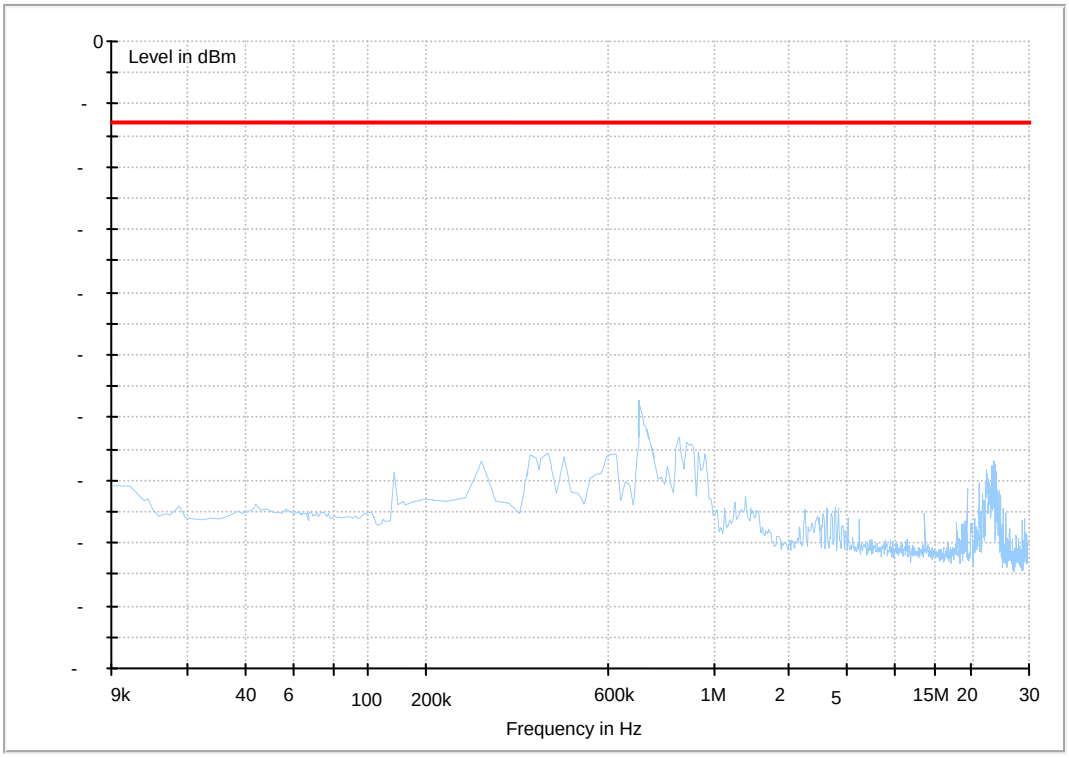


(18GHz-26.5GHz)

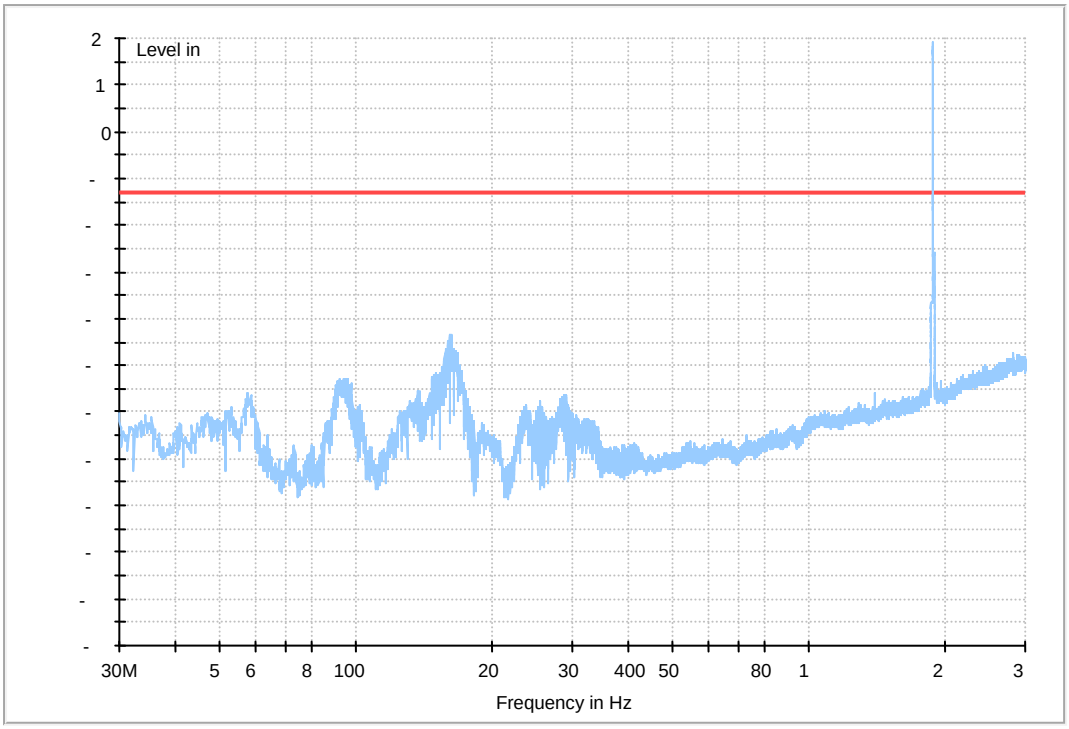


WCDMA Band II

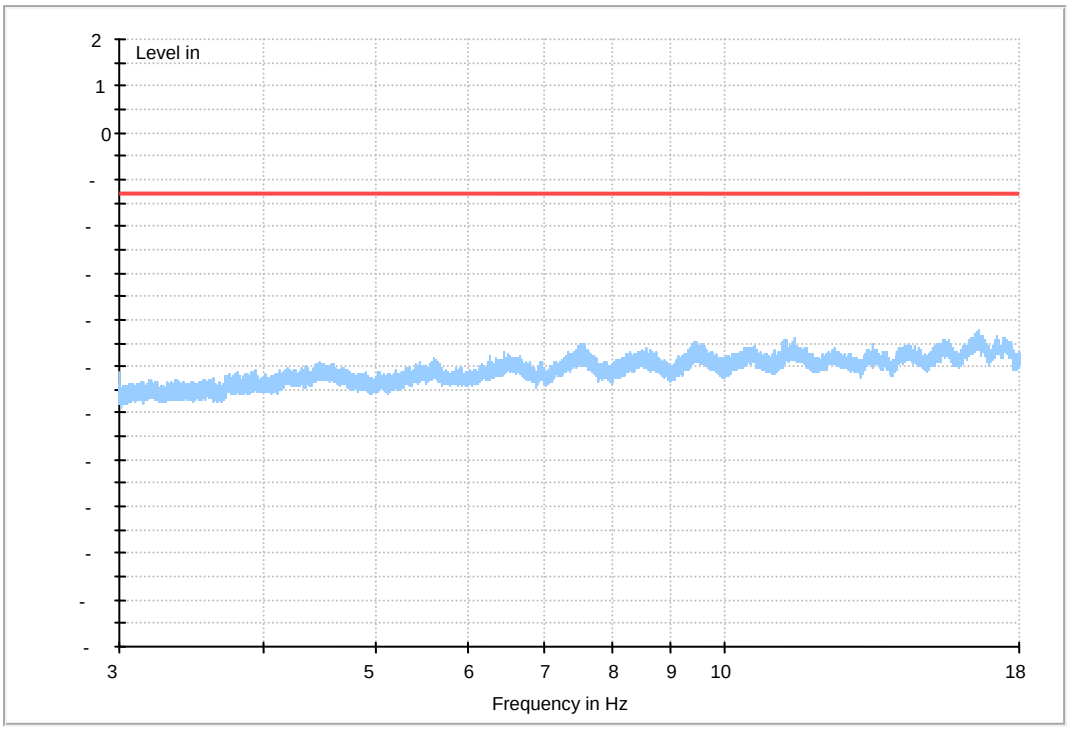
(9KHz~30MHz)



(30MHz~3GHz)



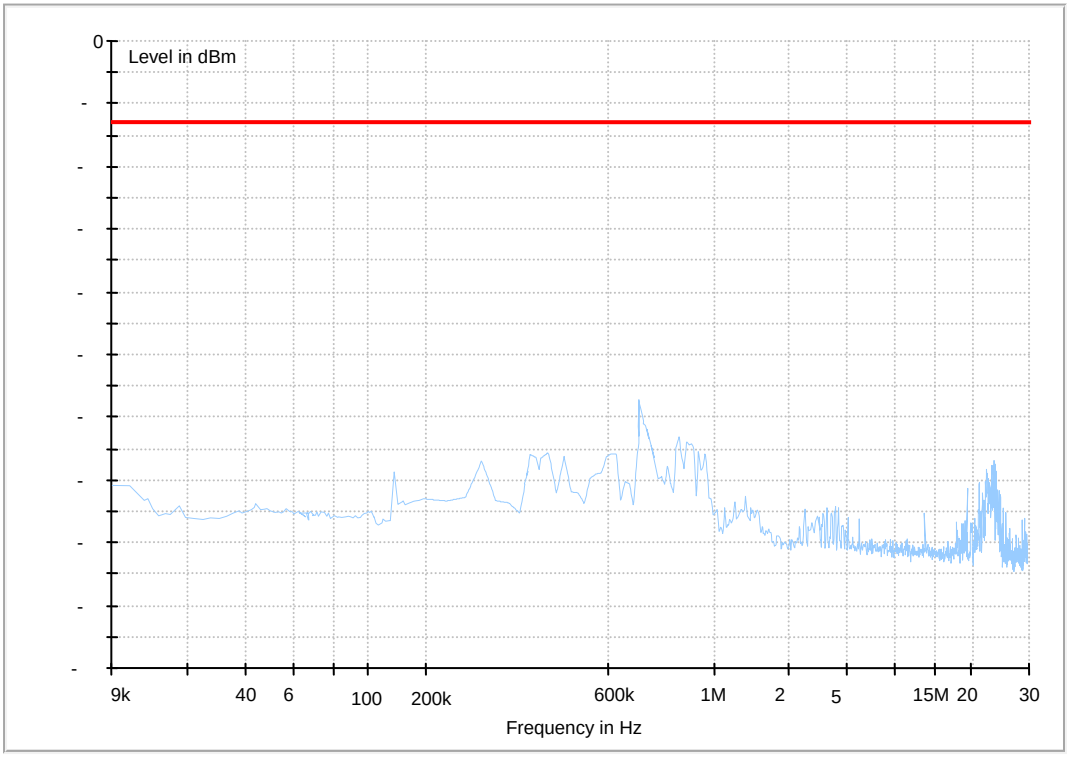
(3GHz~18GHz)



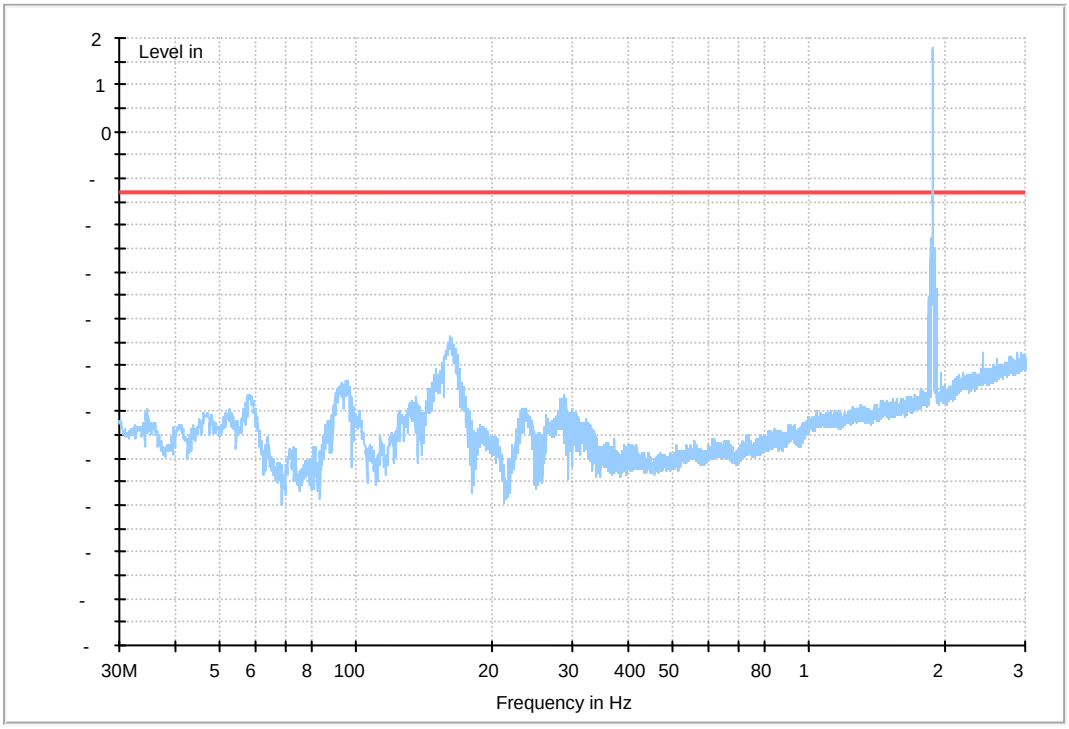
(18GHz~26.5GHz)

HSDPA Band II

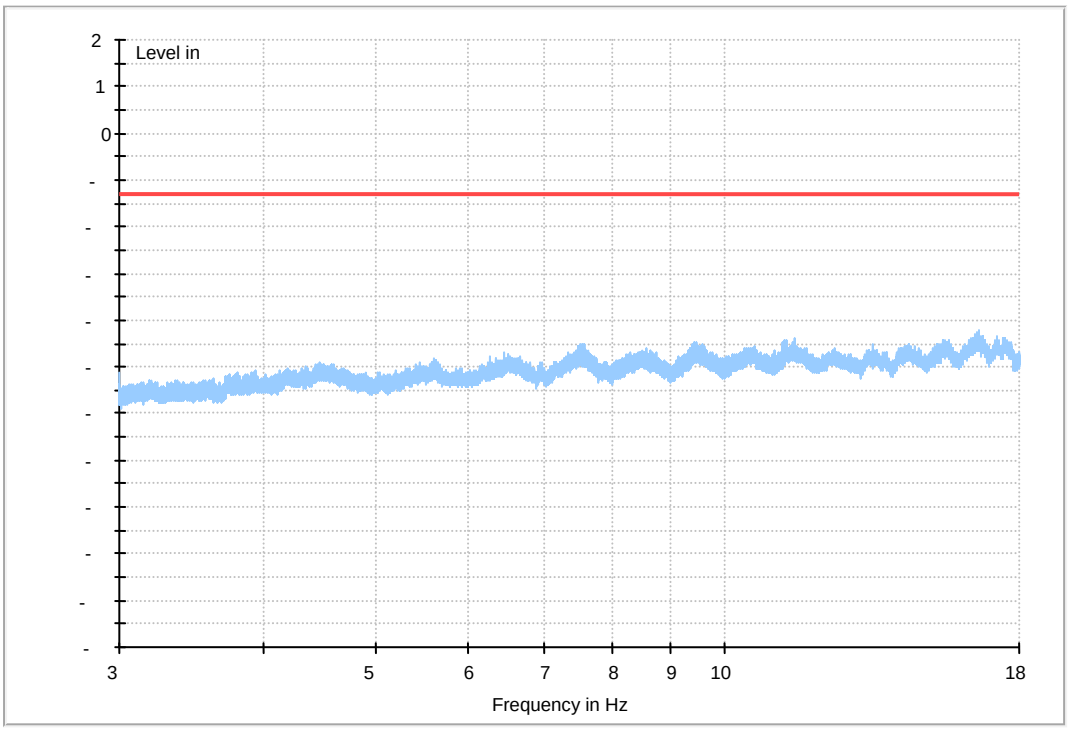
(9KHz~30MHz)



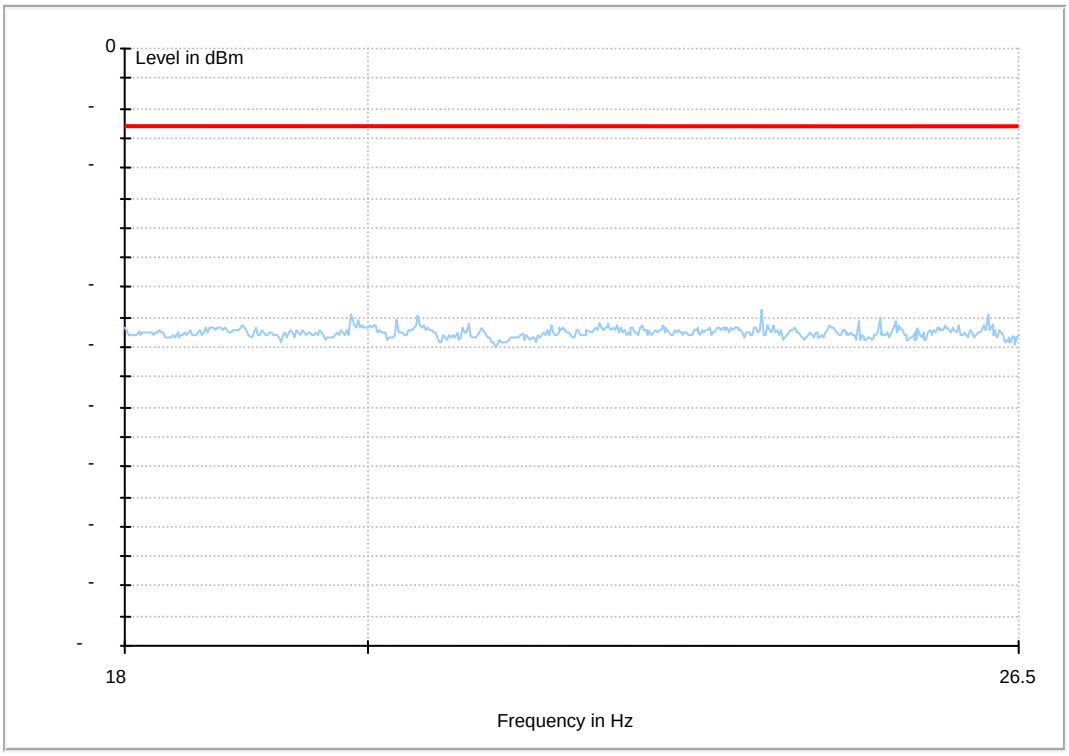
(30MHz ~3GHz)



(3GHz~18GHz)

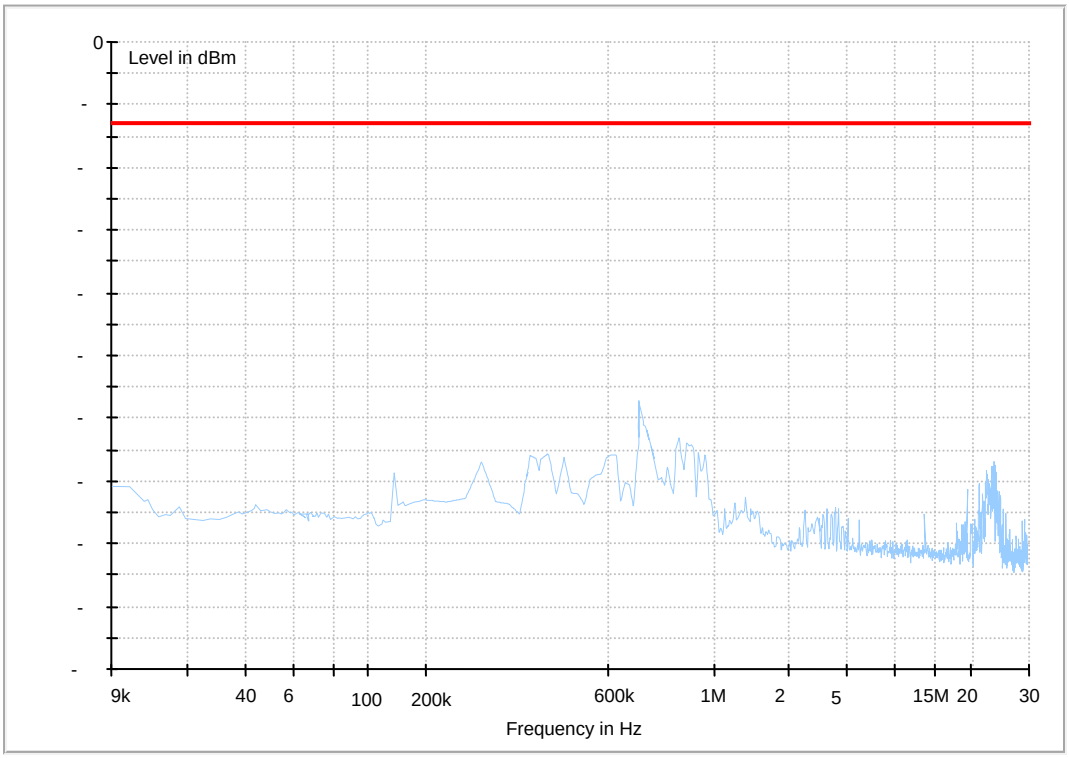


(18GHz~26.5GHz)

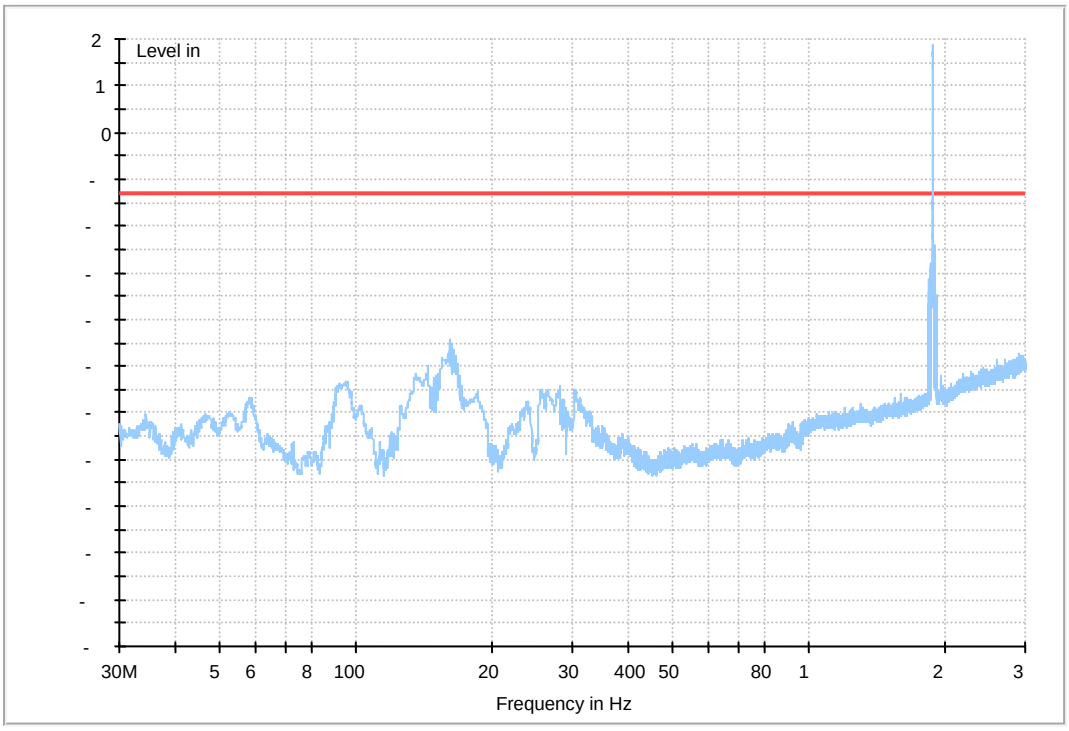


HSUPA Band II

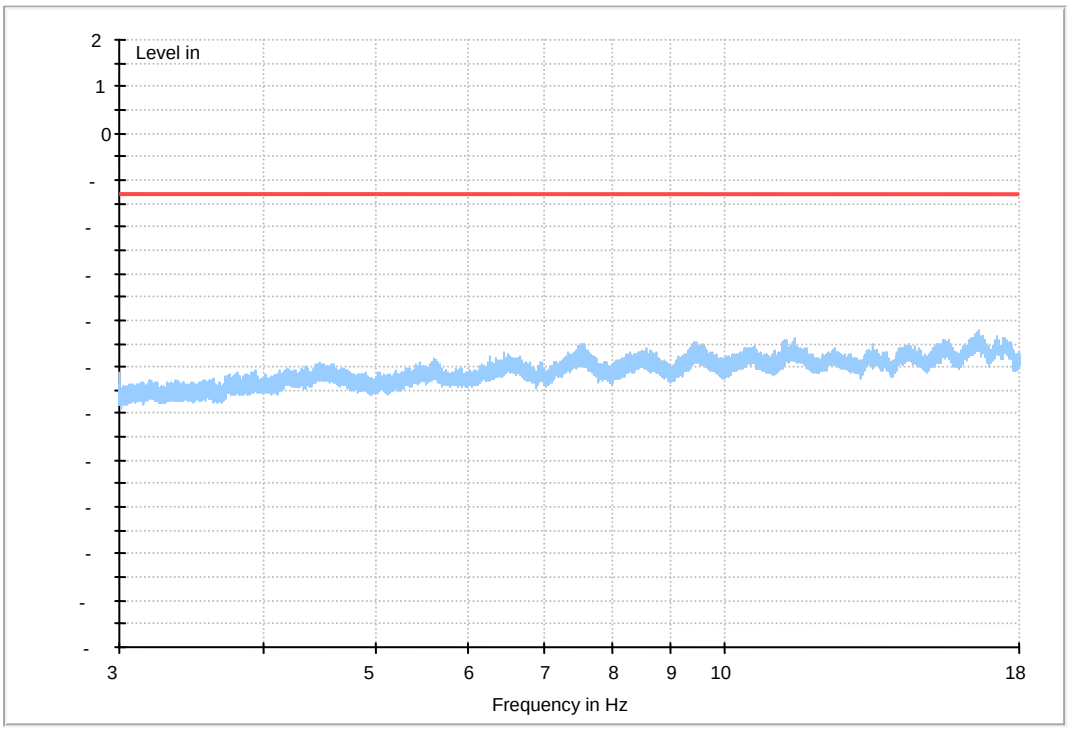
(9KHz~30MHz)



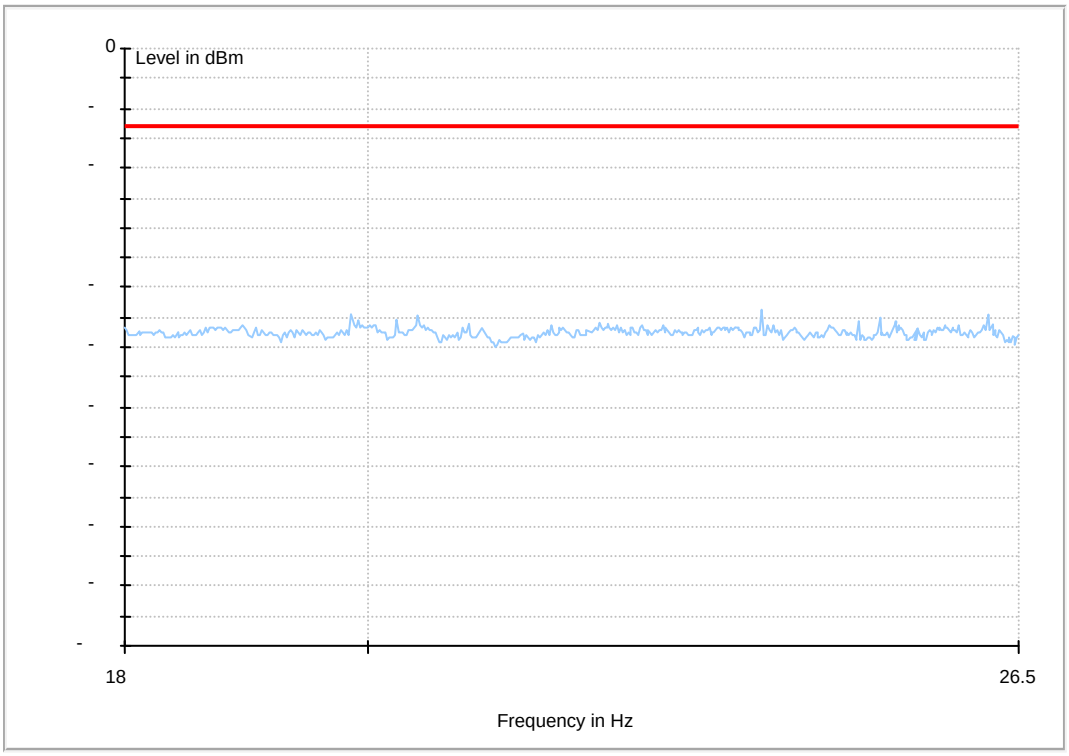
(30MHz ~3GHz)



(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	-15	-0.00798	---	±2.5	Pass
			-20 °C	18	0.00957	---	±2.5	Pass
			-10 °C	-25	-0.01330	---	±2.5	Pass
			0 °C	17	0.00904	---	±2.5	Pass
			10 °C	-9	-0.00479	---	±2.5	Pass
			20 °C	-23	-0.01223	---	±2.5	Pass
			30 °C	-17	-0.00904	---	±2.5	Pass
			40 °C	-17	-0.00904	---	±2.5	Pass
			50 °C	25	0.01330	---	±2.5	Pass
TM 2	M	VN	-30 °C	26	0.01383	---	±2.5	Pass
			-20 °C	11	0.00585	---	±2.5	Pass
			-10 °C	-22	-0.01170	---	±2.5	Pass
			0 °C	-11	-0.00585	---	±2.5	Pass
			10 °C	25	0.01330	---	±2.5	Pass
			20 °C	27	0.01436	---	±2.5	Pass
			30 °C	-18	-0.00957	---	±2.5	Pass
			40 °C	12	0.00638	---	±2.5	Pass
			50 °C	-22	-0.01170	---	±2.5	Pass
TM 3	M	VN	-30 °C	-15	-0.00798	---	±2.5	Pass
			-20 °C	-14	-0.00745	---	±2.5	Pass
			-10 °C	-8	-0.00426	---	±2.5	Pass
			0 °C	19	0.01011	---	±2.5	Pass
			10 °C	-8	-0.00426	---	±2.5	Pass
			20 °C	-12	-0.00638	---	±2.5	Pass
			30 °C	-20	-0.01064	---	±2.5	Pass
			40 °C	-11	-0.00585	---	±2.5	Pass
			50 °C	24	0.01277	---	±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	-22	-0.01170	---	±2.5	Pass
			VN	-14	-0.00745	---	±2.5	Pass
			VH	19	0.01011	---	±2.5	Pass
TM 2	M	TN	VL	-23	-0.01223	---	±2.5	Pass
			VN	26	0.01383	---	±2.5	Pass
			VH	-21	-0.01117	---	±2.5	Pass
TM 3	M	TN	VL	13	0.00691	---	±2.5	Pass
			VN	13	0.00691	---	±2.5	Pass
			VH	-27	-0.01436	---	±2.5	Pass

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